# PREFACE

This document, consisting of four volumes, provides the detailed documentation supporting the development of the recommended realignment alternatives forwarded to the Military Departments by the T&E Joint Cross-Service Group. Content of each volume is as follows:

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# DEVELOPMENT OF T&E FV ESTIMATES

**Functional Value Scoring Process.** The T&E Functional Value (FV) estimates were developed by the T&E Joint Cross-Service Working Group (JCSWG) for each test activity using the scoring process in Appendix A of the *Test and Evaluation (T&E) Joint Cross-Service Group (JCSG) Analysis Plan for Base Realignment and Closure (BRAC 95) Cross Service Analyses,* dated 3 Aug 94, as amended by JCSG agreements reached in subsequent meetings and approved through the process defined in the 7 Jan 94 DEPSECDEF Memorandum. The questions, weights and scoring scales are contained in Appendix E and its attachments in the T&E JCSG *Analysis Plan* for BRAC 95.

**Data Preparation for D-Pad Input.** This memorandum documents the detailed procedures (see Figure 1), data forms and media developed to support the scoring process defined in section 6 of Appendix A of the T&E Analysis Plan. Each functional area team (Air Vehicles, Armament/Weapons, and Electronic Combat) scored T&E activities using a common set of procedures and worksheets. The procedures culminated in a dated official scoresheet (initialed and dated by the functional area representatives from each Military Department). The answers on the official scoresheets were then entered into an Excel spreadsheet, validated for correct entries by the functional area teams, and stored on a floppy disc in both Excel and Lotus file formats. The file contents contained the validated set of answers to the Functional Value questions documented in Appendix E of the T&E Analysis Plan. The Lotus format of the answer sets for each functional area was selected to be compatible for direct import into the Decision-Pad (D-Pad) software provided by the Army. D-Pad was specified in the T&E JCSG *Analysis Plan* for calculation of the Functional Value for each T&E activity in each applicable Functional Area.

**Scoresheet Preparation and Validation.** The T&E JCSWG team for each functional area scored the appropriate questions documented in Appendix E of the T&E *Analysis Plan* using the certified responses to the Data Call from each Activity. One representative from each Military Department participated in the scoring process. A representative from the DoD Inspector General's (IG) office monitored the scoring process. At the level of the Official Scoresheets, the scores consisted of direct answers to the questions; *e.g.*, "How many square miles of available airspace are over land?", or "Do you have a DM&S facility that supports test operations?" All three Military Department functional area representatives validated each of these Official Scoresheets, adding their initials to document that the validation had been completed to their satisfaction. These Official Scoresheets are included in Volume III (Tab A). The detailed steps in the official scoring process are described below and are illustrated in Figure 2 .

1. The JCSWG functional area representative from each Military Department independently reviewed the certified responses to the Data Call to determine the answers to the scoring questions for each test activity being evaluated.

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2. The JCSWG functional area representatives from each Military Department then met jointly with a DoD IG representative in attendance to review the answer sets and to seek a consensus on a single answer for each functional value scoring question.

- If a consensus was reached on a question, then the consensus score (answer to each FV question) was entered on the Official Scoresheet, as witnessed by the DoD IG.
- If a consensus could not be reached by the functional area representatives from each Military Department, then the scoring issue was raised to the JCSWG Service Leads as either a Request For Clarification (RFC) to be sent to the field or for a joint decision to resolve the scoring issue.
  - ⇒ If the problems were inconsistencies or apparent errors in the data response to the question as submitted by one or more test activities through the Military Department BRAC offices, then the action submitted to the JCSWG Service Leads called for approval of a RFC to be sent to the field through the appropriate Military Department BRAC office(s). If the RFC response from the field provided sufficient understanding and common agreement on the interpretation of the data response from the field test activity or activities, then the consensus score (answer) was entered on the Official Scoresheet, as witnessed by the DoD IG; else, the issue was submitted to the JCSWG Service Leads for resolution.
  - ⇒ If the problems were differences in the interpretation of the FV questions or the use of the data submitted by the field test activities, then the action submitted to the JCSWG Service Leads requested that the JCSWG provide a joint decision to resolve the differences in interpretation of the questions or the use of the data submitted by the field. The JCSWG joint decision, as recorded in Vol III (Tab C), then provided the basis for the functional area teams to assign a consensus score (answer) to be entered on the Official Scoresheet, as witnessed by the DoD IG. Those issues which could not be resolved by the JCSWG Service Leads were raised to the T&E JCSG for resolution.
- The functional area Scoresheets were then compared across all three functional areas, as part of a validation *crosswalk*, to identify any differences in the scoring of common questions.
- Any differences in the scoring of common questions were either resolved by common agreement across all three functional teams, or else the source of the disagreement in the scoring interpretation was passed as an issue to the JCSWG Service Leads for resolution.

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- The decisions reached as part of the crosswalk process were then used as the basis for the functional area teams to update the official Scoresheets, as witnessed by a DoD IG representative, and to revalidate the Official Scoresheets.
- The Official Scoresheets, after validation by the functional area teams, were then initialed by the JCSWG functional area team members.

**EXCEL Spreadsheets.** A spreadsheet was prepared for each functional area, using the Excel spreadsheet software developed by Microsoft Corporation. Each spreadsheet contained a line entry for each question on the Official Scoresheet. A separate pair of data columns was entered in each spreadsheet for every test activity being evaluated [Reference Volume II (Tab C)].

1. The version of D-Pad software used does not accommodate scoring criteria based on an exponential formula of the form:

**D-Pad Score = 1 - exp( -2.3*Official_Scoresheet_value / Approved_Threshold )**

The Excel spreadsheet was used to pre-calculate these exponential values based on the inputs from the Official Scoresheet and the approved thresholds [see Vol III (Tab D) ] for each of the questions scored using an exponential formula. The exponential formulas were checked for each data cell requiring the use of threshold values. All other values from the Official Scoresheet were entered without change into the Excel spreadsheet.

2. All spreadsheet data cells not used for data entry directly from the Official Scoresheets were formatted to provide cell-level protection against accidental change or corruption by the user. This provided protection against inadvertent changes to the data formats or formulas used in the spreadsheet. The Excel spreadsheets were then printed with a date/time stamp and validated by the functional team members from each Military Department against the Official Scoresheets to insure correct entry of the data. The validated Excel spreadsheets were also saved on a separate floppy disk for each functional area and stored by the DoD IG representative in a secure container with the date/time stamp applied by the computer system. The floppy disk label was also initialed by a representative from each Military Department and dated.

**LOTUS Spreadsheets.** The version of D-Pad software used only supports data import using Lotus *.wks format for spreadsheets (in addition to a generic comma-separated-variable format). However, Excel software supports the export of data spreadsheets in Lotus *.wks format. The process adhered to was to save (export) the validated Excel spreadsheets as a new file in the Lotus *.wks format, compatible with direct import into the D-Pad software. The same process was used to export each Excel spreadsheet to the Lotus *.wks format. This procedure was observed by the DoD IG and was checked by the JCSWG representative for correct data transfer after its import into the D-Pad software.

# DEVELOPMENT OF T&E FV ESTIMATES

**D-Pad Data Import and Validation.** The T&E JCSWG adapted and used a software product called D-Pad to calculate activity functional value. There are two tiers in the D-Pad T&E JCSG functional value calculation model, referred to as the lower and upper tiers. The scores for the groups of questions in the lower tier are "rolled up" into the upper tier model to complete the calculation of functional value for each activity.

1. All of the D-Pad models for calculating functional value (for both lower and upper tiers) were stored on floppy disks under DoD IG control. Each time D-Pad software was executed for scoring functional value, the model for each functional area was loaded from a separate floppy disk for that functional area and checked for valid cross-mappings to the correct columns and rows for the Lotus spreadsheet data under DoD IG observation. Printouts of the model layout as well as all intermediate and final data products were collected by a DoD IG representative during the process of running D-Pad and stored by the IG in a safe with the floppy disk containing the models, input and output data sets.

2. The lower tiers consist of a series of weighted questions in eleven groups that correspond to five groups of questions under the Physical Value component of the total functional score and six groups of questions under the Technical Value component of the total functional score. The maximum score for each group of questions in the lower tier was set to be 100 points as part of the T&E JCSG *Analysis Plan.* The score for each question within a group was treated as a "weight" within the model for each group. These weights were published by the *Analysis Plan.* The D-Pad value for each weighted question were summed for each group.

3. The criteria used to score questions in the eleven groups for the lower D-Pad tier are Yes/No, No/Yes, Zero to Maximum, Maximum to Zero, or Zero to Threshold. All criteria except Zero to Threshold were set up using D-Pad internal algorithms. As discussed earlier, it was necessary to perform the Zero-to-Threshold calculation in an external Excel spreadsheet and import the results from the exponential threshold formula as data values into the specified alternative field within the D-Pad model for the lower tier of functional value calculation. The calculated threshold value imported into D-Pad ranged between 0 and 1 and was multiplied by the points associated with the original question from the Functional Value Scoresheet. These functions were an automatic result of using D-Pad to load the functional value model and to import the scoring data.

4. In some cases, importing large population numbers into the lower tier D-Pad model from the Excel spreadsheet resulted in an incorrect last digit. The exact source of this problem could not be determined. Because the imported numbers differed by only one om the actual number (where population was measured in millions of people), this error had no impact on the calculated functional value.

5. The group scores calculated by D-Pad within the lower tier model were included in the intermediate file (in Lotus *.wks format) exported by D-Pad for import into the upper tier D-Pad Model. The format (column width) of the intermediate Lotus spreadsheet had

to be manually adjusted, under DoD IG observation, to insure that at least four significant digits were retained to the right of the decimal point so that an accuracy of one part in a thousand could be maintained in the D-Pad functional value calculations.

6. On some occasions, import of values into the upper tier D-Pad model resulted in a random digit(s) being loaded into one or more digits to the right of the decimal point. By changing the number of digits after the decimal point in the alternative criterion and repeating the export operation for the intermediate Lotus spreadsheet, this problem was corrected (extending the number of significant digits after the decimal forced the unused but uncleared bits in the computer memory to be zeroed when exported).

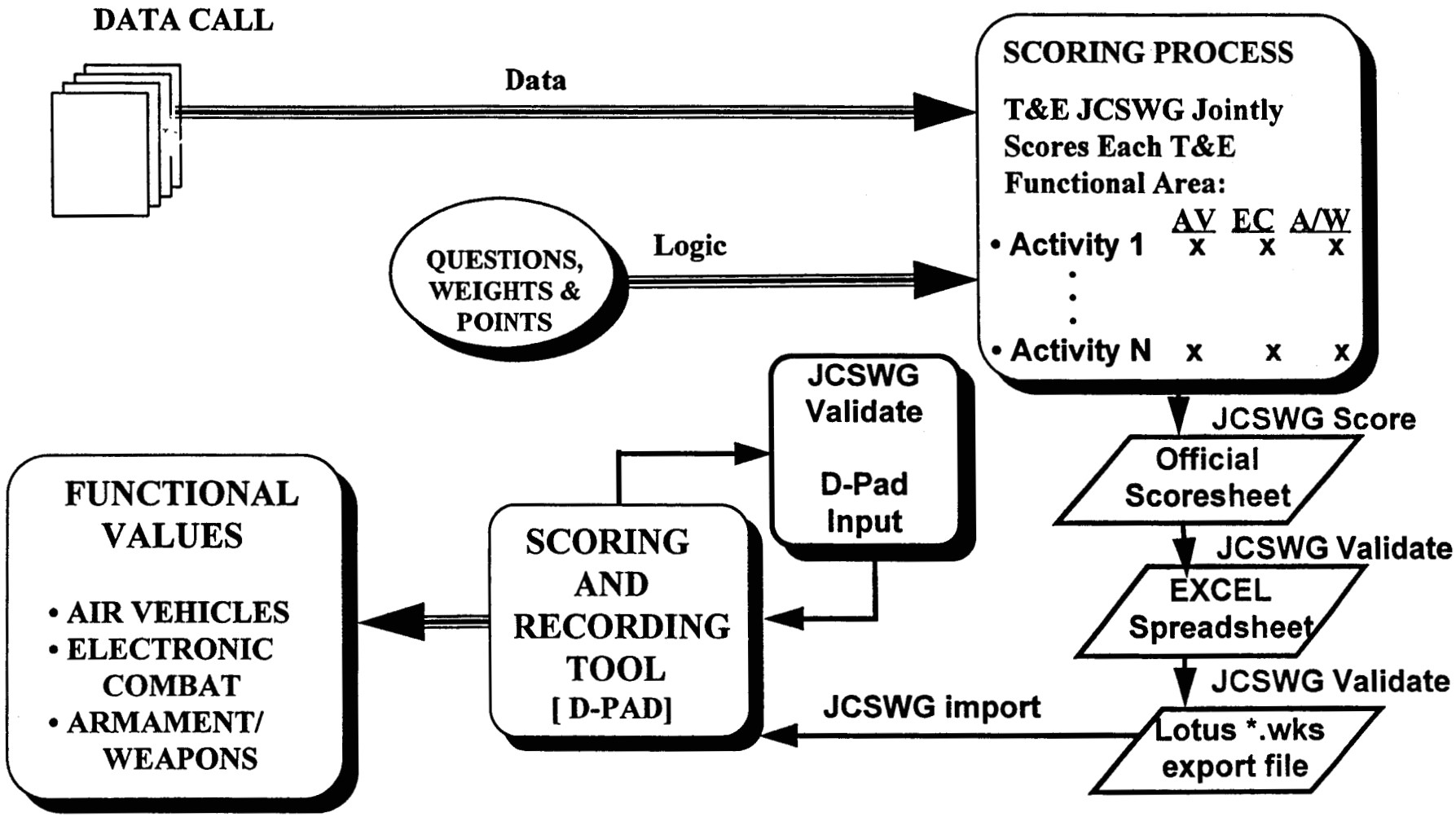
7. The Lotus spreadsheet format was adjusted using the tool set that is part of the Microsoft Excel spreadsheet software and then re-exported in Lotus *.wks format. D-Pad was then run again to load the upper tier model for functional value and to import the intermediate Lotus spreadsheet with the adjusted column widths. The alternative criterion for D-Pad was set to accept and display four significant digits to the right of the decimal. A DoD IG representative observed the upper tier process within D-Pad, including verification that the correct columns and rows within the intermediate Lotus spreadsheet had been imported into appropriate model location within the upper tier D-Pad model.

8. After loading the upper tier model for calculating functional value from the floppy disk controlled by the DoD IG into D-Pad and importing the intermediate Lotus file, D-Pad automatically calculated the final functional value, by applying the group weights documented in the T&E *Analysis Plan* as multipliers for the group scores from the Lotus import file. These weighted group scores were then summed as part of the automatic D-Pad roll-up to calculate the final functional value for each T&E activity. The resulting D-Pad functional values were multiplied by 10 to convert them from a 0-to-10 scale to a 0-to-100 scale as specified in the *Analysis Plan.*

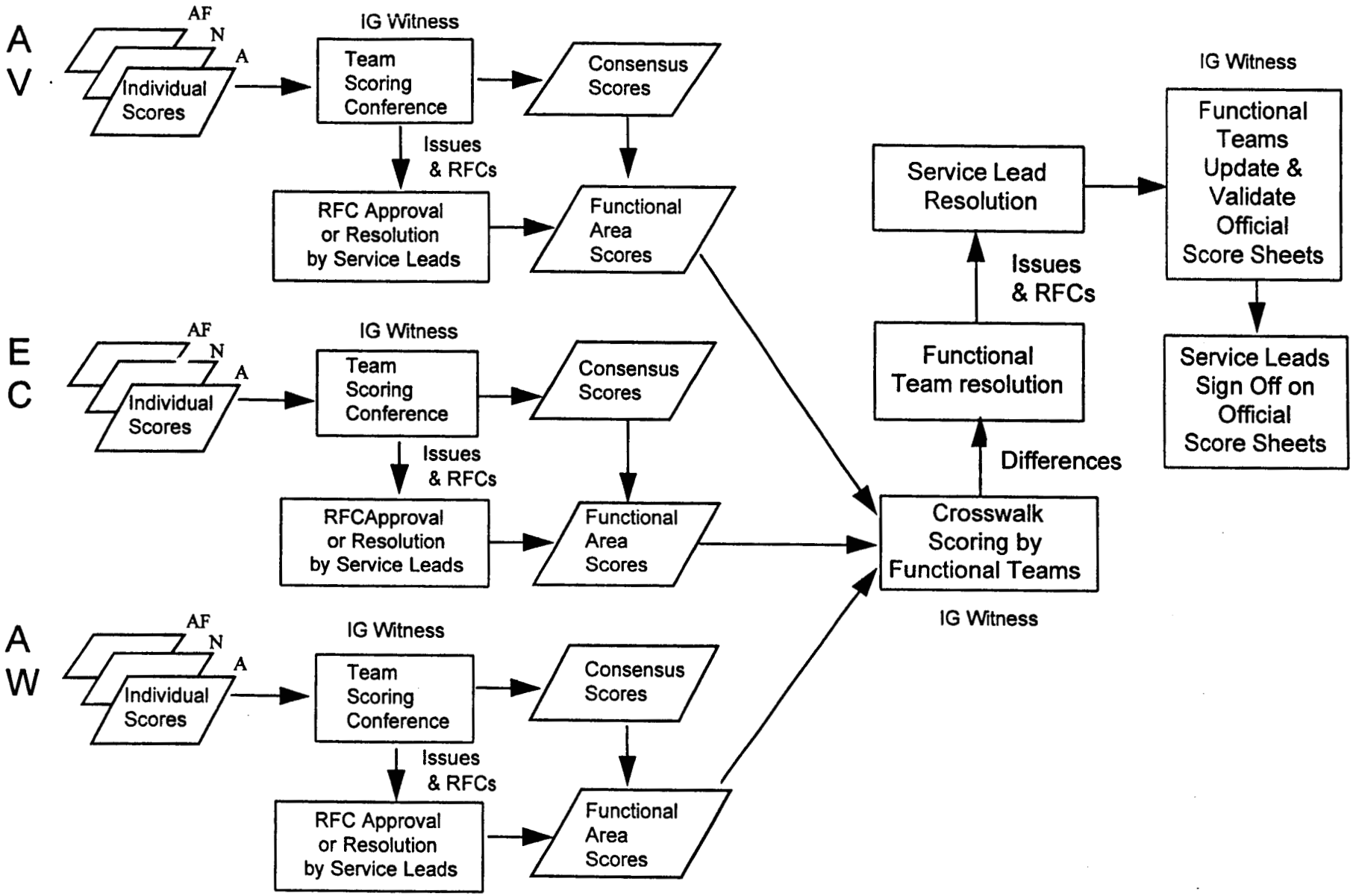
9. The final functional values, intermediate sums and model layout documentation were saved on floppy disks, the disk signed by the functional area team representatives from the Military Services, and stored in a safe by a DoD IG representative. The entire D-Pad process, both lower and upper tier, was observed by a DoD IG representative, who also insured that configuration control of the model and validated data files was maintained. The printouts of the final functional value results were also retained for secure storage by a DoD IG representative.

The final functional values provided by the D-Pad runs for each functional area were reviewed and calculations hand-checked by the JCSWG functional area team representatives. Minor differences between D-Pad and the hand calculations were found at the sub-factor level due to internal rounding/truncation within D-Pad. Correct operation of the D-Pad software with models for each functional area had been checked prior to official scoring of functional value, using spreadsheet calculations for notional data sets. [Reference: Vol II (Tab A for final FV tables, Tab B for D-Pad output)]

# Figure 1. T&E JCSWG Functional Value Scoring Overview



# Figure 2. T&E JCSWG Scoring Process



TAB A - Official Scoresheets

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# OFFICIAL SCORESHEETS

The attached Official Scoresheets document the responses (answers) to the individual questions (listed in Appendix E of the T&E JCSG Analysis Plan dated 3 August 1994, as amended) used to compute the functional value for each activity within the three functional areas (i.e., Air Vehicles, Electronic Combat, and Armament/weapons) examined in the T&E JCSG analyses. For each question and response, the appropriate reference source for that response along with intermediate calculations are noted on the scoresheet. The following paragraphs describe the reference nomenclature.

a. The certified data call responses from the Military Department's BRAC offices were compiled into individual notebooks which were then numbered as follows: Army - 100 series; Navy - 200 series; Air Force - 300 series; and Military Department responses to the T&E JCSG Supplemental Data call on air/land/sea space requirements - 500.

b. Each of the pages in these notebooks were numbered in red ink by the DoD IG, and the red page numbers are the page numbers cited as the reference source on the official scoresheet (e.g., p.126 for page 126).

c. Where a certified response to a Request for Clarification (RFC) was used as the basis for a response, this is indicated by a five place alphanumeric code. The RFCs were numbered sequentially within each functional area and were coded as follows: AV-xxx for Air Vehicles; EC-xxx for Electronic Combat; and A/W-xxx for Armament/Weapons RFCs.

d. Where questions arose that could not be resolved by the scoring team, they were elevated to the Joint Cross-Service Working Group Service leads or to the Joint Cross-Service Group for resolution. These issues were numbered sequentially as they arose and are documented in Volume II, Tab C along with the resolution of the issue. Where a score was affected by the resolution of one of these issues, the appropriate issue number is listed as a reference source.

e. In those cases where a telephone conversation was used to clarify a certified data call response, the reference source lists the appropriate conversation record which cites the date, time, person contacted, and a summary of the conversation.

## SCORING FORM FOR AIR VEHICLE

ACTIVITY: CHINA LAKE BOOK: Book 204 A + B

**Physical Value - Critical Air/Land/Sea Space**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.1 How many square miles of land space are available to support test operations? (3.1.G.1) | 1723 | P. 161 A RFC AW-010 |
| 1.1.2 How many square miles of sea space are available to support test operations? (3.1.G.1) | ∅ | P. 161 B |
| 1.1.3 How much of the land under the restricted airspace does DoD own or control? (3.1.G.2) a. None | NO | P. 163 A |
| b. Some | Yes | ↓ |
| c. All | No | ↓ |
| 1.1.4 How many square miles of restricted airspace (including warning areas) are available to support test operations? (3.1.G.3) | 19,445 | P. 161 A |
| 1.1.5 What altitude limits are associated with the restricted airspace (including warning areas)? (Upper Limit-Lower Limit) Upper limit is capped at 100k feet. (3.1.G.3) | 100,000 | P. 163 A |
| 1.1.6 How many square miles of available airspace are over land? (3.1.G.5) | 24,056 | P. 161 A |
| 1.1.7 How many square miles of available airspace are over water? (3.1.G.5) | ∅ | P. 161 B |
| 1.1.8 What is the maximum straight line segment in the airspace, in nautical miles? (3.1.G.7) | 381 | P. 167 A |
| 1.1.9 Do supersonic areas and/or corridors exist? (3.2.A.1) | Yes | P. 170 A |
| 1.1.10 What altitude limits are associated with the supersonic airspace? (Upper Limit-Lower Limit) Upper limit is capped at 100k feet. (3.2.A.3) | 99,500 | P. 172 A (100,000 - 500) |
| 1.1.11 What is the maximum straight line segment in the supersonic airspace, in nautical miles? (3.2.A.4) | 244 | P. 172 A |



TPB

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Physical Value - Critical Air/Land/Sea Space** (Continued) Book 204 A+B

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.12 What is the minimum altitude allowable in the restricted airspace (including Warning Areas) (3.1.G.3) | ϕ | P. 163 A |
| **Remarks** | | |

**Physical Value - Topographical**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.2.1 Which of the following types of topography and ground cover/vegetation exist within your test airspace? (3.1.H.1) | | |
| a. Mountainous | yes | P. 168 A |
| b. Forested or jungle | yes | |
| c. Cultivated lowland (farmland) | NO | |
| d. Swamp or riverine | NO | |
| e. Desert | yes | |
| f. Sea | NO | |
| **Remarks** | | |

**Physical Value - Climatic**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.1 What is the average percentage of days per year that visibility is greater than 3 miles? (3.1.H.8) | 98.4 | P. 169 A 359/365 |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Physical Value - Climatic** (Continued) Book 204 A+B

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.2 What is the percent of test missions ,1986 - 1993, not canceled due to weather? (3.1.H.6) | 100% | P. 169A See Remarks |
| **Remarks** all cancelled missions were for OAR. No OAR was scored for Air Vehicles | | |

**Physical Value - Encroachment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.4.1 What is the average percentage of test missions per year not canceled due to commercial or public use ? [100% minus (% derived from # of test missions canceled divided by the # of test missions over period reported)] (3.1.C.5.A, Data Forms) | 100% | P. 101 A |
| 1.4.2 What percent of test missions were not canceled due to encroachment in the past two years [100% minus (% derived from sum of 92 and 93 canceled missions divided by the sum of 92 and 93 test missions)] (3.1.C.6, Data Forms) | 100% | P. 101 A |
| 1.4.3 What is the total population inside the following radii of the facility? (3.1.C.4)<br>a. 50 miles | 77,000 | P. 101 A |
| b. 100 miles | 1,493,000 | |
| c. 150 miles | 18,426,000 | |
| d. 200 miles | 19,423,000 | |
| **Remarks** | | |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Physical Value - Environment** Book 204 A + B

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.5.1 Does the facility have limiting environmental characteristics? (3.1.C.1.) | No | P. 095 A |
| **Remarks** | | |

**Technical Value - Digital Models and Simulations (DM&S)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.1.1 Do you have a DM&S facility that supports test operations? (General Information Form) | NO | |
| 2.1.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.1.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.1.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** ALL DMS below 5% Threshold for Air Vehicles | | |

**Technical Value - Measurement Facilities (MF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.1 Do you have a MF facility that supports test operations? (General Information Form) | yes | P. 372 IR Seeker, GCS DDTR&E Complex |
| 2.2.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | yes | P. 038 IR Seeker, GCS DDTR&E Complex |
| 2.2.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | yes | P. 0127A Environmental Test Complex |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Technical Value - Measurement Facilities (MF)** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.4 Do you have specialized facilities which are required to support you in conducting your test operations at your facility? (3.1.D.1) | yes | P. 104A Environmental Test Complex |
| **Remarks** | | |

**Technical Value - Integration Labs (IL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.3.1 Do you have an IL facility that supports test operations? (General Information Form) | No | |
| 2.3.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | No | |
| 2.3.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.3.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** EW Integration Laboratory removed from Air Vechicle Scoring by JCSG decision 9/27/94 | | |

**Technical Value - Hardware-In-The-Loop (HITL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.4.1 Do you have a HITL facility that supports test operations? (General Information Form) | No | |
| 2.4.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Technical Value - Hardware-In-The-Loop (HITL)** (Continued) Book 204 A+B

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.4.3 Is the facility equipped to support TOP SECRET or Special Access Required work? (3.1.E.3) | NO | |
| 2.4.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** ALL Facilities reported Are excluded for Air Vehicle Scoring | | |

**Technical Value - Installed Systems Test Facilities (ISTF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.5.1 Can the facility support fighter/helo-sized aircraft testing? (3.2.C.3 & Fac form) | No | |
| 2.5.2 Can the facility support B-1 bomber/cargo-sized aircraft testing? (3.2.C.3 & Fac form) | NO | |
| 2.5.3 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.5.4 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.5.5 Do you have specialized facilities which are required to support you in conducting your test operations at your facility? (3.1.D.1) | NO | |
| **Remarks** None reported | | |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Technical Value - Open Air Ranges (OAR)** Book 204 A+B

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.6.1 How many of the following types of air vehicles can be tested (3.2.C.1): a. fixed wing? | NO | |
| b. rotary wing? | NO | |
| c. unmanned? | NO | |
| d. cruise missile? | NO | |
| 2.6.2 What is the maximum number of simultaneous missions you can support with telemetry? (3.2.C.6) | ϕ | |
| 2.6.3 What is the length (in feet) of available concrete runway? (3.2.B.1) | ϕ | |
| 2.6.4 What is the ramp area available (in sq ft)? (3.2.B.1) | ϕ | |
| 2.6.5 What is the hangar space available (in sq ft)? (3.2.B.1 | ϕ | |
| 2.6.6 Are ground facilities available to support preflight checkout and/or rehearsal of test missions? (3.2.C.2) | NO | |
| 2.6.7 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.6.8 Is the facility equipped to support TOP SECRET or Special Access Required work? (3.1.E.3) | NO | |
| 2.6.9 Do you have specialized facilities which are required to support you in conducting your test operations at your facility? (3.1.D.1) | NO | |

**Remarks** ALL OAR Excluded From Air Vehile Scoring

## SCORING FORM FOR AIR VEHICLE

ACTIVITY: PT MUGU BOOK: 216

**Physical Value - Critical Air/Land/Sea Space**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.1 How many square miles of land space are available to support test operations? (3.1.G.1) | 219 | P. 121 B |
| 1.1.2 How many square miles of sea space are available to support test operations? (3.1.G.1) | 125,000 | RFC 037 |
| 1.1.3 How much of the land under the restricted airspace does DoD own or control? (3.1.G.2)<br>a. None | NO | P. 121 C ONLY SAN NICKOLAS IS Restricted ALL IS DoD OWNed |
| b. Some | yes | |
| c. All | yes | |
| 1.1.4 How many square miles of restricted airspace (including warning areas) are available to support test operations? (3.1.G.3) | 103,000 | RFC AV -036 |
| 1.1.5 What altitude limits are associated with the restricted airspace (including warning areas)? (Upper Limit-Lower Limit) Upper limit is capped at 100k feet. (3.1.G.3) | 100,000 | P. 121 C |
| 1.1.6 How many square miles of available airspace are over land? (3.1.G.5) | 226 | RFC AV 037 (219 SeaTest Range + 7 PT. MUGU) |
| 1.1.7 How many square miles of available airspace are over water? (3.1.G.5) | 125,000 | RFC AV 037 |
| 1.1.8 What is the maximum straight line segment in the airspace, in nautical miles? (3.1.G.7) | 500 | P. 122 B |
| 1.1.9 Do supersonic areas and/or corridors exist? (3.2.A.1) | yes | P. 129 A |
| 1.1.10 What altitude limits are associated with the supersonic airspace? (Upper Limit-Lower Limit) Upper limit is capped at 100k feet. (3.2.A.3) | 100,000 | P. 129 A |
| 1.1.11 What is the maximum straight line segment in the supersonic airspace, in nautical miles? (3.2.A.4) | 300 | P. 129 A |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Physical Value - Critical Air/Land/Sea Space** (Continued) 216

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.12 What is the minimum altitude allowable in the restricted airspace (including Warning Areas) (3.1.G.3) | ∅ | P.121C |
| **Remarks** | | |

**Physical Value - Topographical**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.2.1 Which of the following types of topography and ground cover/vegetation exist within your test airspace? (3.1.H.1) a. Mountainous | yes | P.126A |
| b. Forested or jungle | yes | |
| c. Cultivated lowland (farmland) | yes | |
| d. Swamp or riverine | yes | |
| e. Desert | yes | + Issue 40 Give Credit For Desert |
| f. Sea | yes | |
| **Remarks** | | |

**Physical Value - Climatic**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.1 What is the average percentage of days per year that visibility is greater than 3 miles? (3.1.H.8) | 88.5 | P. 127A 323/365 |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Physical Value - Climatic** (Continued)

2.16

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.2 What is the percent of test missions ,1986 - 1993, not canceled due to weather? (3.1.H.6) | 98.2% | P.127A estimate .2% cancelled |
| **Remarks** | | |

**Physical Value - Encroachment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.4.1 What is the average percentage of test missions per year not canceled due to commercial or public use ? [100% minus (% derived from # of test missions canceled divided by the # of test missions over period reported)] (3.1.C.5.A, Data Forms) | 100% | P.65 |
| 1.4.2 What percent of test missions were not canceled due to encroachment in the past two years [100% minus (% derived from sum of 92 and 93 canceled missions divided by the sum of 92 and 93 test missions)] (3.1.C.6, Data Forms) | 99.5% | P.65 $\% = -\left(\frac{9+5}{407+1300}\right) + 100$ |
| 1.4.3 What is the total population inside the following radii of the facility? (3.1.C.4) a. 50 miles | 5,350,000 | RFC AV 010 |
| b. 100 miles | 13,500,000 | ↓ |
| c. 150 miles | 17,500,000 | ↓ |
| d. 200 miles | 20,000,000 | ↓ |
| **Remarks** | | |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Physical Value - Environment** 216

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.5.1 Does the facility have limiting environmental characteristics? (3.1.C.1.) | No | P. 64 Do NOT Appear to Limit Testing |
| **Remarks** | | |

**Technical Value - Digital Models and Simulations (DM&S)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.1.1 Do you have a DM&S facility that supports test operations? (General Information Form) | NO | |
| 2.1.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.1.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.1.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | No | |
| **Remarks** Exclusion; Zero workload for Air Vehicle | | |

**Technical Value - Measurement Facilities (MF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.1 Do you have a MF facility that supports test operations? (General Information Form) | Yes | P. 240 Sea Level Climatic Chamber |
| 2.2.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | P. 31 |
| 2.2.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | No | P. 102 |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Technical Value - Measurement Facilities (MF)** (Continued) 216

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.4 Do you have specialized facilities which are required to support you in conducting your test operations at your facility? (3.1.D.1) | NO | P. 68 |
| **Remarks** | | |

**Technical Value - Integration Labs (IL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.3.1 Do you have an IL facility that supports test operations? (General Information Form) | NO | |
| 2.3.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.3.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.3.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** NO FACILITIES WITH AIR VEHICLE WORKLOAD | | |

**Technical Value - Hardware-In-The-Loop (HITL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.4.1 Do you have a HITL facility that supports test operations? (General Information Form) | NO | |
| 2.4.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Technical Value - Hardware-In-The-Loop (HITL)** (Continued) 216

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.4.3 Is the facility equipped to support TOP SECRET or Special Access Required work? (3.1.E.3) | NO | |
| 2.4.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** STrike weapons eval Excluded <100 Test hours/year in AV ALL other Facilities 0% AV workload | | |

**Technical Value - Installed Systems Test Facilities (ISTF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.5.1 Can the facility support fighter/helo-sized aircraft testing? (3.2.C.3 & Fac form) | NO | |
| 2.5.2 Can the facility support B-1 bomber/cargo-sized aircraft testing? (3.2.C.3 & Fac form) | NO | |
| 2.5.3 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.5.4 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.5.5 Do you have specialized facilities which are required to support you in conducting your test operations at your facility? (3.1.D.1) | NO | |
| **Remarks** NONE FACILITIES | | |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Technical Value - Open Air Ranges (OAR)** 216

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.6.1 How many of the following types of air vehicles can be tested (3.2.C.1): a. fixed wing? | yes | P.135 |
| b. rotary wing? | yes | ↓ |
| c. unmanned? | yes | ↓ |
| d. cruise missile? | yes | ↓ |
| 2.6.2 What is the maximum number of simultaneous missions you can support with telemetry? (3.2.C.6) | 15 | RFC AW-097 |
| 2.6.3 What is the length (in feet) of available concrete runway? (3.2.B.1) | 11,000 | P.130 |
| 2.6.4 What is the ramp area available (in sq ft)? (3.2.B.1) | 4,798,900 | P.130 4,348,900 ~~+P131~~ +P131A 450,000 - Issue 9 |
| 2.6.5 What is the hangar space available (in sq ft)? (3.2.B.1 | 353,598 | RFC AV-047 |
| 2.6.6 Are ground facilities available to support preflight checkout and/or rehearsal of test missions? (3.2.C.2) | yes | P.135 |
| 2.6.7 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | yes | P.42 |
| 2.6.8 Is the facility equipped to support TOP SECRET or Special Access Required work? (3.1.E.3) | yes | P.103 |
| 2.6.9 Do you have specialized facilities which are required to support you in conducting your test operations at your facility? (3.1.D.1) | yes | P.71 |

**Remarks**

## SCORING FORM FOR AIR VEHICLE

ACTIVITY: NSWC DAHLGREN BOOK: 207

**Physical Value - Critical Air/Land/Sea Space**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.1 How many square miles of land space are available to support test operations? (3.1.G.1) | 4 | p. 19 |
| 1.1.2 How many square miles of sea space are available to support test operations? (3.1.G.1) | Ø | p. 19 NO SEA SPACE REPORTED. |
| 1.1.3 How much of the land under the restricted airspace does DoD own or control? (3.1.G.2) a. None | No | p. 19 |
| b. Some | YES | p. 19 |
| c. All | YES | p. 19 |
| 1.1.4 How many square miles of restricted airspace (including warning areas) are available to support test operations? (3.1.G.3) | 68 | p. 19 Q 3.1.6.1 TOTAL = (3x16) x (6076/5280) = 64 + 4 = 68 = nm x nm x sq STAT miles / sq nautical miles + 4 sm² |
| 1.1.5 What altitude limits are associated with the restricted airspace (including warning areas)? (Upper Limit-Lower Limit) Upper limit is capped at 100k feet. (3.1.G.3) | 60,000 | p 19 |
| 1.1.6 How many square miles of available airspace are over land? (3.1.G.5) | 4 | p19 Q. 3.1.6.1. ANSWERS IN Q 3.1.6.5 ARE SQ NAUTICAL MILES 3 nm² x 1.324 = 4 SQ ST MILES |
| 1.1.7 How many square miles of available airspace are over water? (3.1.G.5) | 64 | p19 Q. 3.1.6.1. ANSWERS IN Q 3.1.6.5 ARE SQ NAUTICAL MILES 48 nm² x 1.324 = 64 sq ST MILES |
| 1.1.8 What is the maximum straight line segment in the airspace, in nautical miles? (3.1.G.7) | 16 | p 20 |
| 1.1.9 Do supersonic areas and/or corridors exist? (3.2.A.1) | No | p 23 ; ISSUE 7A |
| 1.1.10 What altitude limits are associated with the supersonic airspace? (Upper Limit-Lower Limit) Upper limit is capped at 100k feet. (3.2.A.3) | Ø | |
| 1.1.11 What is the maximum straight line segment in the supersonic airspace, in nautical miles? (3.2.A.4) | Ø | |



TPB

## SCORING FORM FOR AIR VEHICLE
(Continued)

Book 207

**Physical Value - Environment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.5.1 Does the facility have limiting environmental characteristics? (3.1.C.1.) | No | p.13 ; ISSUE 7A . DATA CALL response refers only to encroachment not environmental. |
| **Remarks** | | |

**Technical Value - Digital Models and Simulations (DM&S)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.1.1 Do you have a DM&S facility that supports test operations? (General Information Form) | No | |
| 2.1.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | No | |
| 2.1.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | No | |
| 2.1.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | No | |
| **Remarks** NONE REPORTED | | |

**Technical Value - Measurement Facilities (MF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.1 Do you have a MF facility that supports test operations? (General Information Form) | YES | p.38 ELECTROMAGNETIC VULNERABILITY |
| 2.2.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | YES | p.11 |
| 2.2.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | YES | p.17A RFC AW-038 |

## SCORING FORM FOR AIR VEHICLE
(Continued)

Book 207

**Physical Value - Critical Air/Land/Sea Space** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.12 What is the minimum altitude allowable in the restricted airspace (including Warning Areas) (3.1.G.3) | Ø | p 19 SURFACE = Ø |
| **Remarks** | | |

**Physical Value - Topographical**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.2.1 Which of the following types of topography and ground cover/vegetation exist within your test airspace? (3.1.H.1) | | |
| a. Mountainous | No | p 21 |
| b. Forested or jungle | No | p 21 |
| c. Cultivated lowland (farmland) | No | p 21 |
| d. Swamp or riverine | YES | p 19, p 21 |
| e. Desert | No | p 21 |
| f. Sea | No | p 21 |
| **Remarks** | | |

**Physical Value - Climatic**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.1 What is the average percentage of days per year that visibility is greater than 3 miles? (3.1.H.8) | 53.7% | p 22 % = 196/365 = .537 |

## SCORING FORM FOR AIR VEHICLE
(Continued)

Book 207

**Physical Value - Climatic** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.2 What is the percent of test missions ,1986 - 1993, not canceled due to weather? (3.1.H.6) | 100% | p. 22 |
| **Remarks** | | |

**Physical Value - Encroachment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.4.1 What is the average percentage of test missions per year not canceled due to commercial or public use ? [100% minus (% derived from # of test missions canceled divided by the # of test missions over period reported)] (3.1.C.5.A, Data Forms) | 100% | p. 15 |
| 1.4.2 What percent of test missions were not canceled due to encroachment in the past two years [100% minus (% derived from sum of 92 and 93 canceled missions divided by the sum of 92 and 93 test missions)] (3.1.C.6, Data Forms) | 100% | p. 15 |
| 1.4.3 What is the total population inside the following radii of the facility? (3.1.C.4)<br>a. 50 miles | 3,912,221 | RFC AW-036 p. 14A |
| b. 100 miles | 9,027,165 | |
| c. 150 miles | 10,321,145 | |
| d. 200 miles | 14,767,442 | |
| **Remarks** | | |

## SCORING FORM FOR AIR VEHICLE
(Continued)

Book 207

**Technical Value - Measurement Facilities (MF)** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.4 Do you have specialized facilities which are required to support you in conducting your test operations at your facility? (3.1.D.1) | Yes | p.15 |
| **Remarks** | | |

**Technical Value - Integration Labs (IL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.3.1 Do you have an IL facility that supports test operations? (General Information Form) | No | |
| 2.3.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | No | |
| 2.3.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | No | |
| 2.3.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | No | |
| **Remarks** None Reported | | |

**Technical Value - Hardware-In-The-Loop (HITL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.4.1 Do you have a HITL facility that supports test operations? (General Information Form) | No | |
| 2.4.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | No | |

## SCORING FORM FOR AIR VEHICLE
(Continued)

Book 207

**Technical Value - Hardware-In-The-Loop (HITL)** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.4.3 Is the facility equipped to support TOP SECRET or Special Access Required work? (3.1.E.3) | No | |
| 2.4.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | No | |
| **Remarks** None Reported | | |

**Technical Value - Installed Systems Test Facilities (ISTF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.5.1 Can the facility support fighter/helo-sized aircraft testing? (3.2.C.3 & Fac form) | No | |
| 2.5.2 Can the facility support B-1 bomber/cargo-sized aircraft testing? (3.2.C.3 & Fac form) | No | |
| 2.5.3 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | No | |
| 2.5.4 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | No | |
| 2.5.5 Do you have specialized facilities which are required to support you in conducting your test operations at your facility? (3.1.D.1) | No | |
| **Remarks** None Reported | | |

## SCORING FORM FOR AIR VEHICLE
(Continued)

Book 207

**Technical Value - Open Air Ranges (OAR)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.6.1 How many of the following types of air vehicles can be tested (3.2.C.1): a. fixed wing? | No | |
| b. rotary wing? | No | |
| c. unmanned? | No | |
| d. cruise missile? | No | |
| 2.6.2 What is the maximum number of simultaneous missions you can support with telemetry? (3.2.C.6) | Ø | |
| 2.6.3 What is the length (in feet) of available concrete runway? (3.2.B.1) | Ø | |
| 2.6.4 What is the ramp area available (in sq ft)? (3.2.B.1) | Ø | |
| 2.6.5 What is the hangar space available (in sq ft)? (3.2.B.1 | Ø | |
| 2.6.6 Are ground facilities available to support preflight checkout and/or rehearsal of test missions? (3.2.C.2) | No | |
| 2.6.7 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | No | |
| 2.6.8 Is the facility equipped to support TOP SECRET or Special Access Required work? (3.1.E.3) | No | |
| 2.6.9 Do you have specialized facilities which are required to support you in conducting your test operations at your facility? (3.1.D.1) | No | |

**Remarks** TWO OARS REPORTED HAD ZERO WORKLOAD FOR AIR VEHICLES (SEE FACILITY EXCLUSIONS) THEREFORE SCORED AS "NONE REPORTED".

# SCORING FORM FOR AIR VEHICLE

ACTIVITY: WARMINISTER BOOK: 220

**Physical Value - Critical Air/Land/Sea Space**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.1 How many square miles of land space are available to support test operations? (3.1.G.1) | ϕ | P.15 ISSUE 7A Score N/A as ϕ |
| 1.1.2 How many square miles of sea space are available to support test operations? (3.1.G.1) | ϕ | ↓ |
| 1.1.3 How much of the land under the restricted airspace does DoD own or control? (3.1.G.2) a. None | No | ↓ |
| b. Some | No | ↓ |
| c. All | No | ↓ |
| 1.1.4 How many square miles of restricted airspace (including warning areas) are available to support test operations? (3.1.G.3) | ϕ | P.16 ISSUE 7A Score N/A as ϕ |
| 1.1.5 What altitude limits are associated with the restricted airspace (including warning areas)? (Upper Limit-Lower Limit) Upper limit is capped at 100k feet. (3.1.G.3) | ϕ | ↓ |
| 1.1.6 How many square miles of available airspace are over land? (3.1.G.5) | ϕ | P.17 ISSUE 7A Score N/A as ϕ |
| 1.1.7 How many square miles of available airspace are over water? (3.1.G.5) | ϕ | ↓ |
| 1.1.8 What is the maximum straight line segment in the airspace, in nautical miles? (3.1.G.7) | ϕ | ↓ |
| 1.1.9 Do supersonic areas and/or corridors exist? (3.2.A.1) | NO | P.20 |
| 1.1.10 What altitude limits are associated with the supersonic airspace? (Upper Limit-Lower Limit) Upper limit is capped at 100k feet. (3.2.A.3) | ϕ | P.20 ISSUE 7A Score N/A as ϕ |
| 1.1.11 What is the maximum straight line segment in the supersonic airspace, in nautical miles? (3.2.A.4) | ϕ | ↓ |



TPB

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Physical Value - Critical Air/Land/Sea Space** (Continued) 220

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.12 What is the minimum altitude allowable in the restricted airspace (including Warning Areas) (3.1.G.3) | None | P.16 Issue 7A |
| **Remarks** No restricted airspace reported | | |

**Physical Value - Topographical**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.2.1 Which of the following types of topography and ground cover/vegetation exist within your test airspace? (3.1.H.1)<br>a. Mountainous | No | P.17 Issue 7A<br>Score N/A as ∅ in This case "No" |
| b. Forested or jungle | No | |
| c. Cultivated lowland (farmland) | No | |
| d. Swamp or riverine | No | |
| e. Desert | No | |
| f. Sea | No | |
| **Remarks** | | |

**Physical Value - Climatic**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.1 What is the average percentage of days per year that visibility is greater than 3 miles? (3.1.H.8) | 100% | P.18<br>DFS is a self contained facility not affected by visibility |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Physical Value - Climatic** (Continued) 220

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.2 What is the percent of test missions ,1986 - 1993, not canceled due to weather? (3.1.H.6) | 100% | P.18 IN Door Facility |
| **Remarks** | | |

**Physical Value - Encroachment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.4.1 What is the average percentage of test missions per year not canceled due to commercial or public use ? [100% minus (% derived from # of test missions canceled divided by the # of test missions over period reported)] (3.1.C.5.A, Data Forms) | 100% | P.13 |
| 1.4.2 What percent of test missions were not canceled due to encroachment in the past two years [100% minus (% derived from sum of 92 and 93 canceled missions divided by the sum of 92 and 93 test missions)] (3.1.C.6, Data Forms) | 100% | P.13 |
| 1.4.3 What is the total population inside the following radii of the facility? (3.1.C.4) | | P.12 |
| a. 50 miles | 2,000,000 | |
| b. 100 miles | 12,000,000 | |
| c. 150 miles | 20,000,000 | |
| d. 200 miles | 30,000,000 | |
| **Remarks** | | |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Physical Value - Environment** 220

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.5.1 Does the facility have limiting environmental characteristics? (3.1.C.1.) | NO | P.12 |
| **Remarks** | | |

**Technical Value - Digital Models and Simulations (DM&S)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.1.1 Do you have a DM&S facility that supports test operations? (General Information Form) | yes | P.42 |
| 2.1.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | yes | P. 10 |
| 2.1.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | P. 14 |
| 2.1.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | P. 13 |
| **Remarks** | | |

**Technical Value - Measurement Facilities (MF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.1 Do you have a MF facility that supports test operations? (General Information Form) | NO | |
| 2.2.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.2.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Technical Value - Measurement Facilities (MF)** (Continued) 220

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.4 Do you have specialized facilities which are required to support you in conducting your test operations at your facility? (3.1.D.1) | No | |
| **Remarks** None reported | | |

**Technical Value - Integration Labs (IL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.3.1 Do you have an IL facility that supports test operations? (General Information Form) | No | |
| 2.3.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | No | |
| 2.3.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | No | |
| 2.3.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | No | |
| **Remarks** None reported | | |

**Technical Value - Hardware-In-The-Loop (HITL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.4.1 Do you have a HITL facility that supports test operations? (General Information Form) | No | |
| 2.4.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | No | |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Technical Value - Hardware-In-The-Loop (HITL)** (Continued) 220

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.4.3 Is the facility equipped to support TOP SECRET or Special Access Required work? (3.1.E.3) | No | |
| 2.4.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | No | |
| **Remarks** None reported | | |

**Technical Value - Installed Systems Test Facilities (ISTF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.5.1 Can the facility support fighter/helo-sized aircraft testing? (3.2.C.3 & Fac form) | No | |
| 2.5.2 Can the facility support B-1 bomber/cargo-sized aircraft testing? (3.2.C.3 & Fac form) | No | |
| 2.5.3 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | No | |
| 2.5.4 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | No | |
| 2.5.5 Do you have specialized facilities which are required to support you in conducting your test operations at your facility? (3.1.D.1) | NO | |
| **Remarks** None reported | | |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Technical Value - Open Air Ranges (OAR)** 220

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.6.1 How many of the following types of air vehicles can be tested (3.2.C.1): a. fixed wing? | No | |
| b. rotary wing? | No | |
| c. unmanned? | No | |
| d. cruise missile? | No | |
| 2.6.2 What is the maximum number of simultaneous missions you can support with telemetry? (3.2.C.6) | ∅ | |
| 2.6.3 What is the length (in feet) of available concrete runway? (3.2.B.1) | ∅ | |
| 2.6.4 What is the ramp area available (in sq ft)? (3.2.B.1) | ∅ | |
| 2.6.5 What is the hangar space available (in sq ft)? (3.2.B.1 | ∅ | |
| 2.6.6 Are ground facilities available to support preflight checkout and/or rehearsal of test missions? (3.2.C.2) | No | |
| 2.6.7 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | No | |
| 2.6.8 Is the facility equipped to support TOP SECRET or Special Access Required work? (3.1.E.3) | No | |
| 2.6.9 Do you have specialized facilities which are required to support you in conducting your test operations at your facility? (3.1.D.1) | No | |

**Remarks** NONE reported.

# SCORING FORM FOR AIR VEHICLE

ACTIVITY: INDIANAPOLIS BOOK: 209

**Physical Value - Critical Air/Land/Sea Space**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.1 How many square miles of land space are available to support test operations? (3.1.G.1) | ϕ | P.24<br>163acres/640acres/sq mi = .25 sq miles<br>Rounded = ϕ |
| 1.1.2 How many square miles of sea space are available to support test operations? (3.1.G.1) | ϕ | P.24 |
| 1.1.3 How much of the land under the restricted airspace does DoD own or control? (3.1.G.2)<br>a. None | No | P.24 Issue 7A<br>N/A Scored as ϕ or NO |
| b. Some | NO | ↓ |
| c. All | NO | ↓ |
| 1.1.4 How many square miles of restricted airspace (including warning areas) are available to support test operations? (3.1.G.3) | ϕ | ↓ |
| 1.1.5 What altitude limits are associated with the restricted airspace (including warning areas)? (Upper Limit-Lower Limit) Upper limit is capped at 100k feet. (3.1.G.3) | ϕ | ↓ |
| 1.1.6 How many square miles of available airspace are over land? (3.1.G.5) | ϕ | P.25 Issue 7A<br>N/A Scored as ϕ |
| 1.1.7 How many square miles of available airspace are over water? (3.1.G.5) | ϕ | P.25 Issue 7A<br>N/A Scored as ϕ |
| 1.1.8 What is the maximum straight line segment in the airspace, in nautical miles? (3.1.G.7) | ϕ | P.25 Issue 7A<br>N/A Scored as ϕ |
| 1.1.9 Do supersonic areas and/or corridors exist? (3.2.A.1) | NO | P.28 |
| 1.1.10 What altitude limits are associated with the supersonic airspace? (Upper Limit-Lower Limit) Upper limit is capped at 100k feet. (3.2.A.3) | ϕ | P.28 Issue 7A<br>N/A Scored as ϕ |
| 1.1.11 What is the maximum straight line segment in the supersonic airspace, in nautical miles? (3.2.A.4) | ϕ | ↓ |



TPB

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Physical Value - Critical Air/Land/Sea Space** (Continued) 209

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.12 What is the minimum altitude allowable in the restricted airspace (including Warning Areas) (3.1.G.3) | NONE | P.24, Issue 7A No Restricted Airspace Reported |
| **Remarks** | | |

**Physical Value - Topographical**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.2.1 Which of the following types of topography and ground cover/vegetation exist within your test airspace? (3.1.H.1) a. Mountainous | NO | P.26 |
| b. Forested or jungle | NO | |
| c. Cultivated lowland (farmland) | NO | |
| d. Swamp or riverine | NO | |
| e. Desert | NO | |
| f. Sea | NO | |
| **Remarks** None reported | | |

**Physical Value - Climatic**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.1 What is the average percentage of days per year that visibility is greater than 3 miles? (3.1.H.8) | 100 | P. 27 |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Physical Value - Climatic** (Continued) 209

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.2 What is the percent of test missions ,1986 - 1993, not canceled due to weather? (3.1.H.6) | 100 | P. 27 |
| **Remarks** | | |

**Physical Value - Encroachment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.4.1 What is the average percentage of test missions per year not canceled due to commercial or public use ? [100% minus (% derived from # of test missions canceled divided by the # of test missions over period reported)] (3.1.C.5.A, Data Forms) | 100 | P. 20 |
| 1.4.2 What percent of test missions were not canceled due to encroachment in the past two years [100% minus (% derived from sum of 92 and 93 canceled missions divided by the sum of 92 and 93 test missions)] (3.1.C.6, Data Forms) | 100 | P. 20 |
| 1.4.3 What is the total population inside the following radii of the facility? (3.1.C.4)<br>a. 50 miles | 1,789,736 | P. 20 |
| b. 100 miles | 4,385,199 | P. 20 |
| c. 150 miles | 11,521,607 | P. 20 |
| d. 200 miles | 18,230,277 | P. 20 |
| **Remarks** | | |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Physical Value - Environment** 209

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.5.1 Does the facility have limiting environmental characteristics? (3.1.C.1.) | NO | P.18 |
| **Remarks** | | |

**Technical Value - Digital Models and Simulations (DM&S)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.1.1 Do you have a DM&S facility that supports test operations? (General Information Form) | NO | P. 54 + 63 & Workload For Air Vehicles |
| 2.1.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | ↓ |
| 2.1.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | ↓ |
| 2.1.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | ↓ |
| **Remarks** | | |

**Technical Value - Measurement Facilities (MF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.1 Do you have a MF facility that supports test operations? (General Information Form) | Yes | P. 71 Product Quality Assurance + Evaluation Facility |
| 2.2.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | Yes | P.16 |
| 2.2.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | P.22 |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Technical Value - Measurement Facilities (MF)** (Continued) 209

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.4 Do you have specialized facilities which are required to support you in conducting your test operations at your facility? (3.1.D.1) | No | P. 20 |
| **Remarks** | | |

**Technical Value - Integration Labs (IL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.3.1 Do you have an IL facility that supports test operations? (General Information Form) | Yes | P. 109A AV-020 Integrated Avionics Lab. |
| 2.3.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | Yes | P. 16 |
| 2.3.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | No | P. 22 |
| 2.3.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | No | P. 20 |
| **Remarks** | | |

**Technical Value - Hardware-In-The-Loop (HITL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.4.1 Do you have a HITL facility that supports test operations? (General Information Form) | No | P. 109A AV-20 Changed to IL Digital Scene - Exclusion - 1% workload EO-3 /ES-3 Exclusion - unique |
| 2.4.2 Do you have a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | No | ↓ |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Technical Value - Hardware-In-The-Loop (HITL)** (Continued) 209

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.4.3 Is the facility equipped to support TOP SECRET or Special Access Required work? (3.1.E.3) | NO | |
| 2.4.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** | | |

**Technical Value - Installed Systems Test Facilities (ISTF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.5.1 Can the facility support fighter/helo-sized aircraft testing? (3.2.C.3 & Fac form) | NO | |
| 2.5.2 Can the facility support B-1 bomber/cargo-sized aircraft testing? (3.2.C.3 & Fac form) | NO | |
| 2.5.3 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.5.4 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.5.5 Do you have specialized facilities which are required to support you in conducting your test operations at your facility? (3.1.D.1) | NO | |
| **Remarks** None reported | | |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Technical Value - Open Air Ranges (OAR)** 209

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.6.1 How many of the following types of air vehicles can be tested (3.2.C.1): a. fixed wing? | NO | |
| b. rotary wing? | NO | |
| c. unmanned? | NO | |
| d. cruise missile? | NO | |
| 2.6.2 What is the maximum number of simultaneous missions you can support with telemetry? (3.2.C.6) | ϕ | |
| 2.6.3 What is the length (in feet) of available concrete runway? (3.2.B.1) | ϕ | |
| 2.6.4 What is the ramp area available (in sq ft)? (3.2.B.1) | ϕ | |
| 2.6.5 What is the hangar space available (in sq ft)? (3.2.B.1 | ϕ | |
| 2.6.6 Are ground facilities available to support preflight checkout and/or rehearsal of test missions? (3.2.C.2) | NO | |
| 2.6.7 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.6.8 Is the facility equipped to support TOP SECRET or Special Access Required work? (3.1.E.3) | NO | |
| 2.6.9 Do you have specialized facilities which are required to support you in conducting your test operations at your facility? (3.1.D.1) | NO | |

**Remarks** NONE reported

## SCORING FORM FOR AIR VEHICLE

ACTIVITY: EGLIN BOOK:

**Physical Value - Critical Air/Land/Sea Space**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.1 How many square miles of land space are available to support test operations? (3.1.G.1) | 874 | P.42 Book 311 |
| 1.1.2 How many square miles of sea space are available to support test operations? (3.1.G.1) | 91,998 | P.105 Book 306 |
| 1.1.3 How much of the land under the restricted airspace does DoD own or control? (3.1.G.2) a. None | NO | P.45 Book 310 |
| b. Some | yes | ↓ |
| c. All | NO | ↓ |
| 1.1.4 How many square miles of restricted airspace (including warning areas) are available to support test operations? (3.1.G.3) | 33,763 | P.46 Book 310<br>Restricted +1,168<br>Warning +32,618<br>NO FLY −23 |
| 1.1.5 What altitude limits are associated with the restricted airspace (including warning areas)? (Upper Limit-Lower Limit) Upper limit is capped at 100k feet. (3.1.G.3) | 100,000 | P.45 Book 310 |
| 1.1.6 How many square miles of available airspace are over land? (3.1.G.5) | 9,736 | P.47 Book 310 |
| 1.1.7 How many square miles of available airspace are over water? (3.1.G.5) | 92,137 | ↓ |
| 1.1.8 What is the maximum straight line segment in the airspace, in nautical miles? (3.1.G.7) | 478 | P.48 Book 310 |
| 1.1.9 Do supersonic areas and/or corridors exist? (3.2.A.1) | yes | P. 51 Book 310 |
| 1.1.10 What altitude limits are associated with the supersonic airspace? (Upper Limit-Lower Limit) Upper limit is capped at 100k feet. (3.2.A.3) | 100,000 | P. 51 Book 310 |
| 1.1.11 What is the maximum straight line segment in the supersonic airspace, in nautical miles? (3.2.A.4) | 478 | RFC AW-008 |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Physical Value - Critical Air/Land/Sea Space** (Continued) Book 306

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.12 What is the minimum altitude allowable in the restricted airspace (including Warning Areas) (3.1.G.3) | ϕ | P. 45 Book 310 |
| **Remarks** | | |

**Physical Value - Topographical**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.2.1 Which of the following types of topography and ground cover/vegetation exist within your test airspace? (3.1.H.1) | | |
| a. Mountainous | NO | P. 49 Book 310 |
| b. Forested or jungle | yes | |
| c. Cultivated lowland (farmland) | yes | |
| d. Swamp or riverine | yes | |
| e. Desert | NO | |
| f. Sea | yes | |
| **Remarks** | | |

**Physical Value - Climatic**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.1 What is the average percentage of days per year that visibility is greater than 3 miles? (3.1.H.8) | 98.1 | P. 50 Book 310 355/365 |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Physical Value - Climatic (Continued)** Book 306

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.2 What is the percent of test missions ,1986 - 1993, not canceled due to weather? (3.1.H.6) | 92.3% | Total Cancelations = 341 Page 108<br>Total Missions = 4088 Page 129<br>% = $\frac{4088}{4088+341} \times 100$ Book 306 |
| **Remarks** | | |

**Physical Value - Encroachment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.4.1 What is the average percentage of test missions per year not canceled due to commercial or public use ? [100% minus (% derived from # of test missions canceled divided by the # of test missions over period reported)] (3.1.C.5.A, Data Forms) | 100% | P.72 Book306 |
| 1.4.2 What percent of test missions were not canceled due to encroachment in the past two years [100% minus (% derived from sum of 92 and 93 canceled missions divided by the sum of 92 and 93 test missions)] (3.1.C.6, Data Forms) | 100% | |
| 1.4.3 What is the total population inside the following radii of the facility? (3.1.C.4)<br>a. 50 miles | 253,144 | RFC EC-005 |
| b. 100 miles | 1,205,794 | |
| c. 150 miles | 2,417,482 | |
| d. 200 miles | 4,383,864 | |
| **Remarks** | | |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Physical Value - Environment** Book 306

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.5.1 Does the facility have limiting environmental characteristics? (3.1.C.1.) | NO | P.71 Book 306 |
| **Remarks** | | |

**Technical Value - Digital Models and Simulations (DM&S)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.1.1 Do you have a DM&S facility that supports test operations? (General Information Form) | NO | |
| 2.1.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the rmed forces of the US? (2.3.B.2) | NO | |
| 2.1.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.1.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** NO DM&S Facility with AV workload | | |

**Technical Value - Measurement Facilities (MF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.1 Do you have a MF facility that supports test operations? (General Information Form) | yes | P.63 Book 306 McKinley Climatic Lab |
| 2.2.2 Does the facility provide a T&E product or ervice without which irreparable harm would be mposed on any mission (other than test) deemed ritical to the operational effectiveness of the rmed forces of the US? (2.3.B.2) | yes | P.28 Book 306 |
| 2.3 Is the facility equipped to support Top ret or Special Access Required work? (3.1.E.3) | yes | P.46 Book 306 |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Technical Value - Measurement Facilities (MF)** (Continued) Book 306

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.4 Do you have specialized facilities which are required to support you in conducting your test operations at your facility? (3.1.D.1) | Yes | P. 30 Book 306 |
| **Remarks** | | |

**Technical Value - Integration Labs (IL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.3.1 Do you have an IL facility that supports test operations? (General Information Form) | NO | |
| 2.3.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.3.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.3.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** NO Facilities Reported | | |

**Technical Value - Hardware-In-The-Loop (HITL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.4.1 Do you have a HITL facility that supports test operations? (General Information Form) | NO | |
| 2.4.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Technical Value - Hardware-In-The-Loop (HITL)** (Continued) Book 306

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.4.3 Is the facility equipped to support TOP SECRET or Special Access Required work? (3.1.E.3) | NO | |
| 2.4.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** Facility had Less than 1% workload | | |

**Technical Value - Installed Systems Test Facilities (ISTF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.5.1 Can the facility support fighter/helo-sized aircraft testing? (3.2.C.3 & Fac form) | NO | |
| 2.5.2 Can the facility support B-1 bomber/cargo-sized aircraft testing? (3.2.C.3 & Fac form) | NO | |
| 2.5.3 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.5.4 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.5.5 Do you have specialized facilities which are required to support you in conducting your test operations at your facility? (3.1.D.1) | NO | |
| **Remarks** NO Facilities with Air vehicle workload | | |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Technical Value - Open Air Ranges (OAR)** Book 306

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.6.1 How many of the following types of air vehicles can be tested (3.2.C.1): a. fixed wing? | NO | |
| b. rotary wing? | NO | |
| c. unmanned? | NO | |
| d. cruise missile? | NO | |
| 2.6.2 What is the maximum number of simultaneous missions you can support with telemetry? (3.2.C.6) | ∅ | |
| 2.6.3 What is the length (in feet) of available concrete runway? (3.2.B.1) | ∅ | |
| 2.6.4 What is the ramp area available (in sq ft)? (3.2.B.1) | ∅ | |
| 2.6.5 What is the hangar space available (in sq ft)? (3.2.B.1 | ∅ | |
| 2.6.6 Are ground facilities available to support preflight checkout and/or rehearsal of test missions? (3.2.C.2) | NO | |
| 2.6.7 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.6.8 Is the facility equipped to support TOP SECRET or Special Access Required work? (3.1.E.3) | NO | |
| 2.6.9 Do you have specialized facilities which are required to support you in conducting your test operations at your facility? (3.1.D.1) | NO | |

**Remarks** ALL FACILITIES EXCLUDED < 5% WORKLOAD IN AV

# SCORING FORM FOR AIR VEHICLE

ACTIVITY: EDWARDS BOOK: Books 301 + 302

**Physical Value - Critical Air/Land/Sea Space**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.1 How many square miles of land space are available to support test operations? (3.1.G.1) | 12,225 | RFC Av 023 |
| 1.1.2 How many square miles of sea space are available to support test operations? (3.1.G.1) | 41,268 | RFC Av 023 |
| 1.1.3 How much of the land under the restricted airspace does DoD own or control? (3.1.G.2) a. None | No | P.104 Book 302 |
| b. Some | yes | ↓ |
| c. All | No | ↓ |
| 1.1.4 How many square miles of restricted airspace (including warning areas) are available to support test operations? (3.1.G.3) | 69,578 | P. 103+104 Book 302 RFC Av 025 (41,268 + 28,310) |
| 1.1.5 What altitude limits are associated with the restricted airspace (including warning areas)? (Upper Limit-Lower Limit) Upper limit is capped at 100k feet. (3.1.G.3) | 100,000 | P. 104 Book 302 |
| 1.1.6 How many square miles of available airspace are over land? (3.1.G.5) | 49,774 | P.107 RFC Av-024 + Av-025 Book 302 |
| 1.1.7 How many square miles of available airspace are over water? (3.1.G.5) | 41,333 | RFC 024 Book 302 |
| 1.1.8 What is the maximum straight line segment in the airspace, in nautical miles? (3.1.G.7) | 315 | P.108 Book 302 |
| 1.1.9 Do supersonic areas and/or corridors exist? (3.2.A.1) | yes | P. 114 A Book 302 |
| 1.1.10 What altitude limits are associated with the supersonic airspace? (Upper Limit-Lower Limit) Upper limit is capped at 100k feet. (3.2.A.3) | 100,000 | P. 115 Book 302 |
| 1.1.11 What is the maximum straight line segment in the supersonic airspace, in nautical miles? (3.2.A.4) | 315 | P. 116 Book 302 $\sqrt{95^2 + 300^2}$ |



TPB

# SCORING FORM FOR AIR VEHICLE
(Continued)

**Physical Value - Critical Air/Land/Sea Space** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.12 What is the minimum altitude allowable in the restricted airspace (including Warning Areas) (3.1.G.3) | ∅ | P.104 Book 302 |
| **Remarks** | | |

**Physical Value - Topographical**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.2.1 Which of the following types of topography and ground cover/vegetation exist within your test airspace? (3.1.H.1)<br>a. Mountainous | yes | RFC<br>AV 031 |
| b. Forested or jungle | yes | ↓ |
| c. Cultivated lowland (farmland) | yes | ↓ |
| d. Swamp or riverine | yes | ↓ |
| e. Desert | yes | ↓ |
| f. Sea | yes | ↓ |
| **Remarks** | | |

**Physical Value - Climatic**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.1 What is the average percentage of days per year that visibility is greater than 3 miles? (3.1.H.8) | 100% | P.112 365/365 Book 302 |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Physical Value - Climatic** (Continued) Book 301

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.2 What is the percent of test missions ,1986 - 1993, not canceled due to weather? (3.1.H.6) | 95.6% | P. 59 Book 301 |
| **Remarks** $\% = 100 - \frac{(4.2 + 4.3 + 4.6)}{3}$ | | |

**Physical Value - Encroachment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.4.1 What is the average percentage of test missions per year not canceled due to commercial or public use ? [100% minus (% derived from # of test missions canceled divided by the # of test missions over period reported)] (3.1.C.5.A, Data Forms) | 100% | P.26 Book 301 |
| 1.4.2 What percent of test missions were not canceled due to encroachment in the past two years [100% minus (% derived from sum of 92 and 93 canceled missions divided by the sum of 92 and 93 test missions)] (3.1.C.6, Data Forms) | 100% | |
| 1.4.3 What is the total population inside the following radii of the facility? (3.1.C.4)<br>a. 50 miles | 313,000 | P.25 Book 301 |
| b. 100 miles | 16,070,000 | P.25 Book 301 |
| c. 150 miles | 18,028,120 | P.26 Book 301 |
| d. 200 miles | 20,489,920 | P.26 Book 301 |
| **Remarks** | | |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Physical Value - Environment**

Book 301

| Question | Score | Book301 Reference Source/Remarks |
|---|---|---|
| 1.5.1 Does the facility have limiting environmental characteristics? (3.1.C.1.) | NO | P. 24 + P. 25 NARRATIVE States NO LIMITATION ON Future Growth |
| **Remarks** | | |

**Technical Value - Digital Models and Simulations (DM&S)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.1.1 Do you have a DM&S facility that supports test operations? (General Information Form) | yes | P.220 Book 301 TEMS |
| 2.1.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | yes | P. 212 Book 301 |
| 2.1.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | No | P.213 Book 301 |
| 2.1.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | No | P. 212 No Answer provided + Book301 Issue 7A Score as NO |
| **Remarks** | | |

**Technical Value - Measurement Facilities (MF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.1 Do you have a MF facility that supports test operations? (General Information Form) | yes | RFC AV-029 GUT + Human Factors |
| 2.2.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | P. 284 GUT + P.302 Human Factors + Issue 7A Score as NO Book 301 |
| 2.2.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Technical Value - Measurement Facilities (MF)** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.4 Do you have specialized facilities which are required to support you in conducting your test operations at your facility? (3.1.D.1) | NO | ↓ |
| **Remarks** | | |

**Technical Value - Integration Labs (IL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.3.1 Do you have an IL facility that supports test operations? (General Information Form) | yes | P. 466 Book 301, IFAST |
| 2.3.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | yes | P.453 Book 301, IFAST |
| 2.3.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | yes | P.328 Instrumented Propulsion Complex RFC AV-29 Book 301 |
| 2.3.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | yes | P.455 Book 301, IFAST |
| **Remarks** | | |

**Technical Value - Hardware-In-The-Loop (HITL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.4.1 Do you have a HITL facility that supports test operations? (General Information Form) | NO | |
| 2.4.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Technical Value - Hardware-In-The-Loop (HITL) (Continued)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.4.3 Is the facility equipped to support TOP SECRET or Special Access Required work? (3.1.E.3) | No | |
| 2.4.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** See Facility Exclusion (Air Gun Harmonization Facility) | | |

**Technical Value - Installed Systems Test Facilities (ISTF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.5.1 Can the facility support fighter/helo-sized aircraft testing? (3.2.C.3 & Fac form) | yes | P. 35 Book 302 |
| 2.5.2 Can the facility support B-1 bomber/cargo-sized aircraft testing? (3.2.C.3 & Fac form) | yes | P. 17 Para 2.1.B1 Book 302 B-1B |
| 2.5.3 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | yes | P.19 Book 302 |
| 2.5.4 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | yes | P. 22 Book 302 |
| 2.5.5 Do you have specialized facilities which are required to support you in conducting your test operations at your facility? (3.1.D.1) | yes | P. 21 Book 302 |
| **Remarks** BAF | | |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Technical Value - Open Air Ranges (OAR)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.6.1 How many of the following types of air vehicles can be tested (3.2.C.1):<br>a. fixed wing? | yes | P. 118A Book 302 |
| b. rotary wing? | yes | |
| c. unmanned? | yes | |
| d. cruise missile? | yes | |
| 2.6.2 What is the maximum number of simultaneous missions you can support with telemetry? (3.2.C.6) | 12 | P. 80 Book 301 |
| 2.6.3 What is the length (in feet) of available concrete runway? (3.2.B.1) | 14,995 | P.70 Book 301 |
| 2.6.4 What is the ramp area available (in sq ft)? (3.2.B.1) | 15,205,025 | RFC AV 041 5,755,000 + 4,902,125 + 557,900 + 3,990,000 |
| 2.6.5 What is the hangar space available (in sq ft)? (3.2.B.1 | 1,536,429 | RFC AV 048 |
| 2.6.6 Are ground facilities available to support preflight checkout and/or rehearsal of test missions? (3.2.C.2) | yes | P. 118A Book 302<br>P. 79 Book 301 |
| 2.6.7 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | yes | P. 21 Book 301 |
| 2.6.8 Is the facility equipped to support TOP SECRET or Special Access Required work? (3.1.E.3) | yes | P. 44 Book 301 |
| 2.6.9 Do you have specialized facilities which are required to support you in conducting your test operations at your facility? (3.1.D.1) | yes | P. 27 Book 301 |

**Remarks**

All page numbers are in Book 302 except where noted.

## SCORING FORM FOR AIR VEHICLE

ACTIVITY: UTTR BOOK: Book 304 + 302 (1-95) (Pages 1-234)

**Physical Value - Critical Air/Land/Sea Space**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.1 How many square miles of land space are available to support test operations? (3.1.G.1) | 14,675 | P. 214 (2,675 + 12,000) |
| 1.1.2 How many square miles of sea space are available to support test operations? (3.1.G.1) | 84 | P. 215 |
| 1.1.3 How much of the land under the restricted airspace does DoD own or control? (3.1.G.2) a. None | NO | |
| b. Some | YES | |
| c. All | NO | |
| 1.1.4 How many square miles of restricted airspace (including warning areas) are available to support test operations? (3.1.G.3) | 7,958 | P. 214 |
| 1.1.5 What altitude limits are associated with the restricted airspace (including warning areas)? (Upper Limit-Lower Limit) Upper limit is capped at 100k feet. (3.1.G.3) | 58,000 | P. 215 |
| 1.1.6 How many square miles of available airspace are over land? (3.1.G.5) | 16,651 | P. 214 (7,958 + 8,693) |
| 1.1.7 How many square miles of available airspace are over water? (3.1.G.5) | 86 | P. 216 65 sq Nm x 1.324 sq miles / sq NM |
| 1.1.8 What is the maximum straight line segment in the airspace, in nautical miles? (3.1.G.7) | 207 | P. 217 |
| 1.1.9 Do supersonic areas and/or corridors exist? (3.2.A.1) | yes | P. 220 |
| 1.1.10 What altitude limits are associated with the supersonic airspace? (Upper Limit-Lower Limit) Upper limit is capped at 100k feet. (3.2.A.3) | 99,250 | P. 221 (100,000 - 750) |
| 1.1.11 What is the maximum straight line segment in the supersonic airspace, in nautical miles? (3.2.A.4) | 74 | P. 221 $\sqrt{61^2 + 41^2}$ |



TPB

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Physical Value - Critical Air/Land/Sea Space** (Continued) Book 302 + 304 UTTR

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.12 What is the minimum altitude allowable in the restricted airspace (including Warning Areas) (3.1.G.3) | ∅ | P. 215 |
| **Remarks** | | |

**Physical Value - Topographical**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.2.1 Which of the following types of topography and ground cover/vegetation exist within your test airspace? (3.1.H.1) | | |
| a. Mountainous | yes | P 218 |
| b. Forested or jungle | yes | ↓ |
| c. Cultivated lowland (farmland) | No | ↓ |
| d. Swamp or riverine | No | ↓ |
| e. Desert | yes | ↓ |
| f. Sea | No | ↓ |
| **Remarks** | | |

**Physical Value - Climatic**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.1 What is the average percentage of days per year that visibility is greater than 3 miles? (3.1.H.8) | 95.9 | P. 219 350/365 |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Physical Value - Climatic** (Continued) Book 302+ 304 UTTR

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.2 What is the percent of test missions ,1986 - 1993, not canceled due to weather? (3.1.H.6) | 94.4 | P 219 $\frac{22,000}{22,000+1300}$ |
| **Remarks** | | |

**Physical Value - Encroachment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.4.1 What is the average percentage of test missions per year not canceled due to commercial or public use ? [100% minus (% derived from # of test missions canceled divided by the # of test missions over period reported)] (3.1.C.5.A, Data Forms) | 100% | P. 208 |
| 1.4.2 What percent of test missions were not canceled due to encroachment in the past two years [100% minus (% derived from sum of 92 and 93 canceled missions divided by the sum of 92 and 93 test missions)] (3.1.C.6, Data Forms) | 100% | |
| 1.4.3 What is the total population inside the following radii of the facility? (3.1.C.4) a. 50 miles | 5,000 | |
| b. 100 miles | 1,140,179 | |
| c. 150 miles | 2,000,000 | |
| d. 200 miles | 2,200,000 | |
| **Remarks** | | |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Physical Value - Environment** 302 + Book 304 UTTR

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.5.1 Does the facility have limiting environmental characteristics? (3.1.C.1.) | No | P. 207 |
| **Remarks** ~~None~~ | | |

**Technical Value - Digital Models and Simulations (DM&S)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.1.1 Do you have a DM&S facility that supports test operations? (General Information Form) | NO | |
| 2.1.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | No | |
| 2.1.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.1.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** None reported | | |

**Technical Value - Measurement Facilities (MF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.1 Do you have a MF facility that supports test operations? (General Information Form) | NO | |
| 2.2.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.2.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Technical Value - Measurement Facilities (MF)** (Continued) Book 302+ 304 4TTR

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.4 Do you have specialized facilities which are required to support you in conducting your test operations at your facility? (3.1.D.1) | NO | |
| **Remarks** NONE reported | | |

**Technical Value - Integration Labs (IL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.3.1 Do you have an IL facility that supports test operations? (General Information Form) | NO | |
| 2.3.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.3.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.3.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** NONE reported | | |

**Technical Value - Hardware-In-The-Loop (HITL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.4.1 Do you have a HITL facility that supports test operations? (General Information Form) | NO | |
| 2.4.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Technical Value - Hardware-In-The-Loop (HITL)** (Continued) Book 302 + 304 UTTR

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.4.3 Is the facility equipped to support TOP SECRET or Special Access Required work? (3.1.E.3) | NO | |
| 2.4.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** None reported | | |

**Technical Value - Installed Systems Test Facilities (ISTF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.5.1 Can the facility support fighter/helo-sized aircraft testing? (3.2.C.3 & Fac form) | NO | |
| 2.5.2 Can the facility support B-1 bomber/cargo-sized aircraft testing? (3.2.C.3 & Fac form) | NO | |
| 2.5.3 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.5.4 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.5.5 Do you have specialized facilities which are required to support you in conducting your test operations at your facility? (3.1.D.1) | NO | |
| **Remarks** None reported | | |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Technical Value - Open Air Ranges (OAR)** Book 302+ 304 4TTR

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.6.1 How many of the following types of air vehicles can be tested (3.2.C.1): a. fixed wing? | yes | P. 224 |
| b. rotary wing? | No | |
| c. unmanned? | yes | |
| d. cruise missile? | yes | |
| 2.6.2 What is the maximum number of simultaneous missions you can support with telemetry? (3.2.C.6) | 3 | P. 226 |
| 2.6.3 What is the length (in feet) of available concrete runway? (3.2.B.1) | 13,500 | P. 222 |
| 2.6.4 What is the ramp area available (in sq ft)? (3.2.B.1) | 7,788,197 | P. 222 (7,588,197 + 200,000) |
| 2.6.5 What is the hangar space available (in sq ft)? (3.2.B.1 | 744,650 | P. 222 |
| 2.6.6 Are ground facilities available to support preflight checkout and/or rehearsal of test missions? (3.2.C.2) | yes | P. 225 |
| 2.6.7 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | yes | P. 206 P. 47 Book 304 |
| 2.6.8 Is the facility equipped to support TOP SECRET or Special Access Required work? (3.1.E.3) | yes | P. 212 |
| 2.6.9 Do you have specialized facilities which are required to support you in conducting your test operations at your facility? (3.1.D.1) | yes | P. 209 P. 49 Book 304 |

**Remarks**

## SCORING FORM FOR AIR VEHICLE

ACTIVITY: ARNOLD AFB BOOK: 305

**Physical Value - Critical Air/Land/Sea Space**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.1 How many square miles of land space are available to support test operations? (3.1.G.1) | 19 | p. 57 |
| 1.1.2 How many square miles of sea space are available to support test operations? (3.1.G.1) | Ø | p. 57 |
| 1.1.3 How much of the land under the restricted airspace does DoD own or control? (3.1.G.2)<br>a. None | No | pp 57-58 ; ISSUE 7A |
| b. Some | No | |
| c. All | No | |
| 1.1.4 How many square miles of restricted airspace (including warning areas) are available to support test operations? (3.1.G.3) | Ø | |
| 1.1.5 What altitude limits are associated with the restricted airspace (including warning areas)? (Upper Limit-Lower Limit) Upper limit is capped at 100k feet. (3.1.G.3) | Ø | |
| 1.1.6 How many square miles of available airspace are over land? (3.1.G.5) | Ø | |
| 1.1.7 How many square miles of available airspace are over water? (3.1.G.5) | Ø | |
| 1.1.8 What is the maximum straight line segment in the airspace, in nautical miles? (3.1.G.7) | Ø | |
| 1.1.9 Do supersonic areas and/or corridors exist? (3.2.A.1) | No | |
| 1.1.10 What altitude limits are associated with the supersonic airspace? (Upper Limit-Lower Limit) Upper limit is capped at 100k feet. (3.2.A.3) | Ø | |
| 1.1.11 What is the maximum straight line segment in the supersonic airspace, in nautical miles? (3.2.A.4) | Ø | |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Physical Value - Critical Air/Land/Sea Space** (Continued) Book 305

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.12 What is the minimum altitude allowable in the restricted airspace (including Warning Areas) (3.1.G.3) | NONE | pp 57-58; ISSUE 7A |
| **Remarks** Q 1.1.12 NO RESTRICTED AIRSPACE REPORTED | | |

**Physical Value - Topographical**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.2.1 Which of the following types of topography and ground cover/vegetation exist within your test airspace? (3.1.H.1) a. Mountainous | No | pp 57-58; ISSUE 7A |
| b. Forested or jungle | No | |
| c. Cultivated lowland (farmland) | No | |
| d. Swamp or riverine | No | |
| e. Desert | No | |
| f. Sea | No | |
| **Remarks** | | |

**Physical Value - Climatic**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.1 What is the average percentage of days per year that visibility is greater than 3 miles? (3.1.H.8) | 100% | p. 59 |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Physical Value - Climatic** (Continued) Book 305

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.2 What is the percent of test missions ,1986 - 1993, not canceled due to weather? (3.1.H.6) | 100% | pp 58-59 |
| **Remarks** Q 1.3.1 RESPONSE STATES TEST MISSION IS NOT AFFECTED BY VISIBILITY. CREDIT GIVEN FOR 365 DAYS > 3 MILES = 100%. | | |

**Physical Value - Encroachment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.4.1 What is the average percentage of test missions per year not canceled due to commercial or public use ? [100% minus (% derived from # of test missions canceled divided by the # of test missions over period reported)] (3.1.C.5.A, Data Forms) | 100% | p.57 |
| 1.4.2 What percent of test missions were not canceled due to encroachment in the past two years [100% minus (% derived from sum of 92 and 93 canceled missions divided by the sum of 92 and 93 test missions)] (3.1.C.6, Data Forms) | 100% | p.57 |
| 1.4.3 What is the total population inside the following radii of the facility? (3.1.C.4) a. 50 miles | 70,000 | p.57 |
| b. 100 miles | 790,000 | p.57 |
| c. 150 miles | 955,000 | p.57 |
| d. 200 miles | 2,405,000 | p.57 |
| **Remarks** | | |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Physical Value - Environment** Book 305

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.5.1 Does the facility have limiting environmental characteristics? (3.1.C.1.) | No | p. 55 |
| **Remarks** Q 1.5.1 MITIGATING CIRCUMSTANCES REMOVE LIMITATIONS, THEREFORE SCORED AS "NO" i.e. no limiting characteristics. | | |

**Technical Value - Digital Models and Simulations (DM&S)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.1.1 Do you have a DM&S facility that supports test operations? (General Information Form) | No | |
| 2.1.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | No | |
| 2.1.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | No | |
| 2.1.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | No | |
| **Remarks** NONE REPORTED. ~~SEE~~ REL | | |

**Technical Value - Measurement Facilities (MF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.1 Do you have a MF facility that supports test operations? (General Information Form) | YES | p. 68 AIR BREATHING ENGINE TEST FACILITY |
| 2.2.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | YES | p. 55 |
| 2.2.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | YES | p. 53 |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Technical Value - Measurement Facilities (MF)** (Continued) BOOK 305

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.4 Do you have specialized facilities which are required to support you in conducting your test operations at your facility? (3.1.D.1) | YES | p.52 |
| **Remarks** | | |

**Technical Value - Integration Labs (IL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.3.1 Do you have an IL facility that supports test operations? (General Information Form) | No | |
| 2.3.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | No | |
| 2.3.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | No | |
| 2.3.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | No | |
| **Remarks** NONE REPORTED | | |

**Technical Value - Hardware-In-The-Loop (HITL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.4.1 Do you have a HITL facility that supports test operations? (General Information Form) | No | |
| 2.4.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | No | |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Technical Value - Hardware-In-The-Loop (HITL)** (Continued) Book 305

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.4.3 Is the facility equipped to support TOP SECRET or Special Access Required work? (3.1.E.3) | No | |
| 2.4.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | No | |
| **Remarks** None Reported | | |

**Technical Value - Installed Systems Test Facilities (ISTF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.5.1 Can the facility support fighter/helo-sized aircraft testing? (3.2.C.3 & Fac form) | No | |
| 2.5.2 Can the facility support B-1 bomber/cargo-sized aircraft testing? (3.2.C.3 & Fac form) | No | |
| 2.5.3 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | No | |
| 2.5.4 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | No | |
| 2.5.5 Do you have specialized facilities which are required to support you in conducting your test operations at your facility? (3.1.D.1) | No | |
| **Remarks** None Reported | | |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Technical Value - Open Air Ranges (OAR)** Book 305

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.6.1 How many of the following types of air vehicles can be tested (3.2.C.1): a. fixed wing? | No | |
| b. rotary wing? | No | |
| c. unmanned? | No | |
| d. cruise missile? | No | |
| 2.6.2 What is the maximum number of simultaneous missions you can support with telemetry? (3.2.C.6) | Ø | |
| 2.6.3 What is the length (in feet) of available concrete runway? (3.2.B.1) | Ø | |
| 2.6.4 What is the ramp area available (in sq ft)? (3.2.B.1) | Ø | |
| 2.6.5 What is the hangar space available (in sq ft)? (3.2.B.1 | Ø | |
| 2.6.6 Are ground facilities available to support preflight checkout and/or rehearsal of test missions? (3.2.C.2) | No | |
| 2.6.7 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | No | |
| 2.6.8 Is the facility equipped to support TOP SECRET or Special Access Required work? (3.1.E.3) | No | |
| 2.6.9 Do you have specialized facilities which are required to support you in conducting your test operations at your facility? (3.1.D.1) | No | |

**Remarks** NONE REPORTED

## SCORING FORM FOR AIR VEHICLE

ACTIVITY: HOLLOMAN AFB BOOK: 312

**Physical Value - Critical Air/Land/Sea Space**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.1 How many square miles of land space are available to support test operations? (3.1.G.1) | 4,000 | p. 8 |
| 1.1.2 How many square miles of sea space are available to support test operations? (3.1.G.1) | Ø | p.8 NO SEA SPACE REPORTED |
| 1.1.3 How much of the land under the restricted airspace does DoD own or control? (3.1.G.2) a. None | No | p. 8 |
| b. Some | YES | p. 8 |
| c. All | YES | p.8 |
| 1.1.4 How many square miles of restricted airspace (including warning areas) are available to support test operations? (3.1.G.3) | 4,000 | p.8 Q.3.1.G.1 AND 3.1.G.3 |
| 1.1.5 What altitude limits are associated with the restricted airspace (including warning areas)? (Upper Limit-Lower Limit) Upper limit is capped at 100k feet. (3.1.G.3) | 100,000 | p. 8 SURFACE = Ø UNLIMITED = 100,000 |
| 1.1.6 How many square miles of available airspace are over land? (3.1.G.5) | 4,000 | p. 8 |
| 1.1.7 How many square miles of available airspace are over water? (3.1.G.5) | Ø | p. 8 NO AIRSPACE OVER WATER REPORTED |
| 1.1.8 What is the maximum straight line segment in the airspace, in nautical miles? (3.1.G.7) | 140 | p. 9 |
| 1.1.9 Do supersonic areas and/or corridors exist? (3.2.A.1) | No | p.11 |
| 1.1.10 What altitude limits are associated with the supersonic airspace? (Upper Limit-Lower Limit) Upper limit is capped at 100k feet. (3.2.A.3) | Ø | p.11 ; ISSUE 7A |
| 1.1.11 What is the maximum straight line segment in the supersonic airspace, in nautical miles? (3.2.A.4) | Ø | p.11 ; ISSUE 7A |



JPB

## SCORING FORM FOR AIR VEHICLE
(Continued)

BOOK 312

**Physical Value - Critical Air/Land/Sea Space** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.12 What is the minimum altitude allowable in the restricted airspace (including Warning Areas) (3.1.G.3) | Ø | p. 8 SURFACE = Ø |
| **Remarks** | | |

**Physical Value - Topographical**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.2.1 Which of the following types of topography and ground cover/vegetation exist within your test airspace? (3.1.H.1) | | |
| a. Mountainous | YES | p. 9 |
| b. Forested or jungle | NO | NONE REPORTED |
| c. Cultivated lowland (farmland) | NO | NONE REPORTED |
| d. Swamp or riverine | NO | NONE REPORTED |
| e. Desert | YES | |
| f. Sea | NO | NONE REPORTED |
| **Remarks** | | |

**Physical Value - Climatic**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.1 What is the average percentage of days per year that visibility is greater than 3 miles? (3.1.H.8) | 100% | pg 11 365/365 = 100% |

## SCORING FORM FOR AIR VEHICLE
(Continued)

Book 312

**Physical Value - Climatic** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.2 What is the percent of test missions ,1986 - 1993, not canceled due to weather? (3.1.H.6) | 98.2% | p.10, RFC AV-043 p.59, p.69, ISSUE #1 |

**Remarks** Q.1.3.2 % NOT CNX = (1089/8 + 305) / (1089/8 + 305 + 3+5) = 441.125 / 449.125 = .982 (SEE REVERSE)

% NOT CNX = MISSIONS FLOWN / MISSIONS FLOWN + CNX

**Physical Value - Encroachment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.4.1 What is the average percentage of test missions per year not canceled due to commercial or public use ? [100% minus (% derived from # of test missions canceled divided by the # of test missions over period reported)] (3.1.C.5.A, Data Forms) | 100% | P. 54 |
| 1.4.2 What percent of test missions were not canceled due to encroachment in the past two years [100% minus (% derived from sum of 92 and 93 canceled missions divided by the sum of 92 and 93 test missions)] (3.1.C.6, Data Forms) | 100% | P.54 |
| 1.4.3 What is the total population inside the following radii of the facility? (3.1.C.4) | | |
| a. 50 miles | 40,000 | P.54 |
| b. 100 miles | 690,000 | |
| c. 150 miles | 740,000 | |
| d. 200 miles | 1,290,000 | |

**Remarks**

See reverse for AV-3B

## SCORING FORM FOR AIR VEHICLE
(Continued)

Book 312

**Physical Value - Environment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.5.1 Does the facility have limiting environmental characteristics? (3.1.C.1.) | No | P.53 |
| **Remarks** | | |

**Technical Value - Digital Models and Simulations (DM&S)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.1.1 Do you have a DM&S facility that supports test operations? (General Information Form) | NO | |
| 2.1.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.1.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.1.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** None reported | | |

**Technical Value - Measurement Facilities (MF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.1 Do you have a MF facility that supports test operations? (General Information Form) | yes | P.24 |
| 2.2.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | yes | P. 3 |
| 2.2.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | yes | P. 6 |

## SCORING FORM FOR AIR VEHICLE
(Continued)

Book 312

**Technical Value - Measurement Facilities (MF)** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.4 Do you have specialized facilities which are required to support you in conducting your test operations at your facility? (3.1.D.1) | Yes | P. 5 |
| **Remarks** Central Inertial Guidance Test Facility (CIGTF) | | |

**Technical Value - Integration Labs (IL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.3.1 Do you have an IL facility that supports test operations? (General Information Form) | No | |
| 2.3.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.3.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | No | |
| 2.3.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | No | |
| **Remarks** None reported | | |

**Technical Value - Hardware-In-The-Loop (HITL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.4.1 Do you have a HITL facility that supports test operations? (General Information Form) | NO | |
| 2.4.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |

## SCORING FORM FOR AIR VEHICLE
(Continued)

Book 3/2

**Technical Value - Hardware-In-The-Loop (HITL)** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.4.3 Is the facility equipped to support TOP SECRET or Special Access Required work? (3.1.E.3) | No | |
| 2.4.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** None reported | | |

**Technical Value - Installed Systems Test Facilities (ISTF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.5.1 Can the facility support fighter/helo-sized aircraft testing? (3.2.C.3 & Fac form) | No | |
| 2.5.2 Can the facility support B-1 bomber/cargo-sized aircraft testing? (3.2.C.3 & Fac form) | No | |
| 2.5.3 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.5.4 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.5.5 Do you have specialized facilities which are required to support you in conducting your test operations at your facility? (3.1.D.1) | NO | |
| **Remarks** None reported | | |

## SCORING FORM FOR AIR VEHICLE
(Continued)

Book 312

**Technical Value - Open Air Ranges (OAR)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.6.1 How many of the following types of air vehicles can be tested (3.2.C.1): a. fixed wing? | No | |
| b. rotary wing? | No | |
| c. unmanned? | NO | |
| d. cruise missile? | NO | |
| 2.6.2 What is the maximum number of simultaneous missions you can support with telemetry? (3.2.C.6) | ϕ | |
| 2.6.3 What is the length (in feet) of available concrete runway? (3.2.B.1) | ϕ | |
| 2.6.4 What is the ramp area available (in sq ft)? (3.2.B.1) | ϕ | |
| 2.6.5 What is the hangar space available (in sq ft)? (3.2.B.1 | ϕ | |
| 2.6.6 Are ground facilities available to support preflight checkout and/or rehearsal of test missions? (3.2.C.2) | NO | |
| 2.6.7 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.6.8 Is the facility equipped to support TOP SECRET or Special Access Required work? (3.1.E.3) | NO | |
| 2.6.9 Do you have specialized facilities which are required to support you in conducting your test operations at your facility? (3.1.D.1) | NO | |

**Remarks** None reported

## SCORING FORM FOR AIR VEHICLE

ACTIVITY: 475 WEG TYNDALL AFB BOOK: 313

**Physical Value - Critical Air/Land/Sea Space**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.1 How many square miles of land space are available to support test operations? (3.1.G.1) | 78 | P.97+P.99 Square Miles = $Nm^2$ x 1.324 |
| 1.1.2 How many square miles of sea space are available to support test operations? (3.1.G.1) | 20,133 | P.97 Square Miles = $Nm^2$ x 1.324 |
| 1.1.3 How much of the land under the restricted airspace does DoD own or control? (3.1.G.2) a. None | No | P.97 |
| b. Some | yes | P.97 |
| c. All | yes | P.97 |
| 1.1.4 How many square miles of restricted airspace (including warning areas) are available to support test operations? (3.1.G.3) | 20,211 | P.98 78.1 + 20132.7 = 20,211 |
| 1.1.5 What altitude limits are associated with the restricted airspace (including warning areas)? (Upper Limit-Lower Limit) Upper limit is capped at 100k feet. (3.1.G.3) | 100,000 | P.97 |
| 1.1.6 How many square miles of available airspace are over land? (3.1.G.5) | 78 | P.99 |
| 1.1.7 How many square miles of available airspace are over water? (3.1.G.5) | 20,133 | P.99 |
| 1.1.8 What is the maximum straight line segment in the airspace, in nautical miles? (3.1.G.7) | 385 | P.99 |
| 1.1.9 Do supersonic areas and/or corridors exist? (3.2.A.1) | yes | P.102 |
| 1.1.10 What altitude limits are associated with the supersonic airspace? (Upper Limit-Lower Limit) Upper limit is capped at 100k feet. (3.2.A.3) | 90,000 | P102 |
| 1.1.11 What is the maximum straight line segment in the supersonic airspace, in nautical miles? (3.2.A.4) | 385 | P.99 |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Physical Value - Critical Air/Land/Sea Space** (Continued) Book 313

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.12 What is the minimum altitude allowable in the restricted airspace (including Warning Areas) (3.1.G.3) | ∅ | P.97 |
| **Remarks** | | |

**Physical Value - Topographical**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.2.1 Which of the following types of topography and ground cover/vegetation exist within your test airspace? (3.1.H.1) | | |
| a. Mountainous | No | P.99 |
| b. Forested or jungle | No | P.99 |
| c. Cultivated lowland (farmland) | No | P.99 |
| d. Swamp or riverine | No | P.99 |
| e. Desert | No | P.99 |
| f. Sea | Yes | P.99 |
| **Remarks** | | |

**Physical Value - Climatic**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.1 What is the average percentage of days per year that visibility is greater than 3 miles? (3.1.H.8) | 95.9 | P.101 Para 3.1.H.8 350/365 |

# SCORING FORM FOR AIR VEHICLE
(Continued)

**Physical Value - Climatic** (Continued)

Book 313

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.2 What is the percent of test missions ,1986 - 1993, not canceled due to weather? (3.1.H.6) | 92.6 | P. 101 -102 +Issue 15 $1-\left[\frac{15+19}{157+266+15+19}\right] = 92.6\%$ |
| **Remarks** | | |

**Physical Value - Encroachment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.4.1 What is the average percentage of test missions per year not canceled due to commercial or public use ? [100% minus (% derived from # of test missions canceled divided by the # of test missions over period reported)] (3.1.C.5.A, Data Forms) | 100% | P. 88 |
| 1.4.2 What percent of test missions were not canceled due to encroachment in the past two years [100% minus (% derived from sum of 92 and 93 canceled missions divided by the sum of 92 and 93 test missions)] (3.1.C.6, Data Forms) | 100% | P. 88 |
| 1.4.3 What is the total population inside the following radii of the facility? (3.1.C.4) a. 50 miles | 181,000 | P. 87 |
| b. 100 miles | 937,200 | P. 87 |
| c. 150 miles | 2,067,700 | P. 87 |
| d. 200 miles | 3,914,100 | P. 87 |
| **Remarks** | | |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Physical Value - Environment** Book 313

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.5.1 Does the facility have limiting environmental characteristics? (3.1.C.1.) | NO | P.86 |
| **Remarks** | | |

**Technical Value - Digital Models and Simulations (DM&S)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.1.1 Do you have a DM&S facility that supports test operations? (General Information Form) | NO | |
| 2.1.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.1.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.1.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** None Reported | | |

**Technical Value - Measurement Facilities (MF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.1 Do you have a MF facility that supports test operations? (General Information Form) | NO | |
| 2.2.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.2.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Technical Value - Measurement Facilities (MF)** (Continued) Book 313

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.4 Do you have specialized facilities which are required to support you in conducting your test operations at your facility? (3.1.D.1) | NO | |
| **Remarks** None Reported | | |

**Technical Value - Integration Labs (IL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.3.1 Do you have an IL facility that supports test operations? (General Information Form) | NO | |
| 2.3.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.3.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.3.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** None Reported | | |

**Technical Value - Hardware-In-The-Loop (HITL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.4.1 Do you have a HITL facility that supports test operations? (General Information Form) | yes | P.132 RADAR TEST FACILITY |
| 2.4.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | yes | P.84 |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Technical Value - Hardware-In-The-Loop (HITL)** (Continued) Book 313

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.4.3 Is the facility equipped to support TOP SECRET or Special Access Required work? (3.1.E.3) | yes | P. 93 |
| 2.4.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | yes | P. 90 |
| **Remarks** | | |

**Technical Value - Installed Systems Test Facilities (ISTF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.5.1 Can the facility support fighter/helo-sized aircraft testing? (3.2.C.3 & Fac form) | NO | |
| 2.5.2 Can the facility support B-1 bomber/cargo-sized aircraft testing? (3.2.C.3 & Fac form) | NO | |
| 2.5.3 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.5.4 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.5.5 Do you have specialized facilities which are required to support you in conducting your test operations at your facility? (3.1.D.1) | NO | |
| **Remarks** None Reported | | |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Technical Value - Open Air Ranges (OAR)** Book 313

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.6.1 How many of the following types of air vehicles can be tested (3.2.C.1): a. fixed wing? | NO | |
| b. rotary wing? | NO | |
| c. unmanned? | NO | |
| d. cruise missile? | NO | |
| 2.6.2 What is the maximum number of simultaneous missions you can support with telemetry? (3.2.C.6) | ϕ | |
| 2.6.3 What is the length (in feet) of available concrete runway? (3.2.B.1) | ϕ | |
| 2.6.4 What is the ramp area available (in sq ft)? (3.2.B.1) | ϕ | |
| 2.6.5 What is the hangar space available (in sq ft)? (3.2.B.1 | ϕ | |
| 2.6.6 Are ground facilities available to support preflight checkout and/or rehearsal of test missions? (3.2.C.2) | NO | |
| 2.6.7 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.6.8 Is the facility equipped to support TOP SECRET or Special Access Required work? (3.1.E.3) | NO | |
| 2.6.9 Do you have specialized facilities which are required to support you in conducting your test operations at your facility? (3.1.D.1) | NO | |

**Remarks** See Exclusions

# SCORING FORM FOR AIR VEHICLE

ACTIVITY: Ft. Rucker ATTC BOOK: 101

**Physical Value - Critical Air/Land/Sea Space**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.1 How many square miles of land space are available to support test operations? (3.1.G.1) | 49,390 | P. 135 11 Aug 94 updated was 43,440 |
| 1.1.2 How many square miles of sea space are available to support test operations? (3.1.G.1) | ϕ | |
| 1.1.3 How much of the land under the restricted airspace does DoD own or control? (3.1.G.2) a. None | No | |
| b. Some | yes | |
| c. All | NO | |
| 1.1.4 How many square miles of restricted airspace (including warning areas) are available to support test operations? (3.1.G.3) | 20 | P. 136 11 Aug 94 update |
| 1.1.5 What altitude limits are associated with the restricted airspace (including warning areas)? (Upper Limit-Lower Limit) Upper limit is capped at 100k feet. (3.1.G.3) | 15,000 | |
| 1.1.6 How many square miles of available airspace are over land? (3.1.G.5) | 49,390 | was 43,440 |
| 1.1.7 How many square miles of available airspace are over water? (3.1.G.5) | ϕ | |
| 1.1.8 What is the maximum straight line segment in the airspace, in nautical miles? (3.1.G.7) | 230 | was 105 |
| 1.1.9 Do supersonic areas and/or corridors exist? (3.2.A.1) | NO | P. 138 11 Aug 94 update Issue 7A Score N/A as NO |
| 1.1.10 What altitude limits are associated with the supersonic airspace? (Upper Limit-Lower Limit) Upper limit is capped at 100k feet. (3.2.A.3) | ϕ | |
| 1.1.11 What is the maximum straight line segment in the supersonic airspace, in nautical miles? (3.2.A.4) | ϕ | |



JPB

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Physical Value - Critical Air/Land/Sea Space** (Continued) 101 ATTC

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.12 What is the minimum altitude allowable in the restricted airspace (including Warning Areas) (3.1.G.3) | ϕ | P.136 11 Aug 94 update |
| **Remarks** | | |

**Physical Value - Topographical**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.2.1 Which of the following types of topography and ground cover/vegetation exist within your test airspace? (3.1.H.1) | | |
| a. Mountainous | NO | P.136 11 Aug 94 update |
| b. Forested or jungle | yes | ↓ |
| c. Cultivated lowland (farmland) | yes | ↓ |
| d. Swamp or riverine | yes | ↓ |
| e. Desert | NO | ↓ |
| f. Sea | NO | ↓ |
| **Remarks** | | |

**Physical Value - Climatic**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.1 What is the average percentage of days per year that visibility is greater than 3 miles? (3.1.H.8) | 88.2 | P. 138 11 Aug 94 update 322/365 |

## SCORING FORM FOR AIR VEHICLE
(Continued)

ATTC

**Physical Value - Climatic** (Continued) 101

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.2 What is the percent of test missions ,1986 - 1993, not canceled due to weather? (3.1.H.6) | 95.6 | P. 137 + P. 152 11 Aug 94 update Cancelled missions 186 - P.137 + See below Calculation |
| **Remarks** P.152 missions 6025+4913+4545+3914+3939+3668+2652+2592 = 32248 Average 32248/8 = 4031 $\% = 1 - \frac{186}{4031+186} = 95.6$ | | |

**Physical Value - Encroachment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.4.1 What is the average percentage of test missions per year not canceled due to commercial or public use ? [100% minus (% derived from # of test missions canceled divided by the # of test missions over period reported)] (3.1.C.5.A, Data Forms) | 100 | P.133 11 Aug 94 update |
| 1.4.2 What percent of test missions were not canceled due to encroachment in the past two years [100% minus (% derived from sum of 92 and 93 canceled missions divided by the sum of 92 and 93 test missions)] (3.1.C.6, Data Forms) | 100 | |
| 1.4.3 What is the total population inside the following radii of the facility? (3.1.C.4) a. 50 miles | 395,214 | |
| b. 100 miles | 1,929,903 | |
| c. 150 miles | 3,881,744 | |
| d. 200 miles | 9,062,010 | |
| **Remarks** | | |

## SCORING FORM FOR AIR VEHICLE
(Continued)

ATTC 101

**Physical Value - Environment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.5.1 Does the facility have limiting environmental characteristics? (3.1.C.1.) | NO | P.132 11 Aug 94 update |
| **Remarks** | | |

**Technical Value - Digital Models and Simulations (DM&S)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.1.1 Do you have a DM&S facility that supports test operations? (General Information Form) | NO | |
| 2.1.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.1.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.1.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** NO Facilities reported | | |

**Technical Value - Measurement Facilities (MF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.1 Do you have a MF facility that supports test operations? (General Information Form) | NO | |
| 2.2.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.2.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |

## SCORING FORM FOR AIR VEHICLE
(Continued)

ATTC

**Technical Value - Measurement Facilities (MF)** (Continued) 101

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.4 Do you have specialized facilities which are required to support you in conducting your test operations at your facility? (3.1.D.1) | NO | |
| **Remarks** No Facilities reported | | |

**Technical Value - Integration Labs (IL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.3.1 Do you have an IL facility that supports test operations? (General Information Form) | NO | |
| 2.3.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.3.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.3.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** No Facilities reported | | |

**Technical Value - Hardware-In-The-Loop (HITL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.4.1 Do you have a HITL facility that supports test operations? (General Information Form) | NO | |
| 2.4.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |

## SCORING FORM FOR AIR VEHICLE
(Continued)

ATTC

**Technical Value - Hardware-In-The-Loop (HITL)** (Continued) 101

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.4.3 Is the facility equipped to support TOP SECRET or Special Access Required work? (3.1.E.3) | NO | |
| 2.4.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** No Facilities reported | | |

**Technical Value - Installed Systems Test Facilities (ISTF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.5.1 Can the facility support fighter/helo-sized aircraft testing? (3.2.C.3 & Fac form) | NO | |
| 2.5.2 Can the facility support B-1 bomber/cargo-sized aircraft testing? (3.2.C.3 & Fac form) | NO | |
| 2.5.3 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.5.4 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.5.5 Do you have specialized facilities which are required to support you in conducting your test operations at your facility? (3.1.D.1) | NO | |
| **Remarks** No Facilities reported | | |

## SCORING FORM FOR AIR VEHICLE
(Continued)

ATTC

**Technical Value - Open Air Ranges (OAR)** 101

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.6.1 How many of the following types of air vehicles can be tested (3.2.C.1): | | P.140 Para 3.2.C.3 11 Aug 94 update |
| a. fixed wing? | yes | |
| b. rotary wing? | yes | |
| c. unmanned? | No | |
| d. cruise missile? | No | |
| 2.6.2 What is the maximum number of simultaneous missions you can support with telemetry? (3.2.C.6) | 2 | P.141 11 Aug 94 update |
| 2.6.3 What is the length (in feet) of available concrete runway? (3.2.B.1) | 5,000 | P.139 11 Aug 94 update |
| 2.6.4 What is the ramp area available (in sq ft)? (3.2.B.1) | 150,000 | P.139 11 Aug 94 update & RFC 039 |
| 2.6.5 What is the hangar space available (in sq ft)? (3.2.B.1 | 79,835 | RFC 049 |
| 2.6.6 Are ground facilities available to support preflight checkout and/or rehearsal of test missions? (3.2.C.2) | yes | P.140 11 Aug 94 update |
| 2.6.7 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | No | P.139 + Issue 7A Score N/A as No |
| 2.6.8 Is the facility equipped to support TOP SECRET or Special Access Required work? (3.1.E.3) | No | P.135 11 Aug 94 update |
| 2.6.9 Do you have specialized facilities which are required to support you in conducting your test operations at your facility? (3.1.D.1) | yes | P.133 11 Aug 94 update |

**Remarks**

# SCORING FORM FOR AIR VEHICLE

ACTIVITY: AQTD - EDWARDS AFB BOOK: 101

**Physical Value - Critical Air/Land/Sea Space**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.1 How many square miles of land space are available to support test operations? (3.1.G.1) | 3220 | P.165 |
| 1.1.2 How many square miles of sea space are available to support test operations? (3.1.G.1) | ϕ | P.165 |
| 1.1.3 How much of the land under the restricted airspace does DoD own or control? (3.1.G.2)<br>a. None | NO | P.165 |
| b. Some | yes | P.165 |
| c. All | NO | P.165 |
| 1.1.4 How many square miles of restricted airspace (including warning areas) are available to support test operations? (3.1.G.3) | 14,300 | RFC AV-040 |
| 1.1.5 What altitude limits are associated with the restricted airspace (including warning areas)? (Upper Limit-Lower Limit) Upper limit is capped at 100k feet. (3.1.G.3) | 100,000 | P.166 |
| 1.1.6 How many square miles of available airspace are over land? (3.1.G.5) | 47,847 | P.169 |
| 1.1.7 How many square miles of available airspace are over water? (3.1.G.5) | ϕ | P.169 |
| 1.1.8 What is the maximum straight line segment in the airspace, in nautical miles? (3.1.G.7) | 156 | RFC AV-001 |
| 1.1.9 Do supersonic areas and/or corridors exist? (3.2.A.1) | yes | P.172 |
| 1.1.10 What altitude limits are associated with the supersonic airspace? (Upper Limit-Lower Limit) Upper limit is capped at 100k feet. (3.2.A.3) | 100,000 | P.173 |
| 1.1.11 What is the maximum straight line segment in the supersonic airspace, in nautical miles? (3.2.A.4) | 244 | RFC AV-001 |



JPB

# SCORING FORM FOR AIR VEHICLE
(Continued)

**Physical Value - Critical Air/Land/Sea Space** (Continued) Book 101 AGTD

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.12 What is the minimum altitude allowable in the restricted airspace (including Warning Areas) (3.1.G.3) | ∅ | P.166 |
| **Remarks** | | |

**Physical Value - Topographical**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.2.1 Which of the following types of topography and ground cover/vegetation exist within your test airspace? (3.1.H.1) | | |
| a. Mountainous | yes | P.170 |
| b. Forested or jungle | yes | |
| c. Cultivated lowland (farmland) | yes | |
| d. Swamp or riverine | NO | |
| e. Desert | yes | |
| f. Sea | NO | |
| **Remarks** | | |

**Physical Value - Climatic**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.1 What is the average percentage of days per year that visibility is greater than 3 miles? (3.1.H.8) | 98.6 | P.172 360/365 |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Physical Value - Climatic** (Continued) BOOK 101 A&TD

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.2 What is the percent of test missions ,1986 - 1993, not canceled due to weather? (3.1.H.6) | 100% | P.171 |
| **Remarks** | | |

**Physical Value - Encroachment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.4.1 What is the average percentage of test missions per year not canceled due to commercial or public use ? [100% minus (% derived from # of test missions canceled divided by the # of test missions over period reported)] (3.1.C.5.A, Data Forms) | 100% | P.160 |
| 1.4.2 What percent of test missions were not canceled due to encroachment in the past two years [100% minus (% derived from sum of 92 and 93 canceled missions divided by the sum of 92 and 93 test missions)] (3.1.C.6, Data Forms) | 100% | P.160 |
| 1.4.3 What is the total population inside the following radii of the facility? (3.1.C.4)<br>a. 50 miles | 313,000 | P.160 |
| b. 100 miles | 16,070,000 | ↓ |
| c. 150 miles | 18,028,120 | ↓ |
| d. 200 miles | 20,849,920 | ↓ |
| **Remarks** | | |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Physical Value - Environment** BOOK 101 A&TD

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.5.1 Does the facility have limiting environmental characteristics? (3.1.C.1.) | NO | P.159 NARRATIVE implies NO LIMITATION |
| **Remarks** | | |

**Technical Value - Digital Models and Simulations (DM&S)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.1.1 Do you have a DM&S facility that supports test operations? (General Information Form) | NO | |
| 2.1.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.1.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.1.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** None reported | | |

**Technical Value - Measurement Facilities (MF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.1 Do you have a MF facility that supports test operations? (General Information Form) | NO | |
| 2.2.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.2.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Technical Value - Measurement Facilities (MF)** (Continued) Book 101 AGTD

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.4 Do you have specialized facilities which are required to support you in conducting your test operations at your facility? (3.1.D.1) | NO | |
| **Remarks** None reported | | |

**Technical Value - Integration Labs (IL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.3.1 Do you have an IL facility that supports test operations? (General Information Form) | NO | |
| 2.3.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.3.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.3.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** None reported | | |

**Technical Value - Hardware-In-The-Loop (HITL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.4.1 Do you have a HITL facility that supports test operations? (General Information Form) | NO | |
| 2.4.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Technical Value - Hardware-In-The-Loop (HITL)** (Continued) Book 101 AGTD

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.4.3 Is the facility equipped to support TOP SECRET or Special Access Required work? (3.1.E.3) | NO | |
| 2.4.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** None reported | | |

**Technical Value - Installed Systems Test Facilities (ISTF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.5.1 Can the facility support fighter/helo-sized aircraft testing? (3.2.C.3 & Fac form) | NO | |
| 2.5.2 Can the facility support B-1 bomber/cargo-sized aircraft testing? (3.2.C.3 & Fac form) | NO | |
| 2.5.3 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.5.4 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.5.5 Do you have specialized facilities which are required to support you in conducting your test operations at your facility? (3.1.D.1) | NO | |
| **Remarks** None reported | | |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Technical Value - Open Air Ranges (OAR)** Book 101 AGTD

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.6.1 How many of the following types of air vehicles can be tested (3.2.C.1): a. fixed wing? | yes | P.177 |
| b. rotary wing? | yes | |
| c. unmanned? | yes | |
| d. cruise missile? | No | |
| 2.6.2 What is the maximum number of simultaneous missions you can support with telemetry? (3.2.C.6) | 4 | P.178 |
| 2.6.3 What is the length (in feet) of available concrete runway? (3.2.B.1) | 14,995 | P.174 |
| 2.6.4 What is the ramp area available (in sq ft)? (3.2.B.1) | 213,444 | P.175 |
| 2.6.5 What is the hangar space available (in sq ft)? (3.2.B.1 | 72,640 | RFC AV 049 |
| 2.6.6 Are ground facilities available to support preflight checkout and/or rehearsal of test missions? (3.2.C.2) | yes | P.177 |
| 2.6.7 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | No | P.157 |
| 2.6.8 Is the facility equipped to support TOP SECRET or Special Access Required work? (3.1.E.3) | yes | P.164 |
| 2.6.9 Do you have specialized facilities which are required to support you in conducting your test operations at your facility? (3.1.D.1) | No | P.161 ERRATA SHEET P.123 replaces P.161 |

**Remarks**

## SCORING FORM FOR AIR VEHICLE

ACTIVITY: Yuma Proving Ground BOOK: 104

**Physical Value - Critical Air/Land/Sea Space**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.1 How many square miles of land space are available to support test operations? (3.1.G.1) | 1,310 | P.36 |
| 1.1.2 How many square miles of sea space are available to support test operations? (3.1.G.1) | ϕ | P.36 |
| 1.1.3 How much of the land under the restricted airspace does DoD own or control? (3.1.G.2)<br>a. None | No | P.37 |
| b. Some | yes | ↓ |
| c. All | No | ↓ |
| 1.1.4 How many square miles of restricted airspace (including warning areas) are available to support test operations? (3.1.G.3) | 1903 | P.36 |
| 1.1.5 What altitude limits are associated with the restricted airspace (including warning areas)? (Upper Limit-Lower Limit) Upper limit is capped at 100k feet. (3.1.G.3) | 100,000 | P.37 |
| 1.1.6 How many square miles of available airspace are over land? (3.1.G.5) | 1903 | P.36 + P37<br>1903 All Airspace is overLand |
| 1.1.7 How many square miles of available airspace are over water? (3.1.G.5) | ϕ | P.36 + P.37 |
| 1.1.8 What is the maximum straight line segment in the airspace, in nautical miles? (3.1.G.7) | 56 | P.38 |
| 1.1.9 Do supersonic areas and/or corridors exist? (3.2.A.1) | NO | P.41 |
| 1.1.10 What altitude limits are associated with the supersonic airspace? (Upper Limit-Lower Limit) Upper limit is capped at 100k feet. (3.2.A.3) | ϕ | P.41 + Issue 7A<br>Score N/A as ϕ |
| 1.1.11 What is the maximum straight line segment in the supersonic airspace, in nautical miles? (3.2.A.4) | ϕ | P.41 + Issue 7A<br>Score N/A as ϕ |



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## SCORING FORM FOR AIR VEHICLE
(Continued)

**Physical Value - Critical Air/Land/Sea Space** (Continued) Book 104 - 4PG

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.12 What is the minimum altitude allowable in the restricted airspace (including Warning Areas) (3.1.G.3) | ∅ | P. 37 |
| **Remarks** | | |

**Physical Value - Topographical**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.2.1 Which of the following types of topography and ground cover/vegetation exist within your test airspace? (3.1.H.1) | | |
| a. Mountainous | yes | P. 38 |
| b. Forested or jungle | No | |
| c. Cultivated lowland (farmland) | NO | |
| d. Swamp or riverine | No | |
| e. Desert | yes | |
| f. Sea | NO | |
| **Remarks** | | |

**Physical Value - Climatic**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.1 What is the average percentage of days per year that visibility is greater than 3 miles? (3.1.H.8) | 98.6 | P. 39 360/365 |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Physical Value - Climatic** (Continued) Book 104 - YPG

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.2 What is the percent of test missions ,1986 - 1993, not canceled due to weather? (3.1.H.6) | 98% | % = 100 - 100 · CNX/(FLWN+CNX) = 100 - 100 · 62/(3089+62) See below For Page # + Values |
| **Remarks** CNX = 11+29+22 P.39<br>FLWN = (344+744+408+120+242+115) P.54<br>+(150+90+144) P.60<br>+(74+109+88+47+56+45+63+79+91) P.66 | | |

**Physical Value - Encroachment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.4.1 What is the average percentage of test missions per year not canceled due to commercial or public use ? [100% minus (% derived from # of test missions canceled divided by the # of test missions over period reported)] (3.1.C.5.A, Data Forms) | 100% | P.32 |
| 1.4.2 What percent of test missions were not canceled due to encroachment in the past two years [100% minus (% derived from sum of 92 and 93 canceled missions divided by the sum of 92 and 93 test missions)] (3.1.C.6, Data Forms) | 100% | P.32 |
| 1.4.3 What is the total population inside the following radii of the facility? (3.1.C.4)<br>a. 50 miles | 200,000 | P.31 |
| b. 100 miles | 350,000 | |
| c. 150 miles | 500,000 | |
| d. 200 miles | 4,500,000 | |
| **Remarks** | | |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Physical Value - Environment** Book 104 - YPG

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.5.1 Does the facility have limiting environmental characteristics? (3.1.C.1.) | No | P. 31 |
| **Remarks** | | |

**Technical Value - Digital Models and Simulations (DM&S)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.1.1 Do you have a DM&S facility that supports test operations? (General Information Form) | No | |
| 2.1.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | No | |
| 2.1.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | No | |
| 2.1.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | No | |
| **Remarks** None reported | | |

**Technical Value - Measurement Facilities (MF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.1 Do you have a MF facility that supports test operations? (General Information Form) | Yes | P.86 Enviromental Simulation |
| 2.2.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | Yes | P. 9+13 |
| 2.2.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | Yes | P. 34 |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Technical Value - Measurement Facilities (MF)** (Continued) Book 104 - YPG

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.4 Do you have specialized facilities which are required to support you in conducting your test operations at your facility? (3.1.D.1) | yes | P. 32 |
| **Remarks** | | |

**Technical Value - Integration Labs (IL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.3.1 Do you have an IL facility that supports test operations? (General Information Form) | No | |
| 2.3.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | No | |
| 2.3.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | No | |
| 2.3.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | No | |
| **Remarks** None reported | | |

**Technical Value - Hardware-In-The-Loop (HITL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.4.1 Do you have a HITL facility that supports test operations? (General Information Form) | No | |
| 2.4.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Technical Value - Hardware-In-The-Loop (HITL)** (Continued) Book 104 - 4PG

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.4.3 Is the facility equipped to support TOP SECRET or Special Access Required work? (3.1.E.3) | NO | |
| 2.4.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** None reported | | |

**Technical Value - Installed Systems Test Facilities (ISTF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.5.1 Can the facility support fighter/helo-sized aircraft testing? (3.2.C.3 & Fac form) | NO | |
| 2.5.2 Can the facility support B-1 bomber/cargo-sized aircraft testing? (3.2.C.3 & Fac form) | NO | |
| 2.5.3 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.5.4 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.5.5 Do you have specialized facilities which are required to support you in conducting your test operations at your facility? (3.1.D.1) | NO | |
| **Remarks** None reported | | |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Technical Value - Open Air Ranges (OAR)** Book 104 - YPG

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.6.1 How many of the following types of air vehicles can be tested (3.2.C.1): a. fixed wing? | No | P. 44 |
| b. rotary wing? | yes | |
| c. unmanned? | yes | |
| d. cruise missile? | No | |
| 2.6.2 What is the maximum number of simultaneous missions you can support with telemetry? (3.2.C.6) | 3 | P.45 |
| 2.6.3 What is the length (in feet) of available concrete runway? (3.2.B.1) | 6,000 | P. 42 |
| 2.6.4 What is the ramp area available (in sq ft)? (3.2.B.1) | 359,000 | P. 42 |
| 2.6.5 What is the hangar space available (in sq ft)? (3.2.B.1 | 79,560 | RFC AV 050 |
| 2.6.6 Are ground facilities available to support preflight checkout and/or rehearsal of test missions? (3.2.C.2) | yes | P.44 |
| 2.6.7 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | yes | P. 9 |
| 2.6.8 Is the facility equipped to support TOP SECRET or Special Access Required work? (3.1.E.3) | yes | P. 34 |
| 2.6.9 Do you have specialized facilities which are required to support you in conducting your test operations at your facility? (3.1.D.1) | yes | P. 32 |
| **Remarks** | | |

## SCORING FORM FOR AIR VEHICLE

ACTIVITY: WSMR - EPG BOOK: 103

**Physical Value - Critical Air/Land/Sea Space**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.1 How many square miles of land space are available to support test operations? (3.1.G.1) | 39,167 | RFC AV004 |
| 1.1.2 How many square miles of sea space are available to support test operations? (3.1.G.1) | ∅ | P.9 |
| 1.1.3 How much of the land under the restricted airspace does DoD own or control? (3.1.G.2) a. None | No | P.9 |
| b. Some | yes | ↓ |
| c. All | No | ↓ |
| 1.1.4 How many square miles of restricted airspace (including warning areas) are available to support test operations? (3.1.G.3) | 892 | P.9 |
| 1.1.5 What altitude limits are associated with the restricted airspace (including warning areas)? (Upper Limit-Lower Limit) Upper limit is capped at 100k feet. (3.1.G.3) | 45,000 | P.9 |
| 1.1.6 How many square miles of available airspace are over land? (3.1.G.5) | 2692 | RFC AV 003 |
| 1.1.7 How many square miles of available airspace are over water? (3.1.G.5) | ∅ | P.10 |
| 1.1.8 What is the maximum straight line segment in the airspace, in nautical miles? (3.1.G.7) | 53 | P.10 |
| 1.1.9 Do supersonic areas and/or corridors exist? (3.2.A.1) | yes | P.13 |
| 1.1.10 What altitude limits are associated with the supersonic airspace? (Upper Limit-Lower Limit) Upper limit is capped at 100k feet. (3.2.A.3) | 8,400 | P.13 (8500-100) |
| 1.1.11 What is the maximum straight line segment in the supersonic airspace, in nautical miles? (3.2.A.4) | ∅ | RFC AV-006 |



TPB 10-25-95

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Physical Value - Critical Air/Land/Sea Space** (Continued) Book 103 EPG

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.12 What is the minimum altitude allowable in the restricted airspace (including Warning Areas) (3.1.G.3) | ϕ | P.9 |
| **Remarks** | | |

**Physical Value - Topographical**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.2.1 Which of the following types of topography and ground cover/vegetation exist within your test airspace? (3.1.H.1) | | |
| a. Mountainous | yes | P.10 |
| b. Forested or jungle | yes | P.10 |
| c. Cultivated lowland (farmland) | No | P.10 |
| d. Swamp or riverine | No | P.10 |
| e. Desert | yes | P.10 |
| f. Sea | No | P.10 |
| **Remarks** | | |

**Physical Value - Climatic**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.1 What is the average percentage of days per year that visibility is greater than 3 miles? (3.1.H.8) | 100% | P.12 |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Physical Value - Climatic** (Continued) Book 103 EPG

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.2 What is the percent of test missions ,1986 - 1993, not canceled due to weather? (3.1.H.6) | 99.7% | RFC EC 017<br>* 1.3.2 = 100 - .3 |
| **Remarks** | | |

**Physical Value - Encroachment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.4.1 What is the average percentage of test missions per year not canceled due to commercial or public use ? [100% minus (% derived from # of test missions canceled divided by the # of test missions over period reported)] (3.1.C.5.A, Data Forms) | 100% | P.6 |
| 1.4.2 What percent of test missions were not canceled due to encroachment in the past two years [100% minus (% derived from sum of 92 and 93 canceled missions divided by the sum of 92 and 93 test missions)] (3.1.C.6, Data Forms) | 100% | P.6 |
| 1.4.3 What is the total population inside the following radii of the facility? (3.1.C.4)<br>a. 50 miles | 97,624 | P.4 |
| b. 100 miles | 577,500 | P.4 |
| c. 150 miles | 820,734 | P.5 |
| d. 200 miles | 2,942,835 | P.5 |
| **Remarks** | | |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Physical Value - Environment** Book 103 EPG

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.5.1 Does the facility have limiting environmental characteristics? (3.1.C.1.) | NO | P.4 |
| **Remarks** | | |

**Technical Value - Digital Models and Simulations (DM&S)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.1.1 Do you have a DM&S facility that supports test operations? (General Information Form) | No | |
| 2.1.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | No | |
| 2.1.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.1.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** None Reported | EMETF Classified as DMS by RFC 001/003 Had <2% workload for Air Vehicles | |

**Technical Value - Measurement Facilities (MF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.1 Do you have a MF facility that supports test operations? (General Information Form) | yes | RFC EC Ø12 Range Operations |
| 2.2.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | yes | P.3 |
| 2.2.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | yes | P.8 |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Technical Value - Measurement Facilities (MF)** (Continued) Book 103 EPG

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.4 Do you have specialized facilities which are required to support you in conducting your test operations at your facility? (3.1.D.1) | Yes | P. 6 |
| **Remarks** | | |

**Technical Value - Integration Labs (IL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.3.1 Do you have an IL facility that supports test operations? (General Information Form) | No | |
| 2.3.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | No | |
| 2.3.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | No | |
| 2.3.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | No | |
| **Remarks** None Reported | | |

**Technical Value - Hardware-In-The-Loop (HITL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.4.1 Do you have a HITL facility that supports test operations? (General Information Form) | No | |
| 2.4.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | No | |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Technical Value - Hardware-In-The-Loop (HITL)** (Continued) Book 103 EPG

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.4.3 Is the facility equipped to support TOP SECRET or Special Access Required work? (3.1.E.3) | No | |
| 2.4.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** None Reported | | |

**Technical Value - Installed Systems Test Facilities (ISTF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.5.1 Can the facility support fighter/helo-sized aircraft testing? (3.2.C.3 & Fac form) | No | |
| 2.5.2 Can the facility support B-1 bomber/cargo-sized aircraft testing? (3.2.C.3 & Fac form) | No | |
| 2.5.3 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.5.4 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | No | |
| 2.5.5 Do you have specialized facilities which are required to support you in conducting your test operations at your facility? (3.1.D.1) | NO | |
| **Remarks** No Facilities in Category RFC EC 010/012 changed "Range Operations" to "MF" from "MF/ISTF/OAR" | | |

## SCORING FORM FOR AIR VEHICLE
(Continued)

**Technical Value - Open Air Ranges (OAR)** Book 103 EPG

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.6.1 How many of the following types of air vehicles can be tested (3.2.C.1): a. fixed wing? | yes | P.91 |
| b. rotary wing? | yes | ↓ |
| c. unmanned? | yes | ↓ |
| d. cruise missile? | NO | ↓ |
| 2.6.2 What is the maximum number of simultaneous missions you can support with telemetry? (3.2.C.6) | 3 | P.92 |
| 2.6.3 What is the length (in feet) of available concrete runway? (3.2.B.1) | 12,001 | P.90 |
| 2.6.4 What is the ramp area available (in sq ft)? (3.2.B.1) | 460,000 | P.90 |
| 2.6.5 What is the hangar space available (in sq ft)? (3.2.B.1 | 30,000 | RFC AV 051 P.89b |
| 2.6.6 Are ground facilities available to support preflight checkout and/or rehearsal of test missions? (3.2.C.2) | yes | P.91 |
| 2.6.7 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | yes | P.78 |
| 2.6.8 Is the facility equipped to support TOP SECRET or Special Access Required work? (3.1.E.3) | yes | P.84 |
| 2.6.9 Do you have specialized facilities which are required to support you in conducting your test operations at your facility? (3.1.D.1) | yes | P.81 |

**Remarks** INSTRUMENTED TEST RANGE

# SCORING FORM FOR ELECTRONIC COMBAT

ACTIVITY: REDCAP BOOK: 309

**Physical Value - Critical Air/Land/Sea Space**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.1 How many square miles of land space are available to support test operations? (3.1.G.1) | 0 | p. 7(033) N/A response-Issue 7A |
| 1.1.2 How many square miles of sea space are available to support test operations? (3.1.G.1) | 0 | p. 7(033) N/A response-Issue 7A |
| 1.1.3 How much of the land under the restricted airspace (including warning areas) does DoD own or control? (3.1.G.2) | | |
| a. None | X | p. 7(033) N/A response-Issue 7A |
| b. Some | | |
| c. All | | |
| 1.4 How many square miles of restricted airspace (including warning areas) are available to support test operations? (3.1.G.3) | 0 | p. 7(033) N/A response-Issue 7A |
| 1.1.5 What altitude limits are associated with the restricted airspace (including warning areas)? (Upper Limit-Lower Limit) Upper limit is capped at 100k feet. (3.1.G.3) | 0 | p. 7(033) N/A response-Issue 7A |
| 1.1.6 What is the minimum altitude allowable in the restricted airspace (including warning areas)? (3.1.G.3) | >0 | Score>min in data set for n/a; p. 7(033) N/A response-Issue 7A |
| 1.1.7 How many square miles of available airspace are over land? (3.1.G.5) | 0 | p. 7(033) N/A response-Issue 7A |
| 1.1.8 How many square miles of available airspace are over water? (3.1.G.5) | 0 | p. 7(033) N/A response-Issue 7A |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Physical Value - Critical Air/Land/Sea Space** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.9 What is the maximum straight line segment in the airspace, in nautical miles? (3.1.G.7) | 0 | p. 8(034) N/A response-Issue 7A |
| 1.1.10 Do supersonic areas and/or corridors exist? (3.2.A.1) | NO | p. 9(035) N/A response-Issue 7A |
| **Remarks** | | |

**Physical Value - Topographical**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.2.1 Which of the following types of topography and ground cover/vegetation exist within your test airspace? (3.1.H.1) | | p. 8(034) N/A response-Issue 7A |
| a. Mountainous | N/A | |
| b. Forested or jungle | N/A | |
| c. Cultivated lowland (farmland) | N/A | |
| d. Swamp or riverine | N/A | |
| e. Desert | N/A | |
| f. Sea | N/A | |
| **Remarks** | | |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Physical Value - Climatic**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.1 What is the average percentage of test missions per year not canceled due to weather? (3.1.H.6, Data Forms) [100% minus (% derived from # of test missions canceled in FY86-93 divided by # of test missions FY86-93)] | 100 | p. 9(035) N/A response-Issue 7A |
| **Remarks** | | |

**Physical Value - Encroachment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.4.1 What is the average percentage of test missions per year not canceled due to commercial or public use ? [100% minus (% derived from # of test missions canceled divided by the # of test missions over period reported)] (3.1.C.5.A, Data Forms) | 100 | p. 5(031) N/A response-Issue 7A |
| 1.4.2 What percent of test missions were not canceled due to encroachment in the past two years [100% minus (% derived from sum of 92 and 93 canceled missions divided by the sum of 92 and 93 test missions)] (3.1.C.6, Data Forms) | 100 | p. 5(031) |
| 1.4.3 What is the total population inside the following radii of the facility? (3.1.C.4) | | p. 4(030) |
| a. 50 miles | 750,432 | |
| b. 100 miles | 1,547,715 | |
| c. 150 miles | 3,426,190 | |
| d. 200 miles | 6,137,383 | |
| **Remarks** | | |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Physical Value - Climatic**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.1 What is the average percentage of test missions per year not canceled due to weather? (3.1.H.6, Data Forms) [100% minus (% derived from # of test missions canceled in FY86-93 divided by # of test missions FY86-93)] | 100 | p. 9(035) N/A response-Issue 7A |
| **Remarks** | | |

**Physical Value - Encroachment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.4.1 What is the average percentage of test missions per year not canceled due to commercial or public use ? [100% minus (% derived from # of test missions canceled divided by the # of test missions over period reported)] (3.1.C.5.A, Data Forms) | 100 | p. 5(031) N/A response-Issue 7A |
| 1.4.2 What percent of test missions were not canceled due to encroachment in the past two years [100% minus (% derived from sum of 92 and 93 canceled missions divided by the sum of 92 and 93 test missions)] (3.1.C.6, Data Forms) | 100 | p. 5(031) |
| 1.4.3 What is the total population inside the following radii of the facility? (3.1.C.4) | | p. 4(030) |
| a. 50 miles | 750,432 | |
| b. 100 miles | 1,547,715 | |
| c. 150 miles | 3,426,190 | |
| d. 200 miles | 6,137,383 | |
| **Remarks** | | |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Physical Value - Environment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.5.1 Does the facility have limiting environmental characteristics? (3.1.C.1.) | NO | p. 4(030) |
| **Remarks** | | |

**Technical Value - Digital Models and Simulations (DM&S)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.1.1 Do you have a DM&S facility that supports test operations? (General Information Form) | NO | |
| 2.1.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the med forces of the US? (2.3.B.2) | NO | |
| 2.1.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.1.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** No facility scored | | |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Technical Value - Measurement Facilities (MF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.1 Which of the following spectra are available to test against (3.3.A.2, 3.3.B.4):<br>a. RF | NO | |
| b. EO | NO | |
| c. IR | NO | |
| d. MMW | NO | |
| e. UV | NO | |
| f. Laser? | NO | |
| 2.2.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.2.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.2.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** No facility scored | | |

**Technical Value - Integration Labs (IL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.3.1 Do you have an IL facility that supports test operations? (General Information Form) | NO | |
| 2.3.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Technical Value - Integration Labs (IL)** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.3.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.3.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** No facility scored | | |

**Technical Value - Hardware-In-The-Loop (HITL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.4.1 Which of the following spectra are available to test against (3.3.A.2, 3.3.B.4): a. RF | YES | RFC EC032 |
| b. EO | NO | |
| c. IR | NO | |
| d. MMW | NO | |
| e. UV | NO | |
| f. Laser? | NO | |
| 2.4.2 Does the facility have closed-loop threat simulators? (3.3.A.4) | YES | p. 13(039) |
| 2.4.3 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | YES | p. 3(029) |
| 2.4.4 Is the facility equipped to support TOP SECRET or Special Access Required work? (3.1.E.3) | YES | p. 6(032) |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Technical Value - Hardware-In-The-Loop (HITL)** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.4.5 Are specialized facilities available to support EC test operations? (3.1.D.1) | NO | p. 5(031) |
| **Remarks** | | |

**Technical Value - Installed Systems Test Facilities (ISTF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.5.1 Which of the following spectra are available to test against (3.3.A.2, 3.3.B.4): a. RF | NO | |
| b. EO | NO | |
| c. IR | NO | |
| d. MMW | NO | |
| e. UV | NO | |
| f. Laser? | NO | |
| 2.5.2 Are radio frequency threat signals: (3.3.A.2) a. radiated? | NO | |
| b. injected? | NO | |
| 2.5.3 Can the facility support fighter/helicopter-sized aircraft testing? (3.3.B.1) | NO | |
| 2.5.4 Can the facility support B-1 bomber/cargo-sized aircraft testing? (3.3.B.1) | NO | |
| 2.5.5 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed ·itical to the operational effectiveness of the ıed forces of the US? (2.3.B.2) | NO | |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Technical Value - Installed Systems Test Facilities (ISTF)** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.5.6 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.5.7 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** No facility scored | | |

**Technical Value - Open Air Ranges (OAR)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.6.1 How many of the following spectra are available to test against (3.3.A.2, 3.3.B.4): a. RF | NO | |
| b. EO | NO | |
| c. IR | NO | |
| d. MMW | NO | |
| e. UV | NO | |
| f. Laser? | NO | |
| 2.6.2 How many simultaneous threats can be simulated? (3.3.A.2) | 0 | |
| 2.6.3 How many surface-to-air missile threats can be simulated simultaneously? (3.3.A.2) | 0 | |
| 2.6.4 How many airborne interceptor threats can be simulated simultaneously? (3.3.A.2) | 0 | |
| 2.6.5 How many anti-aircraft artillery threats can be simulated simultaneously? (3.3.A.2) | 0 | |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Technical Value - Open Air Ranges (OAR)** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.6.6 Other than in questions 2.6.3, 2.6.4 and 2.6.5 above, how many other threats can be simulated simultaneously? (3.3.A.2) | 0 | |
| 2.6.7 What is the geographic dispersion (width x depth, in NM) of available threat simulators? (3.3.A.7) | NO | |
| 2.6.8 Is the facility equipped to support TOP SECRET or Special Access Required work? (3.1.E.3) | NO | |
| 2.6.9 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 6.10 Are specialized facilities available to support EC test operations? (3.1.D.1) | NO | |
| **Remarks** No facility scored | | |

# SCORING FORM FOR ELECTRONIC COMBAT

ACTIVITY: AFFTC/EDWARDS BOOK: 301,302,303

**Physical Value - Critical Air/Land/Sea Space**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.1 How many square miles of land space are available to support test operations? (3.1.G.1) | 12,225 | Book 301, p. 43(49) |
| 1.1.2 How many square miles of sea space are available to support test operations? (3.1.G.1) | 41,268 | Book 301, p. 44(50; p. 49(55) |
| 1.1.3 How much of the land under the restricted airspace (including warning areas) does DoD own or control? (3.1.G.2)<br>a. None | | |
| b. Some | X | Book 301, p. 44(50) |
| c. All | | |
| 1.1.4 How many square miles of restricted airspace (including warning areas) are available to support test operations? (3.1.G.3) | 69,578 | RFC AV025, p. 104-104; Book 301, p. 44(50); 41,268+28,310=69,578 |
| 1.1.5 What altitude limits are associated with the restricted airspace (including warning areas)? (Upper Limit-Lower Limit) Upper limit is capped at 100k feet. (3.1.G.3) | 0-100K | Book 301, p. 45(51) |
| 1.1.6 What is the minimum altitude allowable in the restricted airspace (including warning areas)? (3.1.G.3) | 0 | Book 301, p. 45(51) |
| 1.1.7 How many square miles of available airspace are over land? (3.1.G.5) | 49,774 | Book 301, p. 49(55) |
| 1.1.8 How many square miles of available airspace are over water? (3.1.G.5) | 41,333 | Book 301, p. 49(55); 41,268+65=41,333 |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Physical Value - Critical Air/Land/Sea Space** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.9 What is the maximum straight line segment in the airspace, in nautical miles? (3.1.G.7) | 315 | Book 301, p. 49(55) |
| 1.1.10 Do supersonic areas and/or corridors exist? (3.2.A.1) | YES | Book 301, p. 56(064) |
| **Remarks** | | |

**Physical Value - Topographical**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.2.1 Which of the following types of topography and ground cover/vegetation exist within your test airspace? (3.1.H.1) | | RFC AV031 |
| a. Mountainous | YES | |
| b. Forested or jungle | YES | |
| c. Cultivated lowland (farmland) | YES | |
| d. Swamp or riverine | YES | |
| e. Desert | YES | |
| f. Sea | YES | |
| **Remarks** | | |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Physical Value - Climatic**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.1 What is the average percentage of test missions per year not canceled due to weather? (3.1.H.6, Data Forms) [100% minus (% derived from # of test missions canceled in FY86-93 divided by # of test missions FY86-93)] | 95.6 | Book 301, p. 53(59); Avg of 4.3% & 4.6%, the FY92/93 percentages; 100-(4.3+4.6)/2=95.55 |
| **Remarks** | | |

**Physical Value - Encroachment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.4.1 What is the average percentage of test missions per year not canceled due to commercial or public use ? [100% minus (% derived from # of test missions canceled divided by the # of test missions over period reported)] (3.1.C.5.A, Data Forms) | 100 | Book 301, p. 20(26) |
| 1.4.2 What percent of test missions were not canceled due to encroachment in the past two years [100% minus (% derived from sum of 92 and 93 canceled missions divided by the sum of 92 and 93 test missions)] (3.1.C.6, Data Forms) | 100 | Book 301, p. 20(26) |
| 1.4.3 What is the total population inside the following radii of the facility? (3.1.C.4) | | Book 301, p. 19(25) |
| a. 50 miles | 313,000 | |
| b. 100 miles | 16,070,000 | |
| c. 150 miles | 18,028,120 | |
| d. 200 miles | 20,489,920 | |
| **Remarks** | | |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Physical Value - Environment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.5.1 Does the facility have limiting environmental characteristics? (3.1.C.1.) | NO | Book 301, p. 18-19(024-025); air emissions not limiting to EC |
| **Remarks** | | |

**Technical Value - Digital Models and Simulations (DM&S)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.1.1 Do you have a DM&S facility that supports test operations? (General Information Form) | NO | |
| 2.1.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the ned forces of the US? (2.3.B.2) | NO | |
| 2.1.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.1.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** No facility scored | | |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Technical Value - Measurement Facilities (MF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.1 Which of the following spectra are available to test against (3.3.A.2, 3.3.B.4): a. RF | NO | |
| b. EO | NO | |
| c. IR | NO | |
| d. MMW | NO | |
| e. UV | NO | |
| f. Laser? | NO | |
| 2.2.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.2.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.2.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** No facility scored | | |

**Technical Value - Integration Labs (IL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.3.1 Do you have an IL facility that supports test operations? (General Information Form) | YES | Book 301, p. 466 |
| 2.3.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | YES | Book 301, p. 3(483) |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Technical Value - Integration Labs (IL)** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.3.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | YES | Book 301, p. 4(484) |
| 2.3.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | YES | Book 301, p. 4(484) |
| **Remarks** | | |

**Technical Value - Hardware-In-The-Loop (HITL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.4.1 Which of the following spectra are available to test against (3.3.A.2, 3.3.B.4): a. RF | NO | |
| b. EO | NO | |
| c. IR | NO | |
| d. MMW | NO | |
| e. UV | NO | |
| f. Laser? | NO | |
| 2.4.2 Does the facility have closed-loop threat simulators? (3.3.A.4) | NO | |
| 2.4.3 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.4.4 Is the facility equipped to support TOP SECRET or Special Access Required work? (3.1.E.3) | NO | |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Technical Value - Hardware-In-The-Loop (HITL)** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.4.5 Are specialized facilities available to support EC test operations? (3.1.D.1) | NO | |
| **Remarks** No facility scored | | |

**Technical Value - Installed Systems Test Facilities (ISTF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.5.1 Which of the following spectra are available to test against (3.3.A.2, 3.3.B.4): a. RF | NO | |
| b. EO | NO | |
| c. IR | NO | |
| d. MMW | NO | |
| e. UV | NO | |
| f. Laser? | NO | |
| 2.5.2 Are radio frequency threat signals: (3.3.A.2) a. radiated? | NO | |
| b. injected? | NO | |
| 2.5.3 Can the facility support fighter/helicopter-sized aircraft testing? (3.3.B.1) | NO | |
| 2.5.4 Can the facility support B-1 bomber/cargo-sized aircraft testing? (3.3.B.1) | NO | |
| 2.5.5 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Technical Value - Installed Systems Test Facilities (ISTF)** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.5.6 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.5.7 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** BAF excluded; no facilities scored | | |

**Technical Value - Open Air Ranges (OAR)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.6.1 How many of the following spectra are available to test against (3.3.A.2, 3.3.B.4): a. RF | YES | RFC EC033 |
| b. EO | YES | |
| c. IR | YES | |
| d. MMW | NO | |
| e. UV | NO | |
| f. Laser? | NO | |
| 2.6.2 How many simultaneous threats can be simulated? (3.3.A.2) | 0 | See remarks |
| 2.6.3 How many surface-to-air missile threats can be simulated simultaneously? (3.3.A.2) | 0 | See remarks |
| 2.6.4 How many airborne interceptor threats can be simulated simultaneously? (3.3.A.2) | 0 | See remarks |
| 2.6.5 How many anti-aircraft artillery threats can be simulated simultaneously? (3.3.A.2) | 0 | See remarks |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Technical Value - Open Air Ranges (OAR)** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.6.6 Other than in questions 2.6.3, 2.6.4 and 2.6.5 above, how many other threats can be simulated simultaneously? (3.3.A.2) | 0 | See remarks |
| 2.6.7 What is the geographic dispersion (width x depth, in NM) of available threat simulators? (3.3.A.7) | NO | See remarks |
| 2.6.8 Is the facility equipped to support TOP SECRET or Special Access Required work? (3.1.E.3) | YES | Book 301, p. 38(44) |
| 2.6.9 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | YES | Book 301, p. 16(21) |
| 5.10 Are specialized facilities available to support EC test operations? (3.1.D.1) | YES | Book 301, p. 20ff(26ff) |
| **Remarks** Simulated threats are China Lake assets, not scored for this activity | | |

# SCORING FORM FOR ELECTRONIC COMBAT

ACTIVITY: AFDTC/EGLIN BOOK: 306,309,310

**Physical Value - Critical Air/Land/Sea Space**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.1 How many square miles of land space are available to support test operations? (3.1.G.1) | 874 | p. 39(121) [310] |
| 1.1.2 How many square miles of sea space are available to support test operations? (3.1.G.1) | 91,998 | p. 40(105) Book 306 lists sum as 1000 less than given in 3.1.G.1 in various books. |
| 1.1.3 How much of the land under the restricted airspace (including warning areas) does DoD own or control? (3.1.G.2)<br>a. None | | |
| b. Some | X | p. 39(121) [310] |
| c. All | | |
| 1.4 How many square miles of restricted airspace (including warning areas) are available to support test operations? (3.1.G.3) | 33,763 | EWTA's not include per JCSWG; p. 40(122) [310] 33786-23 |
| 1.1.5 What altitude limits are associated with the restricted airspace (including warning areas)? (Upper Limit-Lower Limit) Upper limit is capped at 100k feet. (3.1.G.3) | 0-100K | p. 39,45(121,127) [310] |
| 1.1.6 What is the minimum altitude allowable in the restricted airspace (including warning areas)? (3.1.G.3) | 0 | p. 39,45(121,127) [310] |
| 1.1.7 How many square miles of available airspace are over land? (3.1.G.5) | 9736 | p. 41(123) [310] 8421+1315 |
| 1.1.8 How many square miles of available airspace are over water? (3.1.G.5) | 92,137 | p. 41ff(123ff); RFC AV045 [310] 91998+139 |



notes expanded 7 Nov 94 OP (pp 1, 3, 5, 7-9)

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Physical Value - Critical Air/Land/Sea Space** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.9 What is the maximum straight line segment in the airspace, in nautical miles? (3.1.G.7) | 478 | p. 42(124) |
| 1.1.10 Do supersonic areas and/or corridors exist? (3.2.A.1) | YES | p. 44(126) |
| **Remarks** | | |

**Physical Value - Topographical**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.2.1 Which of the following types of topography and ground cover/vegetation exist within your test airspace? (3.1.H.1) | | p. 42(124) |
| a. Mountainous | NO | |
| b. Forested or jungle | YES | |
| c. Cultivated lowland (farmland) | YES | |
| d. Swamp or riverine | YES | |
| e. Desert | NO | |
| f. Sea | YES | |
| **Remarks** | | |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Physical Value - Climatic**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.1 What is the average percentage of test missions per year not canceled due to weather? (3.1.H.6, Data Forms) [100% minus (% derived from # of test missions canceled in FY86-93 divided by # of test missions FY86-93)] | 95.8 | Avg of 4 scored fac-EMTE 442/7139; PRIMES 21/886; McKin-0; Multispectral-341/4088 p.44(126) EMTE p. 43(108) MS;p. 41(092) PRIMES; 0 for McKinley. |
| **Remarks** 100-[6.19+2.37+8.34+0]/4=95.77 | | |

**Physical Value - Encroachment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.4.1 What is the average percentage of test missions per year not canceled due to commercial or public use ? [100% minus (% derived from # of test missions canceled divided by the # of test missions over period reported)] (3.1.C.5.A, Data Forms) | 100 | p. 8(090) [310] |
| 1.4.2 What percent of test missions were not canceled due to encroachment in the past two years [100% minus (% derived from sum of 92 and 93 canceled missions divided by the sum of 92 and 93 test missions)] (3.1.C.6, Data Forms) | 100 | p. 8(090) [310] |
| 1.4.3 What is the total population inside the following radii of the facility? (3.1.C.4) | | RFC EC005 clarifies pop.; p. 7(089) |
| a. 50 miles | 253,144 | |
| b. 100 miles | 1,205,794 | |
| c. 150 miles | 2,417,482 | |
| d. 200 miles | 4,383,864 | |
| **Remarks** | | |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Physical Value - Environment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.5.1 Does the facility have limiting environmental characteristics? (3.1.C.1.) | NO | ASTE not limiting for EC; p. 6(Q88) |
| **Remarks** | | |

**Technical Value - Digital Models and Simulations (DM&S)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.1.1 Do you have a DM&S facility that supports test operations? (General Information Form) | NO | |
| 2.1.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.1.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.1.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** No facility scored | | |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Technical Value - Measurement Facilities (MF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.1 Which of the following spectra are available to test against (3.3.A.2, 3.3.B.4):<br>a. RF | YES | RF only in McKinley; all in Multispectral; see RFC EC032 |
| b. EO | YES | |
| c. IR | YES | |
| d. MMW | YES | |
| e. UV | YES | |
| f. Laser? | YES | Added by Global RFC |
| 2.2.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | YES | p. 3(28) [306] |
| 2.2.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | YES | p. 21(46) [306] |
| 2.2.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | YES | p. 5ff(30ff) [306] |
| **Remarks** McKinley & Multispectral | | |

**Technical Value - Integration Labs (IL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.3.1 Do you have an IL facility that supports test operations? (General Information Form) | NO | |
| 2.3.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Technical Value - Integration Labs (IL)** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.3.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.3.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** No facility scored | | |

**Technical Value - Hardware-In-The-Loop (HITL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.4.1 Which of the following spectra are available to test against (3.3.A.2, 3.3.B.4): a. RF | NO | |
| b. EO | NO | |
| c. IR | NO | |
| d. MMW | NO | |
| e. UV | NO | |
| f. Laser? | NO | |
| 2.4.2 Does the facility have closed-loop threat simulators? (3.3.A.4) | NO | |
| 2.4.3 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.4.4 Is the facility equipped to support TOP SECRET or Special Access Required work? (3.1.E.3) | NO | |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Technical Value - Hardware-In-The-Loop (HITL)** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.4.5 Are specialized facilities available to support EC test operations? (3.1.D.1) | NO | |
| **Remarks** No facility scored | | |

**Technical Value - Installed Systems Test Facilities (ISTF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.5.1 Which of the following spectra are available to test against (3.3.A.2, 3.3.B.4): a. RF | YES | RFC EC032 |
| b. EO | NO | |
| c. IR | NO | |
| d. MMW | YES | |
| e. UV | NO | |
| f. Laser? | NO | |
| 2.5.2 Are radio frequency threat signals: (3.3.A.2) a. radiated? | YES | p. 47(098) [309] |
| b. injected? | YES | p. 47(098) [309] |
| 2.5.3 Can the facility support fighter/helicopter-sized aircraft testing? (3.3.B.1) | YES | p. 49(100) [309] |
| 2.5.4 Can the facility support B-1 bomber/cargo-sized aircraft testing? (3.3.B.1) | YES | p. 49(100) [309] |
| 2.5.5 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | YES | p. 4(055) [309] |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Technical Value - Installed Systems Test Facilities (ISTF)** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.5.6 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | YES | p. 37(088) [309] |
| 2.5.7 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | YES | p. 7(058) [309] |
| **Remarks** **PRIMES** | | |

**Technical Value - Open Air Ranges (OAR)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.6.1 How many of the following spectra are available to test against (3.3.A.2, 3.3.B.4): a. RF | YES | RFC EC032 confirms |
| b. EO | YES | |
| c. IR | YES | |
| d. MMW | YES | |
| e. UV | NO | |
| f. Laser? | NO | |
| 2.6.2 How many simultaneous threats can be simulated? (3.3.A.2) | 54 | p. 58(140) [310] |
| 2.6.3 How many surface-to-air missile threats can be simulated simultaneously? (3.3.A.2) | 26 | p. 58(140) [310] |
| 2.6.4 How many airborne interceptor threats can be simulated simultaneously? (3.3.A.2) | 3 | p. 58(140) [310] |
| 2.6.5 How many anti-aircraft artillery threats can be simulated simultaneously? (3.3.A.2) | 16 | p. 58(140) [310] |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Technical Value - Open Air Ranges (OAR)** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.6.6 Other than in questions 2.6.3, 2.6.4 and 2.6.5 above, how many other threats can be simulated simultaneously? (3.3.A.2) | 12 | Acq; p. 58(140) [310] |
| 2.6.7 What is the geographic dispersion (width x depth, in NM) of available threat simulators? (3.3.A.7) | YES | p. 59(141) [310] y/n question per change to analysis plan |
| 2.6.8 Is the facility equipped to support TOP SECRET or Special Access Required work? (3.1.E.3) | YES | p. 38(120) [310] |
| 2.6.9 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | YES | p. 5(087) [310] |
| 5.10 Are specialized facilities available to ıpport EC test operations? (3.1.D.1) | YES | p. 8ff(090ff) [310] |
| **Remarks** EMTE | | |

# SCORING FORM FOR ELECTRONIC COMBAT

ACTIVITY: AFEWES BOOK: 309

**Physical Value - Critical Air/Land/Sea Space**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.1 How many square miles of land space are available to support test operations? (3.1.G.1) | 0 | p. 9(009) N/A response-Issue 7A |
| 1.1.2 How many square miles of sea space are available to support test operations? (3.1.G.1) | 0 | p. 9(009) N/A response-Issue 7A |
| 1.1.3 How much of the land under the restricted airspace (including warning areas) does DoD own or control? (3.1.G.2) | | |
| a. None | X | p. 9(009) N/A response-Issue 7A |
| b. Some | | |
| c. All | | |
| 1.1.4 How many square miles of restricted airspace (including warning areas) are available to support test operations? (3.1.G.3) | 0 | p. 9(009) N/A response-Issue 7A |
| 1.1.5 What altitude limits are associated with the restricted airspace (including warning areas)? (Upper Limit-Lower Limit) Upper limit is capped at 100k feet. (3.1.G.3) | 0 | p. 9(009) N/A response-Issue 7A |
| 1.1.6 What is the minimum altitude allowable in the restricted airspace (including warning areas)? (3.1.G.3) | >0 | Score>min in data set for n/a; p. 9(009) N/A response-Issue 7A |
| 1.1.7 How many square miles of available airspace are over land? (3.1.G.5) | 0 | p. 9(009) N/A response-Issue 7A |
| 1.1.8 How many square miles of available airspace are over water? (3.1.G.5) | 0 | p. 9(009) N/A response-Issue 7A |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Physical Value - Critical Air/Land/Sea Space** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.9 What is the maximum straight line segment in the airspace, in nautical miles? (3.1.G.7) | 0 | p. 10(010) N/A response-Issue 7A |
| 1.1.10 Do supersonic areas and/or corridors exist? (3.2.A.1) | NO | p. 11(000) N/A response-Issue 7A |
| **Remarks** | | |

**Physical Value - Topographical**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.2.1 Which of the following types of topography and ground cover/vegetation exist within your test airspace? (3.1.H.1) | | p. 10(010) N/A response-Issue 7A |
| a. Mountainous | N/A | |
| b. Forested or jungle | N/A | |
| c. Cultivated lowland (farmland) | N/A | |
| d. Swamp or riverine | N/A | |
| e. Desert | N/A | |
| f. Sea | N/A | |
| **Remarks** | | |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Physical Value - Climatic**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.1 What is the average percentage of test missions per year not canceled due to weather? (3.1.H.6, Data Forms) [100% minus (% derived from # of test missions canceled in FY86-93 divided by # of test missions FY86-93)] | 100 | p. 11(011) N/A response-Issue 7A |
| **Remarks** | | |

**Physical Value - Encroachment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.4.1 What is the average percentage of test missions per year not canceled due to commercial or public use ? [100% minus (% derived from # of test missions canceled divided by the # of test missions over period reported)] (3.1.C.5.A, Data Forms) | 100 | p. 4(004) N/A response-Issue 7A |
| 1.4.2 What percent of test missions were not canceled due to encroachment in the past two years [100% minus (% derived from sum of 92 and 93 canceled missions divided by the sum of 92 and 93 test missions)] (3.1.C.6, Data Forms) | 100 | p. 4(004) |
| 1.4.3 What is the total population inside the following radii of the facility? (3.1.C.4) | | p. 4(004) |
| a. 50 miles | 2,906,000 | |
| b. 100 miles | 3,711,000 | |
| c. 150 miles | 5,697,000 | |
| d. 200 miles | 7,813,000 | |
| **Remarks** | | |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Physical Value - Environment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.5.1 Does the facility have limiting environmental characteristics? (3.1.C.1.) | NO | p. 3(003) |
| **Remarks** | | |

**Technical Value - Digital Models and Simulations (DM&S)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.1.1 Do you have a DM&S facility that supports test operations? (General Information Form) | NO | |
| 2.1.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.1.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.1.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** No facility scored | | |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Technical Value - Measurement Facilities (MF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.1 Which of the following spectra are available to test against (3.3.A.2, 3.3.B.4):<br>a. RF | NO | |
| b. EO | NO | |
| c. IR | NO | |
| d. MMW | NO | |
| e. UV | NO | |
| f. Laser? | NO | |
| 2.2.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.2.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.2.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** No facility scored | | |

**Technical Value - Integration Labs (IL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.3.1 Do you have an IL facility that supports test operations? (General Information Form) | NO | |
| 2.3.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the | NO | |

**SCORING FORM FOR ELECTRONIC COMBAT**
(Continued)

| | | |
|---|---|---|
| armed forces of the US? (2.3.B.2) | | |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Technical Value - Integration Labs (IL)** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.3.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.3.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** No facility scored | | |

**Technical Value - Hardware-In-The-Loop (HITL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.4.1 Which of the following spectra are available to test against (3.3.A.2, 3.3.B.4): | | RFC EC032 |
| a. RF | YES | |
| b. EO | YES | |
| c. IR | YES | |
| d. MMW | YES | |
| e. UV | NO | Excluded in RFC response |
| f. Laser? | NO | Excluded in RFC response |
| 2.4.2 Does the facility have closed-loop threat simulators? (3.3.A.4) | YES | p. 15(015) |
| 2.4.3 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | YES | p. 3(003) |
| 2.4.4 Is the facility equipped to support TOP SECRET or Special Access Required work? (3.1.E.3) | YES | p. 6(006) |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Technical Value - Hardware-In-The-Loop (HITL)** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.4.5 Are specialized facilities available to support EC test operations? (3.1.D.1) | NO | p. 5(005) |
| **Remarks** | | |

**Technical Value - Installed Systems Test Facilities (ISTF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.5.1 Which of the following spectra are available to test against (3.3.A.2, 3.3.B.4): | | |
| a. RF | NO | |
| b. EO | NO | |
| c. IR | NO | |
| d. MMW | NO | |
| e. UV | NO | |
| f. Laser? | NO | |
| 2.5.2 Are radio frequency threat signals: (3.3.A.2) | | |
| a. radiated? | NO | |
| b. injected? | NO | |
| 2.5.3 Can the facility support fighter/helicopter-sized aircraft testing? (3.3.B.1) | NO | |
| 2.5.4 Can the facility support B-1 bomber/cargo-sized aircraft testing? (3.3.B.1) | NO | |
| 2.5.5 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed ·itical to the operational effectiveness of the ıed forces of the US? (2.3.B.2) | NO | |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Technical Value - Installed Systems Test Facilities (ISTF)** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.5.6 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.5.7 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** No facility scored | | |

**Technical Value - Open Air Ranges (OAR)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.6.1 How many of the following spectra are available to test against (3.3.A.2, 3.3.B.4): a. RF | NO | |
| b. EO | NO | |
| c. IR | NO | |
| d. MMW | NO | |
| e. UV | NO | |
| f. Laser? | NO | |
| 2.6.2 How many simultaneous threats can be simulated? (3.3.A.2) | 0 | |
| 2.6.3 How many surface-to-air missile threats can be simulated simultaneously? (3.3.A.2) | 0 | |
| 2.6.4 How many airborne interceptor threats can be simulated simultaneously? (3.3.A.2) | 0 | |
| 2.6.5 How many anti-aircraft artillery threats can be simulated simultaneously? (3.3.A.2) | 0 | |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Technical Value - Open Air Ranges (OAR)** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.6.6 Other than in questions 2.6.3, 2.6.4 and 2.6.5 above, how many other threats can be simulated simultaneously? (3.3.A.2) | 0 | |
| 2.6.7 What is the geographic dispersion (width x depth, in NM) of available threat simulators? (3.3.A.7) | NO | |
| 2.6.8 Is the facility equipped to support TOP SECRET or Special Access Required work? (3.1.E.3) | NO | |
| 2.6.9 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 5.10 Are specialized facilities available to pport EC test operations? (3.1.D.1) | NO | |
| **Remarks** No facility scored | | |

# SCORING FORM FOR ELECTRONIC COMBAT

ACTIVITY: HOLLOMAN BOOK: 312

**Physical Value - Critical Air/Land/Sea Space**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.1 How many square miles of land space are available to support test operations? (3.1.G.1) | 4,000 | p. 8(8) |
| 1.1.2 How many square miles of sea space are available to support test operations? (3.1.G.1) | 0 | p. 8(8); blank response, issue 7A |
| 1.1.3 How much of the land under the restricted airspace (including warning areas) does DoD own or control? (3.1.G.2)<br>a. None | | |
| b. Some | | |
| c. All | X | p. 8(8) |
| .1.4 How many square miles of restricted airspace (including warning areas) are available to support test operations? (3.1.G.3) | 4,000 | p. 8(8) |
| 1.1.5 What altitude limits are associated with the restricted airspace (including warning areas)? (Upper Limit-Lower Limit) Upper limit is capped at 100k feet. (3.1.G.3) | 0-100K | p. 8(8) |
| 1.1.6 What is the minimum altitude allowable in the restricted airspace (including warning areas)? (3.1.G.3) | 0 | p. 8(8) |
| 1.1.7 How many square miles of available airspace are over land? (3.1.G.5) | 4,000 | p. 8(8) |
| 1.1.8 How many square miles of available airspace are over water? (3.1.G.5) | 0 | p. 8(8) |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Physical Value - Critical Air/Land/Sea Space** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.9 What is the maximum straight line segment in the airspace, in nautical miles? (3.1.G.7) | 140 | p. 9(9) |
| 1.1.10 Do supersonic areas and/or corridors exist? (3.2.A.1) | NO | p. 11(11) |
| **Remarks** | | |

**Physical Value - Topographical**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.2.1 Which of the following types of topography and ground cover/vegetation exist within your test airspace? (3.1.H.1) | | p. 9(9) |
| a. Mountainous | YES | |
| b. Forested or jungle | NO | |
| c. Cultivated lowland (farmland) | NO | |
| d. Swamp or riverine | NO | |
| e. Desert | YES | |
| f. Sea | NO | |
| **Remarks** | | |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Physical Value - Climatic**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.1 What is the average percentage of test missions per year not canceled due to weather? (3.1.H.6, Data Forms) [100% minus (% derived from # of test missions canceled in FY86-93 divided by # of test missions FY86-93)] | 94.3 | Avg of cancel rates; RFC EC020 (CIGTF=1.6%) & EC022 (250 days/yr)/p. 9(35) gives canceled missions for RATSCAT/RAMS; (RAMS/RATSCAT+CIGTF)/2={[100-(29/250+20/250)/2]+(100-1.6)}/2=(90.2+98.4)/2=94.3% |
| **Remarks** | | |

**Physical Value - Encroachment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.4.1 What is the average percentage of test missions per year not canceled due to commercial or public use ? [100% minus (% derived from # of test missions canceled divided by the # of test missions over period reported)] (3.1.C.5.A, Data Forms) | 100 | p. 4(4) |
| 1.4.2 What percent of test missions were not canceled due to encroachment in the past two years [100% minus (% derived from sum of 92 and 93 canceled missions divided by the sum of 92 and 93 test missions)] (3.1.C.6, Data Forms) | 100 | p. 5(5) |
| 1.4.3 What is the total population inside the following radii of the facility? (3.1.C.4) | | p. 4(4) |
| a. 50 miles | 40,000 | |
| b. 100 miles | 690,000 | |
| c. 150 miles | 740,000 | |
| d. 200 miles | 1,290,000 | |
| **Remarks** | | |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Physical Value - Environment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.5.1 Does the facility have limiting environmental characteristics? (3.1.C.1.) | NO | p. 3(3) |
| **Remarks** | | |

**Technical Value - Digital Models and Simulations (DM&S)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.1.1 Do you have a DM&S facility that supports test operations? (General Information Form) | NO | |
| 2.1.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| .1.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.1.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** No facility scored | | |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Technical Value - Measurement Facilities (MF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.1 Which of the following spectra are available to test against (3.3.A.2, 3.3.B.4): a. RF | YES | CIGTF confirmed no for all (RFC EC030); RATSCAT confirmed RF only (RFC EC030) |
| b. EO | NO | |
| c. IR | NO | |
| d. MMW | NO | |
| e. UV | NO | |
| f. Laser? | NO | |
| 2.2.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the med forces of the US? (2.3.B.2) | YES | p. 3(3) |
| 2.2.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | YES | p. 6(6) |
| 2.2.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | YES | p. 5(5) |
| **Remarks** | | |

**Technical Value - Integration Labs (IL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.3.1 Do you have an IL facility that supports test operations? (General Information Form) | NO | |
| 2.3.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the med forces of the US? (2.3.B.2) | NO | |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Technical Value - Integration Labs (IL)** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.3.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | Book 301, p. 4(484) |
| 2.3.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | Book 301, p. 4(484) |
| **Remarks** No facility scored | | |

**Technical Value - Hardware-In-The-Loop (HITL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.4.1 Which of the following spectra are available to test against (3.3.A.2, 3.3.B.4): a. RF | NO | |
| b. EO | NO | |
| c. IR | NO | |
| d. MMW | NO | |
| e. UV | NO | |
| f. Laser? | NO | |
| 2.4.2 Does the facility have closed-loop threat simulators? (3.3.A.4) | NO | |
| 2.4.3 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.4.4 Is the facility equipped to support TOP SECRET or Special Access Required work? (3.1.E.3) | NO | |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Technical Value - Hardware-In-The-Loop (HITL)** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.4.5 Are specialized facilities available to support EC test operations? (3.1.D.1) | NO | |
| **Remarks** No facility scored | | |

**Technical Value - Installed Systems Test Facilities (ISTF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.5.1 Which of the following spectra are available to test against (3.1.A.2, 3.3.B.4): a. RF | NO | |
| b. EO | NO | |
| c. IR | NO | |
| d. MMW | NO | |
| e. UV | NO | |
| f. Laser? | NO | |
| 2.5.2 Are radio frequency threat signals: (3.3.A.2) a. radiated? | NO | |
| b. injected? | NO | |
| 2.5.3 Can the facility support fighter/helicopter-sized aircraft testing? (3.3.B.1) | NO | |
| 2.5.4 Can the facility support B-1 bomber/cargo-sized aircraft testing? (3.3.B.1) | NO | |
| 2.5.5 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Technical Value - Installed Systems Test Facilities (ISTF)** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.5.6 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.5.7 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** BAF excluded; no facility scored | | |

**Technical Value - Open Air Ranges (OAR)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.6.1 How many of the following spectra are available to test against (3.3.A.2, 3.3.B.4): a. RF | NO | |
| b. EO | NO | |
| c. IR | NO | |
| d. MMW | NO | |
| e. UV | NO | |
| f. Laser? | NO | |
| 2.6.2 How many simultaneous threats can be simulated? (3.3.A.2) | 0 | |
| 2.6.3 How many surface-to-air missile threats can be simulated simultaneously? (3.3.A.2) | 0 | |
| 2.6.4 How many airborne interceptor threats can be simulated simultaneously? (3.3.A.2) | 0 | |
| 2.6.5 How many anti-aircraft artillery threats can be simulated simultaneously? (3.3.A.2) | 0 | |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Technical Value - Open Air Ranges (OAR)** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.6.6 Other than in questions 2.6.3, 2.6.4 and 2.6.5 above, how many other threats can be simulated simultaneously? (3.3.A.2) | 0 | |
| 2.6.7 What is the geographic dispersion (width x depth, in NM) of available threat simulators? (3.3.A.7) | NO | |
| 2.6.8 Is the facility equipped to support TOP SECRET or Special Access Required work? (3.1.E.3) | NO | |
| 2.6.9 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.6.10 Are specialized facilities available to support EC test operations? (3.1.D.1) | NO | |
| **Remarks** No facility scored | | |

# SCORING FORM FOR ELECTRONIC COMBAT

ACTIVITY: WSMR/EPG BOOK: 103

**Physical Value - Critical Air/Land/Sea Space**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.1 How many square miles of land space are available to support test operations? (3.1.G.1) | 39,167 | 39,000+45+122; see AV RFC003/004; p. V-1-9(009) |
| 1.1.2 How many square miles of sea space are available to support test operations? (3.1.G.1) | 0 | p. V-1-9(009) blank response-Issue 7A |
| 1.1.3 How much of the land under the restricted airspace (including warning areas) does DoD own or control? (3.1.G.2)<br>a. None | | |
| b. Some | X | p. V-1-9(009) |
| c. All | | |
| 1.1.4 How many square miles of restricted airspace (including warning areas) are available to support test operations? (3.1.G.3) | 892 | AV RFC003/004; p. V-1-9(009) [rounded] |
| 1.1.5 What altitude limits are associated with the restricted airspace (including warning areas)? (Upper Limit-Lower Limit) Upper limit is capped at 100k feet. (3.1.G.3) | 0-45K | p. V-1-9(009) |
| 1.1.6 What is the minimum altitude allowable in the restricted airspace (including warning areas)? (3.1.G.3) | >0 | p. V-1-9(009) |
| 1.1.7 How many square miles of available airspace are over land? (3.1.G.5) | 2692 | 1800+892; See also 31G1, 31G3; AV RFC003; p. V-1-9,10(009,010) |
| 1.1.8 How many square miles of available airspace are over water? (3.1.G.5) | 0 | p. V-1-9,10(009,010) blank response-Issue 7A |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Physical Value - Critical Air/Land/Sea Space** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.9 What is the maximum straight line segment in the airspace, in nautical miles? (3.1.G.7) | 53 | p. V-1-10(010) [rounded] |
| 1.1.10 Do supersonic areas and/or corridors exist? (3.2.A.1) | YES | p. V-1-13(013) |
| **Remarks** | | |

**Physical Value - Topographical**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.2.1 Which of the following types of topography and ground cover/vegetation exist within your test airspace? (3.1.H.1) | | p. V-1-10(010) |
| a. Mountainous | YES | |
| b. Forested or jungle | YES | |
| c. Cultivated lowland (farmland) | NO | |
| d. Swamp or riverine | NO | |
| e. Desert | YES | |
| f. Sea | NO | |
| **Remarks** | | |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Physical Value - Climatic**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.1 What is the average percentage of test missions per year not canceled due to weather? (3.1.H.6, Data Forms) [100% minus (% derived from # of test missions canceled in FY86-93 divided by # of test missions FY86-93)] | 99.7 | RFC EC017--0.3% cancel rate |
| **Remarks** | | |

**Physical Value - Encroachment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.4.1 What is the average percentage of test missions per year not canceled due to commercial or public use ? [100% minus (% derived from # of test missions canceled divided by the # of test missions over period reported)] (3.1.C.5.A, Data Forms) | 100 | p. V-1-6(006) |
| 1.4.2 What percent of test missions were not canceled due to encroachment in the past two years [100% minus (% derived from sum of 92 and 93 canceled missions divided by the sum of 92 and 93 test missions)] (3.1.C.6, Data Forms) | 100 | p. V-1-6(006) |
| 1.4.3 What is the total population inside the following radii of the facility? (3.1.C.4) | | p. V-1-4,5(004,005) |
| a. 50 miles | 97,624 | |
| b. 100 miles | 577,500 | |
| c. 150 miles | 820,734 | |
| d. 200 miles | 2,942,835 | |
| **Remarks** | | |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Physical Value - Environment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.5.1 Does the facility have limiting environmental characteristics? (3.1.C.1.) | NO | p. V-1-4(004) |
| **Remarks** | | |

**Technical Value - Digital Models and Simulations (DM&S)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.1.1 Do you have a DM&S facility that supports test operations? (General Information Form) | YES | RFC EC003 |
| 2.1.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | p. v-4-2(117) |
| 2.1.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | YES | p. v-4-12(127) |
| 2.1.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | YES | p. v-4-5(120) |
| **Remarks** EMETF | | |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Technical Value - Measurement Facilities (MF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.1 Which of the following spectra are available to test against (3.3.A.2, 3.3.B.4):<br>a. RF | YES | RFC EC036 re. spectra; EC012,014,015 re. facility type |
| b. EO | YES | |
| c. IR | YES | |
| d. MMW | YES | |
| e. UV | YES | |
| f. Laser? | YES | |
| 2.2.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | YES | p. V-1-3(003) |
| 2.2.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | YES | p. V-1-8(008) |
| 2.2.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | YES | p. V-1-6(006) |
| **Remarks** Range Opns, EMI/TEMPEST, Environ Test | | |

**Technical Value - Integration Labs (IL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.3.1 Do you have an IL facility that supports test operations? (General Information Form) | NO | |
| 2.3.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Technical Value - Integration Labs (IL)** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.3.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.3.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** | | |

**Technical Value - Hardware-In-The-Loop (HITL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.4.1 Which of the following spectra are available to test against (3.3.A.2, 3.3.B.4): a. RF | NO | |
| b. EO | NO | |
| c. IR | NO | |
| d. MMW | NO | |
| e. UV | NO | |
| f. Laser? | NO | |
| 2.4.2 Does the facility have closed-loop threat simulators? (3.3.A.4) | NO | |
| 2.4.3 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.4.4 Is the facility equipped to support TOP SECRET or Special Access Required work? (3.1.E.3) | NO | |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Technical Value - Hardware-In-The-Loop (HITL)** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.4.5 Are specialized facilities available to support EC test operations? (3.1.D.1) | NO | |
| **Remarks** No facility scored | | |

**Technical Value - Installed Systems Test Facilities (ISTF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.5.1 Which of the following spectra are available to test against (3.3.A.2, 3.3.B.4): a. RF | NO | |
| b. EO | NO | |
| c. IR | NO | |
| d. MMW | NO | |
| e. UV | NO | |
| f. Laser? | NO | |
| 2.5.2 Are radio frequency threat signals: (3.3.A.2) a. radiated? | NO | |
| b. injected? | NO | |
| 2.5.3 Can the facility support fighter/helicopter-sized aircraft testing? (3.3.B.1) | NO | |
| 2.5.4 Can the facility support B-1 bomber/cargo-sized aircraft testing? (3.3.B.1) | NO | |
| 2.5.5 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed ·tical to the operational effectiveness of the ,ed forces of the US? (2.3.B.2) | NO | |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Technical Value - Installed Systems Test Facilities (ISTF)** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.5.6 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.5.7 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** No facility scored | | |

**Technical Value - Open Air Ranges (OAR)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.6.1 How many of the following spectra are available to test against (3.3.A.2, 3.3.B.4): a. RF | YES | RFC EC036 |
| b. EO | YES | |
| c. IR | YES | |
| d. MMW | YES | |
| e. UV | NO | |
| f. Laser? | YES | |
| 2.6.2 How many simultaneous threats can be simulated? (3.3.A.2) | 2170 | RFC EC034; 80+120+16+1 |
| 2.6.3 How many surface-to-air missile threats can be simulated simultaneously? (3.3.A.2) | 17 | All SAM's in battalion slice of regiment per ITAC Battle Dev Plan-Russia; RFC EC034;16+1 |
| 2.6.4 How many airborne interceptor threats can be simulated simultaneously? (3.3.A.2) | 0 | Blank response; Issue 7A |
| 2.6.5 How many anti-aircraft artillery threats can be simulated simultaneously? (3.3.A.2) | 0 | Blank response; Issue 7A |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Technical Value - Open Air Ranges (OAR)** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.6.6 Other than in questions 2.6.3, 2.6.4 and 2.6.5 above, how many other threats can be simulated simultaneously? (3.3.A.2) | 200 | RFC EC034; 217-17 |
| 2.6.7 What is the geographic dispersion (width x depth, in NM) of available threat simulators? (3.3.A.7) | YES | p. V-6-22,23,24(231-233) |
| 2.6.8 Is the facility equipped to support TOP SECRET or Special Access Required work? (3.1.E.3) | YES | p. V-3-9(084) |
| 2.6.9 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | YES | p. V-3-3(078) |
| .10 Are specialized facilities available to pport EC test operations? (3.1.D.1) | YES | p. V-3-6(081) |
| **Remarks** | | |

# SCORING FORM FOR ELECTRONIC COMBAT

ACTIVITY: NAWC/CHINA LAKE BOOK: 204

**Physical Value - Critical Air/Land/Sea Space**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.1 How many square miles of land space are available to support test operations? (3.1.G.1) | 1723 | p. 140R(0161A) [204B] |
| 1.1.2 How many square miles of sea space are available to support test operations? (3.1.G.1) | 0 | p. 141R(0161B) [204B] |
| 1.1.3 How much of the land under the restricted airspace (including warning areas) does DoD own or control? (3.1.G.2) | | |
| a. None | | |
| b. Some | X | p. 143R(0163A) [204B] |
| c. All | | |
| 1.1.4 How many square miles of restricted airspace (including warning areas) are available to support test operations? (3.1.G.3) | 19,445 | p. 140R,143R(0161A,0163A) [204B] |
| 1.1.5 What altitude limits are associated with the restricted airspace (including warning areas)? (Upper Limit-Lower Limit) Upper limit is capped at 100k feet. (3.1.G.3) | 0-100K | p. 143R(0163A) [204B] |
| 1.1.6 What is the minimum altitude allowable in the restricted airspace (including warning areas)? (3.1.G.3) | 0 | p. 143R(0163A) [204B] |
| 1.1.7 How many square miles of available airspace are over land? (3.1.G.5) | 24,056 | p. 140R(0161A) [204B] |
| 1.1.8 How many square miles of available airspace are over water? (3.1.G.5) | 0 | p. 141R(0161B) [204B] |



notes expanded
7 Nov 94

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Physical Value - Critical Air/Land/Sea Space (Continued)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.9 What is the maximum straight line segment in the airspace, in nautical miles? (3.1.G.7) | 381 | p. 147R(0167A) [204B] |
| 1.1.10 Do supersonic areas and/or corridors exist? (3.2.A.1) | YES | p. 150R(0170A) [204B] |
| **Remarks** | | |

**Physical Value - Topographical**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.2.1 Which of the following types of topography and ground cover/vegetation exist within your test airspace? (3.1.H.1) | | p. 148R(0168A) [204B] |
| a. Mountainous | YES | |
| b. Forested or jungle | YES | |
| c. Cultivated lowland (farmland) | NO | |
| d. Swamp or riverine | NO | |
| e. Desert | YES | |
| f. Sea | NO | |
| **Remarks** | | |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Physical Value - Climatic**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.1 What is the average percentage of test missions per year not canceled due to weather? (3.1.H.6, Data Forms) [100% minus (% derived from # of test missions canceled in FY86-93 divided by # of test missions FY86-93)] | 99.8 | 776 cancels/340133 msns-p.149R(0169A) [204B]<br>100-[776/340133]*100=99.77 |
| **Remarks** | | |

**Physical Value - Encroachment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.4.1 What is the average percentage of test missions per year not canceled due to commercial or public use ? [100% minus (% derived from # of test missions canceled divided by the # of test missions over period reported)] (3.1.C.5.A, Data Forms) | 100 | p.80R(0101A) [204B] |
| 1.4.2 What percent of test missions were not canceled due to encroachment in the past two years [100% minus (% derived from sum of 92 and 93 canceled missions divided by the sum of 92 and 93 test missions)] (3.1.C.6, Data Forms) | 100 | p.80R(0101A) [204B] |
| 1.4.3 What is the total population inside the following radii of the facility? (3.1.C.4)<br>a. 50 miles | 77,000 | p.80R(0101A) [204B] |
| b. 100 miles | 1,493,000 | |
| c. 150 miles | 18,426,000 | |
| d. 200 miles | 19,423,000 | |
| **Remarks** | | |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Physical Value - Environment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.5.1 Does the facility have limiting environmental characteristics? (3.1.C.1.) | NO | p.74R(0095A) [204B] |
| **Remarks** Endangered species, air emissions: no impact | | |

**Technical Value - Digital Models and Simulations (DM&S)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.1.1 Do you have a DM&S facility that supports test operations? (General Information Form) | NO | |
| 2.1.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed ·itical to the operational effectiveness of the .ned forces of the US? (2.3.B.2) | NO | |
| 2.1.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.1.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** No facility scored | | |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Technical Value - Measurement Facilities (MF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.1 Which of the following spectra are available to test against (3.3.A.2, 3.3.B.4): a. RF | YES | Global RFC EC025, p. 16 |
| b. EO | YES | |
| c. IR | YES | |
| d. MMW | YES | |
| e. UV | NO | |
| f. Laser? | YES | |
| 2.2.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | YES | p. 37(0038) [204B] |
| 2.2.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | YES | Global RFC EC025 |
| 2.2.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | p. 84R(0105A) [204B] |

**Remarks** Junction Ranch included per direction JCSG

**Technical Value - Integration Labs (IL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.3.1 Do you have an IL facility that supports test operations? (General Information Form) | YES | |
| 2.3.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | YES | p. 41(0042) [204B] |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Technical Value - Integration Labs (IL) (Continued)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.3.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | p. 108R(0129A) [204B] |
| 2.3.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | YES | RFC AV021 |
| **Remarks** EWIL included per direction JCSG | | |

**Technical Value - Hardware-In-The-Loop (HITL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.4.1 Which of the following spectra are available to test against (3.3.A.2, 3.3.B.4): | | |
| a. RF | NO | |
| b. EO | NO | |
| c. IR | NO | |
| d. MMW | NO | |
| e. UV | NO | |
| f. Laser? | NO | |
| 2.4.2 Does the facility have closed-loop threat simulators? (3.3.A.4) | NO | |
| 2.4.3 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.4.4 Is the facility equipped to support TOP SECRET or Special Access Required work? (3.1.E.3) | NO | |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Technical Value - Installed Systems Test Facilities (ISTF)** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.5.6 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.5.7 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** No facility scored | | |

**Technical Value - Open Air Ranges (OAR)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.6.1 How many of the following spectra are available to test against (3.3.A.2, 3.3.B.4): a. RF | YES | Global RFC EC025, p. 43 |
| b. EO | YES | |
| c. IR | YES | |
| d. MMW | YES | |
| e. UV | NO | |
| f. Laser? | YES | |
| 2.6.2 How many simultaneous threats can be simulated? (3.3.A.2) | 43 | p. 175R(0194A) [204B] |
| 2.6.3 How many surface-to-air missile threats can be simulated simultaneously? (3.3.A.2) | 23 | p. 171R-175R(0190A-0194A) [204B] |
| 2.6.4 How many airborne interceptor threats can be simulated simultaneously? (3.3.A.2) | 0 | p. 171R-175R(0190A-0194A) [204B] |
| 2.6.5 How many anti-aircraft artillery threats can be simulated simultaneously? (3.3.A.2) | 6 | p. 171R-175R(0190A-0194A) [204B] |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Technical Value - Open Air Ranges (OAR)** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.6.6 Other than in questions 2.6.3, 2.6.4 and 2.6.5 above, how many other threats can be simulated simultaneously? (3.3.A.2) | 14 | p. 171R-175R(0190A-0194A) [204B] |
| 2.6.7 What is the geographic dispersion (width x depth, in NM) of available threat simulators? (3.3.A.7) | YES | p. 177R(0196A) [204B] |
| 2.6.8 Is the facility equipped to support TOP SECRET or Special Access Required work? (3.1.E.3) | YES | p. 109R(0130A) [204B] |
| 2.6.9 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | YES | p. 45(0046A) [204B] |
| .10 Are specialized facilities available to support EC test operations? (3.1.D.1) | YES | p. 89R(0110A) [204B] |
| **Remarks** | | |

# SCORING FORM FOR ELECTRONIC COMBAT

ACTIVITY: NSWC/CRANE BOOK: 206

**Physical Value - Critical Air/Land/Sea Space**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.1 How many square miles of land space are available to support test operations? (3.1.G.1) | 100 | p. 18R(0019A) |
| 1.1.2 How many square miles of sea space are available to support test operations? (3.1.G.1) | 0 | p. 18R(0019A) Blank response-Issue 7A |
| 1.1.3 How much of the land under the restricted airspace (including warning areas) does DoD own or control? (3.1.G.2) | | |
| a. None | X | p. 18R(0019A) N/A response-Issue 7A |
| b. Some | | |
| c. All | | |
| 1.1.4 How many square miles of restricted airspace (including warning areas) are available to support test operations? (3.1.G.3) | 0 | p. 18R(0019A) N/A response-Issue 7A |
| 1.1.5 What altitude limits are associated with the restricted airspace (including warning areas)? (Upper Limit-Lower Limit) Upper limit is capped at 100k feet. (3.1.G.3) | 0 | p. 18R(0019A) N/A response-Issue 7A |
| 1.1.6 What is the minimum altitude allowable in the restricted airspace (including warning areas)? (3.1.G.3) | >0 | Score>min in data set for n/a; p. 18R(0019A) N/A response-Issue 7A |
| 1.1.7 How many square miles of available airspace are over land? (3.1.G.5) | 0 | p. 19R(0020A) Not used |
| 1.1.8 How many square miles of available airspace are over water? (3.1.G.5) | 0 | p. 19R(0020A) Blank response-Issue 7A |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Physical Value - Critical Air/Land/Sea Space** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.9 What is the maximum straight line segment in the airspace, in nautical miles? (3.1.G.7) | 0 | p. 18R(0019A) Not used |
| 1.1.10 Do supersonic areas and/or corridors exist? (3.2.A.1) | NO | p. 22(0023) N/A response-Issue 7A |
| **Remarks** | | |

**Physical Value - Topographical**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.2.1 Which of the following types of topography and ground cover/vegetation exist within your test airspace? (3.1.H.1) | | p. 20(0021) |
| a. Mountainous | NO | |
| b. Forested or jungle | YES | |
| c. Cultivated lowland (farmland) | NO | |
| d. Swamp or riverine | NO | |
| e. Desert | NO | |
| f. Sea | NO | |
| **Remarks** | | |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Physical Value - Climatic**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.1 What is the average percentage of test missions per year not canceled due to weather? (3.1.H.6, Data Forms) [100% minus (% derived from # of test missions canceled in FY86-93 divided by # of test missions FY86-93)] | 100 | p. 21(0022) N/A response-Issue 7A |
| **Remarks** | | |

**Physical Value - Encroachment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.4.1 What is the average percentage of test missions per year not canceled due to commercial or public use ? [100% minus (% derived from # of test missions canceled divided by the # of test missions over period reported)] (3.1.C.5.A, Data Forms) | 100 | p. 12(0013) |
| 1.4.2 What percent of test missions were not canceled due to encroachment in the past two years [100% minus (% derived from sum of 92 and 93 canceled missions divided by the sum of 92 and 93 test missions)] (3.1.C.6, Data Forms) | 100 | p. 12(0013) |
| 1.4.3 What is the total population inside the following radii of the facility? (3.1.C.4) | | p. 12(0013) |
| a. 50 miles | 546,700 | |
| b. 100 miles | 4,098,700 | |
| c. 150 miles | 9,388,400 | |
| d. 200 miles | 15,118,700 | |
| **Remarks** | | |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Physical Value - Environment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.5.1 Does the facility have limiting environmental characteristics? (3.1.C.1.) | NO | p. 11(0012) |
| **Remarks** | | |

**Technical Value - Digital Models and Simulations (DM&S)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.1.1 Do you have a DM&S facility that supports test operations? (General Information Form) | NO | |
| 2.1.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the med forces of the US? (2.3.B.2) | NO | |
| 2.1.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.1.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** No facility scored | | |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Technical Value - Measurement Facilities (MF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.1 Which of the following spectra are available to test against (3.3.A.2, 3.3.B.4):<br>a. RF | YES | Global RFC EC025 |
| b. EO | NO | |
| c. IR | YES | |
| d. MMW | YES | |
| e. UV | NO | |
| f. Laser? | NO | |
| 2.2.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | YES | p. 9R(0010a) |
| 2.2.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | YES | p. 16R(0017A) |
| 2.2.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | YES | p. 13R(0014A) |
| **Remarks** | | |

**Technical Value - Integration Labs (IL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.3.1 Do you have an IL facility that supports test operations? (General Information Form) | NO | |
| 2.3.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Technical Value - Integration Labs (IL)** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.3.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.3.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** No facility scored | | |

**Technical Value - Hardware-In-The-Loop (HITL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.4.1 Which of the following spectra are available to test against (3.3.A.2, 3.3.B.4): a. RF | NO | |
| b. EO | NO | |
| c. IR | NO | |
| d. MMW | NO | |
| e. UV | NO | |
| f. Laser? | NO | |
| 2.4.2 Does the facility have closed-loop threat simulators? (3.3.A.4) | NO | |
| 2.4.3 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.4.4 Is the facility equipped to support TOP SECRET or Special Access Required work? (3.1.E.3) | NO | |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Technical Value - Hardware-In-The-Loop (HITL)** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.4.5 Are specialized facilities available to support EC test operations? (3.1.D.1) | NO | |
| **Remarks** No facility scored | | |

**Technical Value - Installed Systems Test Facilities (ISTF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.5.1 Which of the following spectra are available to test against (3.3.A.2, 3.3.B.4): a. RF | NO | |
| b. EO | NO | |
| c. IR | NO | |
| d. MMW | NO | |
| e. UV | NO | |
| f. Laser? | NO | |
| 2.5.2 Are radio frequency threat signals: (3.3.A.2) a. radiated? | NO | |
| b. injected? | NO | |
| 2.5.3 Can the facility support fighter/helicopter-sized aircraft testing? (3.3.B.1) | NO | |
| 2.5.4 Can the facility support B-1 bomber/cargo-sized aircraft testing? (3.3.B.1) | NO | |
| 2.5.5 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed ·itical to the operational effectiveness of the ·med forces of the US? (2.3.B.2) | NO | |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Technical Value - Installed Systems Test Facilities (ISTF)** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.5.6 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.5.7 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** No facility scored | | |

**Technical Value - Open Air Ranges (OAR)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.6.1 How many of the following spectra are available to test against (3.3.A.2, 3.3.B.4): a. RF | NO | |
| b. EO | NO | |
| c. IR | NO | |
| d. MMW | NO | |
| e. UV | NO | |
| f. Laser? | NO | |
| 2.6.2 How many simultaneous threats can be simulated? (3.3.A.2) | 0 | |
| 2.6.3 How many surface-to-air missile threats can be simulated simultaneously? (3.3.A.2) | 0 | |
| 2.6.4 How many airborne interceptor threats can be simulated simultaneously? (3.3.A.2) | 0 | |
| 2.6.5 How many anti-aircraft artillery threats can be simulated simultaneously? (3.3.A.2) | 0 | |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Technical Value - Open Air Ranges (OAR)** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.6.6 Other than in questions 2.6.3, 2.6.4 and 2.6.5 above, how many other threats can be simulated simultaneously? (3.3.A.2) | 0 | |
| 2.6.7 What is the geographic dispersion (width x depth, in NM) of available threat simulators? (3.3.A.7) | NO | |
| 2.6.8 Is the facility equipped to support TOP SECRET or Special Access Required work? (3.1.E.3) | NO | |
| 2.6.9 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.6.10 Are specialized facilities available to support EC test operations? (3.1.D.1) | NO | |
| **Remarks** No facility scored | | |

# SCORING FORM FOR ELECTRONIC COMBAT

ACTIVITY: NAWC/PATUXENT BOOK: 214

**Physical Value - Critical Air/Land/Sea Space**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.1 How many square miles of land space are available to support test operations? (3.1.G.1) | 20 | RFC EC026/035 |
| 1.1.2 How many square miles of sea space are available to support test operations? (3.1.G.1) | 68,488 | RFC EC026/035;p. AI67(90A); 70,947.85-2,640 |
| 1.1.3 How much of the land under the restricted airspace (including warning areas) does DoD own or control? (3.1.G.2)<br>a. None | | |
| b. Some | X | RFC EC035; p. AI68(91) |
| c. All | | |
| 1.1.4 How many square miles of restricted airspace (including warning areas) are available to support test operations? (3.1.G.3) | 69,903 | P. AI67R(90R); 70,947.85-1045 |
| 1.1.5 What altitude limits are associated with the restricted airspace (including warning areas)? (Upper Limit-Lower Limit) Upper limit is capped at 100k feet. (3.1.G.3) | 0-100K | 31G1/3 lists 85k; p. AI96(120) lists 100k |
| 1.1.6 What is the minimum altitude allowable in the restricted airspace (including warning areas)? (3.1.G.3) | 0 | p. AI69(92) |
| 1.1.7 How many square miles of available airspace are over land? (3.1.G.5) | 2,460 | RFC EC026/035, p. AI76(100) |
| 1.1.8 How many square miles of available airspace are over water? (3.1.G.5) | 68,488 | 70,947.85-2,460; RFC EC026/035 |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Physical Value - Critical Air/Land/Sea Space** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.9 What is the maximum straight line segment in the airspace, in nautical miles? (3.1.G.7) | 250 | p. AI78(102) |
| 1.1.10 Do supersonic areas and/or corridors exist? (3.2.A.1) | YES | p. AI94(118) |
| **Remarks** | | |

**Physical Value - Topographical**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.2.1 Which of the following types of topography and ground cover/vegetation exist within your test airspace? (3.1.H.1) | | p. AI70, AI80-83(93, 104-107) |
| a. Mountainous | YES | In used airspace; include per JCSWG |
| b. Forested or jungle | YES | |
| c. Cultivated lowland (farmland) | YES | |
| d. Swamp or riverine | YES | |
| e. Desert | NO | |
| f. Sea | YES | |
| **Remarks** | | |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Physical Value - Climatic**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.1 What is the average percentage of test missions per year not canceled due to weather? (3.1.H.6, Data Forms) [100% minus (% derived from # of test missions canceled in FY86-93 divided by # of test missions FY86-93)] | 93.5 | Midpoint of 5-8% range given; p. AI88(112); 100-(5+8)/2 = 93.5 |
| **Remarks** | | |

**Physical Value - Encroachment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.4.1 What is the average percentage of test missions per year not canceled due to commercial or public use ? [100% minus (% derived from # of test missions canceled divided by the # of test missions over period reported)] (3.1.C.5.A, Data Forms) | 100 | p. AI37(60) |
| 1.4.2 What percent of test missions were not canceled due to encroachment in the past two years [100% minus (% derived from sum of 92 and 93 canceled missions divided by the sum of 92 and 93 test missions)] (3.1.C.6, Data Forms) | 100 | p. AI37(60) |
| 1.4.3 What is the total population inside the following radii of the facility? (3.1.C.4) | | p. AI36(59) |
| a. 50 miles | 1,132,793 | |
| b. 100 miles | 9,048,269 | |
| c. 150 miles | 17,660,919 | |
| d. 200 miles | 24,209,467 | |
| **Remarks** | | |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Physical Value - Environment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.5.1 Does the facility have limiting environmental characteristics? (3.1.C.1.) | NO | p. AI33(56) |
| **Remarks** | | |

**Technical Value - Digital Models and Simulations (DM&S)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.1.1 Do you have a DM&S facility that supports test operations? (General Information Form) | NO | |
| 2.1.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the ·med forces of the US? (2.3.B.2) | NO | |
| 2.1.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.1.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** No facility scored | | |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Technical Value - Measurement Facilities (MF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.1 Which of the following spectra are available to test against (3.3.A.2, 3.3.B.4):<br>a. RF | YES | Global RFC EC025 for GRATF lists RF, MMW |
| b. EO | NO | |
| c. IR | NO | |
| d. MMW | YES | |
| e. UV | NO | |
| f. Laser? | NO | |
| 2.2.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | p. MF15-17(222-224) |
| 2.2.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | p. MF40(247) |
| 2.2.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | YES | p. AI37ff(60ff) |
| **Remarks** | | |

**Technical Value - Integration Labs (IL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.3.1 Do you have an IL facility that supports test operations? (General Information Form) | NO | |
| 2.3.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Technical Value - Integration Labs (IL)** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.3.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.3.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** No facility scored | | |

**Technical Value - Hardware-In-The-Loop (HITL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.4.1 Which of the following spectra are available to test against (3.3.A.2, 3.3.B.4): a. RF | NO | |
| b. EO | NO | |
| c. IR | NO | |
| d. MMW | NO | |
| e. UV | NO | |
| f. Laser? | NO | |
| 2.4.2 Does the facility have closed-loop threat simulators? (3.3.A.4) | NO | |
| 2.4.3 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.4.4 Is the facility equipped to support TOP SECRET or Special Access Required work? (3.1.E.3) | NO | |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Technical Value - Hardware-In-The-Loop (HITL)** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.4.5 Are specialized facilities available to support EC test operations? (3.1.D.1) | NO | |
| **Remarks** No facility scored | | |

**Technical Value - Installed Systems Test Facilities (ISTF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.5.1 Which of the following spectra are available to test against (3.3.A.2, 3.3.B.4): a. RF | YES | Global RFC EC025; p. 8 |
| b. EO | YES | |
| c. IR | YES | |
| d. MMW | YES | |
| e. UV | YES | |
| f. Laser? | YES | |
| 2.5.2 Are radio frequency threat signals: (3.3.A.2) a. radiated? | YES | p. ISTF17(336) |
| b. injected? | YES | p. ISTF17(336) |
| 2.5.3 Can the facility support fighter/helicopter-sized aircraft testing? (3.3.B.1) | YES | p. ISTF21(340) |
| 2.5.4 Can the facility support B-1 bomber/cargo-sized aircraft testing? (3.3.B.1) | YES | p. ISTF21(340) |
| 2.5.5 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed ·tical to the operational effectiveness of the ned forces of the US? (2.3.B.2) | YES | p. ISTF5(324) |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Technical Value - Installed Systems Test Facilities (ISTF)** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.5.6 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | YES | p. ISTF10(329) |
| 2.5.7 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | YES | p. AI37ff(60ff) |
| **Remarks** | | |

**Technical Value - Open Air Ranges (OAR)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.6.1 How many of the following spectra are available to test against (3.3.A.2, 3.3.B.4): a. RF | NO | |
| b. EO | NO | |
| c. IR | NO | |
| d. MMW | NO | |
| e. UV | NO | |
| f. Laser? | NO | |
| 2.6.2 How many simultaneous threats can be simulated? (3.3.A.2) | 0 | |
| 2.6.3 How many surface-to-air missile threats can be simulated simultaneously? (3.3.A.2) | 0 | |
| 2.6.4 How many airborne interceptor threats can be simulated simultaneously? (3.3.A.2) | 0 | |
| 2.6.5 How many anti-aircraft artillery threats can be simulated simultaneously? (3.3.A.2) | 0 | |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Technical Value - Open Air Ranges (OAR)** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.6.6 Other than in questions 2.6.3, 2.6.4 and 2.6.5 above, how many other threats can be simulated simultaneously? (3.3.A.2) | 0 | |
| 2.6.7 What is the geographic dispersion (width x depth, in NM) of available threat simulators? (3.3.A.7) | NO | |
| 2.6.8 Is the facility equipped to support TOP SECRET or Special Access Required work? (3.1.E.3) | NO | |
| 2.6.9 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 5.10 Are specialized facilities available to support EC test operations? (3.1.D.1) | NO | |
| **Remarks** No facility scored | | |

# SCORING FORM FOR ELECTRONIC COMBAT

ACTIVITY: NAWC/PT MUGU BOOK: 216

**Physical Value - Critical Air/Land/Sea Space**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.1 How many square miles of land space are available to support test operations? (3.1.G.1) | 219 | RFC AV036, p. 120R(121B) |
| 1.1.2 How many square miles of sea space are available to support test operations? (3.1.G.1) | 125,000 | RFC AV036, p. 120R(121B) |
| 1.1.3 How much of the land under the restricted airspace (including warning areas) does DoD own or control? (3.1.G.2) | | |
| a. None | | |
| b. Some | X | p. 120aR(121C) |
| c. All | | |
| 1.1.4 How many square miles of restricted airspace (including warning areas) are available to support test operations? (3.1.G.3) | 103,000 | RFC AV036, p. 120R(121B) |
| 1.1.5 What altitude limits are associated with the restricted airspace (including warning areas)? (Upper Limit-Lower Limit) Upper limit is capped at 100k feet. (3.1.G.3) | 0-100K | p. 120aR(121C) |
| 1.1.6 What is the minimum altitude allowable in the restricted airspace (including warning areas)? (3.1.G.3) | 0 | p. 120aR(121C) |
| 1.1.7 How many square miles of available airspace are over land? (3.1.G.5) | 226 | RFC AV037; 219+7 over main complex; p. 121R(122B) |
| 1.1.8 How many square miles of available airspace are over water? (3.1.G.5) | 125,000 | p. 120R(121B) |



notes expanded, corrected 7 Nov 94 (pp 1, 3, 5)

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Physical Value - Critical Air/Land/Sea Space** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.9 What is the maximum straight line segment in the airspace, in nautical miles? (3.1.G.7) | 500 | p. 121R(122B) |
| 1.1.10 Do supersonic areas and/or corridors exist? (3.2.A.1) | YES | p. 128R(129A) |
| **Remarks** | | |

**Physical Value - Topographical**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.2.1 Which of the following types of topography and ground cover/vegetation exist within your test airspace? (3.1.H.1) | | p. 125R(126A) |
| a. Mountainous | YES | |
| b. Forested or jungle | YES | |
| c. Cultivated lowland (farmland) | YES | |
| d. Swamp or riverine | YES | |
| e. Desert | YES | in airspace-JCSWG incl |
| f. Sea | YES | |
| **Remarks** e. Just as Edwards reports sea; b. in IR-200 routes | | |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Physical Value - Climatic**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.1 What is the average percentage of test missions per year not canceled due to weather? (3.1.H.6, Data Forms) [100% minus (% derived from # of test missions canceled in FY86-93 divided by # of test missions FY86-93)] | 99.8 | RFC, p. 126R(127A) |
| **Remarks** | | |

**Physical Value - Encroachment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.4.1 What is the average percentage of test missions per year not canceled due to commercial or public use ? [100% minus (% derived from # of test missions canceled divided by the # of test missions over period reported)] (3.1.C.5.A, Data Forms) | 100 | p. 64R(65) |
| 1.4.2 What percent of test missions were not canceled due to encroachment in the past two years [100% minus (% derived from sum of 92 and 93 canceled missions divided by the sum of 92 and 93 test missions)] (3.1.C.6, Data Forms) | 99.48 | 14 of 2707; p. 64R(65)<br>100-[14/2707]*100=99.48 |
| 1.4.3 What is the total population inside the following radii of the facility? (3.1.C.4)<br>a. 50 miles | 5,350,000 | RFC AV010; p. 64R(65) |
| b. 100 miles | 13,500,000 | |
| c. 150 miles | 17,500,000 | |
| d. 200 miles | 20,000,000 | |
| **Remarks** | | |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Physical Value - Environment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.5.1 Does the facility have limiting environmental characteristics? (3.1.C.1.) | NO | p. 63R(64) |
| **Remarks** | | |

**Technical Value - Digital Models and Simulations (DM&S)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.1.1 Do you have a DM&S facility that supports test operations? (General Information Form) | NO | |
| 2.1.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.1.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.1.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** No facility scored | | |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Technical Value - Measurement Facilities (MF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.1 Which of the following spectra are available to test against (3.3.A.2, 3.3.B.4):<br>a. RF | NO | Global RFC EC025, p.1 |
| b. EO | YES | |
| c. IR | YES | |
| d. MMW | YES | |
| e. UV | YES | |
| f. Laser? | YES | |
| 2.2.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | YES | p. 28(29) |
| 2.2.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | YES | Global RFC EC025 |
| 2.2.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | YES | p. 66(67) |
| **Remarks** | | |

**Technical Value - Integration Labs (IL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.3.1 Do you have an IL facility that supports test operations? (General Information Form) | YES | p. 112(257) |
| 2.3.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | YES | p. 34(35) |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Technical Value - Integration Labs (IL)** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.3.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | p. 101(102) |
| 2.3.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | YES | p. 68(69) |
| **Remarks** | | |

**Technical Value - Hardware-In-The-Loop (HITL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.4.1 Which of the following spectra are available to test against (3.3.A.2, 3.3.B.4): | | Global RFC EC025, p. 19 |
| a. RF | YES | |
| b. EO | NO | |
| c. IR | NO | |
| d. MMW | YES | |
| e. UV | YES | |
| f. Laser? | YES | |
| 2.4.2 Does the facility have closed-loop threat simulators? (3.3.A.4) | YES | p. 138(139) |
| 2.4.3 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | YES | p. 34(35) |
| 2.4.4 Is the facility equipped to support TOP SECRET or Special Access Required work? (3.1.E.3) | YES | Global RFC EC025 |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Technical Value - Hardware-In-The-Loop (HITL)** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.4.5 Are specialized facilities available to support EC test operations? (3.1.D.1) | NO | p. 69(70) |
| **Remarks** | | |

**Technical Value - Installed Systems Test Facilities (ISTF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.5.1 Which of the following spectra are available to test against (3.3.A.2, 3.3.B.4): a. RF | NO | |
| b. EO | NO | |
| c. IR | NO | |
| d. MMW | NO | |
| e. UV | NO | |
| f. Laser? | NO | |
| 2.5.2 Are radio frequency threat signals: (3.3.A.2) a. radiated? | NO | |
| b. injected? | NO | |
| 2.5.3 Can the facility support fighter/helicopter-sized aircraft testing? (3.3.B.1) | NO | |
| 2.5.4 Can the facility support B-1 bomber/cargo-sized aircraft testing? (3.3.B.1) | NO | |
| 2.5.5 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Technical Value - Installed Systems Test Facilities (ISTF)** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.5.6 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.5.7 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** No facility scored | | |

**Technical Value - Open Air Ranges (OAR)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.6.1 How many of the following spectra are available to test against (3.3.A.2, 3.3.B.4): a. RF | NO | |
| b. EO | NO | |
| c. IR | NO | |
| d. MMW | NO | |
| e. UV | NO | |
| f. Laser? | NO | |
| 2.6.2 How many simultaneous threats can be simulated? (3.3.A.2) | 0 | |
| 2.6.3 How many surface-to-air missile threats can be simulated simultaneously? (3.3.A.2) | 0 | |
| 2.6.4 How many airborne interceptor threats can be simulated simultaneously? (3.3.A.2) | 0 | |
| 2.6.5 How many anti-aircraft artillery threats can be simulated simultaneously? (3.3.A.2) | 0 | |

## SCORING FORM FOR ELECTRONIC COMBAT
(Continued)

**Technical Value - Open Air Ranges (OAR)** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.6.6 Other than in questions 2.6.3, 2.6.4 and 2.6.5 above, how many other threats can be simulated simultaneously? (3.3.A.2) | 0 | |
| 2.6.7 What is the geographic dispersion (width x depth, in NM) of available threat simulators? (3.3.A.7) | NO | |
| 2.6.8 Is the facility equipped to support TOP SECRET or Special Access Required work? (3.1.E.3) | NO | |
| 2.6.9 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 6.10 Are specialized facilities available to upport EC test operations? (3.1.D.1) | NO | |
| **Remarks** No facility scored | | |

## SCORING FORM FOR ARMAMENT/WEAPONS

ACTIVITY: WHITE SANDS MISSILE RANGE BOOK: 102

**Physical Value - Critical Air/Land/Sea Space** SCORE

| Question | [redacted] | Reference Source/Remarks |
|---|---|---|
| 1.1.1 How many square miles of restricted air space (including warning areas) are available to support test operations? (3.1.G.3, 3.1.G.4, Data Forms) | 16,306 | pg. 45 & 46 Answered in question 3.1.G.5 |
| 1.1.2 How many square miles of DoD land space are available to support test operations? (3.1.G.1, 3.1.G.2, 3.4.B.1.A, Data Forms) | 3,381 | pg. 45 Answer in question 3.1.G.1. 2,164,244 acres times 0.001562 = 3380.55 sq. mi. |
| 1.1.3 How many square miles of sea warning area space are available to support test operations? (3.1.G.1, 3.1.G.4, 3.4.B.1.A, Data Forms) | ϕ | pg. 45 Answer in question 3.1.G.5. Airspace is over land. |
| 1.1.4 What is the maximum straight line range (in nautical miles) that the site can use to test the following? (3.1.G.7, 3.4.B.1.C, Data Forms) | | |
| a. Air-to-air missiles | 90 | pg. 63 |
| b. Air-to-surface weapons | 90 | ↓ |
| c. Surface-to-air missiles | 90 | ↓ |
| 1.1.5 What altitude limits are associated with restricted airspace (including warning areas)? [Upper Limit - Lower Limit] Upper limit is capped at 100k feet. (3.1.G.3, 3.1.G.4, Data Forms) | 100K-ϕ | Surface = ϕ Unlimited = 100K |
| a. Over land | 100K | pg. 45 |
| b. Over sea | ϕ | pg. 45 Answer in question 3.1.G.5 Airspace is over land |
| 1.1.6 What is the largest supersonic area? [length X width in nautical miles] (3.2.A.4, Data Forms) | 85 x 40 = 3,400 | pg. 55 |



SLB

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Physical Value - Critical Air/Land/Sea Space** (Continued)

| Question | SCORE | Reference Source/Remarks |
|---|---|---|
| 1.1.7 What is the minimum to maximum altitude within the supersonic corridor or area which is used to conduct testing? [Upper Limit - Lower Limit] Upper limit is capped at 100k feet. (3.2.A.3 Data Forms) | 50,000 - 300 = 49,700 | pg. 55 |
| **Remarks** | | |

**Physical Value - Topographical**

| Question | Response | Reference Source/Remarks |
|---|---|---|
| 1.2.1 Which of the following types of topography and ground cover/vegetation exist within your test airspace? (3.1.H.1) | | |
| a. Mountainous | YES | pg. 47 |
| b. Forested or jungle | YES | pg 48 |
| c. Cultivated lowland (farmland) | NO | pg. 47 – 51 |
| d. Swamp or riverine | NO | pg. 47 – 51 |
| e. Desert | YES | pg. 47 |
| f. Sea | NO | pg. 47 – 51 |
| **Remarks** | | |

**Physical Value - Climatic**

| Question | Response | Reference Source/Remarks |
|---|---|---|
| 1.3.1 What is the average number of days per year (1985-1993) the visibility is greater than 3 miles? (3.1.H.8 Data Forms) | 363 | pg. 54 |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Physical Value - Climatic** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.2 What is the average percentage of test missions per year not canceled due to weather? (3.1.H.6, Data Forms) [100% minus (% derived from # of test missions canceled in FY86-93 divided by # of test missions FY86-93)] | 98.7% | Pg 53<br>FY86-93 missions canceled = 468<br>RFC A/W 049<br>Missions = 35,986<br>$1 - \frac{468}{35986+468}$<br>= 98.7% |
| **Remarks** | | |

**Physical Value - Encroachment**

| Question | Response | Reference Source/Remarks |
|---|---|---|
| 1.4.1 What is the average percentage of test missions per year not canceled due to commercial or public use ? [100% minus (% derived from # of test missions canceled divided by the # of test missions over period reported)] (3.1.C.5.A) Data Forms) | NONE<br>100% − Ø =<br>100% | Pg. 41 |
| 1.4.2 What percent of test missions were not canceled due to encroachment in the past two years [100% minus (% derived from sum of 92 and 93 canceled missions divided by the sum of 92 and 93 test missions)] (3.1.C.6) Data Forms) | NONE<br>100% − Ø =<br>100% | Pg. 41 |
| 1.4.3 What is the total population inside the following radii of the facility? (3.1.C.4) | | |
| a. 50 miles | 1,311,021 | Pg 40 |
| b. 100 miles | 1,406,033 | ↓ |
| c. 150 miles | 1,559,787 | ↓ |
| d. 200 miles | 2,341,604 | ↓ |
| **Remarks** | | |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Physical Value - Environment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.5.1 Does the facility have limiting environmental characteristics? (3.1.C.1) | NO | pg. 36 & 37 Answer does not limit T&E capability. |
| **Remarks** | | |

**Technical Value - Digital Models and Simulations (DM&S)**

| Question | Response | Reference Source/Remarks |
|---|---|---|
| 2.1.1 Do you have a DM&S facility that supports test operations? (General Information Form) | NO | Activity did not report any DM&S facility. |
| 2.1.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.1.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.1.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** | | |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Measurement Facilities (MF)** SCORE

| Question | ~~Response~~ | Reference Source/Remarks |
|---|---|---|
| 2.2.1 Site's armament/weapons T&E measurement facilities conduct which of the following? (3.1.D.1, Data Forms) | | |
| a. Environmental T&E | YES | RFC A/W 074 |
| b. Safety T&E | YES | |
| c. Warhead performance T&E | NO | |
| d. Fuze T&E | YES | |
| e. Seeker, sensor and guidance/control performance and target/background signature characterization | YES | & ISSUE 26 |
| f. Propulsion performance T&E | YES | |
| g. Airframe/aerodynamic/aerothermal performance T&E across subsonic, transonic, and hypersonic regimes | NO | |
| h. Gun performance T&E | YES | |
| i. Electromagnetic Environmental Effects | YES | |
| j. Directed energy | YES | |
| 2.2.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | YES | pg. 322 |
| 2.2.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | YES | RFC A/W 074 |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Measurement Facilities (MF)** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | YES | Pg. 327 |
| **Remarks** | | |

**Technical Value - Integration Labs (IL)**

| Question | Response | Reference Source/Remarks |
|---|---|---|
| 2.3.1 Do you have an IL facility that supports test operations? (General Information Form) | NO | Activity did not report any IL facility. |
| 2.3.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.3.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.3.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** | | |

**SCORING FORM FOR ARMAMENT/WEAPONS**
(Continued)

**Technical Value - Hardware-In-The-Loop (HITL)** SCORE

| Question | ~~Response~~ | Reference Source/Remarks |
|---|---|---|
| 2.4.1 Does the facility provide armament/weapons HITL T&E capabilities in the following areas? (3.3.B.4, Data Forms): | | Activity did not report any HITL facility. |
| a. RF | NO | |
| b. IR | NO | |
| c. Laser | NO | |
| d. MMW | NO | |
| e. EO/visible | NO | |
| f. Midcourse Inertial/GPS | NO | |
| 2.4.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.4.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.4.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** | | |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Installed Systems Test Facilities (ISTF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.5.1 Which of the following spectra are available to test against? (3.3.A.2, 3.3.B.4): | | Activity did not report any ISTF facility. |
| a. RF | NO | |
| b. EO | NO | |
| c. IR | NO | |
| d. MMW | NO | |
| e. UV | NO | |
| f. Laser? | NO | |
| 2.5.2 Are radio frequency threat signals: (3.3.A.2) | | |
| a. radiated? | NO | |
| b. injected? | NO | |
| 2.5.3 Can the facility support fighter/helicopter-sized aircraft testing? (3.3.B.1) | NO | |
| 2.5.4 Can the facility support B-1 bomber/cargo-sized aircraft testing? (3.3.B.1) | NO | |
| 2.5.5 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.5.6 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.5.7 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** | | |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Open Air Ranges (OAR)**

| Question | ~~Response~~ Score | Reference Source/Remarks |
|---|---|---|
| 2.6.1 Which of the following types of tests can the site schedule? (3.4.B.2.A) | | |
| a. Unguided 2000-lb class ballistic weapons | YES | RFC A/W-065 |
| b. Guided weapons | YES | ↓ |
| c. Stand-off weapons | YES | ↓ |
| d. Short-range missiles | YES | ↓ |
| e. Long-range missiles | YES | ↓ |
| 2.6.2 Does the facility provide the following validated targets? (3.1.D.2, 3.1.D.2.A) | | |
| a. Specialized land targets | YES | pg. 41 & 42 |
| b. Specialized airborne targets | YES | ↓ |
| 2.6.3 What is the maximum number of simultaneous missions the facility can support that require telemetry? (3.2.C.6) | 8 | RFC A/W-064 |
| 2.6.4 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | YES | pg. 34 |
| 2.6.5 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | YES | pg. 43 |
| 2.6.6 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | YES | pg. 41 |
| **Remarks** | | |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Physical Value - Environment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.5.1 Does the facility have limiting environmental characteristics? (3.1.C.1.) | No | pgs. 3 and 53 |
| **Remarks** | | |

**Technical Value - Digital Models and Simulations (DM&S)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.1.1 Do you have a DM&S facility that supports test operations? (General Information Form) | No | Activity did not report any DM+S Facilities. |
| 2.1.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | No | |
| 2.1.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | No | |
| 2.1.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | No | |
| **Remarks** | | |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Measurement Facilities (MF)**

| Question | Score | Reference Source/Remarks | |
|---|---|---|---|
| 2.2.1 Site's armament/weapons T&E measurement facilities conduct which of the following? (3.1.D.1, Data Forms)<br>a. Environmental T&E | Yes | RFC A/W 070 | |
| b. Safety T&E | Yes | | |
| c. Warhead performance T&E | Yes | | |
| d. Fuze T&E | Yes | | |
| e. Seeker, sensor and guidance/control performance and target/background signature characterization | Yes | | |
| f. Propulsion performance T&E | Yes | | |
| g. Airframe/aerodynamic/aerothermal performance T&E across subsonic, transonic, and hypersonic regimes | Yes | | |
| h. Gun performance T&E | Yes | | |
| i. Electromagnetic Environmental Effects | Yes | | |
| j. Directed energy | No | | |
| 2.2.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | Yes | pgs. 3 and 53 | |
| 2.2.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | Yes | RFC A/W 070 | |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Measurement Facilities (MF)** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | Yes | pgs. 5 and 55 |
| **Remarks** | | |

**Technical Value - Integration Labs (IL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.3.1 Do you have an IL facility that supports test operations? (General Information Form) | No | Activity did not report any IL Facilities. |
| 2.3.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | No | |
| 2.3.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | No | |
| 2.3.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | No | |
| **Remarks** | | |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Hardware-In-The-Loop (HITL)**

| Question | Score | Reference Source/Remarks | |
|---|---|---|---|
| 2.4.1 Does the facility provide armament/weapons HITL T&E capabilities in the following areas? (3.3.B.4, Data Forms):<br>a. RF | No | Activity did not report any HITL facilities. | |
| b. IR | No | | |
| c. Laser | No | | |
| d. MMW | No | | |
| e. EO/visible | No | | |
| f. Midcourse Inertial/GPS | No | | |
| 2.4.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | No | | |
| 2.4.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | No | | |
| 2.4.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | No | | |
| **Remarks** | | | |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Installed Systems Test Facilities (ISTF)**

| Question | Score | Reference Source/Remarks | |
|---|---|---|---|
| 2.5.1 Which of the following spectra are available to test against? (3.3.A.2, 3.3.B.4):<br>a. RF | No | Activity did not report any ISTF Facilities. | |
| b. EO | No | | |
| c. IR | No | | |
| d. MMW | No | | |
| e. UV | No | | |
| f. Laser? | No | | |
| 2.5.2 Are radio frequency threat signals: (3.3.A.2)<br>a. radiated? | No | | |
| b. injected? | No | | |
| 2.5.3 Can the facility support fighter/helicopter-sized aircraft testing? (3.3.B.1) | No | | |
| 2.5.4 Can the facility support B-1 bomber/cargo-sized aircraft testing? (3.3.B.1) | No | | |
| 2.5.5 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | No | | |
| 2.5.6 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | No | | |
| 2.5.7 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | No | | |

**Remarks**

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Open Air Ranges (OAR)**

| Question | Score | Reference Source/Remarks | |
|---|---|---|---|
| 2.6.1 Which of the following types of tests can the site schedule? (3.4.B.2.A)<br>a. Unguided 2000-lb class ballistic weapons | No | Activity did not report any OAR facilities. | |
| b. Guided weapons | No | | |
| c. Stand-off weapons | No | | |
| d. Short-range missiles | No | | |
| e. Long-range missiles | No | | |
| 2.6.2 Does the facility provide the following validated targets? (3.1.D.2, 3.1.D.2.A)<br>a. Specialized land targets | No | | |
| b. Specialized airborne targets | No | | |
| 2.6.3 What is the maximum number of simultaneous missions the facility can support that require telemetry? (3.2.C.6) | No | | |
| 2.6.4 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | No | | |
| 2.6.5 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | No | | |
| 2.6.6 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | No | | |
| **Remarks** | | | |

## SCORING FORM FOR ARMAMENT/WEAPONS

ACTIVITY: Yuma Proving Ground BOOK: 104

**Physical Value - Critical Air/Land/Sea Space**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.1 How many square miles of restricted air space (including warning areas) are available to support test operations? (3.1.G.3, 3.1.G.4, Data Forms) | 1,903 | p. 36 Answered as 3.1.G |
| 1.1.2 How many square miles of DoD land space are available to support test operations? (3.1.G.1, 3.1.G.2, 3.4.B.1.A, Data Forms) | 1,310 | p 36 " " " |
| 1.1.3 How many square miles of sea warning area space are available to support test operations? (3.1.G.1, 3.1.G.4, 3.4.B.1.A, Data Forms) | ϕ | p 36 " " " |
| 1.1.4 What is the maximum straight line range (in nautical miles) that the site ~~can~~ use to test the following? (3.1.G.7, 3.4.B.1.C, Data Forms) | | |
| a. Air-to-air missiles | 42 | p 48 |
| b. Air-to-surface weapons | 42 | \| |
| c. Surface-to-air missiles | 42 | \| |
| 1.1.5 What altitude limits are associated with restricted airspace (including warning areas)? [Upper Limit - Lower Limit] Upper limit is capped at 100k feet. (3.1.G.3, 3.1.G.4, Data Forms) | 100K - ϕ | unlimited = 100K<br>100K - ϕ = 100K |
| a. Over land | | p 37 |
| b. Over sea | ϕ | p 36 no sea available |
| 1.1.6 What is the largest supersonic area? [length X width in nautical miles] (3.2.A.4, Data Forms) | ϕ | p 41 3.2.A(1) |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Physical Value - Critical Air/Land/Sea Space** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.7 What is the minimum to maximum altitude within the supersonic corridor or area which is used to conduct testing? [Upper Limit - Lower Limit] Upper limit is capped at 100k feet. (3.2.A.3, Data Forms) | ϕ | p. 41 no supersonic reported |
| **Remarks** | | |

**Physical Value - Topographical**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.2.1 Which of the following types of topography and ground cover/vegetation exist within your test airspace? (3.1.H.1) | | |
| a. Mountainous | YES | p. 38 |
| b. Forested or jungle | No | |
| c. Cultivated lowland (farmland) | No | |
| d. Swamp or riverine | No | |
| e. Desert | YES | p. 38 |
| f. Sea | No | |
| **Remarks** | | |

**Physical Value - Climatic**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.1 What is the average number of days per year (1985-1993) the visibility is greater than 3 miles? (3.1.H.8, Data Forms) | 360 | p. 39 |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Physical Value - Climatic** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.2 What is the average percentage of test missions per year not canceled due to weather? (3.1.H.6, Data Forms) [100% minus (% derived from # of test missions canceled in FY86-93 divided by # of test missions FY86-93)] | 99.8 | RFC A/WØØ2 Air Armament cancelled = 6 missions<br>Pgs 54, 60, and 66<br>1973 + 384 + 652 (all missions)<br>$100 - \left(\frac{6}{1973+384+652+6}\right) = 99.8$ |
| **Remarks** | | |

**Physical Value - Encroachment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.4.1 What is the average percentage of test missions per year not canceled due to commercial or public use ? [100% minus (% derived from # of test missions canceled divided by the # of test missions over period reported)] (3.1.C.5.A, Data Forms) | 100 | 100 – none reported = 100%<br>p. 32 |
| 1.4.2 What percent of test missions were not canceled due to encroachment in the past two years [100% minus (% derived from sum of 92 and 93 canceled missions divided by the sum of 92 and 93 test missions)] (3.1.C.6, Data Forms) | 100 | same ..<br>p. 32 |
| 1.4.3 What is the total population inside the following radii of the facility? (3.1.C.4)<br>a. 50 miles | 200,000 | p 31 |
| b. 100 miles | 350,000 | |
| c. 150 miles | 500,000 | |
| d. 200 miles | 4,500,000 | |
| **Remarks** | | |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Physical Value - Environment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.5.1 Does the facility have limiting environmental characteristics? (3.1.C.1.) | NO | p.31 |
| **Remarks** | | |

**Technical Value - Digital Models and Simulations (DM&S)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.1.1 Do you have a DM&S facility that supports test operations? (General Information Form) | NO | NO DM+S Reported |
| 2.1.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | " |
| 2.1.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | " |
| 2.1.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | " |
| **Remarks** | | |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Measurement Facilities (MF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.1 Site's armament/weapons T&E measurement facilities conduct which of the following? (3.1.D.1, Data Forms) a. Environmental T&E | Yes | RFC AW 076 |
| b. Safety T&E | Yes | |
| c. Warhead performance T&E | No | |
| d. Fuze T&E | Yes | |
| e. Seeker, sensor and guidance/control performance and target/background signature characterization | No | |
| f. Propulsion performance T&E | No | |
| g. Airframe/aerodynamic/aerothermal performance T&E across subsonic, transonic, and hypersonic regimes | No | |
| h. Gun performance T&E | Yes | |
| i. Electromagnetic Environmental Effects | No | |
| j. Directed energy | No | |
| 2.2.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | Yes | p. 9 |
| 2.2.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | Yes | RFC AW 076 |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Measurement Facilities (MF)** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | Yes | p. 32 |
| **Remarks** | | |

**Technical Value - Integration Labs (IL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.3.1 Do you have an IL facility that supports test operations? (General Information Form) | No | No integration labs reported. |
| 2.3.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | No | |
| 2.3.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | No | |
| 2.3.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | No | |
| **Remarks** | | |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Hardware-In-The-Loop (HITL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.4.1 Does the facility provide armament/weapons HITL T&E capabilities in the following areas? (3.3.B.4, Data Forms): | | No HITL reported |
| a. RF | No | |
| b. IR | No | |
| c. Laser | No | |
| d. MMW | No | |
| e. EO/visible | No | |
| f. Midcourse Inertial/GPS | No | |
| 2.4.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | No | |
| 2.4.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | No | |
| 2.4.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | No | |
| **Remarks** | | |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Installed Systems Test Facilities (ISTF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.5.1 Which of the following spectra are available to test against? (3.3.A.2, 3.3.B.4): a. RF | No | No ISTF reported |
| b. EO | No | |
| c. IR | No | |
| d. MMW | No | |
| e. UV | No | |
| f. Laser? | No | |
| 2.5.2 Are radio frequency threat signals: (3.3.A.2) a. radiated? | No | |
| b. injected? | No | |
| 2.5.3 Can the facility support fighter/helicopter-sized aircraft testing? (3.3.B.1) | No | |
| 2.5.4 Can the facility support B-1 bomber/cargo-sized aircraft testing? (3.3.B.1) | No | |
| 2.5.5 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | No | |
| 2.5.6 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | No | |
| 2.5.7 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | No | |

**Remarks**

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Open Air Ranges (OAR)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.6.1 Which of the following types of tests can the site schedule? (3.4.B.2.A)<br>a. Unguided 2000-lb class ballistic weapons | No | p 48 |
| b. Guided weapons | No | |
| c. Stand-off weapons | No | |
| d. Short-range missiles | Yes | |
| e. Long-range missiles | No | |
| 2.6.2 Does the facility provide the following validated targets? (3.1.D.2, 3.1.D.2.A)<br>a. Specialized land targets | Yes | p. 33 |
| b. Specialized airborne targets | No | RFC AW 003 |
| 2.6.3 What is the maximum number of simultaneous missions the facility can support that require telemetry? (3.2.C.6) | 3 | p. 45 |
| 2.6.4 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | Yes | p. 9 |
| 2.6.5 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | Yes | RFC AW 007 |
| 2.6.6 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | Yes | p. 32 |
| **Remarks** | | |

## SCORING FORM FOR ARMAMENT/WEAPONS

ACTIVITY: REDSTONE TECHNICAL TEST CTR BOOK: 101

**Physical Value - Critical Air/Land/Sea Space**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.1 How many square miles of restricted air space (including warning areas) are available to support test operations? (3.1.G.3, 3.1.G.4, Data Forms) | 13 | p. 76 |
| 1.1.2 How many square miles of DoD land space are available to support test operations? (3.1.G.1, 3.1.G.2, 3.4.B.1.A, Data Forms) | 13 | p. 76 |
| 1.1.3 How many square miles of sea warning area space are available to support test operations? (3.1.G.1, 3.1.G.4, 3.4.B.1.A, Data Forms) | ϕ | p 76 NO SEA REPORTED 3.1.G.5 |
| 1.1.4 What is the maximum straight line range (in nautical miles) that the site can use to test the following? (3.1.G.7, 3.4.B.1.C, Data Forms) a. Air-to-air missiles | 3 | p 84 |
| b. Air-to-surface weapons | 3 | p 84 |
| c. Surface-to-air missiles | 3 | p 84 |
| 1.1.5 What altitude limits are associated with restricted airspace (including warning areas)? [Upper Limit - Lower Limit] Upper limit is capped at 100k feet. (3.1.G.3, 3.1.G.4, Data Forms) a. Over land | 30K - ϕ | p. 76 Surface = ϕ |
| b. Over sea | ϕ | no sea reported |
| 1.1.6 What is the largest supersonic area? [length X width in nautical miles] (3.2.A.4, Data Forms) | ϕ | p 78 no supersonic reported |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Physical Value - Critical Air/Land/Sea Space** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.7 What is the minimum to maximum altitude within the supersonic corridor or area which is used to conduct testing? [Upper Limit - Lower Limit] Upper limit is capped at 100k feet. (3.2.A.3, Data Forms) | Ø | p. 78 no supersonic reported |
| **Remarks** | | |

**Physical Value - Topographical**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.2.1 Which of the following types of topography and ground cover/vegetation exist within your test airspace? (3.1.H.1) | | |
| a. Mountainous | Yes | p 78 |
| b. Forested or jungle | Yes | |
| c. Cultivated lowland (farmland) | Yes | |
| d. Swamp or riverine | No | |
| e. Desert | No | |
| f. Sea | No | |
| **Remarks** | | |

**Physical Value - Climatic**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.1 What is the average number of days per year (1985-1993) the visibility is greater than 3 miles? (3.1.H.8, Data Forms) | 293 | p 78 |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Physical Value - Climatic** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.2 What is the average percentage of test missions per year not canceled due to weather? (3.1.H.6, Data Forms) [100% minus (% derived from # of test missions canceled in FY86-93 divided by # of test missions FY86-93)] | 80 | RFC AN 004<br>@ 3.1.H.6 20% canceled reported<br>100 - 20 = 80 "not canceled" |
| **Remarks** | | |

**Physical Value - Encroachment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.4.1 What is the average percentage of test missions per year not canceled due to commercial or public use ? [100% minus (% derived from # of test missions canceled divided by the # of test missions over period reported)] (3.1.C.5.A, Data Forms) | 100 | p 74 |
| 1.4.2 What percent of test missions were not canceled due to encroachment in the past two years [100% minus (% derived from sum of 92 and 93 canceled missions divided by the sum of 92 and 93 test missions)] (3.1.C.6, Data Forms) | 100 | p. 74 |
| 1.4.3 What is the total population inside the following radii of the facility? (3.1.C.4)<br>a. 50 miles | 850,000 | p 73 |
| b. 100 miles | 4,800,000 | |
| c. 150 miles | 6,500,000 | |
| d. 200 miles | 13,500,000 | |
| **Remarks** | | |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Physical Value - Environment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.5.1 Does the facility have limiting environmental characteristics? (3.1.C.1.) | NO | p 73 |
| **Remarks** | | |

**Technical Value - Digital Models and Simulations (DM&S)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.1.1 Do you have a DM&S facility that supports test operations? (General Information Form) | No | NO DM+S REPORTED |
| 2.1.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.1.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.1.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** | | |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Measurement Facilities (MF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.1 Site's armament/weapons T&E measurement facilities conduct which of the following? (3.1.D.1, Data Forms)<br>a. Environmental T&E | YES | RFC AW 040 |
| b. Safety T&E | YES | |
| c. Warhead performance T&E | YES | |
| d. Fuze T&E | YES | |
| e. Seeker, sensor and guidance/control performance and target/background signature characterization | YES | |
| f. Propulsion performance T&E | YES | |
| g. Airframe/aerodynamic/aerothermal performance T&E across subsonic, transonic, and hypersonic regimes | NO | |
| h. Gun performance T&E | NO | |
| i. Electromagnetic Environmental Effects | YES | |
| j. Directed energy | NO | |
| 2.2.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | YES | p. 27 |
| 2.2.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | YES | RFC AW 040 |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Measurement Facilities (MF)** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | YES | p 30 |
| **Remarks** | | |

**Technical Value - Integration Labs (IL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.3.1 Do you have an IL facility that supports test operations? (General Information Form) | No | No integration labs reported |
| 2.3.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | No | |
| 2.3.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | No | |
| 2.3.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | No | |
| **Remarks** | | |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Hardware-In-The-Loop (HITL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.4.1 Does the facility provide armament/weapons HITL T&E capabilities in the following areas? (3.3.B.4, Data Forms): | | No HITL reported |
| a. RF | NO | |
| b. IR | No | |
| c. Laser | No | |
| d. MMW | No | |
| e. EO/visible | No | |
| f. Midcourse Inertial/GPS | No | |
| 2.4.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | No | |
| 2.4.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | No | |
| 2.4.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | No | |
| **Remarks** | | |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Installed Systems Test Facilities (ISTF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.5.1 Which of the following spectra are available to test against? (3.3.A.2, 3.3.B.4): a. RF | No | No ISTF reported |
| b. EO | No | |
| c. IR | No | |
| d. MMW | No | |
| e. UV | No | |
| f. Laser? | No | |
| 2.5.2 Are radio frequency threat signals: (3.3.A.2) a. radiated? | No | |
| b. injected? | No | |
| 2.5.3 Can the facility support fighter/helicopter-sized aircraft testing? (3.3.B.1) | No | |
| 2.5.4 Can the facility support B-1 bomber/cargo-sized aircraft testing? (3.3.B.1) | No | |
| 2.5.5 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | No | |
| 2.5.6 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | No | |
| 2.5.7 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | No | |
| **Remarks** | | |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Open Air Ranges (OAR)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.6.1 Which of the following types of tests can the site schedule? (3.4.B.2.A)<br>a. Unguided 2000-lb class ballistic weapons | No | p 85 |
| b. Guided weapons | No | |
| c. Stand-off weapons | No | |
| d. Short-range missiles | No | |
| e. Long-range missiles | No | |
| 2.6.2 Does the facility provide the following validated targets? (3.1.D.2, 3.1.D.2.A)<br>a. Specialized land targets | YES | Answer was "No, as they are tactical." "Tactical" means they are using the actual target, not a simulated one. Therefore it does not need to be validated<br>p.74 |
| b. Specialized airborne targets | No | p.74 |
| 2.6.3 What is the maximum number of simultaneous missions the facility can support that require telemetry? (3.2.C.6) | 0<br>[redacted] | p 80 |
| 2.6.4 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | YES | p.71 |
| 2.6.5 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | YES | p.75 |
| 2.6.6 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | YES | p.74 |
| **Remarks** | | |

## SCORING FORM FOR ARMAMENT/WEAPONS

ACTIVITY: NSWC CRANE BOOK: 206

**Physical Value - Critical Air/Land/Sea Space**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.1 How many square miles of restricted air space (including warning areas) are available to support test operations? (3.1.G.3, 3.1.G.4, Data Forms) | ϕ | p. 19A |
| 1.1.2 How many square miles of DoD land space are available to support test operations? (3.1.G.1, 3.1.G.2, 3.4.B.1.A, Data Forms) | 100 | p 19A Scored all available land space, Not just test area. Consistent with other scoring. |
| 1.1.3 How many square miles of sea warning area space are available to support test operations? (3.1.G.1, 3.1.G.4, 3.4.B.1.A, Data Forms) | ϕ | p 19A Did not report any sea area. |
| 1.1.4 What is the maximum straight line range (in nautical miles) that the site can use to test the following? (3.1.G.7, 3.4.B.1.C, Data Forms) | | |
| a. Air-to-air missiles | ϕ | p 19 |
| b. Air-to-surface weapons | ϕ | p19 |
| c. Surface-to-air missiles | ϕ | p19 |
| 1.1.5 What altitude limits are associated with restricted airspace (including warning areas)? [Upper Limit - Lower Limit] Upper limit is capped at 100k feet. (3.1.G.3, 3.1.G.4, Data Forms) | | |
| a. Over land | ϕ | p 19 |
| b. Over sea | ϕ | p19 |
| 1.1.6 What is the largest supersonic area? [length X width in nautical miles] (3.2.A.4, Data Forms) | ϕ | p23, |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Physical Value - Critical Air/Land/Sea Space** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.7 What is the minimum to maximum altitude within the supersonic corridor or area which is used to conduct testing? [Upper Limit - Lower Limit] Upper limit is capped at 100k feet. (3.2.A.3, Data Forms) | ϕ | p19A No airspace reported. |
| **Remarks** | | |

**Physical Value - Topographical**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.2.1 Which of the following types of topography and ground cover/vegetation exist within your test airspace? (3.1.H.1) | | |
| a. Mountainous | No | p21 |
| b. Forested or jungle | Yes | p16 |
| c. Cultivated lowland (farmland) | No | p21 |
| d. Swamp or riverine | No | \| |
| e. Desert | No | \| |
| f. Sea | No | \| |
| **Remarks** | | |

**Physical Value - Climatic**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.1 What is the average number of days per year (1985-1993) the visibility is greater than 3 miles? (3.1.H.8, Data Forms) | ϕ | Not applicable per report. |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Physical Value - Climatic** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.2 What is the average percentage of test missions per year not canceled due to weather? (3.1.H.6, Data Forms) [100% minus (% derived from # of test missions canceled in FY86-93 divided by # of test missions FY86-93)] | 100 | p22 |
| **Remarks** | | |

**Physical Value - Encroachment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.4.1 What is the average percentage of test missions per year not canceled due to commercial or public use ? [100% minus (% derived from # of test missions canceled divided by the # of test missions over period reported)] (3.1.C.5.A, Data Forms) | 100 | p13 |
| 1.4.2 What percent of test missions were not canceled due to encroachment in the past two years [100% minus (% derived from sum of 92 and 93 canceled missions divided by the sum of 92 and 93 test missions)] (3.1.C.6, Data Forms) | 100 | p13 |
| 1.4.3 What is the total population inside the following radii of the facility? (3.1.C.4)<br>a. 50 miles | 546,700 | p13 |
| b. 100 miles | 4,098,700 | \| |
| c. 150 miles | 9,388,400 | \| |
| d. 200 miles | 15,118,700 | \| |
| **Remarks** | | |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Physical Value - Environment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.5.1 Does the facility have limiting environmental characteristics? (3.1.C.1.) | No | p12 |
| **Remarks** | | |

**Technical Value - Digital Models and Simulations (DM&S)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.1.1 Do you have a DM&S facility that supports test operations? (General Information Form) | No | No DM+S reported |
| 2.1.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | No | |
| 2.1.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | No | |
| 2.1.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | No | |
| **Remarks** | | |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Measurement Facilities (MF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.1 Site's armament/weapons T&E measurement facilities conduct which of the following? (3.1.D.1, Data Forms)<br>a. Environmental T&E | YES | pg G3 Facility Title: Pyrotechnics<br>pg 47-83, Pyrotechnics = Attachment C = scored facilities |
| b. Safety T&E | YES | |
| c. Warhead performance T&E | YES | |
| d. Fuze T&E | YES | |
| e. Seeker, sensor and guidance/control performance and target/background signature characterization | NO | |
| f. Propulsion performance T&E | NO | |
| g. Airframe/aerodynamic/aerothermal performance T&E across subsonic, transonic, and hypersonic regimes | NO | |
| h. Gun performance T&E | NO | |
| i. Electromagnetic Environmental Effects | NO | |
| j. Directed energy | NO | |
| 2.2.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | p 10A |
| 2.2.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | YES<br>~~No~~ | pg G3<br>~~p 17A~~ |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Measurement Facilities (MF)** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | Yes | p 14B RFC AW 031 |
| **Remarks** | | |

**Technical Value - Integration Labs (IL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.3.1 Do you have an IL facility that supports test operations? (General Information Form) | No | No integration labs reported |
| 2.3.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | No | |
| 2.3.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | No | |
| 2.3.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | No | |
| **Remarks** | | |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Hardware-In-The-Loop (HITL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.4.1 Does the facility provide armament/weapons HITL T&E capabilities in the following areas? (3.3.B.4, Data Forms): a. RF | No | No HITL scored in armament/weapons. |
| b. IR | No | |
| c. Laser | No | |
| d. MMW | No | |
| e. EO/visible | No | |
| f. Midcourse Inertial/GPS | No | |
| 2.4.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | No | |
| 2.4.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | No | |
| 2.4.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | No | |
| **Remarks** | | |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Installed Systems Test Facilities (ISTF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.5.1 Which of the following spectra are available to test against? (3.3.A.2, 3.3.B.4): a. RF | No | No ISTF's reported |
| b. EO | No | |
| c. IR | No | |
| d. MMW | No | |
| e. UV | No | |
| f. Laser? | No | |
| 2.5.2 Are radio frequency threat signals: (3.3.A.2) a. radiated? | No | |
| b. injected? | No | |
| 2.5.3 Can the facility support fighter/helicopter-sized aircraft testing? (3.3.B.1) | No | |
| 2.5.4 Can the facility support B-1 bomber/cargo-sized aircraft testing? (3.3.B.1) | No | |
| 2.5.5 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | No | |
| 2.5.6 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | No | |
| 2.5.7 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | No | |

**Remarks**

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Open Air Ranges (OAR)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.6.1 Which of the following types of tests can the site schedule? (3.4.B.2.A) | | |
| a. Unguided 2000-lb class ballistic weapons | No | NO OAR's reported |
| b. Guided weapons | No | |
| c. Stand-off weapons | No | |
| d. Short-range missiles | No | |
| e. Long-range missiles | No | |
| 2.6.2 Does the facility provide the following validated targets? (3.1.D.2, 3.1.D.2.A) | | |
| a. Specialized land targets | No | |
| b. Specialized airborne targets | No | |
| 2.6.3 What is the maximum number of simultaneous missions the facility can support that require telemetry? (3.2.C.6) | No | |
| 2.6.4 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | No | |
| 2.6.5 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | No | |
| 2.6.6 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | No | |
| **Remarks** | | |

## SCORING FORM FOR ARMAMENT/WEAPONS

ACTIVITY: CHINA LAKE BOOK: 204 A+B

**Physical Value - Critical Air/Land/Sea Space**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.1 How many square miles of restricted air space (including warning areas) are available to support test operations? (3.1.G.3, 3.1.G.4, Data Forms) 3.1.G.1 | 19,445 | p. 161A RFC AW 010 |
| 1.1.2 How many square miles of DoD land space ~~are~~ available to support test operations? (3.1.G.1, 3.1.G.2, 3.4.B.1.A, Data Forms) | 1693 | p. 163A 145 + 765 + 783 = 1693 |
| 1.1.3 How many square miles of sea warning area ~~space are~~ available to support test operations? (3.1.G.1, 3.1.G.4, 3.4.B.1.A, Data Forms) | ϕ | p161B |
| 1.1.4 What is the maximum straight line range (in nautical miles) that ~~the site can~~ use to test the following? (3.1.G.7, 3.4.B.1.C, Data Forms) a. Air-to-air missiles | 60 | p 202A |
| b. Air-to-surface weapons | 60 | |
| c. Surface-to-air missiles | 60 | |
| 1.1.5 What altitude limits are associated with restricted airspace (including warning areas)? [Upper Limit - ~~Lower Limit~~] Upper limit is capped at 100k feet. (3.1.G.3, 3.1.G.4, Data Forms) a. Over land | 100,000 | 100K = infinity 100K − 0 = 100K 163A |
| b. Over sea | ϕ | p161B 3.1.G.1 no sea space reported |
| 1.1.6 What is the largest supersonic area? [length X width in nautical miles] (3.2.A.4, Data Forms) | 3660 | p 172A |

Bm



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## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Physical Value - Critical Air/Land/Sea Space** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.7 What is the minimum to maximum altitude within the supersonic corridor or area which is used to conduct testing? [Upper Limit - Lower Limit] Upper limit is capped at 100k feet. (3.2.A.3, Data Forms) | 99,500 | 100,000 - 500 = 99,500<br>p 172A |
| **Remarks** | | |

**Physical Value - Topographical**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.2.1 Which of the following types of topography and ground cover/vegetation exist within your test airspace? (3.1.H.1)<br>a. Mountainous | Yes | p 168A |
| b. Forested or jungle | Yes | |
| c. Cultivated lowland (farmland) | No | |
| d. Swamp or riverine | No | |
| e. Desert | Yes | |
| f. Sea | No | |
| **Remarks** | | |

**Physical Value - Climatic**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.1 What is the average number of days per year (1985-1993) the visibility is greater than 3 miles? (3.1.H.8, Data Forms) | 359 | p 169A |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Physical Value - Climatic** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.2 What is the average percentage of test missions per year not canceled due to weather? (3.1.H.6, Data Forms) [100% minus (% derived from # of test missions canceled in FY86-93 divided by # of test missions FY86-93)] | 96.9 | TOTAL CANCELED FY86-93 = 776, p169A<br>" MISSIONS " 24120 p720 + 741A<br>24896<br>$1 - \frac{776}{24896} = 96.9\%$ |
| **Remarks** | | |

**Physical Value - Encroachment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.4.1 What is the average percentage of test missions per year not canceled due to commercial or public use ? [100% minus (% derived from # of test missions canceled divided by the # of test missions over period reported)] (3.1.C.5.A, Data Forms) | 100% [redacted] | NONE = Φ ∴ 100 - 0 = 100<br>p 101A |
| 1.4.2 What percent of test missions were not canceled due to encroachment in the past two years [100% minus (% derived from sum of 92 and 93 canceled missions divided by the sum of 92 and 93 test missions)] (3.1.C.6, Data Forms) | 100% [redacted] | NONE = Φ ∴ 100 - 0 = 100<br>p101A |
| 1.4.3 What is the total population inside the following radii of the facility? (3.1.C.4)<br>a. 50 miles | 77,000 | p101A |
| b. 100 miles | 1,493,000 | |
| c. 150 miles | 18,426,000 | |
| d. 200 miles | 19,423,000 | |
| **Remarks** | | |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Physical Value - Environment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.5.1 Does the facility have limiting environmental characteristics? (3.1.C.1.) | No | p 95A |
| **Remarks** | | |

**Technical Value - Digital Models and Simulations (DM&S)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.1.1 Do you have a DM&S facility that supports test operations? (General Information Form) | Yes | p 209/210 |
| 2.1.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | yes | p 35 |
| 2.1.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | yes | p 127A |
| 2.1.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | yes | p 103A |
| **Remarks** | | |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Measurement Facilities (MF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.1 Site's armament/weapons T&E measurement facilities conduct which of the following? (3.1.D.1, Data Forms) | | |
| a. Environmental T&E | Yes | p 6-03 * |
| b. Safety T&E | Yes | p 6-03 |
| c. Warhead performance T&E | Yes | p 6-04 |
| d. Fuze T&E | Yes | p 6-01 |
| e. Seeker, sensor and guidance/control performance and target/background signature characterization | Yes | p 6-01 |
| f. Propulsion performance T&E | Yes | p 6-01 |
| g. Airframe/aerodynamic/aerothermal performance T&E across subsonic, transonic, and hypersonic regimes | Yes | p 6-01 |
| h. Gun performance T&E | Yes | p 6-04 |
| i. Electromagnetic Environmental Effects | Yes | p 6-03 |
| j. Directed energy | Yes | p 6-03 |
| 2.2.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | Yes | p 36 |
| 2.2.3 Is the facility equipped to support Top Secret or Special Access Required work? (2.1.E.3) | yes | p 6-01 |

Credit in one MF facility is all that is required to score a "yes."

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Measurement Facilities (MF)** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | yes | p 103A |
| **Remarks** | | |

**Technical Value - Integration Labs (IL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.3.1 Do you have an IL facility that supports test operations? (General Information Form) | yes | p 533A |
| 2.3.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | yes | p 42 |
| 2.3.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | yes | p 129A |
| 2.3.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | yes | p 108A |
| **Remarks** | | |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Hardware-In-The-Loop (HITL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.4.1 Does the facility provide armament/weapons HITL T&E capabilities in the following areas? (3.3.B.4, Data Forms): | | |
| a. RF | Yes | p 6-39 |
| b. IR | Yes | p 6-40 |
| c. Laser | No | p 6-39, 40, 41 |
| d. MMW | No | " |
| e. EO/visible | Yes | p 6.40 |
| f. Midcourse Inertial/GPS | Yes | p 6-40 |
| 2.4.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | yes | p 44 |
| 2.4.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | Yes | p 6-40 |
| 2.4.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | Yes | p 110A |
| **Remarks** | | |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Installed Systems Test Facilities (ISTF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.5.1 Which of the following spectra are available to test against? (3.3.A.2, 3.3.B.4): | | NO ISTF reported |
| a. RF | No | |
| b. EO | No | |
| c. IR | No | |
| d. MMW | No | |
| e. UV | No | |
| f. Laser? | No | |
| 2.5.2 Are radio frequency threat signals: (3.3.A.2) | | |
| a. radiated? | No | |
| b. injected? | No | |
| 2.5.3 Can the facility support fighter/helicopter-sized aircraft testing? (3.3.B.1) | No | |
| 2.5.4 Can the facility support B-1 bomber/cargo-sized aircraft testing? (3.3.B.1) | No | |
| 2.5.5 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | No | |
| 2.5.6 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | No | |
| 2.5.7 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | No | |

**Remarks**

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Open Air Ranges (OAR)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.6.1 Which of the following types of tests can the site schedule? (3.4.B.2.A) | | |
| a. Unguided 2000-lb class ballistic weapons | Yes | p 203A |
| b. Guided weapons | Yes | |
| c. Stand-off weapons | Yes | |
| d. Short-range missiles | Yes | |
| e. Long-range missiles | Yes | p 204 A |
| 2.6.2 Does the facility provide the following validated targets? (3.1.D.2, 3.1.D.2.A) | | |
| a. Specialized land targets | Yes | p 110 A |
| b. Specialized airborne targets | Yes | " |
| 2.6.3 What is the maximum number of simultaneous missions the facility can support that require telemetry? (3.2.C.6) | 11 | p 187A |
| | ~~4~~ | RFC AW 011 |
| 2.6.4 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | Yes | p 45 |
| 2.6.5 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | Yes | p 130A |
| 2.6.6 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | Yes | p 110 A |
| **Remarks** | | |

## SCORING FORM FOR ARMAMENT/WEAPONS

ACTIVITY: NAWC-White Sands BOOK: 204.A and 204.B and 102

**Physical Value - Critical Air/Land/Sea Space**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.1 How many square miles of restricted air space (including warning areas) are available to support test operations? (3.1.G.3, 3.1.G.4, Data Forms) | Ø | Blank response; Issue 7.A. |
| 1.1.2 How many square miles of DoD land space are available to support test operations? (3.1.G.1, 3.1.G.2, 3.4.B.1.A, Data Forms) | Ø | Blank response; Issue 7.A. |
| 1.1.3 How many square miles of sea warning area space are available to support test operations? (3.1.G.1, 3.1.G.4, 3.4.B.1.A, Data Forms) | Ø | Blank response; Issue 7.A. |
| 1.1.4 What is the maximum straight line range (in nautical miles) that the site can use to test the following? (3.1.G.7, 3.4.B.1.C, Data Forms) | | pg 202.A of Book 204.B |
| a. Air-to-air missiles | 88 | |
| b. Air-to-surface weapons | 88 | |
| c. Surface-to-air missiles | 88 | |
| 1.1.5 What altitude limits are associated with restricted airspace (including warning areas)? [Upper Limit - Lower Limit] Upper limit is capped at 100k feet. (3.1.G.3, 3.1.G.4, Data Forms) | 100K - Ø | Surface = Ø<br>Unlimited = 100K |
| a. Over land | 100K | pg. 764 of Book 204.A |
| b. Over sea | Ø | Blank response; Issue 7.A |
| 1.1.6 What is the largest supersonic area? [length X width in nautical miles] (3.2.A.4, Data Forms) | Ø | Blank response; Issue 7.A |



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## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Physical Value - Critical Air/Land/Sea Space** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.7 What is the minimum to maximum altitude within the supersonic corridor or area which is used to conduct testing? [Upper Limit - Lower Limit] Upper limit is capped at 100k feet. (3.2.A.3, Data Forms) | Ø | Blank response; Issue 7. A |
| **Remarks** | | |

**Physical Value - Topographical**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.2.1 Which of the following types of topography and ground cover/vegetation exist within your test airspace? (3.1.H.1) | | |
| a. Mountainous | Yes | pg. 766 of Book 204.A |
| b. Forested or jungle | No | Blank response; Issue 7.A |
| c. Cultivated lowland (farmland) | No | ↓ |
| d. Swamp or riverine | No | ↓ |
| e. Desert | Yes | pg. 776 of Book 204.A |
| f. Sea | No | Blank response; Issue 7.A |
| **Remarks** | | |

**Physical Value - Climatic**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.1 What is the average number of days per year (1985-1993) the visibility is greater than 3 miles? (3.1.H.8, Data Forms) | Ø | Blank response; Issue 7.A |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Physical Value - Climatic** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.2 What is the average percentage of test missions per year not canceled due to weather? (3.1.H.6, Data Forms) [100% minus (% derived from # of test missions canceled in FY86-93 divided by # of test missions FY86-93)] | Ø | Blank response; Issue 7.A. |
| **Remarks** | | |

**Physical Value - Encroachment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.4.1 What is the average percentage of test missions per year not canceled due to commercial or public use ? [100% minus (% derived from # of test missions canceled divided by the # of test missions over period reported)] (3.1.C.5.A, Data Forms) | 100% | pg. 101.A of Book 204.B |
| 1.4.2 What percent of test missions were not canceled due to encroachment in the past two years [100% minus (% derived from sum of 92 and 93 canceled missions divided by the sum of 92 and 93 test missions)] (3.1.C.6, Data Forms) | 100% | |
| 1.4.3 What is the total population inside the following radii of the facility? (3.1.C.4) | | Blank response; used WSMR data |
| a. 50 miles | 1,311,021 | pg. 40 of Book 102 |
| b. 100 miles | 1,406,033 | |
| c. 150 miles | 1,559,787 | |
| d. 200 miles | 2,341,604 | |
| **Remarks** | since Ø population is the best answer (max. score) and an arbitrarily large population would affect all activities population scores. | |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Physical Value - Environment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.5.1 Does the facility have limiting environmental characteristics? (3.1.C.1.) | No | pg. 95.A of Book 204.B |
| **Remarks** | | |

**Technical Value - Digital Models and Simulations (DM&S)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.1.1 Do you have a DM&S facility that supports test operations? (General Information Form) | No | Activity did not report any DM+S facility. |
| 2.1.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | No | |
| 2.1.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | No | |
| 2.1.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | No | |
| **Remarks** | | |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Measurement Facilities (MF)**

| Question | Score | Reference Source/Remarks | |
|---|---|---|---|
| 2.2.1 Site's armament/weapons T&E measurement facilities conduct which of the following? (3.1.D.1, Data Forms)<br>a. Environmental T&E | No | Activity did not report any Measurement Facilities. | |
| b. Safety T&E | No | | |
| c. Warhead performance T&E | No | | |
| d. Fuze T&E | No | | |
| e. Seeker, sensor and guidance/control performance and target/background signature characterization | No | | |
| f. Propulsion performance T&E | No | | |
| g. Airframe/aerodynamic/aerothermal performance T&E across subsonic, transonic, and hypersonic regimes | No | | |
| h. Gun performance T&E | No | | |
| i. Electromagnetic Environmental Effects | No | | |
| j. Directed energy | No | | |
| 2.2.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | No | | |
| 2.2.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | No | | |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Measurement Facilities (MF)** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | No | Activity did not report any Measurement Facilities. |
| **Remarks** | | |

**Technical Value - Integration Labs (IL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.3.1 Do you have an IL facility that supports test operations? (General Information Form) | No | Activity did not report any Integration Labs. |
| 2.3.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | No | |
| 2.3.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | No | |
| 2.3.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | No | |
| **Remarks** | | |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Hardware-In-The-Loop (HITL)**

| Question | Score | Reference Source/Remarks | |
|---|---|---|---|
| 2.4.1 Does the facility provide armament/weapons HITL T&E capabilities in the following areas? (3.3.B.4, Data Forms):<br>a. RF | No | Activity did not report any HITL facilities | |
| b. IR | No | | |
| c. Laser | No | | |
| d. MMW | No | | |
| e. EO/visible | No | | |
| f. Midcourse Inertial/GPS | No | | |
| 2.4.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | No | | |
| 2.4.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | No | | |
| 2.4.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | No | | |
| **Remarks** | | | |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Installed Systems Test Facilities (ISTF)**

| Question | Score | Reference Source/Remarks | |
|---|---|---|---|
| 2.5.1 Which of the following spectra are available to test against? (3.3.A.2, 3.3.B.4):<br>a. RF | No | Activity did not report any ISTFs. | |
| b. EO | No | | |
| c. IR | No | | |
| d. MMW | No | | |
| e. UV | No | | |
| f. Laser? | No | | |
| 2.5.2 Are radio frequency threat signals: (3.3.A.2)<br>a. radiated? | No | | |
| b. injected? | No | | |
| 2.5.3 Can the facility support fighter/helicopter-sized aircraft testing? (3.3.B.1) | No | | |
| 2.5.4 Can the facility support B-1 bomber/cargo-sized aircraft testing? (3.3.B.1) | No | | |
| 2.5.5 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | No | | |
| 2.5.6 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | No | | |
| 2.5.7 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | No | | |

**Remarks**

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Open Air Ranges (OAR)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.6.1 Which of the following types of tests can the site schedule? (3.4.B.2.A) | | |
| a. Unguided 2000-lb class ballistic weapons | No | Blank response; Issue 7.A |
| b. Guided weapons | No | ↓ |
| c. Stand-off weapons | Yes | pg. 204.A of Book 204.B |
| d. Short-range missiles | Yes | ↓ |
| e. Long-range missiles | Yes | ↓ |
| 2.6.2 Does the facility provide the following validated targets? (3.1.D.2, 3.1.D.2.A) | | |
| a. Specialized land targets | Yes | pg. 113A of Book 204.B |
| b. Specialized airborne targets | Yes | ↓ |
| 2.6.3 What is the maximum number of simultaneous missions the facility can support that require telemetry? (3.2.C.6) | 1 | pgs. 764-770 of Book 204.A (blank response but narrative indicates capability to do one) |
| 2.6.4 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | No | Blank response; Issue 7.A |
| 2.6.5 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | No | pg. 130.A of Book 204.B |
| 2.6.6 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | Yes | pg. 112.A of Book 204.B |
| **Remarks** | | |

# SCORING FORM FOR ARMAMENT/WEAPONS

ACTIVITY: DAHLGREN BOOK: #207

**Physical Value - Critical Air/Land/Sea Space**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.1 How many square miles of restricted air space (including warning areas) are available to support test operations? (3.1.G.3, 3.1.G.4, Data Forms) | 68 | pg 19, 3.1.G.1<br>3 nm x 16 nm = 48 nm squared<br>nm² to statute miles² ≈ 1.3333<br>48 x 1.3333 ≈ 64 + 4 = 68 |
| 1.1.2 How many square miles of DoD land space are available to support test operations? (3.1.G.1, 3.1.G.2, 3.4.B.1.A, Data Forms) | 4 | pg 19 |
| 1.1.3 How many square miles of sea warning area space are available to support test operations? (3.1.G.1, 3.1.G.4, 3.4.B.1.A, Data Forms) | 64 | pg 19<br>48 x 1.3333 ≈ 64 |
| 1.1.4 What is the maximum straight line range (in nautical miles) that the site can use to test the following? (3.1.G.7, 3.4.B.1.C, Data Forms)<br>a. Air-to-air missiles | Ø | pg. 28<br>Gun testing is surface-to-surface and excluded from |
| b. Air-to-surface weapons | Ø | Armament/Weapons T&E for BRAC 95 |
| c. Surface-to-air missiles | Ø | ↓ |
| 1.1.5 What altitude limits are associated with restricted airspace (including warning areas)? [Upper Limit - Lower Limit] Upper limit is capped at 100k feet. (3.1.G.3, 3.1.G.4, Data Forms)<br>a. Over land | 7,000 | pg. 19<br>R-6612 is to 7,000 |
| b. Over sea | 60,000 | pg. 19<br>R-6611 and R-6613 to 60,000 |
| 1.1.6 What is the largest supersonic area? [length X width in nautical miles] (3.2.A.4, Data Forms) | Ø | pg. 23, Issue 7A |



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## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Physical Value - Critical Air/Land/Sea Space** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.7 What is the minimum to maximum altitude within the supersonic corridor or area which is used to conduct testing? [Upper Limit - Lower Limit] Upper limit is capped at 100k feet. (3.2.A.3, Data Forms) | ϕ | pg 23, Issue 7A |
| **Remarks** | | |

**Physical Value - Topographical**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.2.1 Which of the following types of topography and ground cover/vegetation exist within your test airspace? (3.1.H.1) | | pg 21 |
| a. Mountainous | NO | Over water area is |
| b. Forested or jungle | NO | the Potomac River, |
| c. Cultivated lowland (farmland) | NO | therefore topography |
| d. Swamp or riverine | YES | is riverine. Range |
| e. Desert | NO | does not extend to sea, therefore no |
| f. Sea | NO | credit/score for sea. |
| **Remarks** | | |

**Physical Value - Climatic**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.1 What is the average number of days per year (1985-1993) the visibility is greater than 3 miles? (3.1.H.8, Data Forms) | 196 | pg 22 |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Physical Value - Climatic** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.2 What is the average percentage of test missions per year not canceled due to weather? (3.1.H.6, Data Forms) [100% minus (% derived from # of test missions canceled in FY86-93 divided by # of test missions FY86-93)] | 100 | pg 22 ∅ cancelled<br>100% − ∅ = 100 |
| **Remarks** | | |

**Physical Value - Encroachment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.4.1 What is the average percentage of test missions per year not canceled due to commercial or public use ? [100% minus (% derived from # of test missions canceled divided by the # of test missions over period reported)] (3.1.C.5.A, Data Forms) | 100 | pg 15 ∅ cancelled<br>100% − ∅ = 100 |
| 1.4.2 What percent of test missions were not canceled due to encroachment in the past two years [100% minus (% derived from sum of 92 and 93 canceled missions divided by the sum of 92 and 93 test missions)] (3.1.C.6, Data Forms) | 100 | pg15 ∅ cancelled<br>100% − ∅ = 100 |
| 1.4.3 What is the total population inside the following radii of the facility? (3.1.C.4)<br>a. 50 miles | 3,912,221 | pg. 14A |
| b. 100 miles | 9,027,165 | ↓ |
| c. 150 miles | 10,321,145 | ↓ |
| d. 200 miles | 14,767,442 | ↓ |
| **Remarks** | | |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Physical Value - Environment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.5.1 Does the facility have limiting environmental characteristics? (3.1.C.1.) | NO | p. 13 Answer does not limit T&E capability. |
| **Remarks** | | |

**Technical Value - Digital Models and Simulations (DM&S)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.1.1 Do you have a DM&S facility that supports test operations? (General Information Form) | NO | No DM&S facility reported. |
| 2.1.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.1.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.1.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** | | |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Measurement Facilities (MF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.1 Site's armament/weapons T&E measurement facilities conduct which of the following? (3.1.D.1, Data Forms)<br>a. Environmental T&E | YES | G-1 and G-3 |
| b. Safety T&E | YES | |
| c. Warhead performance T&E | YES | |
| d. Fuze T&E | YES | |
| e. Seeker, sensor and guidance/control performance and target/background signature characterization | NO | |
| f. Propulsion performance T&E | YES | |
| g. Airframe/aerodynamic/aerothermal performance T&E across subsonic, transonic, and hypersonic regimes | NO | |
| h. Gun performance T&E | YES | |
| i. Electromagnetic Environmental Effects | YES | |
| j. Directed energy | NO | |
| 2.2.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | YES | Pg 11 |
| 2.2.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | YES | G-1 and G-3 |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Measurement Facilities (MF)** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | YES | pg 15 |
| **Remarks** | | |

**Technical Value - Integration Labs (IL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.3.1 Do you have an IL facility that supports test operations? (General Information Form) | NO | No IL facilities reported. |
| 2.3.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | No | |
| 2.3.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | No | |
| 2.3.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** | | |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Hardware-In-The-Loop (HITL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.4.1 Does the facility provide armament/weapons HITL T&E capabilities in the following areas? (3.3.B.4, Data Forms): a. RF | NO | NO HITL facility reported. |
| b. IR | NO | |
| c. Laser | NO | |
| d. MMW | NO | |
| e. EO/visible | NO | |
| f. Midcourse Inertial/GPS | NO | |
| 2.4.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.4.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.4.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** | | |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Installed Systems Test Facilities (ISTF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.5.1 Which of the following spectra are available to test against? (3.3.A.2, 3.3.B.4): a. RF | NO | NO ISTF facility reported. |
| b. EO | NO | |
| c. IR | NO | |
| d. MMW | NO | |
| e. UV | NO | |
| f. Laser? | NO | |
| 2.5.2 Are radio frequency threat signals: (3.3.A.2) a. radiated? | NO | |
| b. injected? | NO | |
| 2.5.3 Can the facility support fighter/helicopter-sized aircraft testing? (3.3.B.1) | NO | |
| 2.5.4 Can the facility support B-1 bomber/cargo-sized aircraft testing? (3.3.B.1) | NO | |
| 2.5.5 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.5.6 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.5.7 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |

**Remarks**

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Open Air Ranges (OAR)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.6.1 Which of the following types of tests can the site schedule? (3.4.B.2.A)<br>a. Unguided 2000-lb class ballistic weapons | NO | No OAR facility scored. All OAR facilities excluded for Armament / Weapons T&E |
| b. Guided weapons | NO | |
| c. Stand-off weapons | NO | |
| d. Short-range missiles | NO | |
| e. Long-range missiles | NO | |
| 2.6.2 Does the facility provide the following validated targets? (3.1.D.2, 3.1.D.2.A)<br>a. Specialized land targets | NO | |
| b. Specialized airborne targets | NO | |
| 2.6.3 What is the maximum number of simultaneous missions the facility can support that require telemetry? (3.2.C.6) | NO | |
| 2.6.4 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.6.5 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.6.6 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** | | |

## SCORING FORM FOR ARMAMENT/WEAPONS

ACTIVITY: INDIAN HEAD BOOK: 208

**Physical Value - Critical Air/Land/Sea Space**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.1 How many square miles of restricted air space (including warning areas) are available to support test operations? (3.1.G.3, 3.1.G.4, Data Forms) | ϕ | p. 17 |
| 1.1.2 How many square miles of DoD land space are available to support test operations? (3.1.G.1, 3.1.G.2, 3.4.B.1.A, Data Forms) | ϕ | p. 17 |
| 1.1.3 How many square miles of sea warning area space are available to support test operations? (3.1.G.1, 3.1.G.4, 3.4.B.1.A, Data Forms) | ϕ | p. 17 |
| 1.1.4 What is the maximum straight line range (in nautical miles) that the site can use to test the following? (3.1.G.7, 3.4.B.1.C, Data Forms) | | |
| a. Air-to-air missiles | ϕ | p 25 |
| b. Air-to-surface weapons | ϕ | \| |
| c. Surface-to-air missiles | ϕ | \| |
| 1.1.5 What altitude limits are associated with restricted airspace (including warning areas)? [Upper Limit - Lower Limit] Upper limit is capped at 100k feet. (3.1.G.3, 3.1.G.4, Data Forms) | | |
| a. Over land | ϕ | p. 17 |
| b. Over sea | ϕ | p. 17 |
| 1.1.6 What is the largest supersonic area? [length X width in nautical miles] (3.2.A.4, Data Forms) | ϕ | p. 20 |



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## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Physical Value - Critical Air/Land/Sea Space** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.7 What is the minimum to maximum altitude within the supersonic corridor or area which is used to conduct testing? [Upper Limit - Lower Limit] Upper limit is capped at 100k feet. (3.2.A.3, Data Forms) | Ø | p. 20 no supersonic reported |
| **Remarks** | | |

**Physical Value - Topographical**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.2.1 Which of the following types of topography and ground cover/vegetation exist within your test airspace? (3.1.H.1) | | |
| a. Mountainous | No | p 18 |
| b. Forested or jungle | No | |
| c. Cultivated lowland (farmland) | No | |
| d. Swamp or riverine | No | |
| e. Desert | No | |
| f. Sea | No | |
| **Remarks** | | |

**Physical Value - Climatic**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.1 What is the average number of days per year (1985-1993) the visibility is greater than 3 miles? (3.1.H.8, Data Forms) | 365 | p. 19 |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Physical Value - Climatic** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.2 What is the average percentage of test missions per year not canceled due to weather? (3.1.H.6, Data Forms) [100% minus (% derived from # of test missions canceled in FY86-93 divided by # of test missions FY86-93)] | 100 | p.19 none reported 100 - 0 = 100 % |
| **Remarks** | | |

**Physical Value - Encroachment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.4.1 What is the average percentage of test missions per year not canceled due to commercial or public use ? [100% minus (% derived from # of test missions canceled divided by the # of test missions over period reported)] (3.1.C.5.A, Data Forms) | 100 | p. 15 100 - 0 = 100 % |
| 1.4.2 What percent of test missions were not canceled due to encroachment in the past two years [100% minus (% derived from sum of 92 and 93 canceled missions divided by the sum of 92 and 93 test missions)] (3.1.C.6, Data Forms) | 100 | p.15 " |
| 1.4.3 What is the total population inside the following radii of the facility? (3.1.C.4) | | |
| a. 50 miles | 3,000,000 | p 14 |
| b. 100 miles | 9,000,000 | |
| c. 150 miles | 19,000,000 | |
| d. 200 miles | 31,000,000 | |
| **Remarks** | | |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Physical Value - Environment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.5.1 Does the facility have limiting environmental characteristics? (3.1.C.1.) | No | p 14 |
| **Remarks** | | |

**Technical Value - Digital Models and Simulations (DM&S)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.1.1 Do you have a DM&S facility that supports test operations? (General Information Form) | No | No DM+S reported |
| 2.1.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | No | |
| 2.1.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | No | |
| 2.1.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | No | |
| **Remarks** | | |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Measurement Facilities (MF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.1 Site's armament/weapons T&E measurement facilities conduct which of the following? (3.1.D.1, Data Forms) | | |
| a. Environmental T&E | YES | G-09 |
| b. Safety T&E | No | G-07/09 |
| c. Warhead performance T&E | No | |
| d. Fuze T&E | No | |
| e. Seeker, sensor and guidance/control performance and target/background signature characterization | No | |
| f. Propulsion performance T&E | YES | G-07 |
| g. Airframe/aerodynamic/aerothermal performance T&E across subsonic, transonic, and hypersonic regimes | No | G-07/09 |
| h. Gun performance T&E | No | |
| i. Electromagnetic Environmental Effects | No | |
| j. Directed energy | No | |
| 2.2.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | Yes | p12 |
| 2.2.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | No | G-07/09 |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Measurement Facilities (MF)** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | yes | p.15 |
| **Remarks** | | |

**Technical Value - Integration Labs (IL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.3.1 Do you have an IL facility that supports test operations? (General Information Form) | No | No integration labs reported |
| 2.3.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | No | |
| 2.3.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | No | |
| 2.3.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | No | |
| **Remarks** | | |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Hardware-In-The-Loop (HITL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.4.1 Does the facility provide armament/weapons HITL T&E capabilities in the following areas? (3.3.B.4, Data Forms): a. RF | No | No HITL reported |
| b. IR | No | |
| c. Laser | No | |
| d. MMW | No | |
| e. EO/visible | No | |
| f. Midcourse Inertial/GPS | No | |
| 2.4.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | No | |
| 2.4.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | No | |
| 2.4.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | No | |
| **Remarks** | | |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Installed Systems Test Facilities (ISTF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.5.1 Which of the following spectra are available to test against? (3.3.A.2, 3.3.B.4): a. RF | No | No ISTF reported. |
| b. EO | No | |
| c. IR | No | |
| d. MMW | No | |
| e. UV | No | |
| f. Laser? | No | |
| 2.5.2 Are radio frequency threat signals: (3.3.A.2) a. radiated? | No | |
| b. injected? | No | |
| 2.5.3 Can the facility support fighter/helicopter-sized aircraft testing? (3.3.B.1) | No | |
| 2.5.4 Can the facility support B-1 bomber/cargo-sized aircraft testing? (3.3.B.1) | No | |
| 2.5.5 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | No | |
| 2.5.6 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | No | |
| 2.5.7 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | No | |
| **Remarks** | | |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Open Air Ranges (OAR)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.6.1 Which of the following types of tests can the site schedule? (3.4.B.2.A)<br>a. Unguided 2000-lb class ballistic weapons | No | No OAR reported |
| b. Guided weapons | No | |
| c. Stand-off weapons | No | |
| d. Short-range missiles | No | |
| e. Long-range missiles | No | |
| 2.6.2 Does the facility provide the following validated targets? (3.1.D.2, 3.1.D.2.A)<br>a. Specialized land targets | No | |
| b. Specialized airborne targets | No | |
| 2.6.3 What is the maximum number of simultaneous missions the facility can support that require telemetry? (3.2.C.6) | No | |
| 2.6.4 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | No | |
| 2.6.5 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | No | |
| 2.6.6 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | No | |
| **Remarks** | | |

# SCORING FORM FOR ARMAMENT/WEAPONS

ACTIVITY: PAX RIVER BOOK: 214

**Physical Value - Critical Air/Land/Sea Space**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.1 How many square miles of restricted air space (including warning areas) are available to support test operations? (3.1.G.3, 3.1.G.4, Data Forms) | 69,903 | pg. 90A Answer is in 3.1.G.1. Total (sum) of all areas in table, except 1045 sq. mi. associated with CHESSIE ATCAA = 69902.85 |
| 1.1.2 How many square miles of DoD land space are available to support test operations? (3.1.G.1, 3.1.G.2, 3.4.B.1.A, Data Forms) | 20 | EC - Ø35 |
| 1.1.3 How many square miles of sea warning area space are available to support test operations? (3.1.G.1) 3.1.G.4, 3.4.B.1.A, Data Forms) | 66,548 | pg. 90A Sum of all W-xxx in table which are sea warning areas = 66,547.55 |
| 1.1.4 What is the maximum straight line range (in nautical miles) that the site can use to test the following? (3.1.G.7) 3.4.B.1.C, Data Forms) a. Air-to-air missiles | 250 | pg. 102 and 169 Range reported in 3.4.B.1.C on pg. 169 limited to pg 102 3.1.G.7 max. straight line segment of 25Ø |
| b. Air-to-surface weapons | 250 | ↓ |
| c. Surface-to-air missiles | 250 | ↓ |
| 1.1.5 What altitude limits are associated with restricted airspace (including warning areas)? [Upper Limit - Lower Limit] Upper limit is capped at 100k feet. (3.1.G.3) 3.1.G.4, Data Forms) a. Over land | 85,000 | pg. 92 surface to FL850 = Ø to 85,000 |
| b. Over sea | 100,000 | pg. 120 surface to unlimited = Ø to 100,000 |
| 1.1.6 What is the largest supersonic area? [length X width in nautical miles] (3.2.A.4, Data Forms) | 37,500 | RFC A/W 096 250 x 150 = 37,500 |



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## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Physical Value - Critical Air/Land/Sea Space** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.7 What is the minimum to maximum altitude within the supersonic corridor or area which is used to conduct testing? [Upper Limit - Lower Limit] Upper limit is capped at 100k feet. (3.2.A.3, Data Forms) | 100,000 | Pg 120 surface to unlimited = Ø to 100,000 |
| **Remarks** | | |

**Physical Value - Topographical**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.2.1 Which of the following types of topography and ground cover/vegetation exist within your test airspace? (3.1.H.1) | | |
| a. Mountainous | YES | Issue 41 |
| b. Forested or jungle | YES | pg 107 |
| c. Cultivated lowland (farmland) | YES | pg 107 |
| d. Swamp or riverine | YES | pg 107 |
| e. Desert | NO | pg. 104 — |
| f. Sea | YES | pg 106 |
| **Remarks** | | |

**Physical Value - Climatic**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.1 What is the average number of days per year (1985-1993) the visibility is greater than 3 miles? (3.1.H.8, Data Forms) | 341 | p. 113 93.4% x 365 = 340.91 |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Physical Value - Environment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.5.1 Does the facility have limiting environmental characteristics? (3.1.C.1.) | NO | Pg 56 |
| **Remarks** | | |

**Technical Value - Digital Models and Simulations (DM&S)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.1.1 Do you have a DM&S facility that supports test operations? (General Information Form) | NO | No DM&S facility reported, therefore no page references. |
| 2.1.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | ↓ |
| 2.1.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | ↓ |
| 2.1.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | ↓ |
| **Remarks** | | |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Physical Value - Climatic** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.2 What is the average percentage of test missions per year not canceled due to weather? (3.1.H.6, Data Forms) [100% minus (% derived from # of test missions canceled in FY86-93 divided by # of test missions FY86-93)] | 93.5 | pg 112<br>5-8% cancelled and rescheduled<br>Issue 1 → average<br>$100\% - \left(\frac{5+8}{2}\right) = 93.5\%$ |
| **Remarks** | | |

**Physical Value - Encroachment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.4.1 What is the average percentage of test missions per year not canceled due to commercial or public use ? [100% minus (% derived from # of test missions canceled divided by the # of test missions over period reported)] (3.1.C.5.A, Data Forms) | 100 | pg. 60<br>None cancelled<br>100% − ∅ |
| 1.4.2 What percent of test missions were not canceled due to encroachment in the past two years [100% minus (% derived from sum of 92 and 93 canceled missions divided by the sum of 92 and 93 test missions)] (3.1.C.6, Data Forms) | 100 | pg. 60<br>None cancelled<br>100% − ∅ |
| 1.4.3 What is the total population inside the following radii of the facility? (3.1.C.4)<br>a. 50 miles | 1,132,793 | pg. 59 |
| b. 100 miles | 9,048,269 | ↓ |
| c. 150 miles | 17,660,919 | ↓ |
| d. 200 miles | 24,209,467 | ↓ |
| **Remarks** | | |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Measurement Facilities (MF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.1 Site's armament/weapons T&E measurement facilities conduct which of the following? (3.1.D.1, Data Forms)<br>a. Environmental T&E | NO | No MF scored, since all measurement facilities excluded for Armament/Weapons T&E |
| b. Safety T&E | NO | |
| c. Warhead performance T&E | NO | |
| d. Fuze T&E | NO | |
| e. Seeker, sensor and guidance/control performance and target/background signature characterization | NO | |
| f. Propulsion performance T&E | NO | |
| g. Airframe/aerodynamic/aerothermal performance T&E across subsonic, transonic, and hypersonic regimes | NO | |
| h. Gun performance T&E | NO | |
| i. Electromagnetic Environmental Effects | NO | |
| j. Directed energy | NO | |
| 2.2.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.2.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Measurement Facilities (MF)** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | No | ↓ |
| **Remarks** | | |

**Technical Value - Integration Labs (IL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.3.1 Do you have an IL facility that supports test operations? (General Information Form) | No | No IL scored, since all Integration Labs excluded for Armament / Weapons T&E. |
| 2.3.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | No | ↓ |
| 2.3.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | No | ↓ |
| 2.3.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | ↓ |
| **Remarks** | | |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Hardware-In-The-Loop (HITL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.4.1 Does the facility provide armament/weapons HITL T&E capabilities in the following areas? (3.3.B.4, Data Forms):<br>a. RF | NO | No HITL scored, since all HITL facilities excluded for Armament/Weapons T&E |
| b. IR | NO | |
| c. Laser | NO | |
| d. MMW | NO | |
| e. EO/visible | NO | |
| f. Midcourse Inertial/GPS | NO | |
| 2.4.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.4.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.4.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** | | |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Installed Systems Test Facilities (ISTF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.5.1 Which of the following spectra are available to test against? (3.3.A.2, 3.3.B.4): a. RF | YES | G-11 |
| b. EO | YES | ↓ |
| c. IR | YES | ↓ |
| d. MMW | YES | ↓ |
| e. UV | NO | ↓ |
| f. Laser? | YES | ↓ |
| 2.5.2 Are radio frequency threat signals: (3.3.A.2) a. radiated? | YES | Pg. 336 |
| b. injected? | YES | ↓ |
| 2.5.3 Can the facility support fighter/helicopter-sized aircraft testing? (3.3.B.1) | YES | Pg. 340 |
| 2.5.4 Can the facility support B-1 bomber/cargo-sized aircraft testing? (3.3.B.1) | YES | Pg. 340 can support C-130 cargo aircraft |
| 2.5.5 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | YES | Pg 324 |
| 2.5.6 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | YES | Pg. 329 |
| 2.5.7 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | YES | Pg. 60 |

**Remarks**

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Open Air Ranges (OAR)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.6.1 Which of the following types of tests can the site schedule? (3.4.B.2.A)<br>a. Unguided 2000-lb class ballistic weapons | NO | No OAR scored, since all OAR facilities excluded for Armament/Weapons T&E |
| b. Guided weapons | NO | |
| c. Stand-off weapons | NO | |
| d. Short-range missiles | NO | |
| e. Long-range missiles | NO | |
| 2.6.2 Does the facility provide the following validated targets? (3.1.D.2, 3.1.D.2.A)<br>a. Specialized land targets | NO | |
| b. Specialized airborne targets | NO | |
| 2.6.3 What is the maximum number of simultaneous missions the facility can support that require telemetry? (3.2.C.6) | NO | |
| 2.6.4 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.6.5 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.6.6 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** | | |

# SCORING FORM FOR ARMAMENT/WEAPONS

ACTIVITY: PT MUGU BOOK: 216

**Physical Value - Critical Air/Land/Sea Space**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.1 How many square miles of restricted air space (including warning areas) are available to support test operations? (3.1.G.3, 3.1.G.4, Data Forms) | 103,000 | p121B 3.1.G.1<br>RFC AV 036 |
| 1.1.2 How many square miles of DoD land space are available to support test operations? (3.1.G.1, 3.1.G.2, 3.4.B.1.A, Data Forms) | 32 | p121C 3.1.G.2<br>p122B 3.1.G.5<br>SAN NICHOLAS 25<br>PT MUGU 7<br>32 |
| 1.1.3 How many square miles of sea warning area space are available to support test operations? (3.1.G.1, 3.1.G.4, 3.4.B.1.A, Data Forms) | 103,000 | p121B Sea warning area is that sea area under the air warning area. |
| 1.1.4 What is the maximum straight line range (in nautical miles) that the site can use to test the following? (3.1.G.7, 3.4.B.1.C, Data Forms)<br>a. Air-to-air missiles | 300 | p 143 |
| b. Air-to-surface weapons | 300 | |
| c. Surface-to-air missiles | 300 | |
| 1.1.5 What altitude limits are associated with restricted airspace (including warning areas)? [Upper Limit - Lower Limit] Upper limit is capped at 100k feet. (3.1.G.3, 3.1.G.4, Data Forms)<br>a. Over land | 100,000 | p121c<br>W-289 |
| b. Over sea | 100,000 | P121C |
| 1.1.6 What is the largest supersonic area? [length X width in nautical miles] (3.2.A.4, Data Forms) | 125,000 | 3.2.A.4 says entire sea range avail.<br>3.1.G.1 defines sea range<br>RFC AW 054 |





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## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Physical Value - Critical Air/Land/Sea Space** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.7 What is the minimum to maximum altitude within the supersonic corridor or area which is used to conduct testing? [Upper Limit - Lower Limit] Upper limit is capped at 100k feet. (3.2.A.3, Data Forms) | 100,000 | p 129A 30 miles x 5,280 ft/mi |
| **Remarks** | | |

**Physical Value - Topographical**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.2.1 Which of the following types of topography and ground cover/vegetation exist within your test airspace? (3.1.H.1) | | |
| a. Mountainous | Yes | p 126A |
| b. Forested or jungle | Yes | " |
| c. Cultivated lowland (farmland) | Yes | " |
| d. Swamp or riverine | Yes | " |
| e. Desert | Yes | p 126A, Issue 40 |
| f. Sea | Yes | p 126A |
| **Remarks** | | |

**Physical Value - Climatic**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.1 What is the average number of days per year (1985-1993) the visibility is greater than 3 miles? (3.1.H.8, Data Forms) | 323 | p 127A |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Physical Value - Climatic** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.2 What is the average percentage of test missions per year not canceled due to weather? (3.1.H.6, Data Forms) [100% minus (% derived from # of test missions canceled in FY86-93 divided by # of test missions FY86-93)] | | p127A<br>100 − .2 = 99.8%<br>3.1.H.6 - last sentence |
| **Remarks** | | |

**Physical Value - Encroachment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.4.1 What is the average percentage of test missions per year not canceled due to commercial or public use ? [100% minus (% derived from # of test missions canceled divided by the # of test missions over period reported)] (3.1.C.5.A, Data Forms) | 100 | p65 |
| 1.4.2 What percent of test missions were not canceled due to encroachment in the past two years [100% minus (% derived from sum of 92 and 93 canceled missions divided by the sum of 92 and 93 test missions)] (3.1.C.6, Data Forms) | 99.5 | $100 - \frac{9+5}{1407+1300+14} = 99.5$<br>p65 |
| 1.4.3 What is the total population inside the following radii of the facility? (3.1.C.4)<br>a. 50 miles | 5,350,000 | AV $10 Issue #1<br>p65 average of range |
| b. 100 miles | 13,500,000 | " |
| c. 150 miles | 17,500,000 | " |
| d. 200 miles | 20,000,000 | " |
| **Remarks** | | |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Physical Value - Environment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.5.1 Does the facility have limiting environmental characteristics? (3.1.C.1.) | No | p.64 Answer does not limit T+E capability. |
| **Remarks** | | |

**Technical Value - Digital Models and Simulations (DM&S)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.1.1 Do you have a DM&S facility that supports test operations? (General Information Form) | yes | p. 150 |
| 2.1.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | yes | p. 27 |
| 2.1.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | yes | p. 101 |
| 2.1.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | No | p66 |
| **Remarks** | | |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Measurement Facilities (MF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.1 Site's armament/weapons T&E measurement facilities conduct which of the following? (3.1.D.1, Data Forms)<br>a. Environmental T&E | Yes | 6-7 |
| b. Safety T&E | Yes | 6-5 |
| c. Warhead performance T&E | No | 63, 6-5, 6-7, 6-8, 6-10, 6-12, 6-14 |
| d. Fuze T&E | No | " " " " " |
| e. Seeker, sensor and guidance/control performance and target/background signature characterization | Yes | 6-3 |
| f. Propulsion performance T&E | Yes | 6-14 |
| g. Airframe/aerodynamic/aerothermal performance T&E across subsonic, transonic, and hypersonic regimes | Yes | 6-7 |
| h. Gun performance T&E | No ~~Yes~~ | See above 2.2.1 e |
| i. Electromagnetic Environmental Effects | Yes | 6-5 |
| j. Directed energy | No | See above 2.2.1 c |
| 2.2.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | yes | P. 29 BISTATIC |
| 2.2.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | Yes | 6-3 |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Measurement Facilities (MF)** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | Yes | p. 67 BISTATIC |
| **Remarks** | | |

**Technical Value - Integration Labs (IL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.3.1 Do you have an IL facility that supports test operations? (General Information Form) | Yes | p 298A IWEF |
| 2.3.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | Yes | p. 32 IWEF |
| 2.3.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | Yes | p 102 |
| 2.3.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | Yes | p 69 |
| **Remarks** | | |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Hardware-In-The-Loop (HITL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.4.1 Does the facility provide armament/weapons HITL T&E capabilities in the following areas? (3.3.B.4, Data Forms):<br>a. RF | Yes | 6-21 |
| b. IR | Yes | 6-21 |
| c. Laser | No | 6-21/22 |
| d. MMW | No | 6-21/22 |
| e. EO/visible | No | 6-21/22 |
| f. Midcourse Inertial/GPS | Yes | 6-21 |
| 2.4.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | Yes | p35 M HITL |
| 2.4.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | Yes | 6-21 |
| 2.4.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | Yes | p70 |
| **Remarks** | | |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Installed Systems Test Facilities (ISTF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.5.1 Which of the following spectra are available to test against? (3.3.A.2, 3.3.B.4): a. RF | No | No ISTF reported/considered pp 1-537, 6-1-29 |
| b. EO | No | |
| c. IR | No | |
| d. MMW | No | |
| e. UV | No | |
| f. Laser? | No | |
| 2.5.2 Are radio frequency threat signals: (3.3.A.2) a. radiated? | No | |
| b. injected? | No | |
| 2.5.3 Can the facility support fighter/helicopter-sized aircraft testing? (3.3.B.1) | No | |
| 2.5.4 Can the facility support B-1 bomber/cargo-sized aircraft testing? (3.3.B.1) | No | |
| 2.5.5 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | No | |
| 2.5.6 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | No | |
| 2.5.7 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | No | |
| **Remarks** | | |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Open Air Ranges (OAR)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.6.1 Which of the following types of tests can the site schedule? (3.4.B.2.A)<br>a. Unguided 2000-lb class ballistic weapons | Yes | p. 144 FY92 tests + FY93 tests > ϕ = Yes |
| b. Guided weapons | No | = ϕ = No, none reported |
| c. Stand-off weapons | Yes | |
| d. Short-range missiles | Yes | |
| e. Long-range missiles | Yes | |
| 2.6.2 Does the facility provide the following validated targets? (3.1.D.2, 3.1.D.2.A)<br>a. Specialized land targets | No | No land targets reported, only sea surface targets |
| b. Specialized airborne targets | Yes | p. 87 AQM-37C, AQM-34, BQM-34 and QF-4 are airial targets |
| 2.6.3 What is the maximum number of simultaneous missions the facility can support that require telemetry? (3.2.C.6) | 15 | p. 138 |
| 2.6.4 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | Yes | p. 42 |
| 2.6.5 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | Yes | p. 103 |
| 2.6.6 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | Yes | p. 71 |
| **Remarks** | | |

## SCORING FORM FOR ARMAMENT/WEAPONS

ACTIVITY: AFDTC EGLIN BOOK: # 306 — 311

**Physical Value - Critical Air/Land/Sea Space**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.1 How many square miles of restricted air space (including warning areas) are available to support test operations? (3.1.G.3, 3.1.G.4, Data Forms) | 33,763 | Issue 2<br>Book 310, pg 46<br>Sum R-xxxx's and W-xxx's omitting R-2917 No Fly Zone |
| 1.1.2 How many square miles of DoD land space are available to support test operations? (3.1.G.1, 3.1.G.2, 3.4.B.1.A, Data Forms) | 724 | Book 310, pg 45<br>Conversation Record, 1440, 30 Oct 94, "Eglin AFDTC Land Space" in RFC Book 1 of 2 for Arm/Wpns |
| 1.1.3 How many square miles of sea warning area space are available to support test operations? (3.1.G.1, 3.1.G.4, 3.4.B.1.A, Data Forms) | 32,618 | Book 310, pg 47 and Issue 2<br>Sum W-xxx's |
| 1.1.4 What is the maximum straight line range (in nautical miles) that the site can use to test the following? (3.1.G.7, 3.4.B.1.C, Data Forms)<br>a. Air-to-air missiles | 478 | Book 310, pg 69, 3.4.B.1.C<br>Issue 2<br>RFC A/W-008 |
| b. Air-to-surface weapons | 478 | ↓ |
| c. Surface-to-air missiles | 478 | ↓ |
| 1.1.5 What altitude limits are associated with restricted airspace (including warning areas)? [Upper Limit - Lower Limit] Upper limit is capped at 100k feet. (3.1.G.3, 3.1.G.4, Data Forms)<br>a. Over land | 100,000 | Book 310, pg 46<br>R-2915A surface to unlimited = Ø to 100K |
| b. Over sea | 100,000 | Book 310, pg 46<br>W-155 surface to unlimited = Ø to 100K |
| 1.1.6 What is the largest supersonic area? [length X width in nautical miles] (3.2.A.4, Data Forms) | 94,500 | RFC A/W-008<br>315 x 300 = 94,500 |



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## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Physical Value - Critical Air/Land/Sea Space** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.7 What is the minimum to maximum altitude within the supersonic corridor or area which is used to conduct testing? [Upper Limit - Lower Limit] Upper limit is capped at 100k feet. (3.2.A.3, Data Forms) | 100,000 | Book 310, pg. 51<br>Surface to unlimited = 0 to 100,000 |
| **Remarks** | | |

**Physical Value - Topographical**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.2.1 Which of the following types of topography and ground cover/vegetation exist within your test airspace? (3.1.H.1)<br>a. Mountainous | NO | Book 310, pg 48 & 49 |
| b. Forested or jungle | YES | |
| c. Cultivated lowland (farmland) | YES | |
| d. Swamp or riverine | YES | Marsh = swamp<br>Stream bottoms = riverine |
| e. Desert | NO | |
| f. Sea | YES | Book 311, pg 44 |
| **Remarks** | | |

**Physical Value - Climatic**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.1 What is the average number of days per year (1985-1993) the visibility is greater than 3 miles? (3.1.H.8, Data Forms) | 358 | Book 310, pg 50 |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Physical Value - Climatic** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.2 What is the average percentage of test missions per year not canceled due to weather? (3.1.H.6, Data Forms) [100% minus (% derived from # of test missions canceled in FY86-93 divided by # of test missions FY86-93)] | 97.2% | REF / CANCELLED / MISSIONS<br>BK 310, ASTE, p.50 — 1503 — 34,271 — p.72<br>BK 311, GTF, p 45 — 1274 — 61,087 — p 69<br>BK 311, HELLFIRE, p.112 — 40 — 2,036 — RFC A/W 073<br>2817 — 97,394<br>$100\% - \left(\frac{2817}{97,394 + 2,817}\right) = 97.2\%$ |
| **Remarks** | | |

**Physical Value - Encroachment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.4.1 What is the average percentage of test missions per year not canceled due to commercial or public use ? [100% minus (% derived from # of test missions canceled divided by the # of test missions over period reported)] (3.1.C.5.A, Data Forms) | 100 | Book 310, pg 9 None = Ø ASTE<br>Book 311, pg 10 None = Ø GTF<br>Book 311, pg 80 None = Ø Hell fire<br>100% — Ø |
| 1.4.2 What percent of test missions were not canceled due to encroachment in the past two years [100% minus (% derived from sum of 92 and 93 canceled missions divided by the sum of 92 and 93 test missions)] (3.1.C.6, Data Forms) | 100 | Book 310, pg 9 None = Ø ASTE<br>Book 311, pg 10 None = Ø GTF<br>100% — Ø<br>Book 311, pg 81 None = Ø Hell fire |
| 1.4.3 What is the total population inside the following radii of the facility? (3.1.C.4)<br>a. 50 miles | 253,144 | RFC EC-ØØ5 |
| b. 100 miles | 1,205,794 | ↓ |
| c. 150 miles | 2,417,482 | ↓ |
| d. 200 miles | 4,383,864 | ↓ |
| **Remarks** | | |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Physical Value - Environment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.5.1 Does the facility have limiting environmental characteristics? (3.1.C.1.) | NO | Book 310, pg 7 ASTE * <br> Book 311, pg 79 ~~ASTE~~ Hellfire — NONE <br> Book 311, pg 8 GTF — NONE |
| **Remarks** | | * Answer does not limit T&E capability. |

**Technical Value - Digital Models and Simulations (DM&S)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.1.1 Do you have a DM&S facility that supports test operations? (General Information Form) | YES | Book 306, pg 22 |
| 2.1.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | YES | Book 306, pg. 4 |
| 2.1.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | YES | Book 306, pg 7 |
| 2.1.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | Book 306, pg. 6 |
| **Remarks** | | |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Measurement Facilities (MF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.1 Site's armament/weapons T&E measurement facilities conduct which of the following? (3.1.D.1, Data Forms) | | RFC A/W-069 |
| a. Environmental T&E | YES | FUZE TEST = Y |
| b. Safety T&E | YES | FUZE TEST = Y |
| c. Warhead performance T&E | YES | WARHEAD ARENA = Y |
| d. Fuze T&E | YES | FUZE TEST = Y |
| e. Seeker, sensor and guidance/control performance and target/background signature characterization | YES | MULTISPECTRAL = Y |
| f. Propulsion performance T&E | NO | ALL = N (exclude GWEF & PRIMES) |
| g. Airframe/aerodynamic/aerothermal performance T&E across subsonic, transonic, and hypersonic regimes | YES | SLED TRACK = Y |
| h. Gun performance T&E | YES | GUN TEST = Y |
| i. Electromagnetic Environmental Effects | NO | ALL = N (exclude GWEF & PRIMES) |
| j. Directed energy | NO | ALL = N |
| 2.2.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | YES | Book 306, pg 70 |
| 2.2.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | YES | MULTISPECTRAL = Y |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Measurement Facilities (MF)** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | YES | Book 306, pg 72 |
| **Remarks** | | |

**Technical Value - Integration Labs (IL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.3.1 Do you have an IL facility that supports test operations? (General Information Form) | NO | No IL facilities reported. |
| 2.3.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | NO | |
| 2.3.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | NO | |
| 2.3.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | NO | |
| **Remarks** | | |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Hardware-In-The-Loop (HITL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.4.1 Does the facility provide armament/weapons HITL T&E capabilities in the following areas? (3.3.B.4, Data Forms):<br>a. RF | YES | RFC A/W-069<br>FACILITY = GWEF |
| b. IR | YES | |
| c. Laser | YES | |
| d. MMW | YES | |
| e. EO/visible | YES | |
| f. Midcourse Inertial/GPS | YES | |
| 2.4.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | YES | Book 308, pg 56 |
| 2.4.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | YES | RFC A/W-069<br>GWEF |
| 2.4.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | YES | Book 308, pg 59 |
| **Remarks** | | |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Installed Systems Test Facilities (ISTF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.5.1 Which of the following spectra are available to test against? (3.3.A.2, 3.3.B.4):<br>a. RF | YES | RFC A/W - 069<br>PRIMES |
| b. EO | NO | |
| c. IR | NO | |
| d. MMW | YES | |
| e. UV | NO | ISSUE 7A<br>NO ANSWER = NO |
| f. Laser? | NO | |
| 2.5.2 Are radio frequency threat signals: (3.3.A.2)<br>a. radiated? | YES | Book 309, pg 98 |
| b. injected? | YES | |
| 2.5.3 Can the facility support fighter/helicopter-sized aircraft testing? (3.3.B.1) | YES | Book 309, pg 100 |
| 2.5.4 Can the facility support B-1 bomber/cargo-sized aircraft testing? (3.3.B.1) | YES | Response: No limitation on supporting large aircraft on the ramp. |
| 2.5.5 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | YES | Book 309, pg 55 |
| 2.5.6 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | YES | RFC A/W - 069<br>PRIMES |
| 2.5.7 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | YES | Book 309, pg 58 |
| **Remarks** | | |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Open Air Ranges (OAR)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.6.1 Which of the following types of tests can the site schedule? (3.4.B.2.A)<br>a. Unguided 2000-lb class ballistic weapons | YES | Book 310, ASTE, pg 69 & 70<br>Numbers > 0 equal "YES" |
| b. Guided weapons | YES | ↓ |
| c. Stand-off weapons | YES | ↓ |
| d. Short-range missiles | YES | ↓ |
| e. Long-range missiles | YES | ↓ |
| 2.6.2 Does the facility provide the following validated targets? (3.1.D.2, 3.1.D.2.A)<br>a. Specialized land targets | YES | Book 310, ASTE, pg 42 & 43<br>↓ |
| b. Specialized airborne targets | YES | ↓ |
| 2.6.3 What is the maximum number of simultaneous missions the facility can support that require telemetry? (3.2.C.6) | 13 | RFC A/W-072, ASTE = 10 } 10 + 3 = 13<br>Book 311, pg 115, HELLFIRE = 3 }<br>Conversation record on 30 Oct 94, "Eglin # of simultaneous missions" = 13<br>INO RFC BOOK 1 OF 2 FOR ARM/WPNS |
| 2.6.4 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | YES | Book 310, pg 6 |
| 2.6.5 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | YES | Book 310, pg 43 |
| 2.6.6 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | YES | Book 310, pg 9 |
| **Remarks** | | |

## SCORING FORM FOR ARMAMENT/WEAPONS

ACTIVITY: AEDC BOOK: 305

**Physical Value - Critical Air/Land/Sea Space**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.1 How many square miles of restricted air space (including warning areas) are available to support test operations? (3.1.G.3, 3.1.G.4, Data Forms) | Ø | pg. 103 |
| 1.1.2 How many square miles of DoD land space are available to support test operations? (3.1.G.1, 3.1.G.2, 3.4.B.1.A, Data Forms) | 19 | pg. 103 |
| 1.1.3 How many square miles of sea warning area space are available to support test operations? (3.1.G.1, 3.1.G.4, 3.4.B.1.A, Data Forms) | Ø | pg. 103 |
| 1.1.4 What is the maximum straight line range (in nautical miles) that the site can use to test the following? (3.1.G.7, 3.4.B.1.C, Data Forms) a. Air-to-air missiles | Ø | pgs. 103 - 104 |
| b. Air-to-surface weapons | Ø | |
| c. Surface-to-air missiles | Ø | |
| 1.1.5 What altitude limits are associated with restricted airspace (including warning areas)? [Upper Limit - Lower Limit] Upper limit is capped at 100k feet. (3.1.G.3, 3.1.G.4, Data Forms) a. Over land | Ø | |
| b. Over sea | Ø | |
| 1.1.6 What is the largest supersonic area? [length X width in nautical miles] (3.2.A.4, Data Forms) | Ø | |

TPB

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Physical Value - Critical Air/Land/Sea Space** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.7 What is the minimum to maximum altitude within the supersonic corridor or area which is used to conduct testing? [Upper Limit - Lower Limit] Upper limit is capped at 100k feet. (3.2.A.3, Data Forms) | Ø | pgs. 103-104 |
| **Remarks** | | |

**Physical Value - Topographical**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.2.1 Which of the following types of topography and ground cover/vegetation exist within your test airspace? (3.1.H.1) | | |
| a. Mountainous | No | N/A response; Issue 7.A |
| b. Forested or jungle | No | |
| c. Cultivated lowland (farmland) | No | |
| d. Swamp or riverine | No | |
| e. Desert | No | |
| f. Sea | No | |
| **Remarks** | | |

**Physical Value - Climatic**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.1 What is the average number of days per year (1985-1993) the visibility is greater than 3 miles? (3.1.H.8, Data Forms) | 365 | pg. 59 |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Physical Value - Climatic** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.2 What is the average percentage of test missions per year not canceled due to weather? (3.1.H.6, Data Forms) [100% minus (% derived from # of test missions canceled in FY86-93 divided by # of test missions FY86-93)] | 100% | pgs. 58 - 59 |
| **Remarks** | | |

**Physical Value - Encroachment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.4.1 What is the average percentage of test missions per year not canceled due to commercial or public use ? [100% minus (% derived from # of test missions canceled divided by the # of test missions over period reported)] (3.1.C.5.A, Data Forms) | 100% | pg. 57 |
| 1.4.2 What percent of test missions were not canceled due to encroachment in the past two years [100% minus (% derived from sum of 92 and 93 canceled missions divided by the sum of 92 and 93 test missions)] (3.1.C.6, Data Forms) | 100% | pg. 57 |
| 1.4.3 What is the total population inside the following radii of the facility? (3.1.C.4) | | |
| a. 50 miles | 70,000 | pg. 103 |
| b. 100 miles | 790,000 | |
| c. 150 miles | 955,000 | |
| d. 200 miles | 2,405,000 | |
| **Remarks** | | |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Physical Value - Environment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.5.1 Does the facility have limiting environmental characteristics? (3.1.C.1.) | No | pgs. 55-56 |
| **Remarks** | | |

**Technical Value - Digital Models and Simulations (DM&S)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.1.1 Do you have a DM&S facility that supports test operations? (General Information Form) | No | Activity did not report any DM+S Facilities. |
| 2.1.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | No | |
| 2.1.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | No | |
| 2.1.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | No | |
| **Remarks** | | |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Measurement Facilities (MF)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.1 Site's armament/weapons T&E measurement facilities conduct which of the following? (3.1.D.1, Data Forms)<br>a. Environmental T&E | Yes | RFC A/W 071 |
| b. Safety T&E | Yes | |
| c. Warhead performance T&E | No | |
| d. Fuze T&E | No | |
| e. Seeker, sensor and guidance/control performance and target/background signature characterization | Yes | |
| f. Propulsion performance T&E | Yes | |
| g. Airframe/aerodynamic/aerothermal performance T&E across subsonic, transonic, and hypersonic regimes | Yes | |
| h. Gun performance T&E | No | |
| i. Electromagnetic Environmental Effects | No | |
| j. Directed energy | No | |
| 2.2.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | No | Blank response; Issue 7.A |
| 2.2.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | Yes | RFC A/W 071 |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Measurement Facilities (MF)** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.2.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | Yes | pg. 26 |
| **Remarks** | | |

**Technical Value - Integration Labs (IL)**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 2.3.1 Do you have an IL facility that supports test operations? (General Information Form) | No | Activity did not report any IL Facilities. |
| 2.3.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | No | |
| 2.3.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | No | |
| 2.3.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | No | |
| **Remarks** | | |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Hardware-In-The-Loop (HITL)**

| Question | Score | Reference Source/Remarks | |
|---|---|---|---|
| 2.4.1 Does the facility provide armament/weapons HITL T&E capabilities in the following areas? (3.3.B.4, Data Forms):<br>a. RF | No | Activity did not report any HITL Facilities. | |
| b. IR | No | | |
| c. Laser | No | | |
| d. MMW | No | | |
| e. EO/visible | No | | |
| f. Midcourse Inertial/GPS | No | | |
| 2.4.2 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | No | | |
| 2.4.3 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | No | | |
| 2.4.4 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | No | | |
| **Remarks** | | | |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Installed Systems Test Facilities (ISTF)**

| Question | Score | Reference Source/Remarks | |
|---|---|---|---|
| 2.5.1 Which of the following spectra are available to test against? (3.3.A.2, 3.3.B.4):<br>a. RF | No | Activity did not report any ISTF Facilities. | |
| b. EO | No | | |
| c. IR | No | | |
| d. MMW | No | | |
| e. UV | No | | |
| f. Laser? | No | | |
| 2.5.2 Are radio frequency threat signals: (3.3.A.2)<br>a. radiated? | No | | |
| b. injected? | No | | |
| 2.5.3 Can the facility support fighter/helicopter-sized aircraft testing? (3.3.B.1) | No | | |
| 2.5.4 Can the facility support B-1 bomber/cargo-sized aircraft testing? (3.3.B.1) | No | | |
| 2.5.5 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | No | | |
| 2.5.6 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | No | | |
| 2.5.7 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | No | | |
| **Remarks** | | | |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Technical Value - Open Air Ranges (OAR)**

| Question | Score | Reference Source/Remarks | |
|---|---|---|---|
| 2.6.1 Which of the following types of tests can the site schedule? (3.4.B.2.A)<br>a. Unguided 2000-lb class ballistic weapons | No | Activity did not report any OAR Facilities. | |
| b. Guided weapons | No | | |
| c. Stand-off weapons | No | | |
| d. Short-range missiles | No | | |
| e. Long-range missiles | No | | |
| 2.6.2 Does the facility provide the following validated targets? (3.1.D.2, 3.1.D.2.A)<br>a. Specialized land targets | No | | |
| b. Specialized airborne targets | No | | |
| 2.6.3 What is the maximum number of simultaneous missions the facility can support that require telemetry? (3.2.C.6) | No | | |
| 2.6.4 Does the facility provide a T&E product or service without which irreparable harm would be imposed on any mission (other than test) deemed critical to the operational effectiveness of the armed forces of the US? (2.3.B.2) | No | | |
| 2.6.5 Is the facility equipped to support Top Secret or Special Access Required work? (3.1.E.3) | No | | |
| 2.6.6 Does the facility have specialized facilities to support conduct of test operations? (3.1.D.1) | No | | |
| **Remarks** | | | |

## SCORING FORM FOR ARMAMENT/WEAPONS

ACTIVITY: AFDTC @ Holloman AFB BOOK: 312 and 102

**Physical Value - Critical Air/Land/Sea Space**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.1 How many square miles of restricted air space (including warning areas) are available to support test operations? (3.1.G.3, 3.1.G.4, Data Forms) | 4000 | pgs. 8 and 57 |
| 1.1.2 How many square miles of DoD land space are available to support test operations? (3.1.G.1, 3.1.G.2, 3.4.B.1.A, Data Forms) | 3381 | Used WSMR data since land is owned by WSMR. pg. 45 of Book 102 |
| 1.1.3 How many square miles of sea warning area space are available to support test operations? (3.1.G.1, 3.1.G.4, 3.4.B.1.A, Data Forms) | Ø | pgs. 8 and 57 |
| 1.1.4 What is the maximum straight line range (in nautical miles) that the site can use to test the following? (3.1.G.7, 3.4.B.1.C, Data Forms) | | |
| a. Air-to-air missiles | 50 | pg. 66 |
| b. Air-to-surface weapons | 50 | ↓ |
| c. Surface-to-air missiles | 50 | ↓ |
| 1.1.5 What altitude limits are associated with restricted airspace (including warning areas)? [Upper Limit - Lower Limit] Upper limit is capped at 100k feet. (3.1.G.3, 3.1.G.4, Data Forms) | 100K - Ø | Surface = Ø<br>Unlimited = 100K |
| a. Over land | 100K | pg. 57 |
| b. Over sea | Ø | ↓ |
| 1.1.6 What is the largest supersonic area? [length X width in nautical miles] (3.2.A.4, Data Forms) | Ø | N/A response; Issue 7.A; pgs 11 and 60 |



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## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Physical Value - Critical Air/Land/Sea Space** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.1.7 What is the minimum to maximum altitude within the supersonic corridor or area which is used to conduct testing? [Upper Limit - Lower Limit] Upper limit is capped at 100k feet. (3.2.A.3, Data Forms) | Ø | N/A response; Issue 7.A pgs 11 and 60 |
| **Remarks** | | |

**Physical Value - Topographical**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.2.1 Which of the following types of topography and ground cover/vegetation exist within your test airspace? (3.1.H.1) | | |
| a. Mountainous | Yes | pgs. 9 and 58 |
| b. Forested or jungle | No | |
| c. Cultivated lowland (farmland) | No | |
| d. Swamp or riverine | No | |
| e. Desert | Yes | |
| f. Sea | No | |
| **Remarks** | | |

**Physical Value - Climatic**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.1 What is the average number of days per year (1985-1993) the visibility is greater than 3 miles? (3.1.H.8, Data Forms) | 365 | pgs. 11 and 60 |

## SCORING FORM FOR ARMAMENT/WEAPONS
(Continued)

**Physical Value - Climatic** (Continued)

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.3.2 What is the average percentage of test missions per year not canceled due to weather? (3.1.H.6, Data Forms) [100% minus (% derived from # of test missions canceled in FY86-93 divided by # of test missions FY86-93)] | 98.2% | pgs. 10, 59, and 69; RFC AV-043; Issue 1. |

**Remarks** % Not Canceled = Missions / (Missions + Canceled Missions)

% Not Canceled = $\frac{1089 + 305}{1089 + 305 + 3 + 5}$ = .982 (see attached sheet)

**Physical Value - Encroachment**

| Question | Score | Reference Source/Remarks |
|---|---|---|
| 1.4.1 What is the average percentage of test missions per year not canceled due to commercial or public use ? [100% minus (% derived from # of test missions canceled divided by the # of test missions over period reported)] (3.1.C.5.A, Data Forms) | 100% | pgs. 4 and 54 |
| 1.4.2 What percent of test missions were not canceled due to encroachment in the past two years [100% minus (% derived from sum of 92 and 93 canceled missions divided by the sum of 92 and 93 test missions)] (3.1.C.6, Data Forms) | 100% | pgs. 5 and 54 |
| 1.4.3 What is the total population inside the following radii of the facility? (3.1.C.4) a. 50 miles | 40,000 | pgs. 4 and 54 |
| b. 100 miles | 690,000 | |
| c. 150 miles | 740,000 | |
| d. 200 miles | 1,290,000 | |

**Remarks**

1.3.2

CIGTF

# CNX/yr = 5 (p.10)

# COMPLETED/yr = 305 (RFC AV-043)

SLED TRACK

# CNX/yr = 3 (p.59) ISSUE #1

AVERAGE # COMPLETED/yr =

$$\Big((42+22+26+52+85+40+29+21)$$
$$+(\emptyset+\emptyset+7+57+74+15+57+75)$$
$$+(83+53+18+35+15+15+19+30)$$
$$+(4+14+66+31+42+20+18+24)\Big)/8\text{ yrs}$$

$$=(317+285+268+219)/8 = 136.125$$

$$\%\text{ NOT CNX} = \frac{\text{MISSIONS COMPLETED (CIGTF + SLED TRK)}}{\text{MISSIONS COMPLETED (CIGTF + SLED TRK)} + \text{\# CNX (CIGTF + SLED TRK)}}$$

TAB B - Facility and Activity Exclusions

# FACILITY AND ACTIVITY EXCLUSIONS

The JCSWG applied Policy Imperatives d and e (Annex to Appendix D of the T&E JCSG Analysis Plan) to determine which activities and facilities reported in the T&E JCSG Data Call should be included in the workload and capacity computations . Policy Imperative d is "exclude operational test agencies (OTA's) and dedicated training activities." Policy Imperative e is "remove from consideration in each functional area those facilities/ capabilities that: are Military Department unique (i.e., requirement only supports one Military Department), or have 5% or less of their total workload in that T&E functional area)." Additionally, the three following reasons for exclusion were developed by the T&E JCSWG and approved by the T&E JCSG (Reference meeting minutes):

i) Support Facility (Supports a T&E facility reported separately in the Data Call),
ii) Primary mission is non-T&E and its primary mission is being addressed by another JCSG, and
iii) A facility performed less than 100 test hours, on the average, in FY92 and FY93.

The Air Vehicle, Electronic Combat, and Armaments / Weapons functional teams prepared a form (Activity / Facility Evaluation for Exclusion from T&E JCSG Analysis, attached) for each activity or facility (only for facilities at activities not themselves excluded) which fit, based on the certified JCSG data, the approved exclusion reasons noted above. These were coordinated with the JCSWG Service Leads and consolidated into a memorandum which was approved by the JCSG.

# ACTIVITY / FACILITY EVALUATION FOR EXCLUSION FROM T&E JCS ANALYSIS

Activity: _____ Facility: _____

Service (Check One): ___USA ___USN ___USAF

Exclude From (Check all that apply): _____AV ____EC ____A/W

Facility Type: ___DMS ___MF ___IL ___HITL ___ISTF ___OAR

If excluded, check reason (Check all that apply):

_____ Policy Imperative D - Exclude operational test agencies (OTA's) and dedicated training activities
_____ Policy Imperative E - Military Department unique, or 5% or less workload in T&E functional area
_____ Support Facility (Supports a T&E facility reported separately in Data Call)
_____ Primary mission is non-T&E and its primary mission area is being addressed by another JCSG
_____ (Other): _____

Remarks/Rationale: _____

| T&E JCSWG Lead, Army | Date | T&E JCSWG Lead , Navy | Date | T&E JCSWG Lead, Air Force | Date |
|---|---|---|---|---|---|

18 Oct 94

MEMORANDUM FOR CO-CHAIRS, T&E JOINT CROSS-SERVICE GROUP

SUBJECT: Activity and Facility Exclusions

1. The Working Group has reviewed the Military Department responses to the T&E JCSG Data Call to determine which activities and facilities in those responses should be excluded, in accordance with our analysis plan dated 3 Aug 94. Our 14 Sep 94 memo recommended activity-level exclusions (Atch 1) which were subsequently approved in the 27 Sep 94 JCSG meeting.

2. We have applied the policy imperatives to the facilities at the remaining activities (Attachments 2, 3 and 4) and determined which of those to include or exclude from further analysis in each T&E functional area (Air Vehicles, Electronic Combat, and Armaments / Weapons). Facilities were excluded based on the following factors: a) Service unique, b) 5% rule, c) 100 hour rule, or d) support capability. Per JCSG direction, those judged to be support facilities will be excluded only from functional value, capacity, and workload analysis.

3. A total of 23 activities remain in the T&E "Universe" (Atch 5) being examined by the T&E JCSG.

Gary L. Holloway, SES, USA
T&E JCSWG
Army Lead

CDR Mark B. Samuels, USN
T&E JCSWG
Navy Lead

Dr. J. Daniel Stewart, SES, USAF
T&E JCSWG
Air Force Lead

Attachments:
1. Activity-level exclusions
2. Army Facility-level Inclusions and Exclusions
3. Navy Facility-level Inclusions and Exclusions
4. Air Force Facility-level Inclusions and Exclusions
5. Activities to be analyzed by the T&E JCSG (T&E "Universe")

# ARMY ACTIVITY EXCLUSIONS

| JCSWG Recommended Exclusion | Rationale |
|---|---|
| ● Combat Systems Test Activity, APG, MD | ● Service Unique, Land Vehicle Signature Measurement |
| ● TEXCOM Experimentation Center, OPTEC at Ft. Hunter-Liggett, CA | ● Operational Test Activity, No Infrastructure |
| ● Intelligence and Electronic Warfare Test Directorate , OPTEC at Ft. Huachuca, AZ | ●Operational Test Activity, No Infrastructure |
| ● Air Defense Artillery Test Directorate, OPTEC at Ft. Bliss, TX | ●Operational Test Activity, No Infrastructure |



Atch 1

# NAVY ACTIVITY EXCLUSIONS

| JCSWG Recommended Exclusion | Rationale |
|---|---|
| COMOPTEVFOR | OTA |
| PMRF | Dedicated Training Facility |
| AFWTF | Dedicated Training Facility |
| NRL | S&T Lab |
| NCCOSC ISE East Det St Inigoes | Shipboard Landing Aid Systems |
| NSWC Carderock | Ship Hull & Machinery RDT&E |
| NSWC Louisville | Maintenance of Naval Gun Systems |
| AEGIS Combat Systems Center, Wallops Is | AEGIS Combat Systems |
| NAWD Corona | Fleet Training Support |
| NAWC Lakehurst | Service Unique (Shipboard Avn Supt) |
| NSWC Port Hueneme | Service Unique (Non-AEGIS Cmbt Sys) |

# AIR FORCE ACTIVITY EXCLUSIONS

| JCSWG Recommended Exclusion | Rationale |
|---|---|
| Wright Labs | Non-T&E (Lab) |
| Armstrong Labs | Non-T&E (Lab) |
| Rome Labs | Non-T&E (Lab) |
| Phillips Labs | Non-T&E (Lab) |
| Tinker Air Logistics Center (ALC) | Non-T&E (Depot) |
| Sacramento ALC | Non-T&E (Depot) |
| Warner Robins ALC | Non-T&E (Depot) |
| Kelly ALC | Non-T&E (Depot) |
| Ogden ALC | Non-T&E (Depot) |
| 513 ETS, Offutt AFB, NE | MILDEP-Unique |
| USAFWTC, Nellis AFB, NV | Training + <5% |
| Det4/TACCSF, Kirtland AFB, NM | <5% |
| AFOTEC, Kirtland AFB, NM | OTA |
| USAF AWC, Eglin AFB, NM | OTA, No T&E Facilities |

U.S. ARMY TEST AND EVALUATION ACTIVITIES/FACILITIES

U.S. Army Aviation Technical Test Center
Fort Rucker, AL

| Test Facility Category | Facility Name | % Workload in AV T&E | % Workload in EC T&E | % Workload in A/W T&E | Recommendation |
|---|---|---|---|---|---|
| Open Air Range | Aviation Technical Test Center | 100 | 0 | 0 | Include in analysis for Air Vehicles. |

U.S. Army Aviation Technical Test Center
Edwards Air Force Base, CA

| Test Facility Category | Facility Name | % Workload in AV T&E | % Workload in EC T&E | % Workload in A/W T&E | Recommendation |
|---|---|---|---|---|---|
| Open Air Range | Airworthiness Qualification Test Directorate | 100 | 0 | 0 | Include in analysis for Air Vehicles. |

Atch 2

U.S. Army Redstone Technical Test Center
Redstone Arsenal, AL

| Test Facility Category | Facility Name | % Workload in AV T&E | % Workload in EC T&E | % Workload in A/W T&E | Recommendation |
|---|---|---|---|---|---|
| Measurement Facility | Component Test | 0 | 0 | 29.4 | Include in analysis for Armament/ Weapons. |
| | Non-Destructive and Natural Environments | 0 | 0 | 11.5 | Include in analysis for Armament/ Weapons. |
| | Induced Environmental | 0 | 0 | 23.6 | Include in analysis for Armament/ Weapons. |
| Open Air Range | Small Missile Range | 0 | 0 | 8.8 | Include in analysis for Armament/ Weapons. |

U.S. Army Yuma Proving Ground, Yuma Proving Ground, AZ

| Test Facility Category | Facility Name | % Workload in AV T&E | % Workload in EC T&E | % Workload in A/W T&E | Recommendation |
|---|---|---|---|---|---|
| Measurement Facility | Environmental Simulation | 15 | 0 | 7.6 | Include in Air Vehicles and Armament/Weapons analysis. |
| | Physical Measurements | 0 | 0 | 2 | **Do not include**; workload less than 5%. |
| Open Air Range | Aircraft Weapons Integration Range | 78 | 0 | 22 | Include in analysis for Air Vehicles and Armament/Weapons. |
| | Aircraft Munitions Range | 0 | 0 | 100 | Include in analysis for Armament/ Weapons. |
| | Air Vehicle/General Support | 34 | 0 | 17 | Include in analysis for Air Vehicles and Armament/Weapons. |
| | Direct Fire Ranges | 0 | 0 | 0 | **Do not include**; surface-to-surface capability only. |
| | Artillery/Mortar Ranges | 0 | 0 | 0 | **Do not include**; surface-to-surface capability only. |
| | Mine Test Facility | 0 | 0 | 0 | **Do not include**; surface-to-surface capability only. |
| | Munitions Handling, Processing & Storage | 11 | 0 | 5 | **Do not include**; support facility. |
| | Aviation Support | 37 | 0 | 13 | **Do not include**; support facility. |
| | Range Instrumentation | 13 | 0 | 14 | **Do not include**: support facility. |
| | Data Analysis &Computation | 60 | 0 | 10 | **Do not include**: support facility. |

U.S. Army White Sands Missile Range
White Sands Missile Range, NM

| Test Facility Category | Facility Name | % Workload in AV T&E | % Workload in EC T&E | % Workload in A/W T&E | Recommendation |
|---|---|---|---|---|---|
| Measurement Facility | Electromagnetic Environmental Effects | 0 | 0 | 100 | Include in analysis for Armament/ Weapons. |
| | Applied Environments | 1 | 1 | 95 | Include in analysis for Armament/ Weapons. |
| | Nuclear Effects | 0 | 0 | 100 | **Do not include**; outside the scope of the T&E JCSG analysis. |
| | Directed Energy | 0 | 0 | 100 | **Do not include**; service unique. |
| | Electronic Warfare | 0 | 100 | 0 | **Do not include**; support capability. |
| Open Air Range | National Range | 0 | 0 | 35 | Include in analysis for Armament/ Weapons. |
| | Materiel Test | 0.9 | 0.7 | 95 | Include in analysis for Armament/ Weapons. |
| | Warheads Test | 0 | 0 | 100 | Include in analysis for Armament/ Weapons. |
| | Data Reduction | 0 | 2.8 | 97.2 | **Do not include**; support capability. |

U.S. ARMY TEST AND EVALUATION ACTIVITIES/FACILITIES

U.S. Army White Sands Missile Range
(Electronic Proving Ground)
Fort Huachuca, AZ

| Test Facility Category | Facility Name | % Workload in AV T&E | % Workload in EC T&E | % Workload in A/W T&E | Recommendation |
|---|---|---|---|---|---|
| Measurement Facility | Environmental Test Facility | 12 | 11 | 0 | Include in Air Vehicles and Electronic Combat. |
| | EMI/TEMPEST | 5 | 10 | 0 | Include in analysis for Electronic Combat. |
| | Avionics/GPS Test Facility | 10 | 0 | 0 | Include in analysis for Air Vehicles. |
| | Range Operations Capability | 21 | 27 | 0 | Include in analysis for Air Vehicles and Electronic Combat |
| Digital Modeling and Simulation | Electromagnetic Environmental Test Facility | 1 | 11 | 0 | Include in analysis for Electronic Combat |
| Open Air Range | Instrumented Test Range | 24 | 32 | 0 | Include in analysis for Air Vehicles and Electronic Combat |
| NOT CATEGORIZED | Intelligence & Electronic Warfare Division | 0 | 89.8 | 0 | **Do not include**; support capability. |
| | General Electronic Test Capability | 1 | 5 | 1 | **Do not include**; workload 5% or less |

# NAVAL T&E INSTALLATIONS

**Naval Air Warfare Center**
**China Lake, CA**

| Test Facility Category | Facility Name | % Workload in AV T&E | % Workload in EC T&E | % Workload in A/W T&E | Recommendation |
|---|---|---|---|---|---|
| **DM&S** | Air Weapon DM&S | 0 | 0 | 20 | Include in A/W analysis |
| | Explosive & Ordnance Modeling | 0 | 0 | 10 | Do not include, <100 test hours/year in A/W |
| | Strike Simulation & Modeling | 1.5 | 0.13 | 31.4 | Include in A/W analysis |
| | Strike Software/Simulation Facility | 0 | 0 | 16.5 | Include in A/W analysis |
| | Sys Modeling & Sign. Proce Facility | 0 | 0 | 25 | Include in A/W analysis |
| | Weapons & Tactics Analysis Center | 1 | 1 | 19 | Include in A/W analysis |
| **Measurement Facility** | Aeroheat Test Facility | 0 | 0 | 100 | Include in A/W analysis |
| | Air Breathing Prop. Lab | 0 | 0 | 20 | Include in A/W analysis |
| | ARM Missile Seeker Test Complex | 0 | 0 | 40 | Include in A/W analysis |
| | Cactus Flats Ordnance Test Area | 0 | 0 | 90 | Include in A/W analysis |
| | Chemical Analysis Res. Fac | 0 | 0 | 17 | Do not include, Support facility (per T&E JCSG decision @ 9/27/94 meeting) |
| | Detonation Physics Lab | 0 | 0 | 60 | Include in A/W analysis |
| | Dynamic Prop. Measure Complex | 13 | 0 | 12 | Do not include, Support facility |
| | Energetic Materials Prop. Analysis | 0 | 0 | 10 | Do not include, Support facility |
| | Environmental Test complex | 6 | 2 | 47 | Include in A/V & A/W analysis |
| | Foreign Material Exploit. & Balloon Test | 4 | 0 | 19 | Include in A/W analysis |

Atch 3

**Naval Air Warfare Center**
**China Lake, CA (Cont'd)**

| Test Facility Category | Facility Name | % Workload in AV T&E | % Workload in EC T&E | % Workload in A/W T&E | Recommendation |
|---|---|---|---|---|---|
| **Measurement Facility** | Guidance Comp. T&A | 2 | 0 | 41 | Include in A/W analysis |
| | High Hazard Propulsion Test Fac. | 0 | 0 | 100 | Include in A/W analysis |
| | IR Seeker, GCS DDT&E Complex | 10 | 0 | 19 | Include in AV and A/W analysis |
| | Junction Ranch RCS Range | 0 | 100 | 0 | Include all reported workload as EC (per T&E JCSG decision @ 9/27/94 meeting) |
| | Materials Eng/Failure Analysis Fac | 5 | 0 | 55 | Do not include, Support facility (per T&E JCSG decision @ 9/27/94 meeting) |
| | Med. Cal Gun & Ammo Ballistics | 0 | 0 | 45 | Include in A/W |
| | Missile Engage Sim Arena | 0 | 0 | 20 | Do not include, not operational until FEB '95 |
| | Non-Destructive Ord. Test Facility | 0 | 0 | 100 | Do not include, Support facility |
| | Optics & Laser Research Fac | 1 | 0 | 2 | Do not include, 5% criteria |
| | Ord. & Prop. Foreign Mat. Exploit Lab | 0 | 0 | 5 | Do not include, 5% criteria |
| | Ordnance Test Complex | 0 | 0 | 100 | Include in A/W analysis |
| | RF Seeker, Guidance, Control DDT&E | 2.5 | 0 | 14 | Include in A/W analysis |
| | Sensor & Targeting Technology Fac | 1 | 0 | 11 | Include in A/W analysis |
| | Sled Tracks | 12 | 0 | 88 | Include in A/W analysis, <100 test hours/year in A/V |
| | Strategic Propulsion Test Complex | 0 | 0 | 100 | Include in A/W (per T&E JCSG decision @ 9/27/94 meeting) |
| | Tactical Propulsion Test Fac. | 0 | 0 | 100 | Include in A/W analysis |

**Naval Air Warfare Center**
**China Lake, CA (Cont'd)**

| Test Facility Category | Facility Name | % Workload in AV T&E | % Workload in EC T&E | % Workload in A/W T&E | Recommendation |
|---|---|---|---|---|---|
| **Measurement Facility** | VHF Anechoic Chamber | 0 | 2 | 11 | Include in A/W analysis |
| | Weapons Signal Proc. Design | 0 | 0 | 5 | Do not include, 5% criteria |
| | Weapons Survivability Lab | 20 | 0 | 0 | Do not include , <100 test hours/year in A/V |
| **Integration Laboratory** | Actuator & Power Sys | 0 | 0 | 5 | Do not include, 5% criteria |
| | Antiradiation Missile Integ Complex | 0 | 30 | 30 | Include in EC & A/W analysis |
| | Armament/Wep Design Proto & Integ | 2 | 0 | 5 | Do Not Include, 5% criteria |
| | Composites Dev. Lab | 0 | 0 | 10 | Do not include, <100 test hours/year in A/W |
| | Data Link Development | 8 | 0 | 12 | Do not include, <100 test hours/year in A/V & A/W |
| | EW Integration Laboratory | 0 | 10 | 0 | Include all reported workload in EC (per T&E JCSG decision @ 9/27/94 meeting) |
| | Fuze Development Lab | 0 | 0 | 8 | Include in A/W analysis |
| | Laser Seeker Int. & Test | 0 | 0 | 100 | Do not include, <100 test hours/year in A/W |
| | Missile/Rocket Motor Assembly Fac | 0 | 0 | 45 | Include in A/W analysis |
| | Ordnance Assembly Fac | 0 | 0 | 55 | Do not include, Support facility |
| | Telemetry Development | 0 | 0 | 20 | Do not include, Support facility |
| | TSSAM Mission Planning Fac | 0 | 0 | 25 | Do not include, Support facility |
| | Warhead/Bomb Assembly/Int. Fac | 0 | 0 | 45 | Do not include, Support facility |
| | Wpn Guidance/Control/ Seeker IL | 2 | 0 | 40 | Include in A/W analysis |

**Naval Air Warfare Center**
**China Lake, CA (Cont'd)**

| Test Facility Category | Facility Name | % Workload in AV T&E | % Workload in EC T&E | % Workload in A/W T&E | Recommendation |
|---|---|---|---|---|---|
| **Integration Laboratory** | WSSF (A-6) | 3.4 | 0 | 30.6 | Do not include, Service Unique (A-6) |
| | WSSF (AH-1) | 4.7 | 0 | 42.8 | Do not include, Service Unique (AH-1) |
| | WSSF (AV-8) | 3.5 | 0 | 31.5 | Do not include , Service Unique (AV-8) |
| | WSSF (F/A-18) | 3.8 | 0 | 34.2 | Do not include , Service Unique (F/A-18) |
| **Hardware in the loop (HITL)** | MK-45 TDD Eng. Dev. | 0 | 0 | 40 | Include in A/W analysis |
| | Simulation Lab- Missile | 0 | 0 | 20 | Include in A/W analysis |
| | TSSAM | 5 | 0 | 45 | Include in A/W analysis |
| **Open Air Range (OAR)** | Air/Ground Range | 3 | 1 | 85 | Include in A/W analysis |
| | Electronic Combat Range | 1 | 55 | 27 | Include in EC and A/W analysis |
| | Flight Test Capability | 0 | 2.7 | 97.3 | Do not include, Support facility of OAR |

**Naval Air Warfare Center, Weapons Division - China Lake**
**White Sands Missile Range Detachment**

| Test Facility Category | Facility Name | % Workload in AV T&E | % Workload in EC T&E | % Workload in A/W T&E | Recommendation |
|---|---|---|---|---|---|
| **Open Air Range (OAR)** | NAWCWPNS, White Sands | 0 | 0 | 85 | Include in A/W analysis |

**Naval Surface Warfare Center**
**Crane, ID**

| Test Facility Category | Facility Name | % Workload in AV T&E | % Workload in EC T&E | % Workload in A/W T&E | Recommendation |
|---|---|---|---|---|---|
| **Measurement Facility** | EW Facility | 0 | 70 | 0 | Include in EC analysis |
| | Ordnance Test Area | 0 | 0 | 80 | Include in A/W analysis |
| | Automated IR Test Fac | 0 | 0 | 80 | Include in A/W analysis |
| | Transient Velocity Windstream Apparatus | 0 | 0 | 50 | Include in A/W analysis |
| **Hardware in the Loop (HITL)** | Conventional Ammo Facility | 0 | 0 | 100 | Do not include, < 100 test hours/year in A/W |
| | Missile Fuze Test Facility | 0 | 0 | 100 | Do not include, <100 test hours/year in A/W |
| | Ordnance Radiographic Facility | 0 | 0 | 100 | Do not include, <100 test hours/year in A/W |
| | Ordnance & Component Eval | 0 | 0 | 100 | Do not include, <100 test hours/year in A/W |
| | Fleet Ballistic Missile Ord Test | 0 | 0 | 100 | Do not include, Service Unique (Trident Missile) |
| | Ordnance Environmental Test | 0 | 0 | 100 | Do not include, < 100 test hours/year in A/W |

**Naval Surface Warfare Center**
**Dahlgren, Va**

| Test Facility Category | Facility Name | % Workload in AV T&E | % Workload in EC T&E | % Workload in A/W T&E | Recommendation |
|---|---|---|---|---|---|
| **Measurement Facility** | Warheads Research TestFac | 0 | 0 | 0 | Do not include, 5% criteria |
| | Electro Magnetic Vulnerability Assesment | 35 | 0 | 24 | Include in A/V and A/W analysis |
| | Electro Magnetic Pulse Test Facility | 0 | 0 | 10 | Do not include, < 100 test hours/year in A/W |
| | Explosive Experimental Area | 0 | 0 | 15 | Include in A/W analysis |
| **Open Air Range (OAR)** | Potomac River Test Range | 0 | 0 | 40 | Do not include, Service unique surface-to-surface range |
| | Search & Track Sensor Test | 0 | 0 | 5 | Do not include, 5% criteria |

**Naval Surface Warfare Center**
**Indian Head, MD**

| Test Facility Category | Facility Name | % Workload in AV T&E | % Workload in EC T&E | % Workload in A/W T&E | Recommendation |
|---|---|---|---|---|---|
| **Measurement Facility** | Non Destructive Test | 0 | 0 | 60 | Do not include, Support facility |
| | Propulsion Component Test | 0 | 0 | 50 | Include in A/W analysis |
| | Environmental Test Fac | 0 | 0 | 10 | Include in A/W analysis |
| | Cartridge Actuated Devices | 0 | 0 | 60 | Do not include, DoD unique facility. NSWC IH has Tri-Service resposibilities for CAD & Aircrew Escape System components |
| | Chemical/Physical Test | 0 | 0 | 5 | Do not include, 5% criteria |

**NAWC**
**Indianapolis, ID**

| Test Facility Category | Facility Name | % Workload in AV T&E | % Workload in EC T&E | % Workload in A/W T&E | Recommendation |
|---|---|---|---|---|---|
| DMS | Central Computing Facility | 0 | 0 | 0 | Do not include, Support facility |
| | ALQ-170 | 0 | 25 | 0 | Do not include, Service Unique (AN/ALQ-170) |
| | EW Facility | 0 | 16 | 0 | Do not include, Service Unique (AN/ALQ-170 support facility) |
| Measurement Fac (MF) | Product QA & Evaluation Facility | 20 | 5.1 | 4 | Include AV analysis, 5% criteria on EC when rounded to nearest whole percentage |
| | Industrial Facilities | 0.98 | 0.8 | 0.02 | Do not include, 5% criteria |
| Integration Lab (IL) | TACAIR Pod | 10 | 0 | 0 | Include in AV analysis |
| | Secure Compartmented Integrated Facility | 0 | 0 | 0 | Do not include, 5% criteria |
| | Avionics/Electronics Dev. Lab | 4.6 | 0.3 | 0.2 | Do not include, 5% criteria |
| | EP-3/ES-3 Convert in Lieu of Procurement | 19 | 0 | 0 | Do not include, Service Unique (EP-3 & ES-3 aircraft support) |
| | Integration Avionics Lab | 18 | 0 | 0 | Include in AV analysis |
| Hardware in the Loop (HITL) | Digital Scene Matching Area Correlator | 1 | 0 | 0 | Do not include, 5% criteria |

**Naval Air Warfare Center**
**Patuxent River, MD**

| Test Facility Category | Facility Name | % Workload in AV T&E | % Workload in EC T&E | % Workload in A/W T&E | Recommendation |
|---|---|---|---|---|---|
| **Measurement Facility** | C7/MK7Cat/Trap & Take-Off Assist. Fac | 100 | 0 | 0 | Do not include, Service Unique (Aircraft Carrier unique systems) |
| | Landing System Test | 100 | 0 | 0 | Do not include, Service Unique (Support for aviation capable ships) |
| | Propulsion System Eval. | 80 | 0 | 0 | Include in A/V analysis |
| | Ship Ground Station | 60 | 0 | 0 | Do not include, Service Unique (Support for aviation capable ships) |
| | A/C Arm. Sys. Sim Eng Test Station | 100 | 0 | 0 | Include in A/V analysis |
| | EW/Avionics Flt Test F | 60 | 20 | 0 | Include in A/V. <100 hours/yr EC |
| | ATLAS In-Flt Meas. Ca | 75 | 10 | 5 | Include in A/V. <100 hours/year EC |
| | Aircraft T&E Facility | 100 | 0 | 0 | Include in A/V analysis |
| | EO & Recon Sys Test | 100 | 0 | 0 | Include in A/V analysis |
| | Combat ID System | 50 | 5 | 0 | Include in A/V analysis |
| | Grnd. Range Ant Test F | 50 | 20 | 0 | Include in A/V and EC analysis |
| | Acoustic Test Facility | 80 | 0 | 0 | Do not include, Service Unique (ASW sensor testing) |
| | Comm. T&E Lab | 80 | 5 | 0 | Include in A/V analysis |
| | Surv & Topo Analysis Radar Sys Lab | 80 | 0 | 0 | Include in A/V analysis |

**Naval Air Warfare Center**
**Patuxent River, MD (Cont'd`)**

| Test Facility Category | Facility Name | % Workload in AV T&E | % Workload in EC T&E | % Workload in A/W T&E | Recommendation |
|---|---|---|---|---|---|
| **Integration Lab** | Airborne Strategic Comm Engr & Test | 30 | 0 | 0 | Do not include, Service Unique (EA-6 TACAMO support) |
| | E-2C Systems T&E Lab | 100 | 0 | 0 | Do not include, Service Unique (E-2C support) |
| | Helicopter Mission Sys. Support Center | 80 | 0 | 0 | Include in A/V analysis |
| | Fixed Wing ASUW & ASW Lab | 70 | 0 | 0 | Do not include, Service Unique (P-3C & S-3 support) |
| | Project Beartrap | 30 | 0 | 0 | Do not include, Service Unique (Specialized ASW aircraft support) |
| **Hardware in the Loop (HITL)** | Aircraft Elect. Eval. | 90 | 0 | 0 | Include in A/V analysis |
| | Aircrew Sys Test | 60 | 0 | 0 | Include in A/V analysis |
| | Aircraft Stores Certification Test | 100 | 0 | 0 | Include in A/V analysis |
| | Flight Control Computer Test | 100 | 0 | 0 | Include in A/V analysis |
| | Integrated Aircraft Test Lab | 90 | 0 | 0 | Include in A/V analysis |
| | Aircraft Support Systems Test Facility | 90 | 0 | 0 | Include in A/V analysis |
| **Installed Systems Test Facility (ISTF)** | Air Combat Environment T&E Fac | 41 | 26 | 8 | Include in A/V, EC and A/W analysis |
| **Open Air Range (OAR)** | Chesapeake Test Range | 85 | 5 | 5 | Include in A/V analysis |
| | Telemetry Data System | 85 | 10 | 5 | Do not include, Support Facility for OAR |
| | Airborne Instr. Support | 90 | 5 | 5 | Do not include, Support Facility for OAR |
| | Target Support Fac | 70 | 0 | 10 | Do not include, Support Facility for OAR |
| | T&E Data Processing | 85 | 5 | 5 | Do not include, Support Facility |

**Naval Surface Warfare Center**
**White Oak, MD**

| Test Facility Category | Facility Name | % Workload in AV T&E | % Workload in EC T&E | % Workload in A/W T&E | Recommendation |
|---|---|---|---|---|---|
| **MF** | Hypervelocity Wind Tunnel | 0 | 0 | 0 | Do not include, 5% criteria |
| | Nuclear Weapons Radiation Effect | 0 | 0 | 5 | Do not include, 5% criteria,. Not within the scope of T&E JCSG Functional Area review |

**Naval Air Warfare Center, Weapons Division**
**Pt. Mugu, CA.**

| Test Facility Category | Facility Name | % Workload in AV T&E | % Workload in EC T&E | % Workload in A/W T&E | Recommendation |
|---|---|---|---|---|---|
| **DMS** | Simulation and Effectiveness Center | 0 | 0 | 80 | Include in A/W analysis |
| | Target System Modeling & Simulation | 0 | 0 | 35 | Do not include, Support facility for targets |
| **MF** | Airborne IR Measurement | 0 | 36 | 0 | Include in EC analysis |
| | Bistatic Radar Reflectivity Lab | 2 | 0 | 58 | Include in A/W analysis |
| | Electromagnetic Environmental Effects | 20 | 0 | 40 | Include in A/W analysis, <100 test hours/year in A/V |
| | Environmental Test | 10 | 0 | 80 | Include in A/W analysis, <100 test hours/year in A/V |
| | Monostatic Radar Reflectivity | 2 | 0 | 58 | Include in A/W analysis |
| | Ready Missile Test | 0 | 0 | 90 | Include in A/W analysis |
| | Reliability Test | 0 | 0 | 90 | Include in A/W analysis |
| | Sea Level Climatic Chamber | 40 | 0 | 40 | Include in A/V and A/W analysis |
| | Support Equip Engr & Test | 0 | 0 | 50 | Do not include, Support Facility |
| | Telemetry/Test Article Instrumentation | 0 | 0 | 100 | Do not include, < 100 test hours/year in A/W |

**Naval Air Warfare Center, Weapons Division**
**Pt. Mugu, CA. (Cont'd)**

| Test Facility Category | Facility Name | % Workload in AV T&E | % Workload in EC T&E | % Workload in A/W T&E | Recommendation |
|---|---|---|---|---|---|
| **IL** | EW Countermeasure | 0 | 5 | 0 | Do not include, 5% criteria |
| | EW/Radar Supp Equip | 0 | 5 | 0 | Do not include, 5% criteria |
| | Info Warfare Sys Lab | 0 | 0 | 0 | Do not include, 5% criteria |
| | Intercept Weapons Eval | 0 | 0 | 100 | Include in A/W analysis |
| | Laser & Stabilized Optics | 0 | 0 | 0 | Do not include, 5% criteria |
| | Warning & Surveillance | 0 | 10 | 0 | Include in EC analysis |
| | WSSA (F-14) | 0 | 0 | 15 | Do not include, Service Unique (F-14) |
| | WSSL (EA-6B) | 0 | 5 | 0 | Do not include, Service Unique (EA-6B) |
| **HITL** | EC Simulations & Evaluation | 0 | 10 | 0 | Include in EC analysis |
| | Missile HITL | 0 | 0 | 90 | Include in A/W analysis |
| | Strike Weapons Eval | 15 | 0 | 85 | Include in A/W analysis, < 100 test hours/year in A/V |
| **OAR** | Aerial Targets | 0 | 2 | 41 | Do not include, Support Facility |
| | Aircraft O&M | 0 | 0 | 16 | Do not include, Support Facility |
| | Sea Test Range | 16.4 | 0.8 | 33 | Include in A/V and A/W analysis |
| | Surface Targets | 0 | 5 | 60 | Do not include, Support Facility |
| | Target Augmentation System | 0 | 0 | 50 | Do not include, Support Facility |
| | Target Control System | 0 | 0 | 60 | Do not include, Support Facility |
| | Threat EC Simulations | 0 | 0 | 100 | Do not include, Support Facility |
| | Threat Radar Signal Simulation | 0 | 0 | 100 | Do not include, Support Facility |

**Naval Air Warfare Center, Aircraft Division**
**Warminster, PA**

| Test Facility Category | Facility Name | % Workload in AV T&E | % Workload in EC T&E | % Workload in A/W T&E | Recommendation |
|---|---|---|---|---|---|
| **Digital Modeling & Simulation (DM&S)** | Human Centrifuge/Dynamic Flt Simulator | 40 | 0 | 0 | Include in A/V analysis |

# AIR FORCE FACILITY INCLUSIONS LIST FOR T&E JCSG ANALYSIS

**AIR FORCE MATERIEL COMMAND**

**Air Force Flight Test Center**
**Edwards AFB, CA**

| Test Facility Category | Facility Name | % Workload in AV. T&E | % Workload in EC T&E | % Workload in A/W T&E | Recommendation |
|---|---|---|---|---|---|
| **Digital Modeling & Simulation Facility** | Test & Evaluation Mission Simulator (TEMS) | 19.8 | 0.2 | 0 | Include in AV analysis |
| | | | | | |
| **Measurement Facilities** | Ground Vibration / Structure Lab | 80.75 | 0 | 4.25 | Include in AV analysis |
| | Human Factors Lab | 90 | 0 | 0 | Include in AV analysis |
| | | | | | |
| **Integration Labs** | Integration Facility for Avionics Systems Test (IFAST) | 80.1 | 9 | 0 | Include in AV and EC analysis. |
| | Instrumented Propulsion Complex | 40 | 0 | 0 | Include in AV analysis |
| | SAR Test Fac. North Base | 0 | 80 | 0 | Include in EC analysis |
| | | | | | |
| **Installed System Test Facility (ISTF)** | Benefield Anechoic Facility | 56.7 | 22.5 | 0.9 | Include in AV analysis |
| | | | | | |
| **Open Air Range** | AFFTC Open Air Range | 84.4 | 8.4 | 0.9 | Include in AV and EC analysis |

**AIR FORCE MATERIEL COMMAND (Continued)**

**Air Force Flight Test Center**
**Edwards AFB, CA**

| Test Facility Category | Facility Name | % Workload in AV T&E | % Workload in EC T&E | % Workload in A/W T&E | Recommendation |
|---|---|---|---|---|---|
| **Test Support Facilities** | Aerospace Ground Equipment Complex` | 100 | 0 | 0 | Do not include in analysis |
| | Aircraft Corrosion Control | 93.8 | 0 | 0 | Do not include in analysis |
| | Air Traffic Control | 34 | 15 | 7 | Do not include in analysis |
| | Audio Visual Center | 30.7 | 1 | 0.2 | Do not include in analysis |
| | Fuel System Dock Complex | 98 | 0 | 0 | Do not include in analysis |
| | Runways/Dry Lake Beds, Rogers/Rosamond/Main base/South & North Base | 84.4 | 8.4 | 1 | Do not include in analysis |
| | Test Support Maintenance & Mod. Facility | 100 | 0 | 0 | Do not include in analysis |
| | Air Data Calibration Facility | 95 | 0 | 0 | Do not include in analysis |
| | Weight & Balance Fac | 95 | 0 | 0 | Do not include in analysis |
| | Icing/Refueling Lab | 95 | 0 | 0 | Do not include in analysis |
| | NDI | 93.8 | 0 | 0 | Do not include in analysis |
| | Parachute Test Complex | 72 | 0 | 8 | Do not include in analysis |
| | Stores Wt. & Inertia Facility | 97 | 0.98 | 0 | Do not include in analysis |
| | Test Measurement & Diagnostic - Precision Measurement Lab | 50.6 | 2.75 | 1.65 | Do not include in analysis |
| | Thrust Stand | 95 | 0 | 0 | Do not include in analysis |
| | ARIA Maintenance Facility | 100 | 0 | 0 | Do not include in analysis |
| | Missile/Munitions Integration Facility | 99 | 0 | 1 | Do not include in analysis |
| | SAR Test Fac.- South Base | 100 | 0 | 0 | Do not include in analysis |

**AIR FORCE MATERIEL COMMAND (Continued)**

**Air Force Flight Test Center**
**Edwards AFB, CA**

| Test Facility Category | Facility Name | % Workload in AV T&E | % Workload in EC T&E | % Workload in A/W T&E | Recommendation |
|---|---|---|---|---|---|
| **Test Support Facilities (Continued)** | Air Gun Harmonization Fac | 100 | 0 | 0 | Do not include in analysis |
| | Barrier Test Facility | 100 | 0 | 0 | Do not include in analysis |
| | Communications | 0 | 0 | 0 | Do not include in analysis |
| | Ridley Mission Control Center | 86.4 | 8.64 | 0.96 | Do not include in analysis |
| | Instrumented Refueling Test | 100 | 0 | 0 | Do not include in analysis |
| | | | | | |
| **Other** | Austere Field Operations | 95 | 0 | 0 | Do not include in analysis, less than 100 test hours. |
| | Artificial Icing/Rain | 100 | 0 | 0 | Do not include in analysis, less than 100 test hours. |
| | Terrain Following Routes | 76.5 | 4.5 | 9 | Do not include in analysis, less than 100 test hours. |
| | Test Pilot School | 0 | 0 | 0 | No T&E |

**AIR FORCE MATERIEL COMMAND (Continued)**

**Utah Test and Training Range (UTTR)**
**Hill AFB, UT**

| Test Facility Category | Facility Name | % Workload in AV T&E | % Workload in EC T&E | % Workload in A/W T&E | Recommendation |
|---|---|---|---|---|---|
| **Open Air Range** | UTTR Open Air Range | 53.7 | 0 | 3.8 | Include in AV analysis |

**Arnold Engineering Development Center**
**Tullahoma, Tennessee**

| Test Facility Category | Facility Name | % Workload in AV T&E | % Workload in EC T&E | % Workload in A/W T&E | Recommendation |
|---|---|---|---|---|---|
| **Measurement Facilities** | Propulsion Wind Tunnel | 36 | 0 | 10 | Include in AV and A/W analysis |
| | Rocket Propulsion Altitude TC | 0 | 0 | 90 | Include in A/W analysis |
| | Air Breathing Engine TF | 51 | 0 | 0 | Include in AV analysis |
| | Von Karman Facility | 2 | 0 | 6 | Do not include in analysis, less than 100 test hours |
| | Space Facility Test Complex | 0 | 0 | 0 | Exclude from analysis. No AV, EC, or A/W T&E workload |

**AIR FORCE MATERIEL COMMAND (Continued)**

**Air Force Development Test Center**
**Eglin AFB, FL**

| Test Facility Category | Facility Name | % Workload in AV T&E | % Workload in EC T&E | % Workload in A/W T&E | Recommendation |
|---|---|---|---|---|---|
| **Digital Modeling and Simulation Facility** | Digital Modeling and Sim Facility | 0 | 3.5 | 96.5 | Include in A/W analysis |
| **Measurement Facilities** | McKinley Climatic Chamber | 58 | 9 | 0 | Include in AV and EC analysis |
| | Multispectral Sig. Measurement | 8 | 7 | 50 | Include in AV, EC, and A/W analysis |
| | Eglin Sled Track | 0 | 2 | 92 | Include in A/W analysis |
| | Warhead Arena | 1 | 0 | 99 | Include in A/W analysis |
| | Fuze Test Facility | 0 | 0 | 99 | Include in A/W analysis |
| | Gun Test Facility | 0 | 0 | 93 | Include in A/W analysis |
| | | | | | |
| **Hardware in the Loop** | GWEF | 0.49 | 1.81 | 80.06 | Include in A/W analysis |
| | | | | | |
| **Installed Systems Test Facility (ISTF)** | PRIMES | 0 | 53 | 31 | Include in EC and A/W analysis |
| | | | | | |
| **Open Air Range** | ASTE | 3 | 5 | 40 | Include in A/W analysis |
| | EMTE | 1 | 57 | 9 | Include in EC analysis. Do not include in A/W analysis, less than 100 test hours |
| | Gulf Test Facility | 1 | 3 | 7 | Include in A/W analysis |
| | Hellfire Test Facility | 0 | 0 | 100 | Include in A/W analysis |
| | BISS | 1.3 | 0.5 | 3.1 | Do Not Include, less than 5% |

**AFDTC, AFEWES, Ft Worth, Texas**

| Test Facility Category | Facility Name | % Workload in AV T&E | % Workload in EC T&E | % Workload in A/W T&E | Recommendation |
|---|---|---|---|---|---|
| **Hardware in the Loop** | AFEWES | 0 | 100 | 0 | Include in EC analysis |

**AFDTC, REDCAP, Calspan, Buffalo, NY**

| Test Facility Category | Facility Name | % Workload in AV T&E | % Workload in EC T&E | % Workload in A/W T&E | Recommendation |
|---|---|---|---|---|---|
| **Hardware in the Loop** | REDCAP | 0 | 100 | 0 | Include in EC analysis |

## AIR FORCE MATERIEL COMMAND (Continued)

**AFDTC, Holloman AFB, NM**

| Test Facility Category | Facility Name | % Workload in AV T&E | % Workload in EC T&E | % Workload in A/W T&E | Recommendation |
|---|---|---|---|---|---|
| **Measurement Facility** | CIGTF | 78.6 | 5.6 | 11.2 | Include in AV, EC, and A/W analysis |
| | RATSCAT/RAMS | 0 | 100 | 0 | Include in EC analysis |
| | Hollowman High Speed Sled | 16.8 | 4.5 | 61.1 | Include in AV and A/W analysis |

## AIR COMBAT COMMAND

**Air Warfare Center**
**Tyndall AFB, FL**

| Test Facility Category | Facility Name | % Workload in AV T&E | % Workload in EC T&E | % Workload in A/W T&E | Recommendation |
|---|---|---|---|---|---|
| **Hardware in the Loop** | Radar Test Facility | 86 | 0 | 0 | Include in AV analysis |
| | | | | | |
| **Test Support Facilities** | Wetstone Control | 0 | 0 | 5.27 | Do not include in analysis |
| | Range Fac. & Analysis | 10 | 10 | 70 | Do not include in analysis |
| | E-9 Airborne TM | 5 | 5 | 80 | Do not include in analysis |
| | Gulf Range Drone Control Upgrade | 0 | 0 | 100 | Do not include in analysis |
| | Subscale Aerial Targets | 0 | 0 | 100 | Do not include in analysis |
| | Full Scale Aerial Targets | 0 | 0 | 100 | Do not include in analysis, less than 100 hours, and support facility |

# T&E JCSG UNIVERSE

- Army:
  - White Sands Missile Range (including EPG)
  - Yuma Proving Ground
  - Redstone Technical Test Center
  - Aviation Technical Test Center @ Ft Rucker, Edwards
- Navy:
  - NAWC's @ China Lake, China Lake @ WSMR, Indianapolis, Patuxent River, Point Mugu, Warminster.
  - NSWC's @ Crane, Dahlgren, Indian Head
- Air Force:
  - AFFTC @ Edwards, UTTR
  - AFDTC's @ Eglin, Ft Worth, Buffalo, Holloman
  - AEDC Tullahoma
  - AWC @ Tyndall

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TAB C - Scoring Issues and Agreements

MEMORANDUM FOR THE RECORD 3 October 1994

Subject: Issues Related to Scoring for T&E Functional Value and Joint Analysis, and their Resolution/clarification by the T&E JCSG and JCSWG.

This memorandum records agreements reached by the T&E JCSG and JCSWG on issues related to functional value scoring and joint analysis. The issues are numbered in the order they were raised. Where the issue has not been addressed by the JCSWG, or no agreement has been reached, the status is indicated.

**Issue 1.** Inexact numbers. **Discussion.** How do we score a range, typically given when a quantity is estimated (e.g. 5-8%). Do we use min, max, median, worst case (i.e. lowest score)? **JCSWG Agreement. Use the median value for ranges.** Do we make a distinction between numbers implied exact and numbers with modifiers such as "almost", "approximately", or "over"? **JCSWG Agreement. Use the value given for numbers with modifiers.**

** **Issue 2.** How do we score EWTA's for questions pertaining to Restricted/Warning areas? We have had to go out for clarifications to some sites which did not specifically list Warning Areas in their responses but have listed over water test areas known to include designated Warning areas. Restricted and Warning areas have clear definitions, but EWTA's are not shown on standard aeronautical charts, so its not clear whether they exist anywhere but in the Gulf of Mexico? If EWTA's are classified in the same category as Restricted/Warning areas, are we required to go out for a general clarification to find out if any sites have a comparable entity? Are we "legally" required to update the score sheet to include them in the appropriate questions? **JCSG Agreement. Do not score EWTA's for restricted or warning area questions. Only score them for available airspace and straight line distance questions. Ensure consistency in straight line scoring across all activities.**

* **Issue 3.** Workload projection for new facilities. **Discussion.** How do we project workload for new facilities (i.e. without FY92-93 historical data)? **JCSG Agreement. If a facility cites no workload for FY92 and FY93, then do not project any workload for that facility. Do include that facility in the capacity calculation if the facility is operational, or will be operational by 31 December 1994. (Note: The 31 December 1994 cut-off may be inconsistent with the data call and previous JCSG decisions (i.e., to not include FYDP-programmed improvements in capacity/capability analysis). This needs to be investigated further.)** ***This issue is no longer valid as the current capacity projection methodology is based on historic workload.***

**Issue 4.** Discrepancies between direct labor hours and test hours. **Discussion.** Should we request a clarification if we note that the ratio of direct labor to test hours in the historical workload differs from the average workload per test per facility hour (column 6, form 6) by a factor of 2? 10? 100? (The implication is that estimates of test hours derived from workload may be faulty.) **JCSG Agreement. Requests for clarification should only be issued for glaring discrepancies.**

**Issue 5.** Ambiguous responses. **Discussion.** We have no grading criteria or guidelines to insure consistent grading for several ambiguous questions. For example 2.3.B.2 asks if the facility produces a T&E *product* or *service* without which *irreparable* harm would be imposed on any *mission* (other than test) which is deemed *critical* to the *operational* effectiveness ... Do we simply score the "yes" or "no" answer, or must the narrative further substantiate the response. If so, what criteria do we use to judge "irreparable" and "critical". Must the narrative describe the "product or service", identify the "harm", specify the "mission"

and define the "criticality" as the question seems to require? In general, the respondents seem to be answering the question "do you feel what you are doing is important to the armed forces?" In question 3.1.C.1 many respondents are answering "yes" to the question of "limiting" environmental characteristics and then describing mitigating strategies which result in "essentially" no limitation. What criterion do we apply to consistently score a variety of responses which are often as ambiguous as the question? **JCSG Agreement. Use the Yes or No as stated in the Data Call response. However, if there is a glaring discrepancy between the yes/no response and the narrative response, then an RFC can be issued , or it can be elevated to the JCSWG for resolution as appropriate.**

* **Issue 6.** Numerical test hour exclusion threshold. **Discussion.** Should we also have a numerical test hour threshold to exclude some sites with very small workloads that still exceed the 5% threshold (e. g. 10 % T&E but only 1 hour per year of test < not a typo>)? **JCSWG Agreement. Data will be gathered for an analysis to determine threshold values. To determine potential threshold values, exclusion forms will be completed for those facilities which are clearly candidates for exclusion because so little T&E work is performed; whether measured by T&E test hours, percentages, direct labor hours, missions, or number of assigned personnel.** ***Facilities with an average FY92/93 workload of less than 100 test hours will be excluded.***

**Issue 7.** Giving credit for air/land/sea space, topo, etc **Discussion.** If an activity's open air range workload is greater than 0% but 5% or less, do we still score the air/land/sea space questions (3.1.G) which relate to the capability of an activity's *ranges* to satisfy test requirements? If we don't score airspace then do we also not score 3.1.H.1 which relates to the topography in the test *airspace*? **JCSWG Agreement. Physical value credit should be given if it's test mission depends on the air/land/sea space.**

**Issue 7A.** N/A or blank responses. **Discussion.** How do we handle N/A or blank responses to physical value questions when these data are necessary to evaluate the activity's FV? **JCSG Agreement. Treat the response as a No, unless its clear that the facility's test mission is dependent on the use of such air/land/sea space, in which case credit should be given, or an RFC issued if necessary- and physical value questions should be scored.**

**Issue 8.** Primary test facility category. **Discussion.** Can we declare a primary category for a facility, which has declared multiple categories, based on the technical description given and a consensus among the scorers or must the facility be forced to make that distinction itself, in every case, through a clarification request? (the Data Call did not mandate a facility assign only one category to itself) **JCSWG Agreement. If a primary category is stated, then use it during the analysis process. If more than one category is stated, and none is stated as being primary, then an RFC should be issued. If a facility fits multiple categories, and the activity can not choose a primary category, then the activity can elect to divide the facility and submit revised data call responses for the "new" facilities to include reaccomplishing the Data Forms, etc.**

**Issue 9.** Crediting auxiliary airfields. **Discussion.** How do we score *auxiliary* airfields for ramp/hangar space? **JCSWG Agreement. Include auxiliary airfields and ramp/hangar space, unless there is a glaring disconnect, such as the auxiliary airfield is a commercial airport - in which case issue an RFC.**

**Issue 10.** Crediting shop and admin space as hangar space. **Discussion.** Do we score hangar area to include associated shop and administrative space? Some facilities have broken this out from the total, some have indicated inclusion, others have not made a distinction. We have asked for clarification to be able to

include these consistently for all respondents. **JCSWG Agreement. Issue an RFC to get split-outs of the space. Only aircraft floor space should be scored as "hangar space." Exclude office space and shop space, etc., from "hangar space."**

**Issue 11.** Converting labor hours to test hours. **Discussion.** Are we allowed to convert labor hours to test hours using an average of *workload per test per facility hour* (col 6) or must each facility be required to convert their data through a clarification request? **JCSWG Agreement. Issue an RFC to assure certified data are available for the capacity analysis.**

**Issue 12.** Population estimates. **Discussion.** One facility gave "actual" 1990 population, then estimated 1994 population, implying actual was based on 1990 census. Do we need a clarification from all facilities stating the baseline for their population data? **JCSWG Agreement. No. Take the 1994 answer. A related question addresses how to handle population across international borders. The agreement is to simply use the population numbers reported. If the answer is incomplete, issue an RFC.**

**Issue 13.** Data not available. **Discussion.** What do we do if the response is "data are not available"? (note: this is different than "data not applicable") **JCSWG Agreement. If the data were required by the data call, and are required for the analysis, then issue an RFC to get the activity's best estimate. For example, three questions relate to missions canceled (because of weather, encroachment, and commercial/public use) - if necessary in order to compute a percentage canceled for each functional area, issue an RFC to get the best estimate over the period of time.**

**Issue 14.** Questions not germane. **Discussion.** What do we do if the response is "data not applicable" and it is clear that the intent of the question does not apply to the type of testing the facility performs? (e.g. how many days the visibility is >3 miles is rarely germane to an indoor facility) Do we give "full credit" for facilities clearly unaffected? (e.g. 365 days for a wind tunnel) **JCSWG Agreement. See the Agreement recorded at Issue 7A (N/A or blank responses).**

* **Issue 15.** Aggregation of weather cancellation data. **Discussion.** Most facilities reported missions canceled due to weather (3.1.H.6) for the site, a few by facility. How do we score 3.1.H.6 consistently? (e.g. average for site, average for applicable facilities, average for functional area) One could argue that, on *average*, the numbers (%) would be the same across all functional areas and all facilities so that the number could be calculated in whatever manner was most expedient, given the data provided. **JCSWG Agreement. Calculate an average for ~~the site, whether based on facility values or functional values~~ *each functional area by aggregating included facilities.* Calculate the denominator as conducted + canceled.**

**Issue 16.** Different physical value responses. **Discussion.** How will the physical values for a specific activity be scored if different values are given for associated facilities? **JCSWG Agreement. Accept value reported, unless there is a glaring discrepancy, in which case issue an RFC.**

**Issue 17.** Insufficient geographic dispersion responses. **Discussion.** Data are generally insufficient to evaluate EC question 3.3.A.7, geographic dispersion. Can we, by mutual agreement among the service scorers, effectively eliminate a question by giving all facilities full credit? **JCSWG Agreement. If any geographic dispersion is claimed, give full credit.**

**Issue 18.** Lack of necessary mission data. **Discussion.** How do we score percent test missions canceled for a ground test facility which reported workload in terms of hours but could not quantify number of missions? **JCSWG Agreement. Reference Issue 13 (Data not available), issue an RFC if required, and ask for the best estimate of the number of missions canceled, or percentage of missions canceled.**

**Issue 19.** Ambiguous responses. (reiterating Issue #5) **Discussion.** Many responses answered yes to 3.1.C.1 but then clearly indicated why the "limiting characteristics" really were not limiting? This is a case where many yes responses are clearly no. Is three-way consensus sufficient to score a no for a question that was answered "yes"? **JCSWG Agreement. Reference Issue 5 (Ambiguous responses).**

**Issue 20.** Sufficiency of TS/SAR responses. **Discussion.** What constitutes "equipped to support TS/SAR work" in 3.1.E.3? Some facilities reported a conference room or safe was cleared for TS/SAR. The Functional Value question is not the same as the Data Call question so we can't go with just the yes/no answer. **JCSWG Agreement. The facility must be equipped to support TS/SAR work. Having a safe or classified conference room alone does not qualify a T&E facility to do TS/SAR work. If it isn't clear whether the facility can support TS/SAR work, then an RFC should be issued.**

**Issue 21.** Workload projection in absence of historical data. **Discussion.** How do we project workload for a facility which reported no historical workload for FY92 and/or FY93 **JCSWG Agreement. If work was reported in FY92, but not in FY93, then use the FY92 value as the "FY92/93 average." ? If work was reported in FY93, but not in FY92, then use the FY93 value as the "FY92/93 average." If no work was reported in either FY92 or FY93, then use 0 (zero) as the "FY92/93 average."**

**Issue 22.** Apparent inconsistency between historical workload and unconstrained capacity data. **Discussion.** If a facility reported zero historical workload in FY92 and FY93, but did report capacity using the Unconstrained Capacity Worksheet form, should it be included in the capacity calculations? **JCSWG Agreement. The facility will be treated as a receiver site if it's currently operational even if it had no workload in FY92 and FY93. If the data suggest that the facility isn't operational, then issue an RFC to clarify its current state (caretaker, mothballed, etc.)**

**Issue 23.** Exclusion of service-unique / platform-unique capabilities. **Discussion.** Should we exclude service-unique / platform-unique capabilities, such as aircraft integration labs, since they are specifically designed to support one type of weapon system per facility and cannot take on another weapon system's workload? **JCSWG Agreement. Exclude from analysis.**

*** **Issue 24.** Dissimilar measurement facilities. **Discussion.** The Measurement Facilities category appears to be too dissimilar to run as one category in the mixed-integer, linear programming model. Cannot mix or consolidate workload from a sled track to a wind tunnel, or RCS measurements work to a propulsion facility, etc. Recommendation (though not unanimous among the A/W functional area leads) is for each functional area to separate MF into top-level subareas. For example,

| | |
|---|---|
| MF-P | Propulsion T&E |
| MF-F | Fuze T&E |
| MF-W | Warhead T&E |
| MF-E | Environmental T&E |
| MF-S | Safety T&E |
| MF-G | Guidance and Control T&E |
| MF-T | Target signature/background characterization |

| | |
|---|---|
| MF-A | Wind tunnel T&E |
| MF-N | Gun performance T&E |
| MF-M | E3 |

This will force the model to align workload in similar areas, and will eliminate unrealistic mixtures of test hours. **JCSWG Agreement. Each functional team shall review facilities within each test facility category to align them into subcategories of like capabilities. Each team shall determine the natural breakouts within their area.**

**Issue 25.** Inclusion of surface-to-surface data. **Discussion.** Are we to include Surface-to-surface test hours -or- exclude them? If excluding, are we to generate a generic RFC asking WSMR, Yuma, China Lake, Pt Mugu, Eglin, Redstone, UTTR, etc to break out surface-to-surface? **JCSWG Agreement. Accept the test hours as reported unless a response to other data call questions suggests that surface-to-surface workload has been included, in which case generate an RFC to separate surface-to-surface from the total.**

**Issue 26.** Questions with multiple parts. **Discussion.** Some questions have multiple parts, such as:

- seeker, sensor and guidance/control performance and target/background signature characterization,

and

- airframe/aerodynamics/aerothermal performance T&E across subsonic, transonic, and hypersonic regimes. Should we score a facility as a "partial" if it can conduct one type of test but not all types? Then, the activity score would be a roll up of all facility scores. Or, should we score a facility "yes" if it can conduct any of the types of tests even though it cannot conduct all of the types? Recommendation: Score facilities as partial and roll up to the activity level. If all capabilities are met, score "yes." Otherwise, score "no" at the activity level.

**JCSWG Agreement. Give full credit if capability is claimed for any part of the subquestion.**

**Issue 27.** Ownership of technical facilities. **Discussion.** What constitutes "ownership" for a technical facility? If a tenant organization claims X sq ft of hangar space they occupy and (possibly) are paying rent for, do we credit them for that claim? **JCSWG Agreement. Accept the response/answers as given, unless there is a glaring discrepancy, in which case issue an RFC.**

**Issue 28.** Differences in values reported for physical characteristics by two or more activities at the same location. **Discussion.** What do we do if two or more activities at the same geographic location report different/conflicting values for the same physical characteristic (e.g., air space)? **JCSWG Agreement. Accept the values reported unless there are glaring discrepancies, in which case issue an RFC.**

* **Issue 29.** Maximum straight line range for armament/weapons scoring approach. **Discussion.** Question 1.1.4 on the A/W score sheet asked, "What is the maximum straight line range (in nautical miles) that the site can use to test the following? (3.1.G.7, 3.4.B.1.C, Data Forms): a. A-A missiles, b. A-S weapons, C. S-A missiles. The original data call asked the following: 3.1.G.7 What is the maximum straight line segment in your airspace in nm? and 3.4.B.1.C What are the maximum ranges (nm) you can test, by type weapon? Scoring question 1.1.4 is similar to 3.4.B.1.C but constrained to maximum straight line range to preclude an answer which includes cruise missile figure 8 ranges, et. al. How should we score the FV question? Three options are:

a. Score the largest answer to 3.4.B.1.C regardless of "controlled" or "available" airspace but ensure answer is less than or equal to the answer to 3.1.G.7 (max straight line segment).

b. Score answer to 3.4.B.1.C using "controlled" airspace to maintain consistency across land and sea ranges

c. Score answer to 3.1.G.7 regardless of ability to test A-A, A-S, or S-A weapons. **JCSWG Agreement. Score the largest answer to 3.4.B.1 but ensure that the answer is not greater than the answer to 3.1.G.7 (max straight line segment). If the weapon type is not specified, use the response to score all three weapon types.**

* **Issue 30.** Facility capacities not additive. **Discussion.** In some cases, facilities are reported (along with unconstrained capacity) when it is not clear that their work is independent, hence additive, of other facilities at the same location. This is especially true for open air ranges where some facilities which appear to play a support role are reported as independent T&E facilities. If their capacities are rolled up, then the OAR capacity will be artificially inflated. In other cases, facilities which appear to be legitimate T&E facilities have each reported capacities though it isn't clear that the range will support the totality of the work if the facilities were to operate simultaneously. Should we issue RFC's to ask for clarification? **JCSWG Agreement.** ***Yes.***

**Issue 31.** Contradictory answers to environmental limitations question. **Discussion.** (See Issue number 5 which is similar to this issue.) How should we score answers to 3.1.C.1, "Does the facility (site) have limiting environmental characteristics?" when,

. Some sites/facilities answer NO and then discuss a list of limiting environmental characteristics,

. Other sites/facilities answer YES and then discuss limitations but also say limitations to do affect testing. Both answers are similar. Two different approaches to the same fundamental problem -- all sites have limiting environmental characteristics; however, limitations are managed to minimize impact to testing. **JCSG Agreement. Use the Yes or No as stated in the Data Call Response. However, if there is a glaring discrepancy between the yes/no response and the narrative response, then an RFC can be issued. or it can be elevated to the JCSWG for resolution as appropriate.**

**Issue 32.** Can we score a facility in another Test Facility Category vice the one claimed on the General Information Form? For example, China Lake MK-45 TDD Engineering Development HITL Lab is called a HITL. However, testing is fuze performance T&E which we're scoring under MF's. Example: Crane's HITL facilities are MF's. **JCSWG Agreement. Since some RFC's have already been sent asking for this clarification, to ensure consistency, issue an RFC if in your judgment the facility category is incorrect. If the response indicates the facility is properly categorized, you must score the certified response.**

**Issue 33.** Can we score a facility in another functional area -or- question a facility's functional area? Example: Crane flares MF called A/W vice EC. **JCSWG Agreement. Since some RFC's have already been sent asking for this clarification, to ensure consistency, issue an RFC if in your judgment the facility category is incorrect. If the response indicates the facility is properly categorized, you must score the certified response.**

**Issue 34.** Reference A/W question 2.2.1.G: Intent was to capture wind tunnel capabilities. How should we score? Options are:

a. wind tunnel only get a "yes",

b. wind tunnels & sled tracks get a "yes", or

c. any facility which tests any facet of airframe or aerodynamic or aerothermal performance gets a "yes." **JCSWG Agreement. All A/W measurement facilities will respond to a global RFC that covers this question. Accept the certified response as reported.**

**Issue 35.** Some facilities apparently reported their populations in concentric rings rather than discs of increasing radii. Should we send a global RFC to confirm whether the numbers reported represent discs of increasing radii as was our intent? **JCSWG Agreement. Accept the response as reported unless the data, in your judgment, does not properly represent the expected growth in population as the radii increase. in that case, issue an RFC.**

** **Issue 36.** Do we accept the responses to global RFC's even if some responses are not confirmed by the original data call in the judgment of some scorers? **JCSG Agreement. Accept the response as reported.**

** **Issue 37.** Do we include the capabilities of **excluded** facilities elsewhere in the analysis? **JCSG Agreement. Excluded support facilities are removed from the capacity analysis only. They are still included in the technical value and configuration fit analysis. Other facilities excluded for the 5% or the 100 hour rules are excluded from any further analysis.**

** **Issue 38.** Do all activities located at the same site share the same physical value? **JCSG Agreement. No. Score activities only on the physical value characteristics they claim. Add a constraint (pending verification by the Tri-Dept BRAC group that this is executable) in the optimization model to ensure that if the host site is to remain open, then all available tenant excess capacity is fully utilized prior to assigning workload to another site.**

* **Issue 39** On topography scoring, do we accept a specific answer of "none" even though the facility description says otherwise? **JCSWG Agreement. Yes.**

| | | |
|---|---|---|
| Gary L. Holloway, SES | Mark B. Samuels, CDR | Dr. J. Daniel Stewart, SES |
| T&E JCSWG | T&E JCSWG | T&E JCSWG |
| Army Lead | Navy Lead | Air Force Lead |

* Decision by JCSWG, 30 September 1994
** Decision by JCSG, 3 October 1994
*** Decision by JCSWG, 3 October 1994

MEMORANDUM FOR THE RECORD 13 October 1994

Subject: Issues Related to Scoring for T&E Functional Value and Joint Analysis, and their Resolution/Clarification by the T&E JCSG and/or the JCSWG.

This memorandum records agreements reached by the T&E JCSWG on issues related to functional value scoring and joint analysis. The issues are numbered sequentially in the order they were raised and follow the issues agreed upon in the memorandum dated 3 October 1994, subject as above.

**Issue 40.** Should we credit Pt Mugu under topography for "desert"? It is outside the area claimed as available in question 3.1.G.1? They subsequently referred to it as available in an RFC. **JCSWG Agreement. Yes for A/W, EC, and AV. This supersedes response to Issue 39.**

**Issue 41.** Should we credit Pax River under topography for "mountains"? The mountain topography is outside the area claimed as available in 3.1.G.1. They refer to it as available in their response to another question. **JCSWG Agreement. Yes for A/W, EC, and AV.**

**Issue 42.** Should we score Eglin for a straight line segment that includes W-174? That area is not reported as an available warning area? Their response to an RFC on straight line segment showed a map that included W-174. **JCSWG Agreement. Yes for A/W.**

**Issue 43.** Should we exclude the airspace area over the "main base" at Pt Mugu from the available airspace over land reported by Pt Mugu? **JCSWG Agreement. No, use 226 square miles from question 3.1.G.5 for EC.**

**Issue 44.** Should we score an activity as having environmental restrictions in a selected functional area if the environmental restrictions are associated with a facility not being scored in the selected functional area? **JCSWG Agreement. No, only score the restrictions if they are associated with scored capabilities in your functional area.**

Gary L. Holloway

Gary L. Holloway, SES
T&E JCSWG
Army Lead

Mark B. Samuels, CDR
T&E JCSWG
Navy Lead

J Daniel Stewart

Dr. J. Daniel Stewart, SES
T&E JCSWG
Air Force Lead

S

TAB D - Threshold Requirements for Functional Value Scoring

# THRESHOLD REQUIREMENTS

Thresholds were developed using the process described here in order to score those air/land/sea space, and straight line distance questions which were identified in the T&E JCSG Analysis Plan for evaluation on a 0 to Threshold basis. The threshold values were documented in a memorandum by the T&E JCSWG (Threshold Values for Functional Value Scoring, 7 October 1994) and approved by the T&E JCSG.

The threshold values were derived by the T&E JCSWG from certified data (Book 500) submitted by the MILDEPs in response to the T&E Supplemental Data Call, dated 4 August 1994. Tables of the maximum requirement stated by each MILDEP were developed for each test category and filed in Book 500. Data from the "Air Vehicles" category were used to develop thresholds for scoring Air Vehicles FV. Data from the "Electronic Combat" category were used to develop thresholds for scoring Electronic Combat FV. Data from the "Armament/Weapons: Air-to-Air, Air-to-Surface, and "Surface-to-Air" sub-categories were used to develop thresholds for scoring Armaments / Weapons FV. Data from the Cruise Missiles and Theater Missile Defense categories of the Supplemental Data Call were not used because of their unusually large spatial requirements. The capability to test those weapon systems was evaluated during the development of the alternatives.

The maximum requirements (area or straight-line distance) needed by any MILDEP to conduct the specified categories of tests were taken as the threshold values. In 2 cases (Air Force statement of required straight line segment for Armament/Weapons air-to-surface, and Air Force statement of restricted air space for Air Vehicles), the JCSWG Service Leads judged that sufficient supporting rationale had not been provided by a MILDEP for a value which exceeded that provided by the other MILDEPs. In those cases, the next highest value was adopted as the threshold.

The threshold values were entered into the EXCEL spreadsheets used in the Functional Value calculation process.

7 October 1994

MEMORANDUM FOR T&E JCSG Co-CHAIRs

Subject: Threshold Values for Functional Value Scoring

The JCSWG has reviewed the certified responses from all three Services to the Supplemental Data Call and determined threshold values for Functional Value scoring. Request approval to use these values in DPAD for the scoring questions indicated below.

AIR VEHICLES

| Question | | Threshold | Driver |
|---|---|---|---|
| 1.1.1 | Sq mi land space available | 40,000 | USN: AEW, AF: B-2 |
| 1.1.2 | Sq mile sea space available | 40,000 | USN: AEW, AF: B-2 |
| 1.1.4 | Sq mi restricted/warning airspace | 40,000 | AF: B-2 |
| 1.1.6 | Sq mi available airspace over land | 40,000 | USN: AEW, AF: B-2 |
| 1.1.7 | Sq mi available airspace over water | 40,000 | USN: AEW, AF: B-2 |
| 1.1.8 | Max straight line segment in the airspace | 1200 | AF: TIER II+UAV |
| 1.1.11 | Max straight line segment in the supersonic airspace | 400 | USN: AEW |

ELECTRONIC COMBAT

| Question | | Threshold | Driver |
|---|---|---|---|
| 1.1.1 | Sq mi land space available | 160,000 | AF: B-1B |
| 1.1.2 | Sq mile sea space available | 122,500 | AF: B-1B |
| 1.1.4 | Sq mi restricted/warning airspace | 100,000 | AF: Bomber Penetrations |
| 1.1.7 | Sq mi available airspace over land | 160,000 | AF: B-1B |
| 1.1.8 | Sq mi available airspace over water | 122,500 | AF: B-1B |
| 1.1.9 | Max straight line segment in the airspace | 660 | USN: RWR, Jammers, ELINT |

ARMAMENTS / WEAPONS

| Question | | Threshold | Driver |
|---|---|---|---|
| 1.1.1 | Sq mi restricted/warning airspace | 50,000 | USN: AEGIS/SM II |
| 1.1.2 | Sq mi DoD land space | 21,000 | AF: AIM-120C |
| 1.1.3 | Sq mi sea warning area space | 50,000 | USN: AEGIS/SM II |

| | | | |
|---|---|---|---|
| 1.1.4.a | Max straight line segment, A-A | 220 | AF: F-15 |
| 1.1.4.b | Max straight line segment, A-S | 350 | AF: B-2 |
| 1.1.4.c | Max straight line segment, S-A | 240 | USA: UDS 81398A |

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Air Force Lead

concur / nonconcur

concur / nonconcur

John A. Burt
Co-Chairman
T&E Joint Cross-Service Group

Co-Chairman
T&E Joint Cross-Service Group

Copies to: T&E JCSG Army Principal
T&E JCSG Navy Principal
T&E JCSG Air Force Principal

TAB A - Optimization Model Input Data

# DEVELOPMENT OF CAPACITY AND WORKLOAD REQUIREMENTS

Capacities and workload requirements at the Test Facility Category (TFC), and sub-TFC level (where defined) were developed for each T&E Functional Area by the JCSWG and approved by the T&E JCSG. These data, documented in the 2 November 1994 memorandum, were used as inputs to the T&E Optimization Model.

The data were calculated by each T&E Functional Area team for each T&E facility which had not been excluded from analysis by the T&E JCSG. Then, data for all facilities at an activity within the same TFC/subcategory were summed for each T&E functional area. Finally, data for all activities were summed to determine the aggregate DoD capacity and workload requirements in each TFC or sub-TFC within each T&E functional area.

To arrive at capacities and requirements at the facility level, certified data were extracted from the General Information Form and the Historical Workload Form. The T&E functional capacity of a facility was equal to the maximum annual workload in a given year from FY86 to FY93, as reported on the Historical Workload Form. The requirement (projected workload for FY01) was derived by multiplying the average workload in FY92 and FY93 by 0.72, a certified factor provided by the DoD Comptroller which computed the factor using the method described in Appendix B of the Analysis Plan. The derivation of capacities and requirements from the data provided was often straight forward. However, percentages sometimes had to be adjusted and applied to arrive at correct data.

Percentages from the T&E column in the General Information Form were used to apportion test hours from the Historical Information Form for each T&E functional area. In some cases, percentages for Air Vehicles T&E, EC T&E, Armament/Weapons T&E, and Other T&E had to be adjusted when they did not total to the "Percentage Use: T&E" as had been instructed in the Data Call. In other cases, when confirmed by requests for clarification (RFC's) or telecons documented for the record that the historical workload represented <u>all</u> work (not just T&E work as had been instructed), the historical workload had to be adjusted by the percentages for T&E, S&T, DE, IE, T&D, and Other on each functional area line before being apportioned to T&E. All calculations, references to relevant page numbers in the certified data bank, and relevant RFC's/telecons were recorded by the functional area scoring teams on worksheets (sample attached).

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MUGU

FACILITY/CAPABILITY: ECSEL

TEST FACILITY CATEGORY: HITL

% T&E - OVERALL: 10

AV: _____

EC: 10/100 = 10% wkld T&E EC

A/W: _____

NUMBER OF TESTS AT ONE TIME (SUM OF COLUMN 5): _____

HISTORICAL WORKLOAD (TEST HOURS)

AV: FY92 _____ FY93 _____

EC: FY92 3100x.1 = 310 FY93 3100x.1 = 310

A/W: FY92 _____ FY93 _____

(EC006)
p 206R

Proj wl = $\left(\frac{310+310}{2}\right) \times .72 = 223$

Peak wl = 4200 x .1 = 420
(1991)

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OFFICE OF THE SECRETARY OF DEFENSE

WASHINGTON, D.C. 20301

02 NOV 1994

MEMORANDUM FOR TRI-SERVICE BRAC GROUP

SUBJECT: Test and Evaluation (T&E) JCSG Inputs for Optimization Model Runs

Request the Tri-Department BRAC Group conduct initial runs with the linear optimization model in support of our T&E cross-service analysis. Included are Functional Values (Attachment 1) and authorization for running the previously provided Projected Workload, and Capacity (Attachment 2). Specific optimization model runs are to be made with these data are per our T&E Joint Cross-Service Group Analysis Plan dated 3 August 1994, as amended.

In accordance with our Analysis Plan, we anticipate conducting additional runs using these data and variations (e.g. sensitivity analysis) as required. These additional runs will be requested directly by our T&E Joint Working Group.

John V. Bolino, for
John A. Burt
Co-Chairman
T&E Joint Cross-Service Group

Philip E. Coyle
Co-Chairman
T&E Joint Cross-Service Group

Attachments:
1. T&E Functional Values
2. T&E Projected Workload and Capacity

2 November 1994

MEMORANDUM FOR T&E JCSG Co-Chairs

Subject: T&E JCSG Inputs for Optimization Model Runs

Attached are corrected (based upon DoD IG validation) Projected Workload and Capacity data required by the Tri-Department BRAC Group to conduct the initial runs with the linear optimization model. These data supercede that contained in our 19 October memorandum and were generated in accordance with the T&E Joint Cross-Service Group Analysis Plan, as amended, dated 3 August 1994.

| | | |
|---|---|---|
| Gary L. Holloway, SES, USA | CDR Mark B. Samuels, USN | Dr. J. Daniel Stewart, SES, USAF |
| T&E JCSWG | T&E JCSWG | T&E JCSWG |
| Army Lead | Navy Lead | Air Force Lead |

| Coordination: | | Concur/Non-Concur |
|---|---|---|
| | T&E JCSG Army Principal | Concur GBH |
| | T&E JCSG Navy Principal | Concur |
| | T&E JCSG Air Force Principal | 11/2/94 |

# FUNCTIONAL VALUES
# ARMY ACTIVITIES

| | | Air Vehicles | Electronic Combat | Armament/ Weapons |
|---|---|---|---|---|
| ATTC | Edwards | 46 | - | - |
| | Fort Rucker | 34 | - | - |
| RTTC | Redstone Arsenal | - | - | 21 |
| WSMR | WSMR | - | - | 50 |
| | EPG | 44 | 47 | - |
| YPG | YPG | 35 | - | 29 |



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# FUNCTIONAL VALUES
# AIR FORCE ACTIVITIES

| | | Air Vehicles | Electronic Combat | Armament/ Weapons |
|---|---|---|---|---|
| AFDTC | REDCAP | - | 15 | - |
| | Eglin | 56 | 65 | 82 |
| | Holloman | 33 | 29 | 30 |
| | AFEWES | - | 17 | - |
| AFFTC | Edwards | 85 | 52 | - |
| | UTTR | 46 | - | - |
| AEDC | Tullahoma | 18 | - | 16 |
| 476 WEG | Tyndall | 49 | - | - |



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# FUNCTIONAL VALUES
# NAVY ACTIVITIES

| | | Air Vehicles | Electronic Combat | Armament/ Weapons |
|---|---|---|---|---|
| NAWC | China Lake | 43 | 47 | 57 |
| | Indianapolis | 19 | - | - |
| | Patuxent River | 81 | 53 | 57 |
| | Point Mugu | 69 | 58 | 77 |
| | Warminster | 14 | - | - |
| | WSMR | - | - | 25 |
| NSWC | Crane | - | 17 | 13 |
| | Dahlgren | 25 | - | 17 |
| | Indian Head | - | - | 14 |



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# FY01 T&E Workload Requirements (test hours)

## Air Vehicles

| Test Facility Category | Sub-Category | Projected Workload |
|---|---|---|
| | | |
| Digital Models & Simulations | None | 1,273 |
| | | |
| Measurement Facilities | Avionics & Aircraft Subsystems | 2,631 |
| | Commuication/Navigation/Antenna | 1,136 |
| | Environmental/Vibration/Structures | 23,158 |
| | Electro-Magnetic Environmental Effects | 943 |
| | Guidance/Sensor/Signature | 30,719 |
| | Propulsion | 25,854 |
| | Sled Tracks | 170 |
| | | |
| Integration Laboratories | None | 81,806 |
| | | |
| Hardware-in-the-Loop | None | 114,171 |
| | | |
| Installed System Test Facility | None | 9,674 |
| | | |
| Open Air Ranges | None | 27,578 |



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# FY01 T&E Workload Requirements (test hours)

## Electronic Combat

| Test Facility Category | Sub-Category | Projected Workload |
|---|---|---|
| | | |
| Digital Models & Simulations | None | 246 |
| | | |
| Measurement Facilities | Commuication/Antenna | 298 |
| | Environmental | 2,174 |
| | Electro-Magnetic Environmental Effects | 4,929 |
| | Guidance | 1,728 |
| | Radar Cross Section | 6,674 |
| | Signature | 826 |
| | | |
| Integration Laboratories | None | 5,317 |
| | | |
| Hardware-in-the-Loop | None | 2,833 |
| | | |
| Installed System Test Facility | None | 3,604 |
| | | |
| Open Air Ranges | None | 2,771 |



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# FY01 T&E Workload Requirements (test hours)

## Armament/Weapons

| Test Facility Category | Sub-Category | Projected Workload |
|---|---|---|
| | | |
| Digital Models & Simulations | None | 55,305 |
| | | |
| Measurement Facilities | Environmental, Vibration, and Indoor Decoy Flares | 56,129 |
| | Electro-Magnetic Environmental Effects | 2,096 |
| | Guidance and Control, Seeker/Sensor, Signatures and Fuzes | 44,228 |
| | Guns, Ordnance, Warheads, and Outdoor Decoy Flares | 14,296 |
| | Propulsion | 6,801 |
| | Sled Tracks | 2,608 |
| | | |
| Integration Laboratories | None | 13,368 |
| | | |
| Hardware-in-the-Loop | None | 52,667 |
| | | |
| Installed System Test Facility | None | 792 |
| | | |
| Open Air Ranges | None | 31,742 |



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# T&E Capacity
# (test hours)

## Electronic Combat

### Activity: Electronic Proving Ground

| Test Facility Category | Sub-Category | Capacity |
|---|---|---|
| | | |
| Digital Models & Simulations | None | 1,010 |
| | | |
| Measurement Facilities | Commuication/Antenna | 1,008 |
| | Environmental | 775 |
| | Electro-Magnetic Environmental Effects | 1,626 |
| | Guidance | 0 |
| | Radar Cross Section | 0 |
| | Signature | 0 |
| | | |
| Integration Laboratories | None | 0 |
| | | |
| Hardware-in-the-Loop | None | 0 |
| | | |
| Installed System Test Facility | None | 0 |
| | | |
| Open Air Ranges | None | 861 |

# T&E Capacity
# (test hours)

## Electronic Combat

### Activity: China Lake

| Test Facility Category | Sub-Category | Capacity |
|---|---|---|
| | | |
| Digital Models & Simulations | None | 0 |
| | | |
| Measurement Facilities | Commuication/Antenna | 0 |
| | Environmental | 0 |
| | Electro-Magnetic Environmental Effects | 0 |
| | Guidance | 0 |
| | Radar Cross Section | 3,843 |
| | Signature | 0 |
| | | |
| Integration Laboratories | None | 2,458 |
| | | |
| Hardware-in-the-Loop | None | 0 |
| | | |
| Installed System Test Facility | None | 0 |
| | | |
| Open Air Ranges | None | 1,821 |

# T&E Capacity
# (test hours)

## Electronic Combat

### Activity: Crane

| Test Facility Category | Sub-Category | Capacity |
|---|---|---|
| | | |
| Digital Models & Simulations | None | 0 |
| | | |
| Measurement Facilities | Commuication/Antenna | 0 |
| | Environmental | 0 |
| | Electro-Magnetic Environmental Effects | 6,301 |
| | Guidance | 0 |
| | Radar Cross Section | 0 |
| | Signature | 0 |
| | | |
| Integration Laboratories | None | 0 |
| | | |
| Hardware-in-the-Loop | None | 0 |
| | | |
| Installed System Test Facility | None | 0 |
| | | |
| Open Air Ranges | None | 0 |



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# T&E Capacity
# (test hours)

## Electronic Combat

### Activity: Patuxent River

| Test Facility Category | Sub-Category | Capacity |
|---|---|---|
| | | |
| Digital Models & Simulations | None | 0 |
| | | |
| Measurement Facilities | Commuication/Antenna | 218 |
| | Environmental | 0 |
| | Electro-Magnetic Environmental Effects | 0 |
| | Guidance | 0 |
| | Radar Cross Section | 0 |
| | Signature | 0 |
| | | |
| Integration Laboratories | None | 0 |
| | | |
| Hardware-in-the-Loop | None | 0 |
| | | |
| Installed System Test Facility | None | 4,550 |
| | | |
| Open Air Ranges | None | 0 |



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# T&E Capacity
# (test hours)

## Electronic Combat

### Activity: Point Mugu

| Test Facility Category | Sub-Category | Capacity |
|---|---|---|
| | | |
| Digital Models & Simulations | None | 0 |
| | | |
| Measurement Facilities | Commuication/Antenna | 0 |
| | Environmental | 0 |
| | Electro-Magnetic Environmental Effects | 0 |
| | Guidance | 0 |
| | Radar Cross Section | 0 |
| | Signature | 788 |
| | | |
| Integration Laboratories | None | 850 |
| | | |
| Hardware-in-the-Loop | None | 420 |
| | | |
| Installed System Test Facility | None | 0 |
| | | |
| Open Ranges | None | 0 |

# T&E Capacity
# (test hours)

## Electronic Combat

### Activity: AFFTC/Edwards AFB

| Test Facility Category | Sub-Category | Capacity |
|---|---|---|
| | | |
| Digital Models & Simulations | None | 0 |
| | | |
| Measurement Facilities | Commuication/Antenna | 0 |
| | Environmental | 0 |
| | Electro-Magnetic Environmental Effects | 0 |
| | Guidance | 0 |
| | Radar Cross Section | 0 |
| | Signature | 0 |
| | | |
| Integration Laboratories | None | 5,126 |
| | | |
| Hardware-in-the-Loop | None | 0 |
| | | |
| Installed System Test Facility | None | 0 |
| | | |
| Open Air Ranges | None | 1,200 |



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# T&E Capacity
# (test hours)

## Electronic Combat

### Activity: AFDTC/Eglin AFB

| Test Facility Category | Sub-Category | Capacity |
|---|---|---|
| | | |
| Digital Models & Simulations | None | 0 |
| | | |
| Measurement Facilities | Commuication/Antenna | 0 |
| | Environmental | 4,656 |
| | Electro-Magnetic Environmental Effects | 0 |
| | Guidance | 0 |
| | Radar Cross Section | 0 |
| | Signature | 728 |
| | | |
| Integration Laboratories | None | 0 |
| | | |
| Hardware-in-the-Loop | None | 0 |
| | | |
| Installed System Test Facility | None | 2,202 |
| | | |
| Open Air Ranges | None | 1,978 |



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# T&E Capacity
# (test hours)

## Electronic Combat

### Activity: Holloman Det @ WSMR

| Test Facility Category | Sub-Category | Capacity |
|---|---|---|
| | | |
| Digital Models & Simulations | None | 0 |
| | | |
| Measurement Facilities | Commuication/Antenna | 0 |
| | Environmental | 0 |
| | Electro-Magnetic Environmental Effects | 0 |
| | Guidance | 2,400 |
| | Radar Cross Section | 9,920 |
| | Signature | 0 |
| | | |
| Integration Laboratories | None | 0 |
| | | |
| Hardware-in-the-Loop | None | 0 |
| | | |
| Installed System Test Facility | None | 0 |
| | | |
| Open Air Ranges | None | 0 |

# T&E Capacity
# (test hours)

## Electronic Combat

### Activity: AFDTC/REDCAP

| Test Facility Category | Sub-Category | Capacity |
|---|---|---|
| | | |
| Digital Models & Simulations | None | 0 |
| | | |
| Measurement Facilities | Commuication/Antenna | 0 |
| | Environmental | 0 |
| | Electro-Magnetic Environmental Effects | 0 |
| | Guidance | 0 |
| | Radar Cross Section | 0 |
| | Signature | 0 |
| | | |
| Integration Laboratories | None | 0 |
| | | |
| Hardware-in-the-Loop | None | 1,040 |
| | | |
| Installed System Test Facility | None | 0 |
| | | |
| Open Air Ranges | None | 0 |

# T&E Capacity
# (test hours)

## Electronic Combat

### Activity: AFDTC/AFEWES

| Test Facility Category | Sub-Category | Capacity |
|---|---|---|
| | | |
| Digital Models & Simulations | None | 0 |
| | | |
| Measurement Facilities | Commuication/Antenna | 0 |
| | Environmental | 0 |
| | Electro-Magnetic Environmental Effects | 0 |
| | Guidance | 0 |
| | Radar Cross Section | 0 |
| | Signature | 0 |
| | | |
| Integration Laboratories | None | 0 |
| | | |
| Hardware-in-the-Loop | None | 9,130 |
| | | |
| Installed System Test Facility | None | 0 |
| | | |
| Open Air Ranges | None | 0 |

# T&E Capacity
# (test hours)

## Air Vehicles

### Activity: AEDC

| Test Facility Category | Sub-Category | Capacity |
|---|---|---|
| | | |
| Digital Models & Simulations | None | 0 |
| | | |
| Measurement Facilities | Avionics & Aircraft Subsystems | 0 |
| | Commuication/Navigation/Antenna | 0 |
| | Environmental/Vibration/Structures | 0 |
| | Electro-Magnetic Environmental Effects | 0 |
| | Guidance/Sensor/Signature | 0 |
| | Propulsion | 4,815 |
| | Sled Tracks | 0 |
| | | |
| Integration Laboratories | None | 0 |
| | | |
| Hardware-in-the-Loop | None | 0 |
| | | |
| Installed System Test Facility | None | 0 |
| | | |
| Open Air Ranges | None | 0 |



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# T&E Capacity
# (test hours)

## Air Vehicles

### Activity: AFFTC/Edwards AFB

| Test Facility Category | Sub-Category | Capacity |
|---|---|---|
| | | |
| Digital Models & Simulations | None | 1,987 |
| | | |
| Measurement Facilities | Avionics & Aircraft Subsystems | 1,822 |
| | Commuication/Navigation/Antenna | 0 |
| | Environmental/Vibration/Structures | 1,570 |
| | Electro-Magnetic Environmental Effects | 0 |
| | Guidance/Sensor/Signature | 0 |
| | Propulsion | 0 |
| | Sled Tracks | 0 |
| | | |
| Integration Laboratories | None | 118,999 |
| | | |
| Hardware-in-the-Loop | None | 0 |
| | | |
| Installed System Test Facility | None | 1,968 |
| | | |
| Open Air Ranges | None | 11,998 |



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# T&E Capacity
# (test hours)

## Air Vehicles

### Activity: AFDTC/Eglin AFB

| Test Facility Category | Sub-Category | Capacity |
|---|---|---|
| | | |
| Digital Models & Simulations | None | 0 |
| | | |
| Measurement Facilities | Avionics & Aircraft Subsystems | 0 |
| | Commuication/Navigation/Antenna | 0 |
| | Environmental/Vibration/Structures | 6,816 |
| | Electro-Magnetic Environmental Effects | 0 |
| | Guidance/Sensor/Signature | 245 |
| | Propulsion | 0 |
| | Sled Tracks | 0 |
| | | |
| Integration Laboratories | None | 0 |
| | | |
| Hardware-in-the-Loop | None | 0 |
| | | |
| Installed System Test Facility | None | 0 |
| | | |
| Open Air Ranges | None | 0 |





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# T&E Capacity
# (test hours)

## Air Vehicles

### Activity: Utah Test and Training Range

| Test Facility Category | Sub-Category | Capacity |
|---|---|---|
| | | |
| Digital Models & Simulations | None | 0 |
| | | |
| Measurement Facilities | Avionics & Aircraft Subsystems | 0 |
| | Commuication/Navigation/Antenna | 0 |
| | Environmental/Vibration/Structures | 0 |
| | Electro-Magnetic Environmental Effects | 0 |
| | Guidance/Sensor/Signature | 0 |
| | Propulsion | 0 |
| | Sled Tracks | 0 |
| | | |
| Integration Laboratories | None | 0 |
| | | |
| Hardware-in-the-Loop | None | 0 |
| | | |
| Installed System Test Facility | None | 0 |
| | | |
| Open Air Ranges | None | 3,380 |



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# T&E Capacity
# (test hours)

## Air Vehicles

### Activity: Holloman

| Test Facility Category | Sub-Category | Capacity |
|---|---|---|
| | | |
| Digital Models & Simulations | None | 0 |
| | | |
| Measurement Facilities | Avionics & Aircraft Subsystems | 0 |
| | Commuication/Navigation/Antenna | 0 |
| | Environmental/Vibration/Structures | 0 |
| | Electro-Magnetic Environmental Effects | 0 |
| | Guidance/Sensor/Signature | 42,200 |
| | Propulsion | 0 |
| | Sled Tracks | 614 |
| | | |
| Integration Laboratories | None | 0 |
| | | |
| Hardware-in-the-Loop | None | 0 |
| | | |
| Installed System Test Facility | None | 0 |
| | | |
| Open Air Ranges | None | 0 |

# T&E Capacity
# (test hours)

## Air Vehicles

### Activity: 476 WEG

| Test Facility Category | Sub-Category | Capacity |
|---|---|---|
| | | |
| Digital Models & Simulations | None | 0 |
| | | |
| Measurement Facilities | Avionics & Aircraft Subsystems | 0 |
| | Commuication/Navigation/Antenna | 0 |
| | Environmental/Vibration/Structures | 0 |
| | Electro-Magnetic Environmental Effects | 0 |
| | Guidance/Sensor/Signature | 0 |
| | Propulsion | 0 |
| | Sled Tracks | 0 |
| | | |
| Integration Laboratories | None | 0 |
| | | |
| Hardware-in-the-Loop | None | 2,683 |
| | | |
| Installed System Test Facility | None | 0 |
| | | |
| Open Air Ranges | None | 0 |



10/13/94 8:12 AM

Atch(3)

# T&E Capacity
# (test hours)

## Air Vehicles

### Activity: ATTC/Fort Rucker

| Test Facility Category | Sub-Category | Capacity |
|---|---|---|
| | | |
| Digital Models & Simulations | None | 0 |
| | | |
| Measurement Facilities | Avionics & Aircraft Subsystems | 0 |
| | Commuication/Navigation/Antenna | 0 |
| | Environmental/Vibration/Structures | 0 |
| | Electro-Magnetic Environmental Effects | 0 |
| | Guidance/Sensor/Signature | 0 |
| | Propulsion | 0 |
| | Sled Tracks | 0 |
| | | |
| Integration Laboratories | None | 0 |
| | | |
| Hardware-in-the-Loop | None | 0 |
| | | |
| Installed System Test Facility | None | 0 |
| | | |
| Open Air Ranges | None | 12,050 |



10/13/94 8:12 AM REL

Atch (3)

# T&E Capacity
# (test hours)

## Air Vehicles

### Activity: ATTC/Edwards AFB

| Test Facility Category | Sub-Category | Capacity |
|---|---|---|
| | | |
| Digital Models & Simulations | None | 0 |
| | | |
| Measurement Facilities | Avionics & Aircraft Subsystems | 0 |
| | Commuication/Navigation/Antenna | 0 |
| | Environmental/Vibration/Structures | 0 |
| | Electro-Magnetic Environmental Effects | 0 |
| | Guidance/Sensor/Signature | 0 |
| | Propulsion | 0 |
| | Sled Tracks | 0 |
| | | |
| Integration Laboratories | None | 0 |
| | | |
| Hardware-in-the-Loop | None | 0 |
| | | |
| Installed System Test Facility | None | 0 |
| | | |
| Open Air Ranges | None | 2,626 |





Atch(3)

# T&E Capacity
# (test hours)

## Air Vehicles

### Activity: Electronic Proving Ground

| Test Facility Category | Sub-Category | Capacity |
|---|---|---|
| | | |
| Digital Models & Simulations | None | 0 |
| | | |
| Measurement Facilities | Avionics & Aircraft Subsystems | 1,177 |
| | Commuication/Navigation/Antenna | 0 |
| | Environmental/Vibration/Structures | 1,681 |
| | Electro-Magnetic Environmental Effects | 0 |
| | Guidance/Sensor/Signature | 0 |
| | Propulsion | 0 |
| | Sled Tracks | 0 |
| | | |
| Integration Laboratories | None | 0 |
| | | |
| Hardware-in-the-Loop | None | 0 |
| | | |
| Installed System Test Facility | None | 0 |
| | | |
| Open Air Ranges | None | 646 |



11/2/94 1:56 PM

# T&E Capacity
# (test hours)

## Air Vehicles

### Activity: Yuma Proving Ground

| Test Facility Category | Sub-Category | Capacity |
|---|---|---|
| | | |
| Digital Models & Simulations | None | 0 |
| | | |
| Measurement Facilities | Avionics & Aircraft Subsystems | 0 |
| | Commuication/Navigation/Antenna | 0 |
| | Environmental/Vibration/Structures | 297 |
| | Electro-Magnetic Environmental Effects | 0 |
| | Guidance/Sensor/Signature | 0 |
| | Propulsion | 0 |
| | Sled Tracks | 0 |
| | | |
| Integration Laboratories | None | 0 |
| | | |
| Hardware-in-the-Loop | None | 0 |
| | | |
| Installed System Test Facility | None | 0 |
| | | |
| Open Air Ranges | None | 6,028 |





Atch(3)

# T&E Capacity
# (test hours)

## Air Vehicles

### Activity: Point Mugu

| Test Facility Category | Sub-Category | Capacity |
|---|---|---|
| | | |
| Digital Models & Simulations | None | 0 |
| | | |
| Measurement Facilities | Avionics & Aircraft Subsystems | 0 |
| | Commuication/Navigation/Antenna | 0 |
| | Environmental/Vibration/Structures | 575 |
| | Electro-Magnetic Environmental Effects | 0 |
| | Guidance/Sensor/Signature | 0 |
| | Propulsion | 0 |
| | Sled Tracks | 0 |
| | | |
| Integration Laboratories | None | 0 |
| | | |
| Hardware-in-the-Loop | None | 0 |
| | | |
| Installed System Test Facility | None | 0 |
| | | |
| Open Air Ranges | None | 4,787 |





RGR TRR

Atch (3)

# T&E Capacity
# (test hours)

## Air Vehicles

### Activity: China Lake

| Test Facility Category | Sub-Category | Capacity |
|---|---|---|
| | | |
| Digital Models & Simulations | None | 0 |
| | | |
| Measurement Facilities | Avionics & Aircraft Subsystems | 0 |
| | Commuication/Navigation/Antenna | 0 |
| | Environmental/Vibration/Structures | 1,157 |
| | Electro-Magnetic Environmental Effects | 0 |
| | Guidance/Sensor/Signature | 2,138 |
| | Propulsion | 0 |
| | Sled Tracks | 0 |
| | | |
| Integration Laboratories | None | 0 |
| | | |
| Hardware-in-the-Loop | None | 0 |
| | | |
| Installed System Test Facility | None | 0 |
| | | |
| Open Air Ranges | None | 0 |

# T&E Capacity
# (test hours)

## Air Vehicles

### Activity: Dahlgren

| Test Facility Category | Sub-Category | Capacity |
|---|---|---|
| | | |
| Digital Models & Simulations | None | 0 |
| | | |
| Measurement Facilities | Avionics & Aircraft Subsystems | 0 |
| | Commuication/Navigation/Antenna | 0 |
| | Environmental/Vibration/Structures | 0 |
| | Electro-Magnetic Environmental Effects | 3,347 |
| | Guidance/Sensor/Signature | 0 |
| | Propulsion | 0 |
| | Sled Tracks | 0 |
| | | |
| Integration Laboratories | None | 0 |
| | | |
| Hardware-in-the-Loop | None | 0 |
| | | |
| Installed System Test Facility | None | 0 |
| | | |
| Open Air Ranges | None | 0 |





RSL

Atch (3)

# T&E Capacity
# (test hours)

## Air Vehicles

### Activity: Indianapolis

| Test Facility Category | Sub-Category | Capacity |
|---|---|---|
| | | |
| Digital Models & Simulations | None | 0 |
| | | |
| Measurement Facilities | Avionics & Aircraft Subsystems | 0 |
| | Commuication/Navigation/Antenna | 0 |
| | Environmental/Vibration/Structures | 23,218 |
| | Electro-Magnetic Environmental Effects | 0 |
| | Guidance/Sensor/Signature | 0 |
| | Propulsion | 0 |
| | Sled Tracks | 0 |
| | | |
| Integration Laboratories | None | 14,288 |
| | | |
| Hardware-in-the-Loop | None | 0 |
| | | |
| Installed System Test Facility | None | 0 |
| | | |
| Open Air Ranges | None | 0 |





Atch (3)

# T&E Capacity
# (test hours)

## Air Vehicles

### Activity: Patuxent River

| Test Facility Category | Sub-Category | Capacity |
|---|---|---|
| | | |
| Digital Models & Simulations | None | 0 |
| | | |
| Measurement Facilities | Avionics & Aircraft Subsystems | 3,156 |
| | Commuication/Navigation/Antenna | 2,091 |
| | Environmental/Vibration/Structures | 0 |
| | Electro-Magnetic Environmental Effects | 0 |
| | Guidance/Sensor/Signature | 2,904 |
| | Propulsion | 32,340 |
| | Sled Tracks | 0 |
| | | |
| Integration Laboratories | None | 4,880 |
| | | |
| Hardware-in-the-Loop | None | 163,371 |
| | | |
| Installed System Test Facility | None | 14,119 |
| | | |
| Open Air Ranges | None | 12,246 |





Atch (3)

# T&E Capacity
# (test hours)

## Air Vehicles

### Activity: Warminster

| Test Facility Category | Sub-Category | Capacity |
|---|---|---|
| | | |
| Digital Models & Simulations | None | 1,393 |
| | | |
| Measurement Facilities | Avionics & Aircraft Subsystems | 0 |
| | Commuication/Navigation/Antenna | 0 |
| | Environmental/Vibration/Structures | 0 |
| | Electro-Magnetic Environmental Effects | 0 |
| | Guidance/Sensor/Signature | 0 |
| | Propulsion | 0 |
| | Sled Tracks | 0 |
| | | |
| Integration Laboratories | None | 0 |
| | | |
| Hardware-in-the-Loop | None | 0 |
| | | |
| Installed System Test Facility | None | 0 |
| | | |
| Open Air Ranges | None | 0 |



10/13/94 8:12 AM RGL TKR

Atch (3)

# T&E Capacity
# (test hours)

## Armament/Weapons

### Activity: WSMR

| Test Facility Category | Sub-Category | Capacity |
|---|---|---|
| | | |
| Digital Models & Simulations | None | 0 |
| | | |
| Measurement Facilities | Environmental, Vibration, and Indoor Decoy Flares | 18,300 |
| | Electro-Magnetic Environmental Effects | 915 |
| | Guidance and Control, Seeker/Sensor, Signatures and Fuzes | 0 |
| | Guns, Ordnance, Warheads, and Outdoor Decoy Flares | 0 |
| | Propulsion | 0 |
| | Sled Tracks | 0 |
| | | |
| Integration Laboratories | None | 0 |
| | | |
| Hardware-in-the-Loop | None | 0 |
| | | |
| Installed System Test Facility | None | 0 |
| | | |
| Open Air Ranges | None | 28,116 |



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# T&E Capacity
# (test hours)

## Armament/Weapons

### Activity: Holloman

| Test Facility Category | Sub-Category | Capacity |
|---|---|---|
| | | |
| Digital Models & Simulations | None | 0 |
| | | |
| Measurement Facilities | Environmental, Vibration, and Indoor Decoy Flares | 0 |
| | Electro-Magnetic Environmental Effects | 0 |
| | Guidance and Control, Seeker/Sensor, Signatures and Fuzes | 23,000 |
| | Guns, Ordnance, Warheads, and Outdoor Decoy Flares | 0 |
| | Propulsion | 0 |
| | Sled Tracks | 787 |
| | | |
| Integration Laboratories | None | 0 |
| | | |
| Hardware-in-the-Loop | None | 0 |
| | | |
| Installed System Test Facility | None | 0 |
| | | |
| Open Air Ranges | None | 0 |



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# T&E Capacity
# (test hours)

## Armament/Weapons

### Activity: AEDC

| Test Facility Category | Sub-Category | Capacity |
|---|---|---|
| | | |
| Digital Models & Simulations | None | 0 |
| | | |
| Measurement Facilities | Environmental, Vibration, and Indoor Decoy Flares | 0 |
| | Electro-Magnetic Environmental Effects | 0 |
| | Guidance and Control, Seeker/Sensor, Signatures and Fuzes | 0 |
| | Guns, Ordnance, Warheads, and Outdoor Decoy Flares | 0 |
| | Propulsion | 9,266 |
| | Sled Tracks | 0 |
| | | |
| Integration Laboratories | None | 0 |
| | | |
| Hardware-in-the-Loop | None | 0 |
| | | |
| Installed System Test Facility | None | 0 |
| | | |
| Open Air Ranges | None | 0 |



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# T&E Capacity
# (test hours)

## Armament/Weapons

### Activity: AFDTC/Eglin AFB

| Test Facility Category | Sub-Category | Capacity |
|---|---|---|
| | | |
| Digital Models & Simulations | None | 57,820 |
| | | |
| Measurement Facilities | Environmental, Vibration, and Indoor Decoy Flares | 0 |
| | Electro-Magnetic Environmental Effects | 0 |
| | Guidance and Control, Seeker/Sensor, Signatures and Fuzes | 14,045 |
| | Guns, Ordnance, Warheads, and Outdoor Decoy Flares | 12,870 |
| | Propulsion | 0 |
| | Sled Tracks | 3,764 |
| | | |
| Integration Laboratories | None | 0 |
| | | |
| Hardware-in-the-Loop | None | 18,611 |
| | | |
| Installed System Test Facility | None | 443 |
| | | |
| Open Air Ranges | None | 16,036 |



MRH SKB

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# T&E Capacity
# (test hours)

## Armament/Weapons

### Activity: NAWC @ WSMR

| Test Facility Category | Sub-Category | Capacity |
|---|---|---|
| | | |
| Digital Models & Simulations | None | 0 |
| | | |
| Measurement Facilities | Environmental, Vibration, and Indoor Decoy Flares | 0 |
| | Electro-Magnetic Environmental Effects | 0 |
| | Guidance and Control, Seeker/Sensor, Signatures and Fuzes | 0 |
| | Guns, Ordnance, Warheads, and Outdoor Decoy Flares | 0 |
| | Propulsion | 0 |
| | Sled Tracks | 0 |
| | | |
| Integration Laboratories | None | 0 |
| | | |
| Hardware-in-the-Loop | None | 0 |
| | | |
| Installed System Test Facility | None | 0 |
| | | |
| Open Air Ranges | None | 3,925 |

# T&E Capacity
# (test hours)

## Armament/Weapons

### Activity: Point Mugu

| Test Facility Category | Sub-Category | Capacity |
|---|---|---|
| | | |
| Digital Models & Simulations | None | 8,082 |
| | | |
| Measurement Facilities | Environmental, Vibration, and Indoor Decoy Flares | 72,053 |
| | Electro-Magnetic Environmental Effects | 1,700 |
| | Guidance and Control, Seeker/Sensor, Signatures and Fuzes | 1,652 |
| | Guns, Ordnance, Warheads, and Outdoor Decoy Flares | 0 |
| | Propulsion | 0 |
| | Sled Tracks | 0 |
| | | |
| Integration Laboratories | None | 11,916 |
| | | |
| Hardware-in-the-Loop | None | 54,902 |
| | | |
| Installed System Test Facility | None | 0 |
| | | |
| Open Air Ranges | None | 11,609 |



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# T&E Capacity
# (test hours)

## Armament/Weapons

### Activity: Patuxent River

| Test Facility Category | Sub-Category | Capacity |
|---|---|---|
| | | |
| Digital Models & Simulations | None | 0 |
| | | |
| Measurement Facilities | Environmental, Vibration, and Indoor Decoy Flares | 0 |
| | Electro-Magnetic Environmental Effects | 0 |
| | Guidance and Control, Seeker/Sensor, Signatures and Fuzes | 0 |
| | Guns, Ordnance, Warheads, and Outdoor Decoy Flares | 0 |
| | Propulsion | 0 |
| | Sled Tracks | 0 |
| | | |
| Integration Laboratories | None | 0 |
| | | |
| Hardware-in-the-Loop | None | 0 |
| | | |
| Installed System Test Facility | None | 931 |
| | | |
| Open Air Ranges | None | 0 |



MAH SHP

10/13/94 9:50 AM

# T&E Capacity
# (test hours)

## Armament/Weapons

### Activity: Indian Head

| Test Facility Category | Sub-Category | Capacity |
|---|---|---|
| | | |
| Digital Models & Simulations | None | 0 |
| | | |
| Measurement Facilities | Environmental, Vibration, and Indoor Decoy Flares | 1,600 |
| | Electro-Magnetic Environmental Effects | 0 |
| | Guidance and Control, Seeker/Sensor, Signatures and Fuzes | 0 |
| | Guns, Ordnance, Warheads, and Outdoor Decoy Flares | 0 |
| | Propulsion | 2,000 |
| | Sled Tracks | 0 |
| | | |
| Integration Laboratories | None | 0 |
| | | |
| Hardware-in-the-Loop | None | 0 |
| | | |
| Installed System Test Facility | None | 0 |
| | | |
| Open Air Ranges | None | 0 |



MH SKB

10/13/94 9:50 AM

AIGI(3)

# T&E Capacity
# (test hours)

## Armament/Weapons

### Activity: Dahlgren

| Test Facility Category | Sub-Category | Capacity |
|---|---|---|
| | | |
| Digital Models & Simulations | None | 0 |
| | | |
| Measurement Facilities | Environmental, Vibration, and Indoor Decoy Flares | 0 |
| | Electro-Magnetic Environmental Effects | 1,011 |
| | Guidance and Control, Seeker/Sensor, Signatures and Fuzes | 0 |
| | Guns, Ordnance, Warheads, and Outdoor Decoy Flares | 540 |
| | Propulsion | 0 |
| | Sled Tracks | 0 |
| | | |
| Integration Laboratories | None | 0 |
| | | |
| Hardware-in-the-Loop | None | 0 |
| | | |
| Installed System Test Facility | None | 0 |
| | | |
| Open Air Ranges | None | 0 |

# T&E Capacity
# (test hours)

## Armament/Weapons

### Activity: Crane

| Test Facility Category | Sub-Category | Capacity |
|---|---|---|
| | | |
| Digital Models & Simulations | None | 0 |
| | | |
| Measurement Facilities | Environmental, Vibration, and Indoor Decoy Flares | 360 |
| | Electro-Magnetic Environmental Effects | 0 |
| | Guidance and Control, Seeker/Sensor, Signatures and Fuzes | 0 |
| | Guns, Ordnance, Warheads, and Outdoor Decoy Flares | 1,680 |
| | Propulsion | 0 |
| | Sled Tracks | 0 |
| | | |
| Integration Laboratories | None | 0 |
| | | |
| Hardware-in-the-Loop | None | 0 |
| | | |
| Installed System Test Facility | None | 0 |
| | | |
| Open Air Ranges | None | 0 |



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# T&E Capacity
# (test hours)

## Armament/Weapons

### Activity: China Lake

| Test Facility Category | Sub-Category | Capacity |
|---|---|---|
| | | |
| Digital Models & Simulations | None | 27,672 |
| | | |
| Measurement Facilities | Environmental, Vibration, and Indoor Decoy Flares | 35,419 |
| | Electro-Magnetic Environmental Effects | 0 |
| | Guidance and Control, Seeker/Sensor, Signatures and Fuzes | 17,310 |
| | Guns, Ordnance, Warheads, and Outdoor Decoy Flares | 12,254 |
| | Propulsion | 6,046 |
| | Sled Tracks | 1,393 |
| | | |
| Integration Laboratories | None | 14,938 |
| | | |
| Hardware-in-the-Loop | None | 3,167 |
| | | |
| Installed System Test Facility | None | 0 |
| | | |
| Open Air Ranges | None | 3,986 |



MRH SLB

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# T&E Capacity
# (test hours)

## Armament/Weapons

### Activity: Yuma Proving Ground

| Test Facility Category | Sub-Category | Capacity |
|---|---|---|
| | | |
| Digital Models & Simulations | None | 0 |
| | | |
| Measurement Facilities | Environmental, Vibration, and Indoor Decoy Flares | 201 |
| | Electro-Magnetic Environmental Effects | 0 |
| | Guidance and Control, Seeker/Sensor, Signatures and Fuzes | 0 |
| | Guns, Ordnance, Warheads, and Outdoor Decoy Flares | 0 |
| | Propulsion | 0 |
| | Sled Tracks | 0 |
| | | |
| Integration Laboratories | None | 0 |
| | | |
| Hardware-in-the-Loop | None | 0 |
| | | |
| Installed System Test Facility | None | 0 |
| | | |
| Open Air Ranges | None | 3,997 |

# T&E Capacity
# (test hours)

## Armament/Weapons

### Activity: Redstone Technical Test Center

| Test Facility Category | Sub-Category | Capacity |
|---|---|---|
| | | |
| Digital Models & Simulations | None | 0 |
| | | |
| Measurement Facilities | Environmental, Vibration, and Indoor Decoy Flares | 14,370 |
| | Electro-Magnetic Environmental Effects | 0 |
| | Guidance and Control, Seeker/Sensor, Signatures and Fuzes | 30,719 |
| | Guns, Ordnance, Warheads, and Outdoor Decoy Flares | 0 |
| | Propulsion | 0 |
| | Sled Tracks | 0 |
| | | |
| Integration Laboratories | None | 0 |
| | | |
| Hardware-in-the-Loop | None | 0 |
| | | |
| Installed System Test Facility | None | 0 |
| | | |
| Open Air Ranges | None | 1,188 |



MH SHB

10/13/94 9:50 AM

# INITIAL RUN MATRIX - OPTIMIZATION MODEL

- Run following objective functions for one functional area at a time and for all three functional areas together
  - MINSITES (with w = 100)
  - MAXSFV (with w = 100)
  - MAXSFV (with w = 0)
  - MAXSFV with number of sites = NSITE (with w = 100)
  - MAXSFV with number of sites = NSITE (with w = 0)
  - MINXCAP (with w = 100)

Note: NSITE = minimum number of sites computed in MINSITES (with w = 100)



Atch (4)

# PROJECTED WORKLOAD

The following tables document the projected workload for each facility at an activity which was evaluated within each T&E Functional Area. These individual projected workloads were summed by Test Facility Category (TFC)/subcategory for each T&E Functional Area to obtain the projected workload data input to the Optimization Model shown in the preceding tables. All projected workload data shown are in units of test hours.

## PROJECTED WORKLOAD - ARMAMENT / WEAPONS

| SERVICE | SITE | ACTIVITY | TFC | FACILITY | PROJECTED WORKLOAD |
|---|---|---|---|---|---|
| Air Force | Eglin AFB | AFDTC | DMS | Dig Modeling & Sim | 39324 |
| Navy | ChinaLake CA | NAWCAD | DMS | Strike SW/Sim Fac | 1102 |
| Navy | ChinaLake CA | NAWCWPNS | DMS | Air Wpn DM&S | 4392 |
| Navy | ChinaLake CA | NAWCWPNS | DMS | Sys Mod & Sig Proc Fac | 1108 |
| Navy | ChinaLake CA | NAWCWPNS | DMS | Wpns & Tactics Anlys | 137 |
| Navy | ChinaLake CA | NAWCWPNS | DMS | Strike Sim & Modeling | 5326 |
| Navy | Pt Mugu CA | NAWCWPNS | DMS | Sim & Effectivness Ctr | 3916 |
| | | | | | 55305 |
| | | | | | |
| Army | Redstone Ars AL | RTTC | MF-E | Non-Dest & Nat Env | 4069 |
| Army | Redstone Ars AL | RTTC | MF-E | Induced Environment | 5680 |
| Army | WSMR, NM | WSMR | MF-E | Applied Environment | 6970 |
| Army | Yuma AZ | USA YPG | MF-E | Environ Simulation | 127 |
| Navy | ChinaLake CA | NAWCWPNS | MF-E | Envir Test Complex | 21454 |
| Navy | Crane IN | NSWCCD | MF-E | Auto IR Test Facility | 153 |
| Navy | Indian Head VA | NSWC | MF-E | Environment Test Fac | 1152 |
| Navy | Pt Mugu CA | NAWCWPNS | MF-E | Sea Level Clim Chmbr | 327 |
| Navy | Pt Mugu CA | NAWCWPNS | MF-E | Environ Test Facility | 1518 |
| Navy | Pt Mugu CA | NAWCWPNS | MF-E | Ready Missile Test | 12726 |
| Navy | Pt Mugu CA | NAWCWPNS | MF-E | Reliability Test Fac | 1953 |
| | | | | | 56129 |
| | | | | | |
| Army | WSMR, NM | WSMR | MF-EM | EM Env Effects | 638 |
| Navy | Dahlgren VA | NSWC | MF-EM | EM Vulnerability Fac | 684 |
| Navy | Pt Mugu CA | NAWCWPNS | MF-EM | EM Environ Effects | 774 |
| | | | | | 2096 |
| | | | | | |
| Air Force | Eglin AFB | AFDTC | MF-G | Multi-Spec Sig Msmt | 996 |
| Air Force | Eglin AFB | AFDTC | MF-G | Fuze Test Facility | 5356 |
| Air Force | Holloman AFB | 46TG@Holloman | MF-G | CIGTF | 4608 |
| Army | Redstone Ars AL | RTTC | MF-G | Component Test | 20340 |
| Navy | ChinaLake CA | NAWCWPNS | MF-G | VHF Anechoic Chmbr | 130 |
| Navy | ChinaLake CA | NAWCWPNS | MF-G | Sensor & Tgt Tech Fac | 964 |
| Navy | ChinaLake CA | NAWCWPNS | MF-G | RF Seeker/Guid/Cntrl | 2909 |
| Navy | ChinaLake CA | NAWCWPNS | MF-G | FME &Balloon Test | 547 |
| Navy | ChinaLake CA | NAWCWPNS | MF-G | IR Seeker, GCS DDT&E | 3272 |
| Navy | ChinaLake CA | NAWCWPNS | MF-G | ARM Msl Seeker Test | 708 |
| Navy | ChinaLake CA | NAWCWPNS | MF-G | Guid Compo T&A Cmplx | 3421 |
| Navy | Pt Mugu CA | NAWCWPNS | MF-G | Bistatic Rdr Ref Lab | 513 |
| Navy | Pt Mugu CA | NAWCPNS | MF-G | Monostatic Rdr Ref | 464 |
| | | | | | 44228 |

## PROJECTED WORKLOAD - ARMAMENT / WEAPONS (cont)

| SERVICE | SITE | ACTIVITY | TFC | FACILITY | PROJECTED WORKLOAD |
|---|---|---|---|---|---|
| Air Force | Eglin AFB | AFDTC | MF-GO | Gun Test Facility | 3659 |
| Air Force | Eglin AFB | AFDTC | MF-GO | Warhead Arena | 1642 |
| Navy | ChinaLake CA | NAWCWPNS | MF-GO | Med Cal Gun & Ammo Ballistics | 194 |
| Navy | ChinaLake CA | NAWCWPNS | MF-GO | Detonat Physics Lab | 734 |
| Navy | ChinaLake CA | NAWCWPNS | MF-GO | Cactus Flats Ord Test | 1134 |
| Navy | ChinaLake CA | NAWCWPNS | MF-GO | Ordnance Test Cmplx | 5674 |
| Navy | Crane IN | NSWCCD | MF-GO | Transient Velocity Windstream | 252 |
| Navy | Crane IN | NSWCCD | MF-GO | Ord Test Arena | 737 |
| Navy | Dahlgren VA | NSWC | MF-GO | Explosive Exper Area | 270 |
| | | | | | 14296 |
| | | | | | |
| Air Force | Arnold AFB | AEDC | MF-P | Propul Wind Tunnel | 1586 |
| Air Force | Arnold AFB | AEDC | MF-P | Rckt Propul Alt TC | 521 |
| Navy | ChinaLake CA | NAWCWPNS | MF-P | Air Breathing Prop Lab | 230 |
| Navy | ChinaLake CA | NAWCWPNS | MF-P | Aeroheat Test Fac | 757 |
| Navy | ChinaLake CA | NAWCWPNS | MF-P | Hi Haz Prop Test Fac | 1599 |
| Navy | ChinaLake CA | NAWCWPNS | MF-P | Strat Prop Test Cmplx | 347 |
| Navy | ChinaLake CA | NAWCWPNS | MF-P | Tactical Prop Test Fac | 717 |
| Navy | Indian Head VA | NSWC | MF-P | Prop Component Test | 1044 |
| | | | | | 6801 |
| | | | | | |
| Air Force | Eglin AFB | AFDTC | MF-ST | Eglin Sled Track | 1491 |
| Air Force | Holloman AFB | 46TG@Holloman | MF-ST | Holloman Hi-Spd Sled | 521 |
| Navy | ChinaLake CA | NAWCWPNS | MF-ST | Sled Tracks | 596 |
| | | | | | 2608 |
| | | | | | |
| Navy | ChinaLake CA | NAWCWPNS | IL | Fuze Dev Lab | 327 |
| Navy | ChinaLake CA | NAWCWPNS | IL | Wpn Guid/Cntrl/Seeker | 5015 |
| Navy | ChinaLake CA | NAWCWPNS | IL | Msl/Rckt Motor Asmbly | 1042 |
| Navy | ChinaLake CA | NAWCWPNS | IL | Antirad Msl Integ Cmplx | 1210 |
| Navy | Pt Mugu CA | NAWCWPNS | IL | Intercept Weapon Eval | 5774 |
| | | | | | 13368 |
| | | | | | |
| Air Force | Eglin AFB | AFDTC | HITL | GWEF | 12085 |
| Navy | ChinaLake CA | NAWCWPNS | HITL | Sim Lab-Missile HITL | 778 |
| Navy | ChinaLake CA | NAWCWPNS | HITL | Mk-45 TDD Engr Dev | 346 |
| Navy | ChinaLake CA | NAWCWPNS | HITL | TSSAM HITL | 233 |
| Navy | Pt Mugu CA | NAWCWPNS | HITL | Strike Weapons Eval | 36000 |
| Navy | Pt Mugu CA | NAWCWPNS | HITL | Missile HITL Facility | 3225 |
| | | | | | 52667 |

## PROJECTED WORKLOAD - ARMAMENT / WEAPONS (cont)

| SERVICE | SITE | ACTIVITY | TFC | FACILITY | PROJECTED WORKLOAD |
|---|---|---|---|---|---|
| Air Force | Eglin AFB | AFDTC | ISTF | PRIMES | 168 |
| Navy | Patuxent Rvr MD | NAWCAD | ISTF | Air Combat Envir T&E | 624 |
| | | | | | 792 |
| | | | | | |
| Air Force | Eglin AFB | AFDTC | OAR | Gulf Test Facility | 1632 |
| Air Force | Eglin AFB | AFDTC | OAR | ASTE | 4818 |
| Air Force | Eglin AFB | AFDTC | OAR | HELLFIRE Test Fac | 1148 |
| Army | Redstone Ars AL | RTTC | OAR | Small Msl Range | 786 |
| Army | WSMR, NM | WSMR | OAR | National Range | 6658 |
| Army | WSMR, NM | WSMR | OAR | Materiel Test | 6246 |
| Army | WSMR, NM | WSMR | OAR | Warheads | 371 |
| Army | Yuma AZ | USA YPG | OAR | Air Veh/Gen Supt | 131 |
| Army | Yuma AZ | USA YPG | OAR | A/C Wpns Integ Rng | 973 |
| Army | Yuma AZ | USA YPG | OAR | A/C Munitions Rng | 951 |
| Navy | ChinaLake CA | NAWCWPNS | OAR | Air/Grnd Rng | 1890 |
| Navy | WSMR, NM | NAWCWPNS | OAR | NAWCWPNS-WSMR | 1791 |
| Navy | ChinaLake CA | NAWCWPNS | OAR | Elec Combat Rng | 279 |
| Navy | Pt Mugu CA | NAWCPNS | OAR | Sea Test Range | 4068 |
| | | | | | 31742 |

## PROJECTED WORKLOAD - ELECTRONIC COMBAT

| SERVICE | SITE | ACTIVITY | TFC | FACILITY | PROJECTED WORKLOAD |
|---|---|---|---|---|---|
| Army | Ft Huachuca | USA EPG | DMS | EM Enviromental Test | 246 |
| | | | | | |
| | | | | | |
| Army | Ft Huachuca | USA EPG | MF-C | Range Operations | 150 |
| Navy | Patuxent Rvr MD | NAWCAD | MF-C | Grnd Rng Ant Test Fac | 148 |
| | | | | | 298 |
| | | | | | |
| Air Force | Eglin AFB | AFDTC | MF-E | McKinley Climatic Lab | 2051 |
| Army | Ft Huachuca | USA EPG | MF-E | Environmental Test Fac | 123 |
| | | | | | 2174 |
| | | | | | |
| Army | Ft Huachuca | USA EPG | MF-EM | EMI/Tempest Test | 585 |
| Navy | Crane IN | NSWCCD | MF-EM | EW Facility | 4344 |
| | | | | | 4929 |
| | | | | | |
| Air Force | Holloman AFB | 46TG@Holloman | MF-G | CIGTF | 1728 |
| | | | | | |
| | | | | | |
| Air Force | Holloman AFB | 46TG@Holloman | MF-R | RATSCAT/RAMS | 4363 |
| Navy | ChinaLake CA | NAWC | MF-R | Junction Ranch RCS | 2311 |
| | | | | | 6674 |
| | | | | | |
| Air Force | Eglin AFB | AFDTC | MF-S | Multi-Spec Sig Msmt | 339 |
| Navy | Pt Mugu CA | NAWCWPNS | MF-S | A/B IR Meas Cap | 487 |
| | | | | | 826 |
| | | | | | |
| Air Force | Edwards AFB | AFFTC | IL | IFAST | 617 |
| Air Force | Edwards AFB | AFFTC | IL | SAR Test Fac-N.Base | 2471 |
| Navy | ChinaLake CA | NAWC | IL | Antirad Msl Integ Cmplx | 1620 |
| Navy | ChinaLake CA | NAWCWPNS | IL | EW Integration Lab | 150 |
| Navy | Pt Mugu CA | NAWCWPNS | IL | Warn & Surveill Sys | 459 |
| | | | | | 5317 |
| | | | | | |
| Air Force | Buffalo NY | REDCAP | HITL | REDCAP | 86 |
| Air Force | Fort Worth TX | AFEWES | HITL | AFEWES | 2524 |
| Navy | Pt Mugu CA | NAWCWPNS | HITL | EC Sim & Eval Lab | 223 |
| | | | | | 2833 |
| | | | | | |
| Air Force | Eglin AFB | AFDTC | ISTF | PRIMES | 761 |
| Navy | Patuxent Rvr MD | NAWCAD | ISTF | Air Combat Envir T&E | 2843 |
| | | | | | 3604 |
| | | | | | |
| Air Force | Eglin AFB | AFDTC | OAR | EMTE | 899 |
| Air Force | Edwards AFB | AFFTC | OAR | Flight Test Center OAR | 758 |
| Army | Ft Huachuca | USA EPG | OAR | Instrument. Test Range | 369 |
| Navy | ChinaLake CA | NAWCWPNS | OAR | Elec Combat Rng | 745 |
| | | | | | 2771 |

C = Comm/Antenna
E = Environment
EM = E3

G = Guidance
R = RCS
S = Signature

## PROJECTED WORKLOAD - AIR VEHICLES

| SERVICE | SITE | ACTIVITY | TFC | FACILITY | PROJECTED WORKLOAD |
|---|---|---|---|---|---|
| Air Force | Edwards AFB | AFFTC | DMS | T&E Mission Simulator | 270 |
| Navy | Warminster PA | NAWCADWAR | DMS | Human Centrifuge-DFS | 1003 |
| | | | | | 1273 |
| | | | | | |
| Army | Ft Huachuca | USA EPG | MF-A | Avionics/GPS Test | 147 |
| Navy | Patuxent Rvr MD | NAWCAD | MF-A | EW/Avionics Flt Test | 151 |
| Navy | Patuxent Rvr MD | NAWCAD | MF-A | A/C Arm Sys Sim Eng | 0 |
| Navy | Patuxent Rvr MD | NAWCAD | MF-A | Aircraft T&E Facility | 986 |
| Air Force | Edwards AFB | AFFTC | MF-A | Human Factors Lab | 1230 |
| Army | Ft Huachuca | USA EPG | MF-A | Range Operations | 117 |
| | | | | | 2631 |
| | | | | | |
| Navy | Patuxent Rvr MD | NAWCAD | MF-C | Combat Identif Sys | 87 |
| Navy | Patuxent Rvr MD | NAWCAD | MF-C | Grnd Rng Ant Test Fac | 368 |
| Navy | Patuxent Rvr MD | NAWCAD | MF-C | ATLAS In-Flt Meas Cap | 206 |
| Navy | Patuxent Rvr MD | NAWCAD | MF-C | Communic T&E Lab | 475 |
| | | | | | 1136 |
| | | | | | |
| Air Force | Eglin AFB | AFDTC | MF-E | McKinley Climatic Lab | 4821 |
| Army | Ft Huachuca | USA EPG | MF-E | Environmental Test Fac | 134 |
| Army | Yuma AZ | USA YPG | MF-E | Environ Simulation | 131 |
| Navy | ChinaLake CA | NAWC | MF-E | Envir Test Complex | 291 |
| Navy | Indianapolis IN | NAWCAD | MF-E | PQA&E Facility | 16324 |
| Navy | Pt Mugu CA | NAWCWPNS | MF-E | Sea Level Clim Chmbr | 327 |
| Air Force | Edwards AFB | AFFTC | MF-E | GVT and Structures Lab | 1130 |
| | | | | | 23158 |
| | | | | | |
| Navy | Dahlgren VA | NSWC | MF-EM | EM Vulnerability Fac | 943 |
| | | | | | |
| | | | | | |
| Air Force | Eglin AFB | AFDTC | MF-G | Multi-Spec Sig Msmt | 90 |
| Air Force | Holloman AFB | 46TG@Holloman | MF-G | CIGTF | 27360 |
| Navy | ChinaLake CA | NAWCWPNS | MF-G | IR Seeker, GCS DDT&E | 1539 |
| Navy | Patuxent Rvr MD | NAWCAD | MF-G | Surv & Topo Rad Sys | 348 |
| Navy | Patuxent Rvr MD | NAWCAD | MF-G | EO & Recon Sys Test | 1382 |
| | | | | | 30719 |
| | | | | | |
| Air Force | Arnold AFB | AEDC | MF-P | Propul Wind Tunnel | 2118 |
| Air Force | Arnold AFB | AEDC | MF-P | Air Breath Engine TF | 451 |
| Navy | Patuxent Rvr MD | NAWCAD | MF-P | Propul Sys Eval Fac | 23285 |
| | | | | | 25,854 |
| | | | | | |
| Air Force | Holloman AFB | 46TG@Holloman | MF-ST | Holloman Hi-Spd Sled | 170 |

## PROJECTED WORKLOAD - AIR VEHICLES (cont)

| SERVICE | SITE | ACTIVITY | TFC | FACILITY | PROJECTED WORKLOAD |
|---|---|---|---|---|---|
| Air Force | Edwards AFB | AFFTC | IL | IFAST | 5549 |
| Navy | Patuxent Rvr MD | NAWCAD | IL | Helicop Msn Sys Supt | 2275 |
| Navy | Indianapolis IN | NAWCAD | IL | Integ Avionics Lab | 8790 |
| Navy | Indianapolis IN | NAWCAD | IL | TACAIR Pod Lab | 1256 |
| Air Force | Edwards AFB | AFFTC | IL | Instrumented Prop Comp | 63936 |
| | | | | | 81806 |
| | | | | | |
| Air Force | Tyndall AFB | 476 WEG | HITL | Radar Test Facility | 1932 |
| Navy | Patuxent Rvr MD | NAWCAD | HITL | Integ A/C Test Lab | 2537 |
| Navy | Patuxent Rvr MD | NAWCAD | HITL | A/C Sys Test Fac | 7212 |
| Navy | Patuxent Rvr MD | NAWCAD | HITL | A/C Electrical Eval Fac | 45412 |
| Navy | Patuxent Rvr MD | NAWCAD | HITL | A/C Supt Sys Test Fac | 49331 |
| Navy | Patuxent Rvr MD | NAWCAD | HITL | A/C Stores Cert Test | 6696 |
| Navy | Patuxent Rvr MD | NAWCAD | HITL | Flt Cntrl Cmptr Test | 1051 |
| | | | | | 114171 |
| | | | | | |
| Air Force | Edwards AFB | AFFTC | ISTF | BAF & ECIT | 121 |
| Navy | Patuxent Rvr MD | NAWCAD | ISTF | Air Combat Envir T&E | 9553 |
| | | | | | 9674 |
| | | | | | |
| Air Force | Edwards AFB | AFFTC | OAR | Flt Test Cntr OAR | 7583 |
| Air Force | Hill AFB | UTTR | OAR | UTTR Open Air Range | 1940 |
| Army | Edwards AFB | Av Tech Test Ctr | OAR | Airworthiness Qual | 1258 |
| Army | Fort Rucker | Av Tech Test Ctr | OAR | Av Tech Test Cntr | 3776 |
| Army | Ft Huachuca | USA EPG | OAR | Instrument. Test Range | 277 |
| Army | Yuma AZ | USA YPG | OAR | Air Veh/Gen Supt | 257 |
| Army | Yuma AZ | USA YPG | OAR | A/C Wpns Integ Rng | 3147 |
| Navy | Patuxent Rvr MD | NAWCAD | OAR | Chesapeake Test Rng | 7661 |
| Navy | Pt Mugu CA | NAWCWPNS | OAR | Sea Test Range | 1679 |
| | | | | | 27578 |

A = Avionics &
Aircraft Subsystems
C = Comm/Navigation/Antenna
E = Environmental/Vibration/Structures
EM = E3
G = Guidance/Sensor/Signature
P = Propulsion
ST = Sled Tracks

# FACILITY CAPACITIES

The following tables document the individual capacities of each facility at an activity which was evaluated within each T&E Functional Area. These individual capacities were summed by activity and Test Facility Category (TFC)/subcategory for each T&E Functional Area to obtain the capacity data input to the Optimization Model shown in the preceding tables. All capacity data shown are in units of test hours.

## CAPACITY - AIR VEHICLES

| SERVICE | SITE | ACTIVITY | TFC | FACILITY | CAPACITY |
|---|---|---|---|---|---|
| Air Force | Edwards AFB | AFFTC | DMS | T&E Mission Simulator | 1987 |
| Navy | Warminster PA | NAWCADWAR | DMS | Human Centrifuge-DFS | 1393 |
| | | | | | 3380 |
| | | | | | |
| Army | Ft Huachuca | USA EPG | MF-A | Avionics/GPS Test | 393 |
| Navy | Patuxent Rvr MD | NAWCAD | MF-A | EW/Avionics Flt Test | 384 |
| Navy | Patuxent Rvr MD | NAWCAD | MF-A | A/C Arm Sys Sim Eng | 0 |
| Navy | Patuxent Rvr MD | NAWCAD | MF-A | Aircraft T&E Facility | 2772 |
| Air Force | Edwards AFB | AFFTC | MF-A | Human Factors Lab | 1822 |
| Army | Ft Huachuca | USA EPG | MF-A | Range Operations | 784 |
| | | | | | 6155 |
| | | | | | |
| Navy | Patuxent Rvr MD | NAWCAD | MF-C | Combat Identif Sys | 194 |
| Navy | Patuxent Rvr MD | NAWCAD | MF-C | Grnd Rng Ant Test Fac | 632 |
| Navy | Patuxent Rvr MD | NAWCAD | MF-C | ATLAS In-Flt Meas Cap | 385 |
| Navy | Patuxent Rvr MD | NAWCAD | MF-C | Communic T&E Lab | 880 |
| | | | | | 2091 |
| | | | | | |
| Air Force | Eglin AFB | AFDTC | MF-E | McKinley Climatic Lab | 6816 |
| Army | Ft Huachuca | USA EPG | MF-E | Environmental Test Fac | 1681 |
| Army | Yuma AZ | USA YPG | MF-E | Environ Simulation | 297 |
| Navy | ChinaLake CA | NAWC | MF-E | Envir Test Complex | 1157 |
| Navy | Indianapolis IN | NAWCAD | MF-E | PQA&E Facility | 23218 |
| Navy | Pt Mugu CA | NAWCWPNS | MF-E | Sea Level Clim Chmbr | 575 |
| Air Force | Edwards AFB | AFFTC | MF-E | GVT and Structures Lab | 1570 |
| | | | | | 35314 |
| | | | | | |
| Navy | Dahlgren VA | NSWC | MF-EM | EM Vulnerability Fac | 3347 |
| | | | | | |
| | | | | | |
| Air Force | Eglin AFB | AFDTC | MF-G | Multi-Spec Sig Msmt | 245 |
| Air Force | Holloman AFB | 46TG@Holloman | MF-G | CIGTF | 42200 |
| Navy | ChinaLake CA | NAWCWPNS | MF-G | IR Seeker, GCS DDT&E | 2138 |
| Navy | Patuxent Rvr MD | NAWCAD | MF-G | Surv & Topo Rad Sys | 504 |
| Navy | Patuxent Rvr MD | NAWCAD | MF-G | EO & Recon Sys Test | 2400 |
| | | | | | 47487 |
| | | | | | |
| Air Force | Arnold AFB | AEDC | MF-P | Propul Wind Tunnel | 3636 |
| Air Force | Arnold AFB | AEDC | MF-P | Air Breath Engine TF | 1179 |
| Navy | Patuxent Rvr MD | NAWCAD | MF-P | Propul Sys Eval Fac | 32340 |
| | | | | | 37155 |
| | | | | | |
| Air Force | Holloman AFB | 46TG@Holloman | MF-ST | Holloman Hi-Spd Sled | 614 |

## CAPACITY - AIR VEHICLES (cont)

| SERVICE | SITE | ACTIVITY | TFC | FACILITY | CAPACITY |
|---|---|---|---|---|---|
| Air Force | Edwards AFB | AFFTC | IL | IFAST | 8999 |
| Navy | Patuxent Rvr MD | NAWCAD | IL | Helicop Msn Sys Supt | 4880 |
| Navy | Indianapolis IN | NAWCAD | IL | Integ Avionics Lab | 12502 |
| Navy | Indianapolis IN | NAWCAD | IL | TACAIR Pod Lab | 1786 |
| Air Force | Edwards AFB | AFFTC | IL | Instrumented Prop Comp | 110000 |
| | | | | | 138167 |
| | | | | | |
| Air Force | Tyndall AFB | 476 WEG | HITL | Radar Test Facility | 2683 |
| Navy | Patuxent Rvr MD | NAWCAD | HITL | Integ A/C Test Lab | 4343 |
| Navy | Patuxent Rvr MD | NAWCAD | HITL | A/C Sys Test Fac | 10710 |
| Navy | Patuxent Rvr MD | NAWCAD | HITL | A/C Electrical Eval Fac | 63072 |
| Navy | Patuxent Rvr MD | NAWCAD | HITL | A/C Supt Sys Test Fac | 74486 |
| Navy | Patuxent Rvr MD | NAWCAD | HITL | A/C Stores Cert Test | 9300 |
| Navy | Patuxent Rvr MD | NAWCAD | HITL | Flt Cntrl Cmptr Test | 1460 |
| | | | | | 166054 |
| | | | | | |
| Air Force | Edwards AFB | AFFTC | ISTF | BAF & ECIT | 1968 |
| Navy | Patuxent Rvr MD | NAWCAD | ISTF | Air Combat Envir T&E | 14119 |
| | | | | | 16087 |
| | | | | | |
| Air Force | Edwards AFB | AFFTC | OAR | Flt Test Cntr OAR | 11998 |
| Air Force | Hill AFB | UTTR | OAR | UTTR Open Air Range | 3380 |
| Army | Edwards AFB | Av Tech Test Ctr | OAR | Airworthiness Qual | 2626 |
| Army | Fort Rucker | Av Tech Test Ctr | OAR | Av Tech Test Cntr | 12050 |
| Army | Ft Huachuca | USA EPG | OAR | Instrument. Test Range | 646 |
| Army | Yuma AZ | USA YPG | OAR | Air Veh/Gen Supt | 484 |
| Army | Yuma AZ | USA YPG | OAR | A/C Wpns Integ Rng | 5544 |
| Navy | Patuxent Rvr MD | NAWCAD | OAR | Chesapeake Test Rng | 12246 |
| Navy | Pt Mugu CA | NAWCWPNS | OAR | Sea Test Range | 4787 |
| | | | | | 53761 |

A = Avionics &
Aircraft Subsystems
C = Comm/Navigation/Antenna
E = Environmental/Vibration/Structures
EM = E3
G = Guidance/Sensor/Signature
P = Propulsion
ST = Sled Tracks

## CAPACITY - ELECTRONIC COMBAT

| SERVICE | SITE | ACTIVITY | TFC | FACILITY | CAPACITY |
|---|---|---|---|---|---|
| Army | Ft Huachuca | USA EPG | DMS | EM Enviromental Test | 1010 |
| | | | | | |
| | | | | | |
| Army | Ft Huachuca | USA EPG | MF-C | Range Operations | 1008 |
| Navy | Patuxent Rvr MD | NAWCAD | MF-C | Grnd Rng Ant Test Fac | 218 |
| | | | | | 1226 |
| | | | | | |
| Air Force | Eglin AFB | AFDTC | MF-E | McKinley Climatic Lab | 4656 |
| Army | Ft Huachuca | USA EPG | MF-E | Environmental Test Fac | 775 |
| | | | | | 5431 |
| | | | | | |
| Army | Ft Huachuca | USA EPG | MF-EM | EMI/Tempest Test | 1626 |
| Navy | Crane IN | NSWCCD | MF-EM | EW Facility | 6301 |
| | | | | | 7927 |
| | | | | | |
| Air Force | Holloman AFB | 46TG@Holloman | MF-G | CIGTF | 2400 |
| | | | | | |
| | | | | | |
| Air Force | Holloman AFB | 46TG@Holloman | MF-R | RATSCAT/RAMS | 9920 |
| Navy | ChinaLake CA | NAWC | MF-R | Junction Ranch RCS | 3843 |
| | | | | | 13763 |
| | | | | | |
| Air Force | Eglin AFB | AFDTC | MF-S | Multi-Spec Sig Msmt | 728 |
| Navy | Pt Mugu CA | NAWCWPNS | MF-S | A/B IR Meas Cap | 788 |
| | | | | | 1516 |
| | | | | | |
| Air Force | Edwards AFB | AFFTC | IL | IFAST | 998 |
| Air Force | Edwards AFB | AFFTC | IL | SAR Test Fac-N.Base | 4128 |
| Navy | ChinaLake CA | NAWC | IL | Antirad Msl Integ Cmplx | 2250 |
| Navy | ChinaLake CA | NAWCWPNS | IL | EW Integration Lab | 208 |
| Navy | Pt Mugu CA | NAWCWPNS | IL | Warn & Surveill Sys | 850 |
| | | | | | 8434 |
| | | | | | |
| Air Force | Buffalo NY | REDCAP | HITL | REDCAP | 1040 |
| Air Force | Fort Worth TX | AFEWES | HITL | AFEWES | 9130 |
| Navy | Pt Mugu CA | NAWCWPNS | HITL | EC Sim & Eval Lab | 420 |
| | | | | | 10590 |
| | | | | | |
| Air Force | Eglin AFB | AFDTC | ISTF | PRIMES | 2202 |
| Navy | Patuxent Rvr MD | NAWCAD | ISTF | Air Combat Envir T&E | 4550 |
| | | | | | 6752 |
| | | | | | |
| Air Force | Eglin AFB | AFDTC | OAR | EMTE | 1978 |
| Air Force | Edwards AFB | AFFTC | OAR | Flight Test Center OAR | 1200 |
| Army | Ft Huachuca | USA EPG | OAR | Instrument. Test Range | 861 |
| Navy | ChinaLake CA | NAWCWPNS | OAR | Elec Combat Rng | 1821 |
| | | | | | 5860 |

C = Comm/Antenna
E = Environment
EM = E3

G = Guidance
R = RCS
S = Signature

## CAPACITY - ARMAMENT / WEAPONS

| SERVICE | SITE | ACTIVITY | TFC | FACILITY | CAPACITY |
|---|---|---|---|---|---|
| Air Force | Eglin AFB | AFDTC | DMS | Dig Modeling & Sim | 57820 |
| Navy | ChinaLake CA | NAWCAD | DMS | Strike SW/Sim Fac | 1802 |
| Navy | ChinaLake CA | NAWCWPNS | DMS | Air Wpn DM&S | 6200 |
| Navy | ChinaLake CA | NAWCWPNS | DMS | Sys Mod & Sig Proc Fac | 1638 |
| Navy | ChinaLake CA | NAWCWPNS | DMS | Wpns & Tactics Anlys | 546 |
| Navy | ChinaLake CA | NAWCWPNS | DMS | Strike Sim & Modeling | 17,486 |
| Navy | Pt Mugu CA | NAWCWPNS | DMS | Sim & Effectivness Ctr | 8082 |
| | | | | | 93574 |
| | | | | | |
| Army | Redstone Ars AL | RTTC | MF-E | Non-Dest & Nat Env | 6302 |
| Army | Redstone Ars AL | RTTC | MF-E | Induced Environment | 8068 |
| Army | WSMR, NM | WSMR | MF-E | Applied Environment | 18300 |
| Army | Yuma AZ | USA YPG | MF-E | Environ Simulation | 201 |
| Navy | ChinaLake CA | NAWCWPNS | MF-E | Envir Test Complex | 35419 |
| Navy | Crane IN | NSWCCD | MF-E | Auto IR Test Facility | 360 |
| Navy | Indian Head VA | NSWC | MF-E | Environment Test Fac | 1600 |
| Navy | Pt Mugu CA | NAWCWPNS | MF-E | Sea Level Clim Chmbr | 576 |
| Navy | Pt Mugu CA | NAWCWPNS | MF-E | Environ Test Facility | 2800 |
| Navy | Pt Mugu CA | NAWCWPNS | MF-E | Ready Missile Test | 23301 |
| Navy | Pt Mugu CA | NAWCWPNS | MF-E | Reliability Test Fac | 45376 |
| | | | | | 142303 |
| | | | | | |
| Army | WSMR, NM | WSMR | MF-EM | EM Env Effects | 915 |
| Navy | Dahlgren VA | NSWC | MF-EM | EM Vulnerability Fac | 1011 |
| Navy | Pt Mugu CA | NAWCWPNS | MF-EM | EM Environ Effects | 1700 |
| | | | | | 3626 |
| | | | | | |
| Air Force | Eglin AFB | AFDTC | MF-G | Multi-Spec Sig Msmt | 2919 |
| Air Force | Eglin AFB | AFDTC | MF-G | Fuze Test Facility | 11126 |
| Air Force | Holloman AFB | 46TG@Holloman | MF-G | CIGTF | 23000 |
| Army | Redstone Ars AL | RTTC | MF-G | Component Test | 30719 |
| Navy | ChinaLake CA | NAWCWPNS | MF-G | VHF Anechoic Chmbr | 218 |
| Navy | ChinaLake CA | NAWCWPNS | MF-G | Sensor & Tgt Tech Fac | 1353 |
| Navy | ChinaLake CA | NAWCWPNS | MF-G | RF Seeker/Guid/Cntrl | 4063 |
| Navy | ChinaLake CA | NAWCWPNS | MF-G | FME &Balloon Test | 771 |
| Navy | ChinaLake CA | NAWCWPNS | MF-G | IR Seeker, GCS DDT&E | 4903 |
| Navy | ChinaLake CA | NAWCWPNS | MF-G | ARM Msl Seeker Test | 1164 |
| Navy | ChinaLake CA | NAWCWPNS | MF-G | Guid Compo T&A Cmplx | 4838 |
| Navy | Pt Mugu CA | NAWCWPNS | MF-G | Bistatic Rdr Ref Lab | 713 |
| Navy | Pt Mugu CA | NAWCPNS | MF-G | Monostatic Rdr Ref | 939 |
| | | | | | 86726 |

## CAPACITY - ARMAMENT / WEAPONS (cont)

| SERVICE | SITE | ACTIVITY | TFC | FACILITY | CAPACITY |
|---|---|---|---|---|---|
| Air Force | Eglin AFB | AFDTC | MF-GO | Gun Test Facility | 7365 |
| Air Force | Eglin AFB | AFDTC | MF-GO | Warhead Arena | 5505 |
| Navy | ChinaLake CA | NAWCWPNS | MF-GO | Med Cal Gun & Ammo Ballistics | 410 |
| Navy | ChinaLake CA | NAWCWPNS | MF-GO | Detonat Physics Lab | 1020 |
| Navy | ChinaLake CA | NAWCWPNS | MF-GO | Cactus Flats Ord Test | 1575 |
| Navy | ChinaLake CA | NAWCWPNS | MF-GO | Ordnance Test Cmplx | 9249 |
| Navy | Crane IN | NSWCCD | MF-GO | Transient Velocity Windstream | 400 |
| Navy | Crane IN | NSWCCD | MF-GO | Ord Test Arena | 1280 |
| Navy | Dahlgren VA | NSWC | MF-GO | Explosive Exper Area | 540 |
| | | | | | 27344 |
| | | | | | |
| Air Force | Arnold AFB | AEDC | MF-P | Propul Wind Tunnel | 3770 |
| Air Force | Arnold AFB | AEDC | MF-P | Rckt Propul Alt TC | 5496 |
| Navy | ChinaLake CA | NAWCWPNS | MF-P | Air Breathing Prop Lab | 396 |
| Navy | ChinaLake CA | NAWCWPNS | MF-P | Aeroheat Test Fac | 1191 |
| Navy | ChinaLake CA | NAWCWPNS | MF-P | Hi Haz Prop Test Fac | 2631 |
| Navy | ChinaLake CA | NAWCWPNS | MF-P | Strat Prop Test Cmplx | 593 |
| Navy | ChinaLake CA | NAWCWPNS | MF-P | Tactical Prop Test Fac | 1235 |
| Navy | Indian Head VA | NSWC | MF-P | Prop Component Test | 2000 |
| | | | | | 17312 |
| | | | | | |
| Air Force | Eglin AFB | AFDTC | MF-ST | Eglin Sled Track | 3764 |
| Air Force | Holloman AFB | 46TG@Holloman | MF-ST | Holloman Hi-Spd Sled | 787 |
| Navy | ChinaLake CA | NAWCWPNS | MF-ST | Sled Tracks | 1393 |
| | | | | | 5944 |
| | | | | | |
| Navy | ChinaLake CA | NAWCWPNS | IL | Fuze Dev Lab | 538 |
| Navy | ChinaLake CA | NAWCWPNS | IL | Wpn Guid/Cntrl/Seeker | 9258 |
| Navy | ChinaLake CA | NAWCWPNS | IL | Msl/Rckt Motor Asmbly | 1592 |
| Navy | ChinaLake CA | NAWCWPNS | IL | Antirad Msl Integ Cmplx | 3550 |
| Navy | Pt Mugu CA | NAWCWPNS | IL | Intercept Weapon Eval | 11916 |
| | | | | | 26854 |
| | | | | | |
| Air Force | Eglin AFB | AFDTC | HITL | GWEF | 18611 |
| Navy | ChinaLake CA | NAWCWPNS | HITL | Sim Lab-Missile HITL | 1600 |
| Navy | ChinaLake CA | NAWCWPNS | HITL | Mk-45 TDD Engr Dev | 1200 |
| Navy | ChinaLake CA | NAWCWPNS | HITL | TSSAM HITL | 367 |
| Navy | Pt Mugu CA | NAWCWPNS | HITL | Strike Weapons Eval | 50000 |
| Navy | Pt Mugu CA | NAWCWPNS | HITL | Missile HITL Facility | 4902 |
| | | | | | 76680 |

## CAPACITY - ARMAMENT / WEAPONS (cont)

| SERVICE | SITE | ACTIVITY | TFC | FACILITY | CAPACITY |
|---|---|---|---|---|---|
| Air Force | Eglin AFB | AFDTC | ISTF | PRIMES | 443 |
| Navy | Patuxent Rvr MD | NAWCAD | ISTF | Air Combat Envir T&E | 931 |
| | | | | | 1374 |
| | | | | | |
| Air Force | Eglin AFB | AFDTC | OAR | Gulf Test Facility | 2823 |
| Air Force | Eglin AFB | AFDTC | OAR | ASTE | 11553 |
| Air Force | Eglin AFB | AFDTC | OAR | HELLFIRE Test Fac | 1660 |
| Army | Redstone Ars AL | RTTC | OAR | Small Msl Range | 1188 |
| Army | WSMR, NM | WSMR | OAR | National Range | 15606 |
| Army | WSMR, NM | WSMR | OAR | Materiel Test | 11400 |
| Army | WSMR, NM | WSMR | OAR | Warheads | 1110 |
| Army | Yuma AZ | USA YPG | OAR | Air Veh/Gen Supt | 250 |
| Army | Yuma AZ | USA YPG | OAR | A/C Wpns Integ Rng | 1802 |
| Army | Yuma AZ | USA YPG | OAR | A/C Munitions Rng | 1945 |
| Navy | ChinaLake CA | NAWCWPNS | OAR | Air/Grnd Rng | 3536 |
| Navy | WSMR, NM | NAWCWPNS | OAR | NAWCWPNS-WSMR | 3925 |
| Navy | ChinaLake CA | NAWCWPNS | OAR | Elec Combat Rng | 450 |
| Navy | Pt Mugu CA | NAWCPNS | OAR | Sea Test Range | 11609 |
| | | | | | 68857 |

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# PREFACE

This document, consisting of four volumes, provides the detailed documentation supporting the development of the recommended realignment alternatives forwarded to the Military Departments by the T&E Joint Cross-Service Group. Content of each volume is as follows:

VOLUME I - BACKGROUND

TAB A - Background Correspondence
TAB B - Internal Control Plan
TAB C - Action Plan
TAB D - Analysis Plan
TAB E - T&E JCSG BRAC Data Calls
TAB F - T&E JCSG Outsourcing Policy

VOLUME II - FUNCTIONAL VALUES

TAB A - Functional Values by Activity and Functional Area
TAB B - D-PAD Functional Value Outputs
TAB C - EXCEL Data Input Spreadsheets for D-PAD

VOLUME III - FUNCTIONAL VALUE SCORING

TAB A - Official Scoresheets
TAB B - Facility and Activity Exclusions
TAB C - Scoring Issues and Agreements
TAB D - Threshold Requirements for Functional Value Scoring

VOLUME IV - OPTIMIZATION MODEL AND ALTERNATIVES

TAB A - Optimization Model Input Data
TAB B - Optimization Model Results
TAB C - T&E JCSG Recommended Alternatives

TAB B - Optimization Model Results

W

TAB C - T&E JCSG Recommended Alternatives

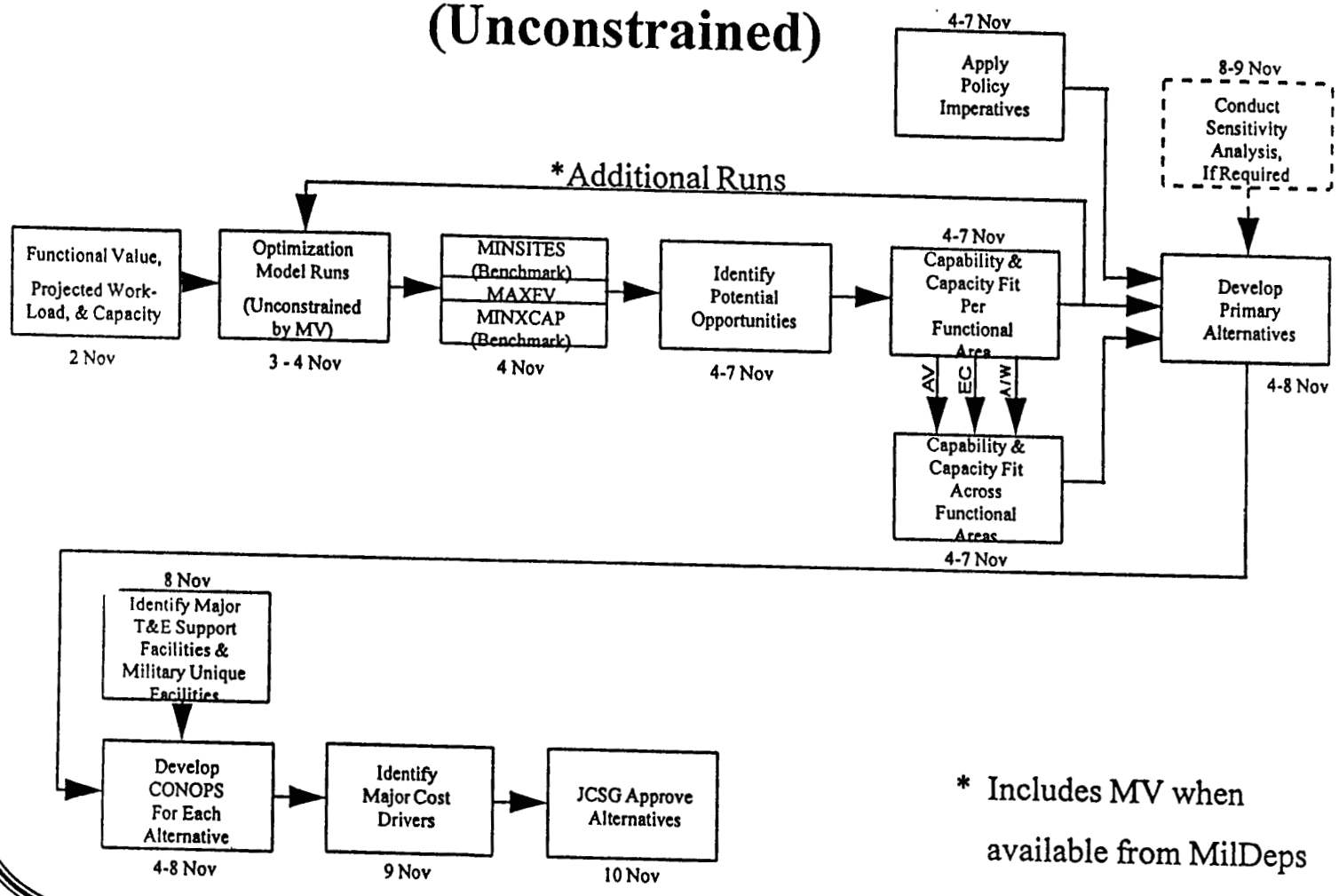
# DEVELOPMENT OF ALTERNATIVES

Alternatives for consolidation and realignment were developed by the JCSWG and approved by the T&E JCSG for release to the MILDEPs. These alternatives constitute the principal output product of the T&E JCSG.

The Air Vehicle, Electronic Combat, and Armaments / Weapons scoring teams drafted alternatives for their functional area using the results from the Optimization Model runs as a starting point (see attached flow chart). Guidance was applied from the T&E JCSWG Service Leads to treat a specified set of activities as "core;" i.e., to retain the capabilities of the core activities and to consider consolidations from other activities to the core activities, but to not consider realignments from the core activities to any other activities. Activities assigned workload by the majority of the Optimization Model formulations were identified as "core" activities. The functional scoring teams ensured that the combined capacity of the activities and facilities retained in the alternatives met or exceeded the required (projected) workload, and that technical capability mismatches were avoided.

The alternatives were documented in a format approved by the T&E JCSG.

# POST OPTIMIZATION MODEL PROCESS (Unconstrained)




* Includes MV when available from MilDeps

16 November 1994

MEMORANDUM FOR T&E JCSG CO-CHAIRS

Subject: Final T&E Joint Cross-Service Realignment Alternatives

1. Attached are the final, Service coordinated write-ups on the Realignment Alternatives developed by the T&E JCSG for forwarding to the Military Departments.

2. These alternatives were derived based on the procedures and methodologies contained in the T&E JCSG Analysis Plan, dated 3 Aug 94, as amended, with the following actions deferred to the Military Departments:

a) Cost-effectiveness / Return on Investment Analyses (i.e., COBRA)

b) Comprehensive Operational Feasibility Analysis defining capability shortfalls, detailed concepts of operation, detailed MILCON requirements, and required personnel and equipment movements.

3. A guide is attached which provides a short synopsis to expedite MILDEP review of the T&E JCSG alternatives.

Non-concur w/ deletion of T&E FV in Alternatives.

Gary L. Holloway

Gary L. Holloway, SES, USA
T&E JCSWG
Army Lead

CDR Mark B. Samuels, USN
T&E JCSWG
Navy Lead

for Nation

Dr. J. Daniel Stewart, SES, USAF
T&E JCSWG
Air Force Lead

Concur/Non-Concur

Coordination: T&E JCSG Army Principal
T&E JCSG Navy Principal
T&E JCSG Air Force Principal

Concur

Attachments: Air Vehicle Alternative Executive Summary
Electronic Combat Alternative Executive Summary
Armament/Weapons Alternative Executive Summary
Guide for T&E JCSG Alternatives

## GUIDE FOR T&E JCSG ALTERNATIVES

The T&E Joint Cross-Service Group (JCSG) conducted its analysis in accordance with the T&E JCSG Analysis Plan, dated 3 Aug 94, as amended. The Analysis Plan contains details of the analysis methods, nomenclature, etc. The following synopsis is provided to expedite MILDEP review of the alternatives.

Analysis was done for the three Functional Areas determined to have the greatest potential for cross servicing:

- Air Vehicles (AV) - Fixed & rotary wing
- Electronic Combat (EC)
- Armaments and Weapons (A/W) - Air-to-Air, Air-to-Surface, and Surface-to-Air.

Analysis was conducted for all T&E Activities (e.g., Arnold Engineering Development Center (AEDC), Arnold AFS, TN) having test facilities supporting one or more of the Test Facility Categories (TFC) supporting the test process. Six TFCs were defined:

- Digital Modeling & Simulation (DM&S)
- Measurement Facilities (MF)
- Integration Laboratories (IL)
- Hardware-in-the-Loop (HITL)
- Installed Systems Test Facilities (ISTF)
- Open Air Ranges (OAR).

Because of the diversity of facility types under Measurement Facilities, (MF), this TFC was further divided into subcategories as follows:

AIR VEHICLES -AV

| | |
|---|---|
| MF-A | Avionics and Aircraft Subsystems |
| MF-C | Communication / Navigation / Antenna |
| MF-E | Environmental / Vibration / Structures |
| MF-EM | Electro-Magnetic Environmental Effects |
| MF-G | Guidance / Sensor / Signature |
| MF-P | Propulsion |
| MF-ST | Sled Tracks |

ELECTRONIC COMBAT - EC

| | |
|---|---|
| MF-C | Communication / Antenna |
| MF-E | Environmental |
| MF-EM | Electro-Magnetic Environmental Effects |
| MF-G | Guidance |
| MF-R | Radar Cross Section |
| MF-S | Signature |

## 2. Scenario Description

The ten (10) EC T&E activities listed in Table 2 were evaluated by the T&E JCSG. Activities included in the DoD Major Range and Test Facility Base (MRTFB) are noted.

**TABLE 2. ACTIVITIES IN THE ELECTRONIC COMBAT ANALYSIS**

| DEPARTMENT | ACTIVITY | MRTFB |
|---|---|---|
| ARMY | Electronic Proving Ground (EPG) | YES |
| | | |
| NAVY | NAWC China Lake | YES |
| | NSWC Crane | |
| | NAWC Patuxent River | YES |
| | NAWC Point Mugu | YES |
| | | |
| AIR FORCE | AFFTC Edwards AFB | YES |
| | AFDTC Eglin AFB | YES |
| | AFDTC Buffalo (REDCAP) | |
| | AFDTC Ft Worth (AFEWES) | |
| | AFDTC Holloman AFB | YES |

Policy imperatives were applied to the outputs from the optimization model runs, both constrained and unconstrained by Military Value, to determine core Electronic Combat T&E activities. The scenario for Electronic Combat T&E consists of the following seven (7) core activities:

Army: Electronic Proving Ground, Ft Huachuca, AZ

Navy: NAWC China Lake, CA
NAWC Patuxent River, MD
NAWC Point Mugu, CA

Air Force: AFDTC, Eglin AFB, FL
AFFTC, Edwards AFB, CA
AFDTC, Holloman AFB, NM

Projected workload has been realigned into these seven (7) core T&E activities. These core activities meet the policy imperatives and operational feasibility requirements as shown in enclosure (2). Specific details for each losing activity are found in enclosures (3), (4), and (5). A summary of the resulting DoD T&E capabilities for Electronic Combat is shown in Table 3 with activities listed in alphabetical order within each TFC.

ARMAMENTS / WEAPONS - A/W

| | |
|---|---|
| MF-E | Environmental / Vibration / Indoor Decoy Flares |
| MF-EM | Electro-Magnetic Environmental Effects |
| MF-G | Guidance and Control / Seeker/Sensor / Signatures and Flares |
| MF-GO | Guns / Ordnance / Warheads / Outdoor Decoy Flares |
| MF-P | Propulsion |
| MF-ST | Sled Tracks |

Capacity and projected workload requirements are measured in Test Hours. Capacity is based on the peak annual workload over the period FY86 through FY93. Projected workload is based on a factor (0.72) times the average workload in FY92 and FY93.

The T&E activities included in the analysis are listed in Attachment 1.

The results of the T&E JCSG analyses are documented in separate executive summaries for each functional area. The executive summaries are broken down into five sections as follows:

- Section 1 describes the baseline for the functional area alternative, including projected workloads and capacities.

- Section 2 lists those activities which were evaluated and which activities were determined to be core for the functional area.

- Section 3 describes the proposed scenario, including specific facilities and test hours to be realigned and potential gaining activities.

- Section 4 discusses rationale for the proposed realignment, including resulting reductions in excess capacity.

- Section 5 includes other pertinent information such as cost drivers and potential impacts associated with the proposed realignments.

The following limitations of the T&E JCSG analysis should be specifically noted:

- In some cases, facilities with capabilities cutting across multiple TFC's were aggregated by respondents to the data call into a single facility which was categorized under a single TFC. This created some "misfits" in capacity and capability which were left intact for this level of analysis. Additional information will be needed for those alternatives pursued by MILDEPs involving these cases.

- Capacity is based on the maximum test hours reported by each facility in any year over the period of FY86 through FY93. It was assumed that the capacity in the peak year could be achieved in FY01.

# BRAC 95 T&E JOINT ANALYSIS ALTERNATIVE DOCUMENTATION

## Air Vehicles Executive Summary

### 1. Baseline for Air Vehicles T&E

A summary of the Air Vehicles activities which were included in the analysis is provided at enclosure (1). The capacities, projected workload requirements, and excess capacities for each Test Facility Category (TFC) and sub-category at each activity are provided. Table 1 displays the summary level projected workload requirement and capacities which were provided as inputs to the optimization model.

**TABLE 1. AIR VEHICLES PROJECTED WORKLOAD REQUIREMENTS & CAPACITIES**

| TEST FACILITY CATEGORY | PROJECTED WORKLOAD REQUIREMENT (TEST HOURS) | CAPACITIES (TEST HOURS) |
|---|---|---|
| Digital Models & Simulation (DM&S) | 1,273 | 3,380 |
| | | |
| Measurement Facilities (MF) | | |
| Avionics & Aircraft Subsystems (MF-A) | 2,631 | 6,155 |
| Communications/Navigation/Antenna (MF-C) | 1,136 | 2,091 |
| Environmental/Vibration/Structures (MF-E) | 23,158 | 35,314 |
| Electro-Magnetic Environmental Effects (MF-EM) | 943 | 3,347 |
| Guidance/Sensor/Signature (MF-G) | 30,719 | 47,487 |
| Propulsion (MF-P) | 25,854 | 37,155 |
| Sled Tracks (MF-ST) | 170 | 614 |
| | | |
| Integration Laboratories (IL) | 81,806 | 138,167 |
| | | |
| Hardware-In-The-Loop (HITL) | 114,171 | 166,054 |
| | | |
| Installed Systems Test Facility (ISTF) | 9,674 | 16,087 |
| | | |
| Open Air Ranges (OAR) | 27,578 | 53,761 |
| | | |
| **TOTAL** | **319,113** | **509,612** |

**2. Scenario Description:**

The sixteen (16) Air Vehicles T&E activities in Table 2 were evaluated by the T&E JCSG. The DoD Major Range and Test Facility Bases (MRTFB's) are noted.

**Table 2. Air Vehicles T&E Activities Evaluated by the T&E JCSG**

| MILITARY DEPARTMENT | ACTIVITY | MRTFB |
|---|---|---|
| ARMY | Yuma Proving Ground | YES |
| | Electronic Proving Ground-Ft. Huachuca | YES |
| | ATTC-Ft. Rucker | |
| | AQTD-Edwards AFB | |
| | | |
| NAVY | NAWC-Indianapolis | |
| | NAWC-Patuxent River | YES |
| | NAWC-China Lake | YES |
| | NAWC-Pt. Mugu | YES |
| | NSWC-Dahlgren | |
| | NAWC-Warminster | |
| | | |
| AIR FORCE | AEDC-Arnold AFB | YES |
| | AFDTC-Eglin AFB | YES |
| | AFFTC-Edwards AFB | YES |
| | AFDTC-Holloman AFB | YES |
| | Utah Test and Training Range | YES |
| | 476 WEG-Tyndall AFB | |

Policy imperatives were applied to the outputs from the optimization model runs, both constrained and unconstrained by Military Value, to determine core Air Vehicles T&E activities. The scenario for Air Vehicles T&E consists of the following ten (10) core activities:

ARMY: Electronic Proving Ground, Ft. Huachuca, AZ
Yuma Proving Ground, AZ

NAVY: NAWC China Lake, CA
NAWC Patuxent River, MD
NAWC Point Mugu, CA

AIR FORCE: AFDTC Eglin AFB, FL
AFFTC Edwards AFB, CA
AFDTC Holloman AFB, NM
AEDC Arnold, TN
Utah Test and Training Range, UT

Projected workload has been realigned into these ten (10) core T&E activities. These core activities meet the policy imperatives and operational feasibility requirements as shown in enclosure (2).

Detailed descriptions of each proposed realignment action are provided in enclosures (3)-(8). A summary of the resulting DoD T&E capabilities for Air Vehicles is shown in Table 3 with activities listed in alphabetical order within each TFC.

**TABLE 3. RESULTING DOD T&E CAPABILITIES FOR AIR VEHICLES**

| ACTIVITY | TEST FACILITY CATEGORY | PROJECTED WORKLOAD FY2001 | CAPACITY (TEST HOURS) |
|---|---|---|---|
| | | | |
| AFTTC-Edwards AFB | DM&S | | 1,987 |
| NAWC-Patuxent River | | | 1,393 |
| | | **1,273** | **3,380** |
| | | | |
| AFTTC-Edwards AFB | MF-A | | 1,822 |
| Fort Huachuca-Electronic Proving Ground | | | 1,177 |
| NAWC-Patuxent River | | | 3,156 |
| | | **2,631** | **6,155** |
| | | | |
| NAWC-Patuxent River | MF-C | **1,136** | **2,091** |
| | | | |
| AFDTC-Eglin AFB | MF-E | | 6,816 |
| AFTTC-Edwards AFB | | | 1,570 |
| Fort Huachuca-Electronic Proving Ground | | | 1,681 |
| NAWC-China Lake | | | 1,157 |
| NAWC-Point Mugu | | | 575 |
| Yuma Proving Ground | | | 297 |
| | | **23,158** | **12096** |
| | | | |
| | MF-EM | **943** | **0** |
| | | | |
| AFDTC-Eglin AFB | MF-G | | 245 |
| AFDTC-Holloman AFB | | | 42,200 |
| NAWC-China Lake | | | 2,138 |
| NAWC-Patuxent River | | | 2,904 |
| | | **30,719** | **47,487** |
| | | | |
| AEDC-Arnold AFB | MF-P | | 4,815 |
| NAWC-Patuxent River | | | 32,340 |
| | | **25,854** | **37,155** |
| | | | |
| AFDTC-Holloman AFB | MF-ST | **170** | **614** |
| | | | |
| AFTTC-Edwards AFB | IL | | 118,999 |
| NAWC-Patuxent River | | | 4,880 |
| | | **81,806** | **123,879** |
| | | | |
| NAWC-Patuxent River | HITL | **114,171** | **163,371** |

**TABLE 3. RESULTING DOD T&E CAPABILITIES FOR AIR VEHICLES (Cont)**

| ACTIVITY | TEST FACILITY CATEGORY | PROJECTED WORKLOAD FY2001 | CAPACITY (TEST HOURS) |
|---|---|---|---|
| | | | |
| AFTTC-Edwards AFB | ISTF | | 1,968 |
| NAWC-Patuxent River | | | 14,119 |
| | | **9,674** | **16,087** |
| | | | |
| AFTTC-Edwards AFB | OAR | | 11,998 |
| Fort Huachuca-Electronic Proving Ground | | | 646 |
| NAWC-Patuxent River | | | 12,246 |
| NAWC-Point Mugu | | | 4,787 |
| Utah Test and Training Range | | | 3,380 |
| Yuma Proving Ground | | | 6,028 |
| | | | |
| **TOTAL** | | **27,578** | **39,085** |

**3. Activities in the Scenario**

For Military Department consideration, Table 4 lists the losing and gaining activities, the type of work which could be realigned, the amount of workload moved from the losing activity, and the excess capacity which could be deleted. The potential gaining activities are listed in alphabetical order.

**TABLE 4. LOSING AND GAINING ACTIVITIES**

| CONTROL NUMBER | LOSING ACTIVITY | GAINING ACTIVITY | TFC | REALIGNED WORKLOAD (TEST HOURS) | EXCESS CAPACITY DELETED (TEST HOURS) |
|---|---|---|---|---|---|
| TE-1(AV) | ATTC-FT.Rucker | | OAR | 3,776 | 12,050 |
| | | AFFTC & AQTD Edwards | | | |
| | | NAWC Patuxent River | | | |
| | | YPG Yuma | | | |
| TE-2(AV) | AQTD-Edwards | | OAR | 1,258 | 2,626 |
| | | AFFTC Edwards | | | |
| | | NAWC Patuxent River | | | |
| | | YPG Yuma | | | |
| TE-3(AV) | NAWC-Indianapolis | | MF-E | 16,324 | 6,894 |
| | | AFDTC Eglin | | | |
| | | AFFTC Edwards | | | |
| | | EPG Ft Huachuca | | | |
| | | NAWC China Lake | | | |
| | | NAWC Point Mugu | | | |
| | | YPG Yuma | | | |

**TABLE 4. LOSING AND GAINING ACTIVITIES (Cont)**

| CONTROL NUMBER | LOSING ACTIVITY | GAINING ACTIVITY | TFC | REALIGNED WORKLOAD (TEST HOURS) | EXCESS CAPACITY DELETED (TEST HOURS) |
|---|---|---|---|---|---|
| | NAWC-Indianapolis | | IL | 10,046 | 4,242 |
| | | NAWC-Patuxent River | | | |
| TE-4(AV) | NSWC Dahlgren | | MF-EM | 943 | 0 |
| | | EPG Ft Huachuca | | | |
| | | NAWC Patuxent River | | | |
| | | NAWC Point Mugu | | | |
| TE-5(AV) | NAWC-Warminster | | DM&S | 1,003 | 0 |
| | | NAWC-Patuxent River | | | |
| TE-6(AV) | 476 WEG Tyndall AFB | | HITL | 1,932 | 2,683 |
| | | AFFTC-Edwards AFB | | | |
| | | MilDep Depots | | | |
| | | NAWC Patuxent River | | | |
| | | USAFWTC Nellis AFB | | | |
| **TOTAL** | | | | **35,282** | **28,495** |

Table 5 lists the T&E facilities under consideration for realignment at the losing activities.

**TABLE 5. T&E FACILITIES AT LOSING ACTIVITIES**

| ACTIVITY | TFC | FACILITY |
|---|---|---|
| ATTC-Ft. Rucker | OAR | Aviation Technical Test Center |
| | | |
| AQTD-Edwards | OAR | Airworthiness Qualification Test Dir. |
| | | |
| NAWC-Indianapolis | MF-E | PQA&E Facility |
| | IL | TACAIR Pod Lab |
| | IL | Integrated Avionics Lab |
| | | |
| NSWC-Dahlgren | MF-EM | EM Vulnerability Facility |
| | | |
| NAWC-Warminster | DM&S | Human Centrifuge/Dynamic Flight Simulator |
| | | |
| 476 WEG Tyndall AFB | HITL | Radar Test Facility |

**4. Rationale for Realignment**

**a. Measures of Merit.** Realigning Air Vehicles T&E reduces the number of activities involved in accomplishing testing from sixteen (16) to ten (10), potentially saving Operations and Maintenance (O&M) and Investment and Modernization (I&M) funds. Table 6 below provides the resultant excess capacity reductions for Air Vehicles testing.

**Table 6. EXCESS CAPACITY REDUCTIONS FOR AIR VEHICLES T&E**

| TEST FACILITY CATEGORY | EXCESS CAPACITY REDUCTION |
|---|---|
| Digital Models & Simulation | **0** |
| | |
| Measurement Facilities | |
| MF-A | 0 |
| MF-C | 0 |
| MF-E | 6,894 |
| MF-EM | 0 |
| MF-G | 0 |
| MF-P | 0 |
| MF-ST | 0 |
| | |
| Integration Laboratories | **4,242** |
| | |
| Hardware-in-the-Loop | **2,683** |
| | |
| Installed System Test Facilities | **0** |
| | |
| Open Air Ranges | **14,676** |
| | |
| **TOTAL** | **28,495** |

**5. Remarks:**

**a. Cost Drivers:**

**(1) Potential MILCON**: Except for Yuma Proving Ground, the gaining activities appear to have sufficient capability and capacity to add the realigned workload without a significant requirement for MILCON. However, more detailed evaluation of the potential relocation of the EM Vulnerability Facility and Human Centrifuge/ Dynamic Flight Simulator is necessary to determine MILCON requirements. The requirement for additional hangar and ramp space at YPG needs to be assessed.

**(2) Equipment Transportation**: Movement of equipment will be required. The selection of receiving activity(ies) will determine the amount of equipment which needs to be moved.

**(3) Support Facility Requirements**: With the exception of additional hangar and ramp space at YPG, the gaining activities appear to have adequate support facilities.

**b. Impacts Associated with Realignments**: Impacts will occur to the S&T, Development Engineering (DE), and In-service Engineering (IE) activities which are customers of the T&E facilities. Increased TDY cost may be incurred to witness testing, and the need to transport test articles/items may increase transportation costs. The relative percentage of facility use for Air Vehicles follows for each activity:

**(1) ATTC-Ft. Rucker:**

| FACILITY | T&E | S&T | DE | IE | Other |
|---|---|---|---|---|---|
| Aviation Technical Test Center | 100% | | | | |

**(2) AQTD-Edwards:**

| FACILITY | T&E | S&T | DE | IE | Other |
|---|---|---|---|---|---|
| Airworthiness Qualification Test Directorate | 100% | | | | |

**(3) NAWC-Indianapolis:**

| FACILITY | T&E | S&T | DE | IE | Other |
|---|---|---|---|---|---|
| PQA&E Facility | 20% | | 5.6% | 6% | 5.6% |
| TACAIR Pod Lab | 10% | | 90% | | |
| Integrated Avionics Lab | 18% | | 82% | | |

**(4) NSWC-Dahlgren:**

| FACILITY | T&E | S&T | DE | IE | Other |
|---|---|---|---|---|---|
| EM Vulnerability Facility | 35% | | 1.2% | | |

**(5) NAWC-Warminster:**

| FACILITY | T&E | S&T | DE | IE | Other |
|---|---|---|---|---|---|
| Human Centrifuge/Dynamic Flight Simulator | 40% | | 40% | | 20% |

**(6) 476 WEG Tyndall AFB:**

| FACILITY | T&E | S&T | DE | IE | Other |
|---|---|---|---|---|---|
| Radar Test Facility | 86% | 5% | 4% | | |

# BASELINE FOR AIR VEHICLES

| ACTIVITY | TEST FACILITY CATEGORY | PROJECTED WORKLOAD (TEST HOURS) | CAPACITY (TEST HOURS) | EXISTING EXCESS CAPACITY (TEST HOURS) |
|---|---|---|---|---|
| | **DMS** | | | |
| AFFTC-Edwards | | 270 | 1,987 | 1,717 |
| NAWC-Warminster | | 1,003 | 1,393 | 390 |
| | | **1,273** | **3,380** | **2,107** |
| | **MF-A** | | | |
| AFFTC-Edwards | | 1,230 | 1,822 | 592 |
| EPG-Ft. Huachuca | | 264 | 1,177 | 913 |
| NAWC-Pax River | | 1,137 | 3,156 | 2,019 |
| | | **2,631** | **6,155** | **3,524** |
| | **MF-C** | | | |
| NAWC-Pax River | | 1,136 | 2,091 | 955 |
| | | **1,136** | **2,091** | **955** |
| | **MF-E** | | | |
| AFFTC-Edwards | | 1,130 | 1,570 | 440 |
| AFDTC-Eglin | | 4,821 | 6,816 | 1,995 |
| EPG-Ft. Huachuca | | 134 | 1,681 | 1,547 |
| YPG | | 131 | 297 | 166 |
| NAWC-Pt. Mugu | | 327 | 575 | 248 |
| NAWC-China Lake | | 291 | 1,157 | 866 |
| NAWC-Indianapolis | | 16,324 | 23,218 | 6,894 |
| | | **23,158** | **35,314** | **12,156** |
| | **MF-EM** | | | |
| NSWC-Dahlgren | | 943 | 3,347 | 2,404 |
| | | **943** | **3,347** | **2,404** |
| | **MF-G** | | | |
| NAWC-China Lake | | 1,539 | 2,138 | 599 |
| NAWC-Pax River | | 1,730 | 2,904 | 1,174 |
| AFDTC-Eglin | | 90 | 245 | 155 |
| AFDTC-Holloman | | 27,360 | 42,200 | 14,840 |
| | | **30,719** | **47,487** | **16,768** |
| | **MF-P** | | | |
| NAWC-Pax River | | 23,285 | 32,340 | 9,055 |
| AEDC-Arnold | | 2,569 | 4,815 | 2,246 |
| | | **25,854** | **37,155** | **11,301** |
| | **MF-ST** | | | |
| AFDTC-Holloman | | 170 | 614 | 444 |
| | | **170** | **614** | **444** |
| | **IL** | | | |
| AFFTC-Edwards | | 69,485 | 118,999 | 49,514 |
| NAWC-Indianapolis | | 10,046 | 14,288 | 4,242 |
| NAWC-Pax River | | 2,275 | 4,880 | 2,605 |
| | | **81,806** | **138,167** | **56,361** |

**Enclosure (1)**

## BASELINE FOR AIR VEHICLES (Cont)

| ACTIVITY | TEST FACILITY CATEGORY | PROJECTED WORKLOAD (TEST HOURS) | CAPACITY (TEST HOURS) | EXISTING EXCESS CAPACITY (TEST HOURS) |
|---|---|---|---|---|
| | HITL | | | |
| 476 WEG-Tyndall | | 1,932 | 2,683 | 751 |
| NAWC-Pax River | | 112,239 | 163,371 | 51,132 |
| | | **114,171** | **166,054** | **51,883** |
| | ISTF | | | |
| AFFTC-Edwards | | 121 | 1,968 | 1,847 |
| NAWC-Pax River | | 9,553 | 14,119 | 4,566 |
| | | **9,674** | **16,087** | **6,413** |
| | OAR | | | |
| AFFTC-Edwards | | 7,583 | 11,998 | 4,415 |
| UTTR | | 1,940 | 3,380 | 1,440 |
| ATTC-Ft. Rucker | | 3,776 | 12,050 | 8,274 |
| AQTD-Edwards | | 1,258 | 2,626 | 1,368 |
| EPG-Ft. Huachuca | | 277 | 646 | 369 |
| YPG | | 3,404 | 6,028 | 2,624 |
| NAWC-Pt. Mugu | | 1,679 | 4,787 | 3,108 |
| NAWC-Pax River | | 7,661 | 12,246 | 4,585 |
| | | **27,578** | **53,761** | **26,183** |
| | | | | |
| **TOTAL** | | **319,113** | **509,612** | **190,499** |

## POLICY IMPERATIVES, CAPABILITY FIT, AND OPERATIONAL FEASIBILITY

## AIR VEHICLES T&E

Outputs from the optimization model (prior to application of the policy imperatives and completion of the technical capability fit) indicated eight (8) activities were required to meet the Air Vehicles T&E projected workload requirements. In addition to these eight (8) activities, the following activities were maintained to meet the policy imperatives to retain the capability to support the Air Vehicles test process, to retain the capability to satisfy requirements in each test facility category, and to maintain climate and terrain diversity.

**1. Yuma Proving Ground**: YPG's Aircraft Weapons Integration Range (Open Air Range) provides the only DOD near sea level, hot and dry desert terrain which is similar to the Middle East deserts in both climate and terrain. Furthermore, the Aircraft Weapons Integration Range is the only DOD range which provides both a natural barrier to laser targeting and an operationally realistic target acquisition environment for helicopter deployed laser guided weapons. The hills and mountains naturally provide safety barriers which allow full 360-degree helicopter testing of laser designated air-to-surface munitions. In addition, YPG is a MRTFB with an open air range. Policy imperative 4 directs that work be realigned into such activities. For these reasons, YPG was treated as a core site for Air Vehicles T&E.

**2. Utah Test and Training Range**: UTTR was treated as a core site for Air Vehicles T&E because of its high value to the DoD in the operational test and evaluation of cruise missiles. Its value has increased recently due to the unavailability of Canadian airspace for such testing. In addition, UTTR is a MRTFB with an open air range. Policy imperative 4 directs that work be realigned into such activities.

The ten (10) activity scenario for Air Vehicles T&E meets the policy imperatives and operational feasibility requirements as addressed below.

**a. Retain Irreplaceable Air/Land/Sea Space.** By focusing the Air Vehicles T&E at the core activities, two sea ranges (NAWC-Patuxent River MD, NAWC-Pt Mugu CA) and four land ranges (AFFTC at Edwards AFB CA, Electronic Proving Ground AZ, Utah Test and Training Range UT, and Yuma Proving Ground AZ) are retained for Air Vehicle testing. Together these activities provide the full spectrum of diversity in both topography and climate.

**b. Retain Back-up Capability to Avoid Single Node Failure.** For the majority of test facility categories and sub-categories workload requirement are met using more than one activity. Therefore, back-up capability is maintained in these cases. By definition, unique capabilities, like those at Arnold AFB, will not have a DoD back-up capability.

**c. Retain Capability to Satisfy Tri-Department Air Vehicles T&E Requirements.** The ten (10) activity scenario for Air Vehicles T&E meets the Tri-Department requirements. No basis exists to maintain the T&E facilities at Tyndall, NAWC-Indianapolis, NAWC-Warminster, AQTD-Edwards, and ATTC-Ft. Rucker for the Air Vehicles testing addressed in this analysis.

**d. Realign/Consolidate into Existing MRTFBs with Open Air Ranges.** MRTFB activities are maintained in this scenario; whereas, non-MRTFB workload is realigned into the MRTFB activities. The workload associated with Tyndall, NAWC-Indianapolis, NAWC-Warminster, AQTD-Edwards and ATTC-Ft. Rucker can be consolidated into the existing MRTFB activities.

**Enclosure (2)**

The following table lists the capabilities of the nine core Air Vehicle T&E activities

## LOCATION OF AIR VEHICLE T&E CAPABILITIES

| ACTIVITY | DM&S | MF | IL | HITL | ISTF | OAR |
|---|---|---|---|---|---|---|
| | | | | | | |
| AEDC Arnold, TN | | X | | | | |
| AFDTC Eglin AFB, FL | | X | | | | |
| AFDTC Holloman AFB, NM | | X | | | | |
| AFFTC Edwards AFB, CA | X | X | X | | X | X |
| Electronic Proving Ground, Fort Huachuca, AZ | | X | | | | X |
| NAWC China Lake, CA | | X | | | | |
| NAWC Paxtuxent River, MD | X | X | X | X | X | X |
| NAWC Point Mugu, CA | | X | | | | X |
| Utah Test and Training Range, UT | | | | | | X |
| Yuma Proving Ground, AZ | | X | | | | X |

**Enclosure (2)**

# BRAC 95 JOINT ANALYSIS ALTERNATIVE WORKSHEET

## Air Vehicle T&E

a. Control Number: TE-1 (AV)

b. Short Title: Realign the Aviation Technical Test Center (ATTC) Ft Rucker

c: Date: 16 November 1994

d. Joint Group: Test & Evaluation

e. Scenario Description/Summary: Move the Air Vehicle Open Air Range test workload from Ft Rucker to another core T&E activity.

f. Activities in the Scenario: The ATTC Ft. Rucker work falls into one facility category, Open Air Range. The following table lists the amount of work being realigned and potential gaining activites which are listed in alphabetical order:

| TYPE OF WORK | AMOUNT OF WORK | POTENTIAL GAINING ACTIVITIES |
|---|---|---|
| OAR | 3,776 | AFFTC and AQTD Edwards AFB, CA |
| | | NAWC Patuxent River, MD |
| | | YPG Yuma, AZ |

The air vehicle testing at ATTC Ft Rucker duplicates capabilities at other core T&E activities. The workload could be transferred to core activities at Edwards AFB CA, YPG AZ or NAWC PAX MD. The most likely gaining activity would be YPG since this could allow consolidation of all Army rotary wing air vehicle testing at a single core activity. Placing the workload at Edwards AFB or NAWC Patuxent River would only make sense if the rotary wing armament range at YPG were to be realigned.

g. Rationale: ATTC Ft. Rucker is not a core Air Vehicle T&E activity. This alternative reduces the number of activities involved in open air testing with potential savings of O&M and I&M funds. This scenario could reduce the overall infrastructure the Army uses to manage and conduct aviation testing, allow for a single maintenance contract for maintaining aviation assets and associated support, and reduce the number of Aviation assets needed for testing. YPG is a Major Range Test and Facility Base (MRTFB).

h. Remarks: NAWC Pax River does not have sufficient land range within a Restricted Area for nap-of-the-earth test operations. Edwards AFB and NAWC Pax River do not have an Air Armament test range, with the required instrumentation, or collocation with other Army test assets (Field Artillery, friendly and enemy ground targets with associated maintained support) required for rotary wing testing. Deployments to YPG would be required for armament testing and integration testing.

Consolidation of both ATTC and AQTD at YPG would require the gaining activity to operate the open air range at about 500 test hours per year ( about 8%) above the demonstrated peak historical workload for Air Vehicles and Armament/Weapons testing. MILCON would be required to construct additional ramp and hangar space to accomodate the increased workload

**Enclosure (3)**

# BRAC 95 JOINT ANALYSIS ALTERNATIVE WORKSHEET

## Air Vehicle T&E

a. Control Number: TE-2 (AV)

b. Short Title: Realign the Aviation Qualification Test Directorate (AQTD) Edwards AFB

c: Date: 16 November 1994

d. Joint Group: Test & Evaluation

e. Scenario Description/Summary: Move the Air Vehicle Open Air Range test workload from AQTD to another core T&E activity.

f. Activities in the Scenario: The AQTD Edwards AFB work falls into one facility category, Open Air Range. The following table lists the amount of work being realigned and potential gaining activities which are listed in alphabetical order:

| TYPE OF WORK | AMOUNT OF WORK | POTENTIAL GAINING ACTIVITIES |
|---|---|---|
| OAR | 1,258 | AFFTC Edwards AFB, CA |
| | | NAWC Patuxent River, MD |
| | | YPG Yuma, AZ |

The air vehicle testing at AQTD Edwards duplicates capabilities at other core T&E activities. The workload could be transferred to core activities at AFFTC, NAWC PAX MD, or YPG AZ. The most likely gaining activity would be YPG since this could allow consolidation of all Army rotary wing air vehicle testing at a single core activity. Placing the workload at Edwards AFB or NAWC Patuxent River would only make sense if the rotary wing armament range at YPG were to be realigned.

g. Rationale: This alternative reduces the number of activities involved in open air testing with potential savings of O&M and I&M funds. This scenario could reduce the overall infrastructure the Army uses to manage and conduct aviation testing, allow for a single maintenance contract for maintaining aviation assets and associated support, and reduce the number of Aviation assets needed for testing. YPG is a Major Range Test and Facility Base (MRTFB).

h. Remarks: NAWC Pax River does not have sufficient land range within a Restricted Area for nap-of-the-earth test operations. Edwards AFB and NAWC Pax River do not have an Air Armament test range, with the required instrumentation, or collocation with other Army test assets (Field Artillery, friendly and enemy ground targets with associated maintained support) required for rotary wing testing. Deployments to YPG would be required for armament testing and integration testing.

Consolidation of both ATTC and AQTD at YPG would require the gaining activity to operate the open air range at about 500 test hours per year ( about 8%) above the demonstrated peak historical workload for Air Vehicles and Armament/Weapons testing. MILCON would be required to construct additional ramp and hangar space to accomodate the increased workload

**Enclosure (4)**

# BRAC 95 JOINT ANALYSIS ALTERNATIVE WORKSHEET

## Air Vehicle T&E

a. **Control Number**: TE-3 (AV)

b. **Short Title**: Realign the NAWC-Indianapolis Air Vehicle T&E Facilities.

c: **Date**: 16 November 1994

d. **Joint Group**: Test & Evaluation

e. **Scenario Description/Summary**: Realign the Air Vehicle T&E workload currently accomplished in the Product Quality Assurance and Evaluation Facility(PQA&E), the Integrated Avionics Lab and the TACAIR Pod Lab to an Air Vehicle core T&E activity.

f. **Activities in the Scenario**: The NAWC-Indianapolis Air Vehicle work falls into two test facility categories: measurement facility testing (PQA&E); and Integration Lab (IL) testing (TACAIR Pod Lab and Integrative Avionics Facility). Each subcategory of work could be considered for realignment with similar work at a core T&E activity. The following table lists the amount of work being realigned and the potential gaining activities, listed in alphabetical order:

| TYPE OF WORK | AMOUNT OF WORK | POTENTIAL GAINING ACTIVITIES |
|---|---|---|
| MF-E | 16,324 | AFDTC Eglin AFB, FL |
| | | AFFTC Edwards AFB, CA |
| | | EPG Ft Huachuca, AZ |
| | | NAWC China Lake, CA |
| | | NAWC Point Mugu, CA |
| | | YPG Yuma, AZ |
| | | |
| IL | 10,046 | NAWC Patuxent River, MD |

The PQA&E facility consists of a number of labs used to evaluate electronic/electrical components in environments such as shock, vibration, acceleration, temperature/humidity, pressure, audio and night vision. None of the potential gaining activities has sufficient excess capacity to absorb the projected workload. The equipment necessary to perform requirements not duplicated elsewhere would be required to be moved.

The likely gaining activity for the Integrated Avionics Lab and the TACAIR Pod Lab would be NAWC Pax River which has similar capabilities and has conducted testing of the Tomahawk missile. There appears to be sufficient excess capacity to absorb some of the transferred workload for the Integrated Avionics Lab. However all of the unique equipment in these facilities would have to be moved. A large part of both of these IL's is currently dedicated to Development Engineering

g. **Rationale**: NAWC-Indianapolis is not a core Air Vehicle T&E activity, and the type of work is not unique. The work could be considered for realignment into one of the core T&E activities to reduce the number of Air Vehicle activities and potentially reduce Operations and Maintenance (O&M) and Investment and Modernization (I&M) funds.

**Enclosure (5)**

**h. Remarks:** Impacts may occur to the Air Vehicle T&E, Development Engineering (DE), In-Service Engineering (IE), and others which are customers of the T&E facilities. Increased TDY cost may be incurred to witness testing, and the need to transport test articles/items may increase transportation costs.

**Enclosure (5)**

# BRAC 95 JOINT ANALYSIS ALTERNATIVE WORKSHEET

## Air Vehicle T&E

**a. Control Number:** TE-4 (AV)

**b. Short Title:** Realign the NSWC-Dahlgren Electromagnetic Vulnerability Assessment Facility

**c: Date:** 16 November 1994

**d. Joint Group:** Test & Evaluation

**e. Scenario Description/Summary:** Realign the Air Vehicle workload currently accomplished in the Electromagnetic Vulnerability Assessment Facility (EMVAF) to another core Air Vehicle T&E activity.

**f. Activities in the Scenario:** The NSWC-Dahlgren Air Vehicle work falls into one test facility category, EM Vulnerability Facility measurement testing (MF-EM). This subcategory of work could be considered for realignment with similar work at a core Air Vehicle T&E activity. The following table lists the amount of work to be realigned and the potential gaining activities which are listed in alphabetical order:

| TYPE OF WORK | AMOUNT OF WORK | POTENTIAL GAINING ACTIVITIES |
|---|---|---|
| MF-EM | 943 | EPG Ft Huachuca, AZ |
| | | NAWC Patuxent River, MD |
| | | NAWC Point Mugu, CA |

It does not appear that other facilities have some of the high power capabilities of the EMVAF. Some equipment may need to be relocated. The most likely gaining activity is NAWC Pax River which conducts similar Air Vehicle T&E work in the ACETEF.

**g. Rationale:** NSWC-Dahlgren is not a core Air Vehicle T&E activity, and the type of work is not unique. The Air Vehicle T&E work could be considered for realignment into one of the core Air Vehicle activities to reduce the number of Air Vehicle activities and potentially reduce Operations and Maintenance (O&M) and Investment and Modernization (I&M) funds.

**h. Remarks:** Impacts may occur to the Air Vehicle T&E and Development Engineering (DE) which are customers of the T&E facilities. Relocation of equipment may require MILCON to construct the outdoor ground plane test facilities.

**Enclosure (6)**

# BRAC 95 JOINT ANALYSIS ALTERNATIVE WORKSHEET

## Air Vehicle T&E

**a. Control Number:** TE-5 (AV)

**b. Short Title:** Realign the NAWC-Warminster Human Centrifuge/Dynamic Flight Simulator

**c: Date:** 16 November 1994

**d. Joint Group:** Test & Evaluation

**e. Scenario Description/Summary:** Realign the Air Vehicle workload currently accomplished in the Human Centrifuge/Dynamic Flight Simulator to another Air Vehicle core T&E activity or consolidate with similar S&T facilities.

**f. Activities in the Scenario:** The NAWC- Warminster Air Vehicle work falls into one test facility category, Digital Modeling and Simulation (DM&S). The following table lists the amount of work to be realigned and the potential gaining activity.

| TYPE OF WORK | AMOUNT OF WORK | POTENTIAL GAINING ACTIVITIES |
|---|---|---|
| DM&S | 1003 | NAWC Patuxent River, MD |

The centrifuge at NAWC Warminster has capabilities (primarily g-onset rates) not found in other U.S. facilities. If the full capability needs to be maintained, the equipment could be moved to another core T&E activity. However, as other Services are able to meet human factors test requirements without this facility, it is possible the Air Vehicle T&E workload could be accomplished at other facilities including those dedicated to S&T activities. If the facility is relocated, NAWC Pax River is the most likely gaining activity since it currently conducts a substantial amount of manned flight simulator work and is relatively close to Warminster.

**g. Rationale:** NAWC- Warminster is not a core Air Vehicle T&E activity, but some of its capabilities are unique. The work could be considered for realignment (consolidation) into one of the core Air Vehicle activities to reduce the number of Air Vehicle T&E activities and potentially reduce Operations and Maintenance (O&M) and investment and modernization (I&M) funds.

**h. Remarks:** Impacts may occur to the Air Vehicle T&E, Development Engineering (DE), and others which are customers of this facility. Relocation of the equipment would probably require MILCON.

**Enclosure (7)**

# BRAC 95 JOINT ANALYSIS ALTERNATIVE WORKSHEET

## Air Vehicle T&E

a. Control Number: TE-6 (AV)

b. Short Title: Realign the 476 WEG Radar Test Facility, Tyndall AFB

c: Date: 16 November 1994

d. Joint Group: Test & Evaluation

e. Scenario Description/Summary: Realign the Air Vehicle T&E workload currently accomplished in the Radar Test Facility by the 476 WEG to another Air Vehicle core T&E activity, depots responsible for the F-15 and F-16, or to an operational test activity.

f. Activities in the Scenario: The 476 WEG Tyndall AFB Air Vehicle work falls into one test facility category, Hardware in the Loop (HITL). The following table lists the amount of work to be realigned and the potential gaining activities, listed in alphabetical order:

| TYPE OF WORK | AMOUNT OF WORK | POTENTIAL GAINING ACTIVITIES |
|---|---|---|
| HITL | 1932 | AFFTC-Edwards AFB, CA |
| | | MilDep Depots |
| | | NAWC Patuxent River, MD |
| | | USAFWTC Nellis AFB, NV |

Any decision relocating the workload from the Radar Test Facility must consider the impact on the operational test community since the Radar Test Facility performs primarily OT&E. The workload could potentially be accommodated at depots which maintain radars for the F-15/F-16 or at an operational test location such as Nellis AFB. The workload could also be accommodated, with minor investment, at the NAWC Pax River ACETEF, or the Edwards AFB IFAST.

g. Rationale: The 476 WEG, Tyndall AFB is not a core Air Vehicle T&E activity, and the type of work is not unique. The work could be considered for realignment to reduce the number of Air Vehicle activities and potentially reduce Operations and Maintenance (O&M) and Investment and Modernization (I&M) funds.

h. Remarks: Impacts may occur to the Air Vehicle OT&E.

**Enclosure (8)**

**TABLE 3. RESULTING DoD T&E CAPABILITIES FOR ELECTRONIC COMBAT**

| ACTIVITY | TEST FACILITY CATEGORY / SUB-CATEGORY | PROJECTED WORKLOAD FY2001 | CAPACITY IN TEST HOURS |
|---|---|---|---|
| Electronic Proving Ground, Ft Huachuca | DM&S | **246** | **1010** |
| | | | |
| Electronic Proving Ground, Ft Huachuca | MF-Communications | | 1008 |
| NAWC Patuxent River | | | 218 |
| | | **298** | **1226** |
| | | | |
| AFDTC Eglin AFB | MF-Environmental | | 4656 |
| Electronic Proving Ground, Ft Huachuca | | | 775 |
| | | **2174** | **5431** |
| | | | |
| Electronic Proving Ground, Ft Huachuca | MF-Electromagnetic | **4929①** | **1626** |
| | | | |
| AFDTC Holloman AFB | MF-Guidance | **1728** | **2400** |
| | | | |
| AFDTC Holloman AFB | MF-Radar Cross Section | | 9920 |
| NAWC China Lake | | | 3843 |
| | | **6674** | **13763** |
| | | | |
| AFDTC Eglin AFB | MF-Signature | | 728 |
| NAWC Point Mugu | | | 788 |
| | | **826** | **1516** |
| | | | |
| AFFTC Edwards AFB | IL | | 5126 |
| NAWC China Lake | | | 2458 |
| NAWC Point Mugu | | | 850 |
| | | **5317** | **8434** |
| | | | |
| NAWC Point Mugu | HITL | | 420 |
| | | **2833②** | **420** |
| | | | |
| AFDTC Eglin AFB | ISTF | | 2202 |
| NAWC Patuxent River | | | 4550 |
| | | **3604** | **6752** |
| | | | |
| AFFTC Edwards AFB | OAR | | 1200 |
| AFDTC Eglin AFB | | | 1978 |
| Electronic Proving Ground, Ft Huachuca | | | 861 |
| NAWC China Lake | | | 1821 |
| | | **2771** | **5860** |

***Notes*** for those TFC's where projected workload exceeds the capacity shown:

① Workload can be accomplished in electromagnetic effects facilities examined in other functional areas.

② Workload can be accomplished in ISTF's.

### 3. Activities in the Scenario

For Military Department consideration, Table 4 lists in alphabetical order the losing and gaining activities, the type of work which could be realigned, the projected workload at the losing activity, and the capacity which could be deleted. The potential gaining activities are listed in alphabetical order.

**TABLE 4. LOSING AND GAINING ACTIVITIES**

| CONTROL NUMBER | LOSING ACTIVITY | POTENTIAL GAINING ACTIVITY | TFC | WORKLOAD REALIGNED (test hours) | EXCESS CAPACITY DELETED (test hours) |
|---|---|---|---|---|---|
| TE-1(EC) | AFDTC Buffalo (REDCAP) | | HITL | 86 | 1040 |
| | | AFFTC Edwards AFB① | | | |
| | | NAWC Point Mugu | | | |
| | | NAWC Patuxent River | | | |
| | | | | | |
| TE-2(EC) | AFDTC Ft Worth (AFEWES) | | HITL | 2524 | 9130 |
| | | AFFTC Edwards AFB① | | | |
| | | NAWC Point Mugu | | | |
| | | NAWC Patuxent River | | | |
| | | | | | |
| TE-3(EC) | NSWC Crane | | MF-EM | 4344 | 6301 |
| | | EPG, Ft Huachuca | | | |
| | | NAWC Patuxent River② | | | |
| | | | | | |
| **TOTAL** | | | | **6954** | **16471** |

*Notes:* ① AFFTC contains ISTF capability within the Avionics Test and Integration Complex which was excluded from this analysis due to minimal EC workload (less than 100 test hours) during extensive upgrade efforts over the past two years.

② MF-EM is listed as a capability within the ACETEF at Patuxent River but is not the predominant capability; it was analyzed as an ISTF which is its predominant capability.

Table 5 lists the T&E facilities under consideration for realignment at the losing activities.

**TABLE 5. T&E FACILITIES AT LOSING ACTIVITIES**

| ACTIVITY | TFC | FACILITY |
|---|---|---|
| AFDTC Buffalo | HITL | REDCAP |
| | | |
| AFDTC Ft Worth | HITL | AFEWES |
| | | |
| NSWC Crane | MF-EM | Electronic Warfare Facility |

**4. Rationale for Realignment**

Disestablishing the Air Force REal-time Digitally Controlled Analyzer/Processor (REDCAP), the Air Force Electronic Warfare Evaluation Simulator (AFEWES), and NSWC Crane's Electronic Warfare Facility reduces the number of activities involved in accomplishing EC testing from ten (10) to seven (7), potentially saving Operations & Maintenance (O&M) and Investment & Modernization (I&M) funds. Table 6 provides the resultant excess capacity reductions for Electronic Combat testing realized with this scenario.

**TABLE 6. EXCESS CAPACITY REDUCTIONS FOR ELECTRONIC COMBAT T&E**

| TEST FACILITY CATEGORY | EXCESS CAPACITY REDUCTION (test hours) |
|---|---|
| Digital Models & Simulation (DM&S) | 0 |
| | |
| Measurement Facilities | |
| Communications/Antenna (MF-C) | 0 |
| Environmental (MF-A) | 0 |
| Electro-Magnetic Environmental Effects (MF-EM) | 6301 |
| Guidance (MF-G) | 0 |
| Radar Cross-Section (MF-R) | 0 |
| Signature (MF-S) | 0 |
| | |
| Integration Laboratories | 0 |
| | |
| Hardware-In-The-Loop | 10170 |
| | |
| Installed Systems Test Facility | 0 |
| | |
| Open Air Ranges | 0 |
| | |
| TOTAL | 16471 |

**5. Remarks**

**a. Cost Drivers:**

(1) **Potential MILCON** - MILCON may be required for relocation of REDCAP and AFEWES capabilities, depending upon the gaining location. The MF-EM workload at Crane could be moved to EPG or core activities in other functional areas with no MILCON. NAWC Patuxent River already accomplishes electromagnetic environmental effects T&E within the ACETEF, but may have to invest in expanding that capability in order to absorb the work from NSWC Crane. A more detailed evaluation of electromagnetic environmental effects test capabilities would be required to determine the most cost-effective realignment.

(2) **Equipment transportation** - The major cost associated with disestablishing REDCAP and AFEWES involves the relocation of test capabilities not already existing elsewhere. Most unique REDCAP capabilities are moveable; these are generally the recently acquired and documented assets such as the SUAWACS simulator and the Battle Management Command and Control capability. AFEWES hybrid threat simulators having high utilization rates could be collocated with an EC ISTF. A cost savings could occur as many simulators already exist at core ISTF activities. AFEWES assets with low utilization rates should not be relocated as these capabilities exist elsewhere. Moving MF-EM workload to EPG, which matches current technical capability, would require no equipment moving costs. Selection of receiving activity(ies) will determine the amount of equipment which needs to be moved.

(3) **Support Facility Requirements** - Gaining activities appear to have sufficient support facilities.

**b. Impacts Associated with realignments:** Impacts will occur to the Development Engineering (DE), In-service Engineering (IE), and Training and Doctrine (T&D) activities which are customers of the Crane T&E facilities identified for realignment. The need to deploy test articles/items may increase transportation costs. The relative percentage of facility use for Electronic Combat is shown in Table 7 for each facility.

**TABLE 7. RELATIVE PERCENTAGE OF USE OF LOSING FACILITIES**

| ACTIVITY | FACILITY | T&E | DE | IE | T&D |
|---|---|---|---|---|---|
| AFDTC Buffalo | REDCAP | 100% | | | |
| AFDTC Ft Worth | AFEWES | 100% | | | |
| NSWC Crane | EW Facility | 70% | 5% | 15% | 10% |

## BASELINE DoD T&E CAPABILITIES FOR ELECTRONIC COMBAT

| ACTIVITY | TEST FACILITY CATEGORY/SUB-CATEGORY | PROJECTED WORKLOAD FY2001 (test hours) | CAPACITY (test hours) | EXISTING EXCESS CAPACITY (test hours) |
|---|---|---|---|---|
| Electronic Proving Ground, Ft Huachuca | DM&S | **246** | **1010** | **764** |
| | | | | |
| Electronic Proving Ground, Ft Huachuca | MF-Communications | 150 | 1008 | 858 |
| NAWC Patuxent River | | 148 | 218 | 70 |
| | | **298** | **1226** | **928** |
| | | | | |
| AFDTC Eglin AFB | MF-Environmental | 2051 | 4656 | 2605 |
| Electronic Proving Ground, Ft Huachuca | | 123 | 775 | 652 |
| | | **2174** | **5431** | **3257** |
| | | | | |
| Electronic Proving Ground, Ft Huachuca | MF-Electromagnetic | 585 | 1626 | 1041 |
| NSWC Crane | | 4344 | 6301 | 1957 |
| | | **4929** | **7927** | **2998** |
| | | | | |
| AFDTC Holloman AFB | MF-Guidance | **1728** | **2400** | **672** |
| | | | | |
| AFDTC Holloman AFB | MF-Radar Cross Section | 4363 | 9920 | 5557 |
| NAWC China Lake | | 2311 | 3843 | 1532 |
| | | **6674** | **13763** | **7089** |
| | | | | |
| AFDTC Eglin AFB | MF-Signature | 339 | 728 | 389 |
| NAWC Point Mugu | | 487 | 788 | 301 |
| | | **826** | **1516** | **690** |
| | | | | |
| AFFTC Edwards AFB | IL | 3088 | 5126 | 2038 |
| NAWC China Lake | | 1770 | 2458 | 688 |
| NAWC Point Mugu | | 459 | 850 | 391 |
| | | **5317** | **8434** | **3117** |
| | | | | |
| NAWC Point Mugu | HITL | 223 | 420 | 197 |
| AFDTC Ft. Worth (AFEWES) | | 2524 | 9130 | 6606 |
| AFDTC Buffalo (REDCAP) | | 86 | 1040 | 954 |
| | | **2833** | **10590** | **7757** |
| | | | | |
| AFDTC Eglin AFB | ISTF | 761 | 2202 | 1441 |
| NAWC Patuxent River | | 2843 | 4550 | 1707 |
| | | **3604** | **6752** | **3148** |
| | | | | |
| AFFTC Edwards AFB | OAR | 758 | 1200 | 442 |
| AFDTC Eglin AFB | | 899 | 1978 | 1079 |
| Electronic Proving Ground, Ft Huachuca | | 369 | 861 | 492 |
| NAWC China Lake | | 745 | 1821 | 1076 |
| | | **2771** | **5860** | **3089** |

**Enclosure (1)**

# POLICY IMPERATIVES, CAPABILITY FIT, AND OPERATIONAL FEASIBILITY

## ELECTRONIC COMBAT T&E

Outputs from the optimization model indicated nine (9) activities are required to meet electronic combat T&E workload requirements. However, the number of activities required to support EC testing can be further reduced, from nine (9) to eight (8) if excess capacity allocated to one functional area can be utilized to meet workload requirements in another. A further reduction in EC test activities, from eight (8) to seven (7), is possible if excess ISTF capacity can be used to meet HITL workload requirements. This alternative takes advantage of excess capacities across both functional and TFC lines satisfying the policy imperative to relocate workload to core activities. The seven (7) activities to be maintained meet policy imperatives to retain the capability to support the DoD EW Test and Evaluation Process, to retain the capability to satisfy requirements in each test facility category, and to maintain climate and terrain diversity.

Electronic Warfare Facility, NSWC Crane: This is a measurement facility which accomplishes electromagnetic environmental effects testing. The same type of testing is conducted at EPG, Fort Huachuca, AZ and NAWC Patuxent River, MD, both of which have excess capacity available. There is some excess capacity at these two activities allocated for armament/weapons and air vehicles testing, respectively, which is capable of supporting EC workload. Their use for this type of testing could allow disestablishment of the EW Facility at NSWC Crane. Disestablishment of this facility is operationally feasible, reduces the number of activities and facilities involved in EC test and evaluation while maintaining the integrity of the EC Test Process, and increases utilization of core activities and their associated facilities.

The Air Force Electronic Warfare Evaluation Simulator (AFEWES) and the REal-time Digitally Controlled Analyzer/Processor (REDCAP) are HITL facilities capable of supporting T&E against hybrid simulators of terminal and early warning/acquisition/ground controlled intercept threats, respectively. As stand-alone facilities, AFEWES and REDCAP possess much of the same infrastructure (computers and analysis capabilities, background and scenario generators, instrumentation, etc.) of other HITL and ISTF facilities. Additionally, the test and evaluation of federated EC systems and (especially) fully integrated avionic suites will benefit if HITL and ISTF capabilities are collocated, allowing shared use of costly resources and promoting enhanced testing with better correlation of results. The Electronic Combat Integrated Test (ECIT) program (as described in certified BRAC data) upgrades existing ISTF capabilities within the Avionics Test and Integration complex at Edwards AFB, CA, specifically to support testing and evaluation of EC (and other) functions embedded within integrated avionic systems/suites. This alternative takes advantage of excess capacity in ISTF facilities to recommend integration of AFEWES and REDCAP capabilities into these existing capabilities.

The following table lists the capabilities of the activities required to accommodate the Electronic Combat T&E workload:

| ACTIVITY | DM&S | MF | IL | HITL | ISTF | OAR |
|---|---|---|---|---|---|---|
| AFDTC, Eglin | | X | | | X | X |
| AFDTC, Holloman | | X | | | | |
| AFFTC, Edwards | | | X | | X | X |
| EPG, Ft Huachuca | X | X | | | | X |
| NAWC, China Lake | | X | X | | | X |
| NAWC, Patuxent River | | X | | | X | |
| NAWC, Point Mugu | | X | X | X | | |

**Enclosure (2)**

# BRAC 95 JOINT ANALYSIS ALTERNATIVE WORKSHEET
# T&E JCSG

## Electronic Combat

a. **Control Number**: TE-1(EC).

b. **Short Title**: Realign AFDTC Buffalo (REDCAP)

c. **Date**: 16 November 1994

d. **Joint Group**: Test & Evaluation (T&E)

e. **Scenario Description/Summary**: Move the Electronic Combat Hardware-in-the-Loop (HITL) T&E work currently accomplished in the REal-time Digitally Controlled Analyzer/Processor (REDCAP) facility at AFDTC, Buffalo, NY to a core EC T&E activity.

f. **Activities in the Scenario**: The REDCAP currently consists of government-owned equipment located in a contractor facility in Buffalo, NY. The Air Force should determine the essential REDCAP capabilities that must be maintained (are not duplicated anywhere else or have high customer utilization) and move them to one of the core activities. The T&E JCSG recommends that these capabilities be collocated with another existing HITL facility or an Installed Systems Test Facility (ISTF) at a core activity. The most likely gaining activity is the Avionics Test and Integration Complex (ATIC) facility at AFFTC Edwards AFB, CA, which has a large anechoic chamber capable of handling multiple fighter-size or large bomber/cargo-size aircraft. This alternative is summarized in the table below:

| ALTER-NATIVE | LOSING ACTIVITY | POTENTIAL GAINING ACTIVITIES | TYPE OF WORK | AMOUNT OF WORK | CAPACITY DELETED |
|---|---|---|---|---|---|
| | | | | | |
| 1 | AFDTC Buffalo (REDCAP) | | HITL | 86 | 1040 |
| | | AFFTC Edwards AFB | | | |
| | | NAWC Patuxent River | | | |
| | | NAWC Point Mugu | | | |

g. **Rationale**: Realigning REDCAP meets the policy imperative to migrate workload to core activities and offers potential cost savings. Although REDCAP contains some test capabilities which do not exist elsewhere, the basic HITL infrastructure (background and scenario generators, computer and analysis capabilities, instrumentation, etc.) are duplicated at other HITL and ISTF facilities. Thus, since the REDCAP workload is projected to continue decreasing to less than 10 percent of its maximum historical level and excess capacity exists at other compatible facilities, it appears that Improvement and Modernization (I&M) and Operations and Maintenance (O&M) funds can be saved by realigning (only the essential) capabilities.

h. **Remarks**: The REDCAP facility is used only for EC T&E; thus, its disestablishment should not impact any other functional area.

**Enclosure (3)**

# BRAC 95 JOINT ANALYSIS ALTERNATIVE WORKSHEET
# T&E JCSG

## Electronic Combat

a. **Control Number**: TE-2(EC).

b. **Short Title**: Realign AFDTC Ft. Worth, TX (AFEWES)

c. **Date**: 16 November 1994

d. **Joint Group**: Test & Evaluation (T&E)

e. **Scenario Description/Summary**: Move the Electronic Combat Hardware-in-the-Loop (HITL) T&E work currently accomplished in the Air Force Electronic Warfare Evaluation Simulator (AFEWES) facility at AFDTC, Ft. Worth, TX to a core EC T&E activity.

f. **Activities in the Scenario**: The AFEWES facility is currently located in the government owned/ contractor operated Air Force Plant 4 in Ft Worth, TX. The Air Force should determine the essential capabilities of AFEWES that must be maintained (are not duplicated anywhere else or have high customer utilization) and move them to a core activity. The T&E JCSG recommends that these capabilities be collocated with another existing HITL facility or an Installed Systems Test Facility (ISTF) at a core activity. The most likely gaining activity is the Avionics Test and Integration Complex (ATIC) facility at AFFTC Edwards AFB, CA, which has a large anechoic chamber capable of handling multiple fighter-size or large bomber/cargo-size aircraft. This alternative is summarized in the table below.

| ALTER-NATIVE | LOSING ACTIVITY | POTENTIAL GAINING ACTIVITIES | TYPE OF WORK | AMOUNT OF WORK | CAPACITY DELETED |
|---|---|---|---|---|---|
| | | | | | |
| 2 | AFDTC Ft Worth (AFEWES) | | HITL | 2524 | 9130 |
| | | AFFTC Edwards AFB | | | |
| | | NAWC Patuxent River | | | |
| | | NAWC Point Mugu | | | |

g. **Rationale**: Realigning AFEWES meets the policy imperative to migrate workload to core activities and offers potential cost savings. Although AFEWES contains some hybrid threat simulators which do not exist elsewhere, the basic HITL infrastructure at Air Force Plant 4 (background and scenario generators, computer and analysis capabilities, instrumentation, etc.) are duplicated at other HITL and ISTF facilities. The infrared laboratory capabilities at AFEWES appear redundant to those at the Guided Weapons Evaluation Facility (GWEF) at Eglin AFB, FL. Thus, since the AFEWES' workload is projected to continue decreasing to below 30 percent of its maximum historical level, and excess capacity exists at other compatible facilities, it appears that Improvement and Modernization (I&M) and Operations and Maintenance (O&M) funds can be saved by realigning those highly used hybrid threat simulators to a core activity. Additionally, although HITL capabilities are vital to effective implementation of the DoD EC T&E process, collocating HITL and ISTF capabilities potentially allows the same set of hybrid threat simulators to support both federated avionic systems tested alone and full integrated avionic suites evaluated in an as-installed configurations.

h. **Remarks**: The AFEWES facility is used only for EC T&E; thus, its disestablishment should not impact any other functional area.

**Enclosure (4)**

# BRAC 95 JOINT ANALYSIS ALTERNATIVE WORKSHEET
# T&E JCSG

## Electronic Combat

a. Control Number: TE-3(EC).

b. Short Title: Realign the electronic combat electromagnetic environmental effects work accomplished at NSWC Crane

c. Date: 16 November 1994

d. Joint Group: Test & Evaluation

e. Scenario Description/Summary: Realign the electronic combat electromagnetic environmental effects measurement facility work currently accomplished in the Electronic Warfare Facility at NSWC Crane to another core T&E activity.

f. Activities in the Scenario: The Electronic Warfare Facility is currently located in government owned space at NSWC Crane, IN. The T&E JCSG recommends that this workload be realigned to either the EMI/TEMPEST or Electromagnetic Environmental test facilities at the Electronic Proving Ground, Ft. Huachuca, AZ or the ACETEF facility at NAWC Patuxent River, MD.

| ALTER-NATIVE | LOSING ACTIVITY | POTENTIAL GAINING ACTIVITIES | TYPE OF WORK | AMOUNT OF WORK | CAPACITY DELETED |
|---|---|---|---|---|---|
| | | | | | |
| 3 | NSWC Crane | | MF-EM | 4344 | 6301 |
| | | EPG, Ft Huachuca | | | |
| | | NAWC Patuxent River | | | |

g. Rationale: Realigning the Electronic Warfare Facility meets the policy imperative to migrate workload to core activities and reduces the number of EC T&E activities by one. Since the majority of its workload is T&E, the recommended realignment could potentially result in Improvement and Modernization (I&M) and Operations and Maintenance (O&M) cost savings.

h. Remarks: None.

**Enclosure (5)**

# BRAC 95 T&E JOINT ANALYSIS ALTERNATIVE DOCUMENTATION

## Armament/Weapons Executive Summary

### 1. Baseline for Armament/Weapons T&E

A summary of the Armament/Weapons activities which were included in the analysis is provided at enclosure (1). The capacities, projected workload requirements, and excess capacities for each Test Facility Category (TFC) and sub-category at each activity are provided. Table 1 displays the summary level projected workload requirements and capacities which were provided as inputs to the optimization model.

**TABLE 1. ARMAMENT/WEAPONS PROJECTED WORKLOAD REQUIREMENTS & CAPACITIES**

| TEST FACILITY CATEGORY | PROJECTED WORKLOAD REQUIREMENT (TEST HOURS) | CAPACITIES (TEST HOURS) |
|---|---|---|
| | | |
| Digital Models & Simulation (DM&S) | 55,305 | 93,574 |
| | | |
| Measurement Facilities (MF) | | |
| Environmental (MF-E) | 56,129 | 142,303 |
| Electromagnetic (MF-EM) | 2,096 | 3,626 |
| Guidance (MF-G) | 44,228 | 86,726 |
| Guns/Ordnance (MF-GO) | 14,296 | 27,344 |
| Propulsion (MF-P) | 6,801 | 17,312 |
| Sled Tracks (MF-ST) | 2,608 | 5,944 |
| | | |
| Integration Laboratories (IL) | 13,368 | 26,854 |
| | | |
| Hardware-in-the-Loop (HITL) | 52,667 | 76,680 |
| | | |
| Installed System Test Facilities (ISTF) | 792 | 1,374 |
| | | |
| Open Air Ranges (OAR) | 31,742 | 68,857 |
| | | |
| **TOTAL** | **280,032** | **550,594** |

## 2. Scenario Description

The thirteen (13) Armament/Weapons T&E activities listed in Table 2 were evaluated by the T&E JCSG. DoD Major Range and Test Facility Bases (MRTFB's) are noted.

**TABLE 2. ACTIVITIES IN THE ARMAMENT/WEAPONS T&E ANALYSIS**

| MILITARY DEPARTMENT | ACTIVITY | MRTFB |
|---|---|---|
| ARMY | Redstone Technical Test Center (RTTC) | |
| | White Sands Missile Range (WSMR) | YES |
| | Yuma Proving Ground (YPG) | YES |
| | | |
| NAVY | NAWC China Lake | YES |
| | NAWC Patuxent River | YES |
| | NAWC Point Mugu | YES |
| | NAWC WSMR | |
| | NSWC Crane | |
| | NSWC Dahlgren | |
| | NSWC Indian Head | |
| | | |
| AIR FORCE | AEDC, Arnold AFB | YES |
| | AFDTC, Eglin AFB | YES |
| | AFDTC, Holloman AFB | YES |

Policy imperatives were applied to the outputs from the optimization model runs, both constrained and unconstrained by Military Value, to determine core Armament/Weapons T&E activities. The scenario for Armament/Weapons T&E consists of the following nine (9) core activities:

ARMY: White Sands Missile Range, NM
Yuma Proving Ground, AZ

NAVY: NAWC China Lake, CA
NAWC Patuxent River, MD
NAWC Point Mugu, CA
NAWC WSMR, NM

AIR FORCE: AEDC, Arnold AFB, TN
AFDTC, Eglin AFB, FL
AFDTC, Holloman AFB, NM

Projected workload has been realigned into these nine (9) core T&E activities. These core activities meet the policy imperatives and operational feasibility requirements as shown in enclosure (2). Detailed descriptions of each proposed realignment action are provided in enclosures (3), (4), (5), and (6). A summary of the resulting DoD T&E capabilities for Armament/Weapons T&E is shown in Table 3 with activities listed in alphabetical order within each TFC.

**TABLE 3. RESULTING DoD T&E CAPABILITIES FOR ARMAMENT/WEAPONS**

| ACTIVITY | TEST FACILITY CATEGORY | PROJECTED WORKLOAD FY2001 (TEST HOURS) | CAPACITY (TEST HOURS) |
|---|---|---|---|
| | | | |
| AFDTC Eglin AFB | DM&S | | 57,820 |
| NAWC China Lake | | | 27,672 |
| NAWC Point Mugu | | | 8,082 |
| | | **55,305** | **93,574** |
| | | | |
| NAWC China Lake | MF-E | | 35,419 |
| NAWC Point Mugu | | | 72,053 |
| WSMR | | | 18,300 |
| YPG | | | 201 |
| | | **56,129** | **125,973** |
| | | | |
| NAWC Point Mugu | MF-EM. | | 1,700 |
| WSMR | | | 915 |
| | | **2,096** | **2,615** |
| | | | |
| AFDTC Eglin AFB | MF-G | | 14,045 |
| AFDTC Holloman AFB | | | 23,000 |
| NAWC China Lake | | | 17,310 |
| NAWC Point Mugu | | | 1,652 |
| | | **44,228** | **56,007** |
| | | | |
| AFDTC Eglin AFB | MF-GO | | 12,870 |
| NAWC China Lake | | | 12,254 |
| | | **14,296** | **25,124** |
| | | | |
| AEDC Arnold AFB | MF-P | | 9,266 |
| NAWC China Lake | | | 6,046 |
| | | **6,801** | **15,312** |
| | | | |
| AFDTC Eglin AFB | MF-ST | | 3,764 |
| AFDTC Holloman AFB | | | 787 |
| NAWC China Lake | | | 1,393 |
| | | **2,608** | **5,944** |
| | | | |
| NAWC China Lake | IL | | 14,938 |
| NAWC Point Mugu | | | 11,916 |
| | | **13,368** | **26,854** |
| | | | |
| AFDTC Eglin AFB | HITL | | 18,611 |
| NAWC China Lake | | | 3,167 |
| NAWC Point Mugu | | | 54,902 |
| | | **52,667** | **76,680** |
| | | | |

**TABLE 3. RESULTING DoD T&E CAPABILITIES FOR ARMAMENT/WEAPONS (Cont'd)**

| ACTIVITY | TFC | PROJECTED WORKLOAD FY2001 (TEST HOURS) | CAPACITY (TEST HOURS) |
|---|---|---|---|
| AFDTC Eglin AFB | ISTF | | 443 |
| NAWC Patuxent River | | | 931 |
| | | **792** | **1,374** |
| | | | |
| AFDTC Eglin AFB | OAR | | 16,036 |
| NAWC China Lake | | | 3,986 |
| NAWC Point Mugu | | | 11,609 |
| NAWC WSMR | | | 3,925 |
| WSMR | | | 28,116 |
| YPG | | | 3,997 |
| | | **31,742** | **67,669** |

**3. Activities in the Scenario**

For Military Department consideration, Table 4 lists the losing and gaining activities, the type of work which could be realigned, the amount of workload moved from the losing activity, and the excess capacity which could be deleted. The potential gaining activities are listed in alphabetical order.

**TABLE 4. LOSING AND GAINING ACTIVITIES**

| CONTROL NUMBER | LOSING ACTIVITY | POTENTIAL GAINING ACTIVITY | TFC | WORKLOAD REALIGNED (TEST HOURS) | EXCESS CAPACITY DELETED (TEST HOURS) |
|---|---|---|---|---|---|
| TE-1(AW) | NSWC Crane | | MF-E | 153 | 360 |
| | | NAWC China Lake | | | |
| | | NAWC Point Mugu | | | |
| | | WSMR | | | |
| | | YPG | | | |
| | | | | | |
| | | | MF-GO | 989 | 1,680 |
| | | AFDTC Eglin AFB | | | |
| | | NAWC China Lake | | | |
| | | | | | |
| TE-2(AW) | NSWC Dahlgren | | MF-EM | 684 | 1,011 |
| | | NAWC Point Mugu | | | |
| | | WSMR | | | |
| | | | | | |
| | | | MF-GO | 270 | 540 |
| | | AFDTC Eglin AFB | | | |
| | | NAWC China Lake | | | |
| | | | | | |
| TE-3(AW) | NSWC Indian Head | | MF-E | 1,152 | 1,600 |
| | | NAWC China Lake | | | |
| | | NAWC Point Mugu | | | |
| | | WSMR | | | |
| | | YPG | | | |
| | | | | | |

**TABLE 4. LOSING AND GAINING ACTIVITIES (Cont'd)**

| CONTROL NUMBER | LOSING ACTIVITY | POTENTIAL GAINING ACTIVITY | TFC | WORKLOAD REALIGNED (TEST HOURS) | EXCESS CAPACITY DELETED (TEST HOURS) |
|---|---|---|---|---|---|
| TE-3(AW) | | | MF-P | 1,044 | 2,000 |
| (Cont'd) | | AEDC Arnold AFB | | | |
| | | NAWC China Lake | | | |
| | | | | | |
| TE-4(AW) | RTTC Redstone Arsenal | | MF-E | 9,749 | 14,370 |
| | | NAWC China Lake | | | |
| | | NAWC Point Mugu | | | |
| | | WSMR | | | |
| | | YPG | | | |
| | | | | | |
| | | | MF-G | 20,340 | 30,719 |
| | | NAWC China Lake | | | |
| | | AFDTC Eglin AFB | | | |
| | | AFDTC Holloman AFB | | | |
| | | NAWC Point Mugu | | | |
| | | | | | |
| | | | OAR | 786 | 1,188 |
| | | NAWC China Lake | | | |
| | | AFDTC Eglin AFB | | | |
| | | NAWC Point Mugu | | | |
| | | WSMR | | | |
| | | NAWC WSMR | | | |
| | | YPG | | | |
| | | | | | |
| **TOTAL** | | | | **35,167** | **53,468** |

Table 5 lists the T&E facilities under consideration for realignment at the losing activities.

**TABLE 5. T&E FACILITIES AT LOSING ACTIVITIES**

| ACTIVITY | TFC | FACILITY |
|---|---|---|
| NSWC Crane | MF-E | Automated Infrared Test |
| | MF-GO | Ordnance Test Area |
| | MF-GO | Transient Velocity Windstream Apparatus |
| | | |
| NSWC Dahlgren | MF-EM | Electromagnetic Vulnerability Assessment |
| | MF-GO | Explosive Experimental Area |
| | | |
| NSWC Indian Head | MF-E | Environmental Test |
| | MF-P | Propulsion Component Test |
| | | |
| RTTC Redstone Arsenal | MF-E | Induced Environmental |
| | MF-E | Non-Destructive Test and Natural Environment |
| | MF-G | Component Test |
| | OAR | Small Missile Range |

**4. Rationale for Realignment**

**a. Measures of Merit:** Realigning Armament/Weapons T&E reduces the number of activities from thirteen (13) to nine (9), potentially saving Operations & Maintenance (O&M), and Investment & Modernization (I&M) funds. Table 6 provides the resultant excess capacity reductions for Armament/Weapons.

**TABLE 6. EXCESS CAPACITY REDUCTIONS FOR ARMAMENT/WEAPONS T&E**

| TFC | EXCESS CAPACITY REDUCTION |
|---|---|
| Digital Models & Simulation (DM&S) | 0 |
| | |
| Measurement Facilities | |
| Environmental (MF-E) | 16,330 |
| Electromagnetic (MF-EM) | 1,011 |
| Guidance (MF-G) | 30,719 |
| Guns/Ordnance (MF-GO) | 2,220 |
| Propulsion (MF-P) | 2,000 |
| Sled Tracks (MF-ST) | 0 |
| | |
| Integration Laboratories (IL) | 0 |
| | |
| Hardware-in-the-Loop (HITL) | 0 |
| | |
| Installed System Test Facilities (ISTF) | 0 |
| | |
| Open Air Ranges (OAR) | 1,188 |
| | |
| **TOTAL** | **53,468** |

**5. Remarks**

**a. Cost Drivers:**

**(1) Potential MILCON:** Gaining activities appear to have sufficient capability and capacity to add the realigned workload without a requirement for MILCON. However, a more detailed evaluation of the electromagnetic (MF-EM) capabilities is required.

**(2) Equipment Transportation:** Movement of equipment, such as robotic pyrotechnic loading devices, air flow devices, and electrostatic discharge (ESD) equipment, may be required. Selection of receiving activity(ies) will determine the amount of equipment which needs to be moved.

**(3) Support Facility Requirements**: Gaining activities appear to have adequate support facilities.

**b. Impacts Associated with Realignments:** Impacts will occur to the S&T, Development Engineering (DE), and In-service Engineering (IE) activities which are customers of the T&E facilities. Increased TDY costs will be incurred to witness testing, and the need to transport test articles/items may increase transportation costs. Realigning a small fraction of the total workload for an

activity/facility would not appear to offer significant cost savings, but is consistent with the policy imperatives. The relative percentage of facility use for Armament/Weapons follows for each activity:

**(1) NSWC-Crane:**

| FACILITY | T&E | S&T | DE | IE |
|---|---|---|---|---|
| Automated Infrared Test | 80% | 2% | 18% | |
| Ordnance Test Area | 80% | 5% | 10% | 5% |
| Transient Velocity Windstream Apparatus | 50% | 10% | 40% | |

**(2) NSWC-Dahlgren:**

| FACILITY | T&E | S&T | DE | IE | OTHER |
|---|---|---|---|---|---|
| Electromagnetic Vulnerability Assessment | 24% | 2% | 4.8% | 33% | |
| Explosive Experimental Area | 15% | 50% | 30% | | 5% |

**(3) NSWC-Indian Head:**

| FACILITY | T&E | S&T | DE | IE |
|---|---|---|---|---|
| Environmental Test | 10% | 20% | 50% | 20% |
| Propulsion Component Test | 50% | 10% | 30% | 10% |

**(4) Redstone Technical Test Center:**

| FACILITY | T&E | S&T | DE | IE |
|---|---|---|---|---|
| Induced Environments | 23.6% | | 1.2% | 4.4% |
| Non-Destructive Test & Natural Environment | 11.5% | | 0.9% | 9.6% |
| Component Test | 29.4% | 1.3% | | 16.0% |
| Small Missile Range | 8.8% | 0.7% | 0.5% | |

**BASELINE FOR ARMAMENT/WEAPONS**

| ACTIVITY | TEST FACILITY CATEGORY/ SUBCATEGORY | PROJECTED WORKLOAD (TEST HOURS) | CAPACITY (TEST HOURS) | EXISTING EXCESS CAPACITY (TEST HOURS) |
|---|---|---|---|---|
| | | | | |
| | **DMS** | | | |
| NAWC China Lake | | 12,065 | 27,672 | 15,607 |
| AFDTC Eglin AFB | | 39,324 | 57,820 | 18,496 |
| NAWC Point Mugu | | 3,916 | 8,082 | 4,166 |
| | | **55,305** | **93,574** | **38,269** |
| | | | | |
| | **MF-E** | | | |
| NAWC China Lake | | 21,454 | 35,419 | 13,965 |
| NSWC Crane | | 153 | 360 | 207 |
| NSWC Indian Head | | 1,152 | 1,600 | 448 |
| NAWC Point Mugu | | 16,524 | 72,053 | 55,529 |
| RTTC | | 9,749 | 14,370 | 4,621 |
| WSMR | | 6,970 | 18,300 | 11,330 |
| YPG | | 127 | 201 | 74 |
| | | **56,129** | **142,303** | **86,174** |
| | | | | |
| | **MF-EM** | | | |
| NSWC Dahlgren | | 684 | 1,011 | 327 |
| NAWC Point Mugu | | 774 | 1,700 | 926 |
| WSMR | | 638 | 915 | 277 |
| | | **2,096** | **3,626** | **1,530** |
| | | | | |
| | **MF-G** | | | |
| NAWC China Lake | | 11,951 | 17,310 | 5,359 |
| AFDTC Eglin AFB | | 6,352 | 14,045 | 7,693 |
| AFDTC Holloman AFB | | 4,608 | 23,000 | 18,392 |
| NAWC Point Mugu | | 977 | 1,652 | 675 |
| RTTC | | 20,340 | 30,719 | 10,379 |
| | | **44,228** | **86,726** | **42,498** |
| | | | | |
| | **MF-GO** | | | |
| NAWC China Lake | | 7,736 | 12,254 | 4,518 |
| NSWC Crane | | 989 | 1,680 | 691 |
| NSWC Dahlgren | | 270 | 540 | 270 |
| AFDTC Eglin AFB | | 5,301 | 12,870 | 7,569 |
| | | **14,296** | **27,344** | **13,048** |
| | | | | |
| | **MF-P** | | | |
| AEDC Arnold AFB | | 2,107 | 9,266 | 7,159 |
| NAWC China Lake | | 3,650 | 6,046 | 2,396 |
| NSWC Indian Head | | 1,044 | 2,000 | 956 |
| | | **6,801** | **17,312** | **10,511** |
| | | | | |

**BASELINE FOR ARMAMENT/WEAPONS**

| ACTIVITY | TEST FACILITY CATEGORY/ SUBCATEGORY | PROJECTED WORKLOAD (TEST HOURS) | CAPACITY (TEST HOURS) | EXISTING EXCESS CAPACITY (TEST HOURS) |
|---|---|---|---|---|
| | | | | |
| | **MF-ST** | | | |
| NAWC China Lake | | 596 | 1,393 | 797 |
| AFDTC Eglin AFB | | 1,491 | 3,764 | 2,273 |
| AFDTC Holloman AFB | | 521 | 787 | 266 |
| | | **2,608** | **5,944** | **3,336** |
| | | | | |
| | **IL** | | | |
| NAWC China Lake | | 7,594 | 14,938 | 7,344 |
| NAWC Point Mugu | | 5,774 | 11,916 | 6,142 |
| | | **13,368** | **26,854** | **13,486** |
| | | | | |
| | **HITL** | | | |
| NAWC China Lake | | 1,357 | 3,167 | 1,810 |
| AFDTC Eglin AFB | | 12,085 | 18,611 | 6,526 |
| NAWC Point Mugu | | 39,225 | 54,902 | 15,677 |
| | | **52,667** | **76,680** | **24,013** |
| | | | | |
| | **ISTF** | | | |
| AFDTC Eglin AFB | | 168 | 443 | 275 |
| NAWC Patuxent River | | 624 | 931 | 307 |
| | | **792** | **1,374** | **582** |
| | | | | |
| | **OAR** | | | |
| NAWC China Lake | | 2,169 | 3,986 | 1,817 |
| AFDTC Eglin AFB | | 7,598 | 16,036 | 8,438 |
| NAWC Point Mugu | | 4,068 | 11,609 | 7,541 |
| RTTC | | 786 | 1,188 | 402 |
| WSMR | | 13,275 | 28,116 | 14,841 |
| NAWC WSMR | | 1,791 | 3,925 | 2,134 |
| YPG | | 2,055 | 3,997 | 1,942 |
| | | **31,742** | **68,857** | **37,115** |
| | | | | |
| | | **280,032** | **550,594** | **270,562** |

## POLICY IMPERATIVES, CAPABILITY FIT, AND OPERATIONAL FEASIBILITY

## ARMAMENT/WEAPONS T&E

Outputs from the optimization model (prior to application of the policy imperatives and completion of the technical capability fit) indicated seven (7) activities were required to meet the Armament/Weapons T&E projected workload requirements. In addition to these seven (7) activities, the following activities were maintained to meet the policy imperatives to retain the capability to support the Armament/Weapons test process, to retain the capability to satisfy requirements in each test facility category, and to maintain climate and terrain diversity.

**1. Yuma Proving Ground**: YPG's Environmental Simulation capability (MF-Environmental) supports both Air Vehicle (15%) and Armament/Weapons (85%) T&E. The portion of Armament/Weapons T&E associated with Surface-to-Surface is 77% (91% of 85%). The remaining portion (8%) is associated with Air Armament T&E. Moving 8% of the test hours is unwarranted and would not appear to be cost effective. YPG's Aircraft Weapons Integration Range (Open Air Range) provides the only DoD near sea level, hot and dry desert terrain which is similar to the Middle East deserts in both climate and terrain. The Aircraft Weapons Integration Range is the only DOD range which provides both a natural barrier to laser targeting and an operationally realistic target acquisition environment for helicopter deployed laser guided weapons. The hills and mountains naturally provide safety barriers which allow full 360-degree helicopter testing of laser designated air-to-surface munitions.

**2. NAWC at WSMR**: The Navy's facility at White Sands Missile Range provides the DT&E capability to test surface-to-air armament/weapons prior to ship-board OT&E. This facility is a tenant on WSMR which is an MRTFB. The capabilities provided by the NAWC facilities at WSMR are required to meet the Navy's T&E requirements for surface-to-air missiles. Since these NAWC facilities are already located at an MRTFB, they are retained.

The nine (9) activity scenario for Armament/Weapons T&E meets the policy imperatives and operational feasibility requirements as addressed below.

**1. Retain Irreplaceable Air/Land/Sea Space.** By focusing the Armament/Weapons T&E at the core activities, three sea ranges (AFDTC at Eglin AFB FL, NAWC-Patuxent River MD, and NAWC-Pt Mugu CA) and four land ranges (AFDTC at Eglin AFB FL, NAWC-China Lake CA, White Sands Missile Range NM, and Yuma Proving Ground AZ) are retained. Together these activities provide the full spectrum of diversity in both topography and climate.

**2. Retain Back-up Capability to Avoid Single Node Failure.** Each test facility category and sub-category workload requirement is met using more than one activity. Therefore, back-up capability is maintained.

**3. Retain Capability to Satisfy Tri-Department Armament/Weapons T&E Requirements**. The nine (9) activity scenario for Armament/Weapons T&E meets the Tri-Department requirements. No basis exists to maintain the T&E facilities under consideration at NSWC-Crane, NSWC-Indian Head, NSWC-Dahlgren, and Redstone Technical Test Center solely for the Armament/Weapons testing addressed in this analysis.

**4. Realign/Consolidate into Existing MRTFB's with Open Air Ranges**. MRTFB activities are maintained in this scenario, and non-MRTFB workload is realigned into the MRTFB activities. The Armament/Weapons T&E workload associated with NSWC-Crane, NSWC-Dahlgren, NSWC-Indian Head, and Redstone Technical Test Center can be consolidated into the existing MRTFB activities.

**Enclosure (2)**

The following table lists the capabilities of the nine core Armament/Weapons T&E activities.

**LOCATION OF ARMAMENT/WEAPONS T&E CAPABILITIES**

| ACTIVITY | DM&S | MF | IL | HITL | ISTF | OAR |
|---|---|---|---|---|---|---|
| | | | | | | |
| AEDC, Arnold | | X | | | | |
| AFDTC, Eglin | X | X | | X | X | X |
| AFDTC, Holloman | | X | | | | |
| NAWC, China Lake | X | X | X | X | | X |
| NAWC, Patuxent River | | | | | X | |
| NAWC, Pt. Mugu | X | X | X | X | | X |
| NAWC at WSMR | | | | | | X |
| WSMR, White Sands | | X | | | | X |
| YPG, Yuma | | X | | | | X |

**Enclosure (2)**

# BRAC 95 JOINT ANALYSIS ALTERNATIVE WORKSHEET
# T&E JCSG

## Armament/Weapons

a. **Control Number:** TE-1(A/W)

b. **Short Title:** Realign NSWC Crane Armament/Weapons Testing

c. **Date:** 16 November 1994

d. **Joint Group:** Test & Evaluation

e. **Scenario Description/Summary:** Move the Armament/Weapons measurement facility work currently accomplished in the following facilities at NSWC Crane to an Armament/Weapons core T&E activity:

(1) Automated Infrared Test
(2) Ordnance Test Area
(3) Transient Velocity Windstream Apparatus

f. **Activities in the Scenario:** The NSWC Crane Armament/Weapons work falls into two test facility subcategories, environmental measurement facility testing (MF-E) and guns/ordnance measurement facility testing (MF-GO). Each subcategory of work should be considered for realignment with similar work at a core Armament/Weapons T&E activity. The following table lists the amount of work that could be realigned and potential gaining activities which are listed in alphabetical order:

| TYPE OF WORK | AMOUNT OF WORK | POTENTIAL GAINING ACTIVITIES |
|---|---|---|
| MF-E | 153 | NAWC China Lake, CA |
| | | NAWC Pt. Mugu, CA |
| | | WSMR White Sands, NM |
| | | YPG Yuma, AZ |
| | | |
| MF-GO | 989 | AFDTC Eglin AFB, FL |
| | | NAWC China Lake, CA |

g. **Rationale:** The type of work is not unique and can be realigned into one of the core Armament/Weapons T&E activities to reduce the number of Armament/Weapons T&E activities and to potentially reduce Operations and Maintenance (O&M) and Investment and Modernization (I&M) funds.

h. **Remarks:** Impacts may occur to the S&T, Development Engineering (DE), and In-service Engineering (IE) activities which are customers of the T&E facilities. Increased TDY costs may be incurred to witness testing, and the need to transport test articles/items may increase transportation costs.

**Enclosure (3)**

# BRAC 95 JOINT ANALYSIS ALTERNATIVE WORKSHEET
# T&E JCSG

## Armament/Weapons

a. **Control Number:** TE-2(A/W)

b. **Short Title:** Realign NSWC Dahlgren Armament/Weapons Testing

c. **Date:** 16 November 1994

d. **Joint Group:** Test & Evaluation

e. **Scenario Description/Summary:** Move the Armament/Weapons measurement facility work currently accomplished in the following facilities at NSWC Dahlgren to an Armament/Weapons core T&E activity:

(1) Electromagnetic Vulnerability Assessment
(2) Explosive Experimental Area

f. **Activities in the Scenario:** The NSWC Dahlgren Armament/Weapons work falls into two test facility subcategories, electromagnetic measurement facility testing (MF-EM) and guns/ordnance measurement facility testing (MF-GO). Each subcategory of work should be considered for realignment with similar work at a core Armament/Weapons T&E activity. The following table lists the amount of work that could be realigned and potential gaining activities which are listed in alphabetical order:

| TYPE OF WORK | AMOUNT OF WORK | POTENTIAL GAINING ACTIVITIES |
|---|---|---|
| MF-EM | 684 | NAWC Pt. Mugu, CA |
| | | WSMR White Sands, NM |
| | | |
| MF-GO | 270 | AFDTC Eglin AFB, FL |
| | | NAWC China Lake, CA |

g. **Rationale:** The type of work is not unique and could be realigned into one of the core Armament/Weapons T&E activities to reduce the number of Armament/Weapons T&E activities. This realignment is consistent with the policy imperatives. However, a more detailed analysis is required to determine whether there are any cost savings associated with realigning a small portion of an activity's total workload, as is proposed in this alternative.

h. **Remarks:** Impacts may occur to the Surface-to-Surface T&E, S&T, Development Engineering (DE), and In-service Engineering (IE) activities which are customers of the T&E facilities. The loss of synergy and efficiency by realigning workload such that it is no longer being performed at an activity co-located with the major customers was not addressed in this analysis; this should be addressed in a more detailed analysis. Increased TDY costs may be incurred to witness testing, and the need to transport test articles/items may increase transportation costs.

**Enclosure (4)**

# BRAC 95 JOINT ANALYSIS ALTERNATIVE WORKSHEET
# T&E JCSG

## Armament/Weapons

a. **Control Number:** TE-3(A/W)

b. **Short Title:** Realign NSWC Indian Head Armament/Weapons Testing

c. **Date:** 16 November 1994

d. **Joint Group:** Test & Evaluation

e. **Scenario Description/Summary:** Move the Armament/Weapons measurement facility work currently accomplished in the following facilities at NSWC Indian Head to an Armament/Weapons core T&E activity:

(1) Environmental Test
(2) Propulsion Component Test

f. **Activities in the Scenario:** The NSWC Indian Head Armament/Weapons work falls into two test facility subcategories, environmental measurement facility testing (MF-E) and propulsion measurement facility testing (MF-P). Each subcategory of work should be considered for realignment with similar work at a core Armament/Weapons T&E activity. The following table lists the amount of work that could be realigned and potential gaining activities which are listed in alphabetical order:

| TYPE OF WORK | AMOUNT OF WORK | POTENTIAL GAINING ACTIVITIES |
|---|---|---|
| MF-E | 1,152 | NAWC China Lake, CA |
| | | NAWC Pt. Mugu, CA |
| | | WSMR White Sands, NM |
| | | YPG Yuma, AZ |
| | | |
| MF-P | 1,044 | AEDC Arnold AFB, TN |
| | | NAWC China Lake, CA |

g. **Rationale:** The type of work is not unique and can be realigned into one of the core Armament/Weapons T&E activities to reduce the number of Armament/Weapons T&E activities and to potentially reduce Operations and Maintenance (O&M) and Investment and Modernization (I&M) funds.

h. **Remarks:** Impacts may occur to the S&T, Development Engineering (DE), and In-service Engineering (IE) activities which are customers of the T&E facilities. Increased TDY costs may be incurred to witness testing, and the need to transport test articles/items may increase transportation costs.

**Enclosure (5)**

# BRAC 95 JOINT ANALYSIS ALTERNATIVE WORKSHEET
# T&E JCSG

## Armament/Weapons

a. **Control Number:** TE-4(A/W)

b. **Short Title:** Realign Redstone Technical Test Center (RTTC) Armament/Weapons Testing

c. **Date:** 16 November 1994

d. **Joint Group:** Test & Evaluation

e. **Scenario Description/Summary:** Move the Armament/Weapons measurement facility and open air range work currently accomplished in the following facilities at RTTC to an Armament/Weapons core T&E activity:

(1) Induced Environmental
(2) Non-Destructive Test and Natural Environment
(3) Component Test
(4) Small Missile Range

f. **Activities in the Scenario:** The RTTC Armament/Weapons work falls into two test facility categories; measurement facility testing and open air range (OAR) testing. The two types of measurement facility testing are: environmental (MF-E) and guidance (MF-G). Each type of work should be considered for realignment with similar work at a core Armament/Weapons T&E activity. The following table lists the amount of work that could be realigned and potential gaining activities which are listed in alphabetical order:

| TYPE OF WORK | AMOUNT OF WORK | POTENTIAL GAINING ACTIVITIES |
|---|---|---|
| MF-E | 9,749 | NAWC China Lake, CA |
| | | NAWC Point Mugu, CA |
| | | WSMR White Sands, NM |
| | | YPG Yuma, AZ |
| | | |
| MF-G | 20,340 | AFDTC Eglin AFB, FL |
| | | AFDTC Holloman AFB, NM |
| | | NAWC China Lake, CA |
| | | NAWC Point Mugu, CA |
| | | |
| OAR | 786 | AFDTC Eglin AFB, FL |
| | | NAWC China Lake, CA |
| | | NAWC Pt, Mugu, CA |
| | | NAWC White Sands, NM |
| | | WSMR White Sands, NM |
| | | YPG Yuma, AZ |

**Enclosure (6)**

g. **Rationale:** The type of work is not unique and could be realigned into one of the core Armament/Weapons T&E activities to reduce the number of Armament/Weapons T&E activities. This realignment is consistent with the policy imperatives. However, a more detailed analysis is required to determine whether there are any cost savings associated with realigning a small portion of an activity's total workload, as is proposed in this alternative.

h. **Remarks:** Impacts may occur to the Surface-to-Surface T&E, S&T, Development Engineering (DE), and In-service Engineering (IE) activities which are customers of the T&E facilities. The loss of synergy and efficiency by realigning workload such that it is no longer being performed at an activity co-located with the major customers was not addressed in this analysis; this should be addressed in a more detailed analysis. Increased TDY costs may be incurred to witness testing, and the need to transport test articles/items may increase transportation costs.

**Enclosure (6)**

# BRAC 95 T&E JOINT ANALYSIS ALTERNATIVE DOCUMENTATION

## Electronic Combat Executive Summary

### 1. Baseline for Electronic Combat (EC) T&E

A summary of the Electronic Combat activities which were included in the analysis is provided at enclosure (1). The capacities, projected workload requirements, and excess capacities for each Test Facility Category (TFC) and sub-category at each activity are provided. Table 1 displays the summary level projected workload requirements and capacities which were provided as inputs to the optimization model.

**TABLE 1. ELECTRONIC COMBAT PROJECTED WORKLOAD REQUIREMENTS & CAPACITIES**

| TEST FACILITY CATEGORY | PROJECTED WORKLOAD REQUIREMENT (test hours) | CAPACITIES (test hours) |
|---|---|---|
| Digital Models & Simulation (DM&S) | 246 | 1,010 |
| | | |
| Measurement Facilities (MF) | | |
| Communications/Antenna (MF-C) | 298 | 1,226 |
| Environmental (MF-E) | 2,174 | 5,431 |
| Electro-Magnetic Environmental Effects (MF-EM) | 4,929 | 7,927 |
| Guidance (MF-G) | 1,728 | 2,400 |
| Radar Cross-Section (MF-R) | 6,674 | 13,763 |
| Signature (MF-S) | 826 | 1,516 |
| | | |
| Integration Laboratories (IL) | 5,317 | 8,434 |
| | | |
| Hardware-In-The-Loop (HITL) | 2,833 | 10,590 |
| | | |
| Installed Systems Test Facility (ISTF) | 3,604 | 6,752 |
| | | |
| Open Air Ranges (OAR) | 2,771 | 5,860 |
| | | |
| TOTAL | 31,400 | 64,909 |

XYZ

av fr06.txt

MINSITES 'Objective function= -76.48302765 " 'Weight Parameter = 0

'Number of sites restricted to ' 6

"

'Workload Assigned'

| Sites | " | CHINA_LAKE | DAHLGREN | INDIANAP | PAXRIVER | PT_MUGU | WARMINST | ATTC_EAFB | FT_RUCKER | USA_EPG | USA_YPG | AEDC | AFDTC | AFFTC | HOLLOMAN | UTTR | 476_WEG |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Open | " | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| Air_Veh | DMS | - | - | - | - | - | 0 | - | - | - | - | - | - | 1273 | - | - | - |
| Air_Veh | MF_A | - | - | - | 809 | - | - | - | - | 0 | - | - | - | 1822 | - | - | - |
| Air_Veh | AV_MF_C | - | - | - | 1136 | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | EC_MF_C | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | AV_MF_E | 0 | - | 21013 | - | 575 | - | - | - | 0 | 0 | - | 0 | 1570 | - | - | - |
| Air_Veh | AR_MF_E | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | EC_MF_E | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | AV_MF_EM | - | 943 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | AR_MF_EM | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | EC_MF_EM | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | AV_MF_G | 0 | - | - | 2904 | - | - | - | - | - | - | - | 0 | - | 27815 | - | - |
| Air_Veh | AR_MF_G | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | EC_MF_G | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | MF_GO | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | AV_MF_P | - | - | - | 25854 | - | - | - | - | - | - | 0 | - | - | - | - | - |
| Air_Veh | AR_MF_P | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | MF_R | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | MF_S | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | AV_MF_ST | - | - | - | - | - | - | - | - | - | - | - | - | - | 170 | - | - |
| Air_Veh | AR_MF_ST | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | IL | - | - | 0 | 0 | - | - | - | - | - | - | - | - | 81806 | - | - | - |
| Air_Veh | HITL | - | - | - | 114171 | - | - | - | - | - | - | - | - | - | - | - | 0 |
| Air_Veh | ISTF | - | - | - | 7706 | - | - | - | - | - | - | - | - | 1968 | - | - | - |
| Air_Veh | OAR | - | - | - | 12246 | 3334 | - | 0 | 0 | 0 | 0 | - | - | 11998 | - | 0 | - |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 'Excess Capacity' | " | 0 | 3.54931071 | 1.1049350402132 | 1.396788128 | 1.37170632 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1.377421 | 1.529891013 | 0 | 0 |
| "' | | | | | | | | | | | | | | | | | |
| 'Ex Cap by Func Area' | TOTAL | | | | | | | | | | | | | | | | |
| Air_Veh | 1.3892006906644 | 0 | 3.54931071 | 1.1049350402132 | 1.396788128 | 1.37170632 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1.377421 | 1.529891013 | 0 | 0 |
| " | | | | | | | | | | | | | | | | | |
| 'Total Excess Capacity=' | 1.3892006906644 | | | | | | | | | | | | | | | | |
| " | | | | | | | | | | | | | | | | | |
| 'Total Summed Functional Val | 312 | | | | | | | | | | | | | | | | |
| 'Total Workload-weighted FV = | 780.12688205702 | | | | | | | | | | | | | | | | |

avxc.txt

MINXCAP 'Objective function= 87.208127604 " 'Weight Parameter = 100

'Number of sites restricted to ' 16

"

'Workload Assigned'

| Sites | " | CHINA_LAKE | DAHLGREN | INDIANAP | PAXRIVER | PT_MUGU | WARMINST | ATTC_EAFB | FT_RUCKER | USA_EPG | USA_YPG | AEDC | AFDTC | AFFTC | HOLLOMAN | UTTR | 476_WEG |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Open | " | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 |
| Air_Veh | DMS | - | - | - | - | - | 0 | - | - | - | - | - | - | 1273 | - | - | - |
| Air_Veh | MF_A | - | - | - | 2631 | - | - | - | - | 0 | - | - | - | 0 | - | - | - |
| Air_Veh | AV_MF_C | - | - | - | 1136 | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | EC_MF_C | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | AV_MF_E | 0 | - | 23158 | - | 0 | - | - | - | 0 | 0 | - | 0 | 0 | - | - | - |
| Air_Veh | AR_MF_E | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | EC_MF_E | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | AV_MF_EM | - | 943 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | AR_MF_EM | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | EC_MF_EM | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | AV_MF_G | 0 | - | - | 0 | - | - | - | - | - | - | - | 0 | - | 30719 | - | - |
| Air_Veh | AR_MF_G | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | EC_MF_G | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | MF_GO | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | AV_MF_P | - | - | - | 25854 | - | - | - | - | - | - | 0 | - | - | - | - | - |
| Air_Veh | AR_MF_P | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | MF_R | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | MF_S | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | AV_MF_ST | - | - | - | - | - | - | - | - | - | - | - | - | - | 170 | - | - |
| Air_Veh | AR_MF_ST | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | IL | - | - | 0 | 0.488 | - | - | - | - | - | - | - | - | 81805.51 | - | - | - |
| Air_Veh | HITL | - | - | - | 114171 | - | - | - | - | - | - | - | - | - | - | - | 0 |
| Air_Veh | ISTF | - | - | - | 9674 | - | - | - | - | - | - | - | - | 0 | - | - | - |
| Air_Veh | OAR | - | - | - | 12246 | 0 | - | 0 | 0 | 0 | 0 | - | - | 11998 | - | 3334 | - |
| " | | | | | | | | | | | | | | | | | |
| 'Excess Capacity' | " | 0 | 3.54931071 | 1.0025908973141 | 1.401240201 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1.398705 | 1.3860597624 | 1.0138 | 0 |
| " | | | | | | | | | | | | | | | | | |
| 'Ex Cap by Func Area' | TOTAL | | | | | | | | | | | | | | | | |
| Air_Veh | 1.3723853305882 | 0 | 3.54931071 | 1.0025908973141 | 1.401240201 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1.398705 | 1.3860597624 | 1.0138 | 0 |
| " | | | | | | | | | | | | | | | | | |
| 'Total Excess Capacity=' | 1.3723853305882 | | | | | | | | | | | | | | | | |
| " | | | | | | | | | | | | | | | | | |
| 'Total Summed Functional Val | 289 | | | | | | | | | | | | | | | | |
| 'Total Workload-weighted FV = | 763.5089325532 | | | | | | | | | | | | | | | | |

avsf06.txt

MAXSFV 'Objective function=' 44.76327116 " 'Weight Parameter =' 100

'Number of sites restricted to' 6

"

'Workload Assigned'

| Sites | " | CHINA_LAKE | DAHLGREN | INDIANAP | PAXRIVER | PT_MUGU | WARMINST | ATTC_EAFB | FT_RUCKER | USA_EPG | USA_YPG | AEDC | AFDTC | AFFTC | HOLLOMAN | UTTR | 476_WEG |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Open | " | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| Air_Veh | DMS | - | - | - | - | - | 0 | - | - | - | - | - | - | 1273 | - | - | - |
| Air_Veh | MF_A | - | - | - | 2631 | - | - | - | - | 0 | - | - | - | 0 | - | - | - |
| Air_Veh | AV_MF_C | - | - | - | 1136 | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | EC_MF_C | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | AV_MF_E | 0 | - | 23157.7855 | - | 0.0575 | - | - | - | 0 | 0 | - | 0 | 0.157 | - | - | - |
| Air_Veh | AR_MF_E | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | EC_MF_E | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | AV_MF_EM | - | 943 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | AR_MF_EM | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | EC_MF_EM | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | AV_MF_G | 0 | - | - | 0 | - | - | - | - | - | - | - | 0 | - | 30719 | - | - |
| Air_Veh | AR_MF_G | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | EC_MF_G | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | MF_GO | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | AV_MF_P | - | - | - | 25854 | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | AR_MF_P | - | - | - | - | - | - | - | - | - | - | 0 | - | - | - | - | - |
| Air_Veh | MF_R | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | MF_S | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | AV_MF_ST | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | AR_MF_ST | - | - | - | - | - | - | - | - | - | - | - | - | - | 170 | - | - |
| Air_Veh | IL | - | - | 0 | 0 | - | - | - | - | - | - | - | - | 81806 | - | - | - |
| Air_Veh | HITL | - | - | - | 114171 | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | ISTF | - | - | - | 7706 | - | - | - | - | - | - | - | - | 1968 | - | - | 0 |
| Air_Veh | OAR | - | - | - | 10793 | 4787 | - | 0 | 0 | 0 | 0 | - | - | 11998 | - | 0 | - |
| " | | | | | | | | | | | | | | | | | |
| 'Excess Capacity' | " | 0 | 3.54931071 | 1.0026001838561 | 1.4007123 | 1.1201035 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1.406788 | 1.38605976 | 0 | 0 |
| " | | | | | | | | | | | | | | | | | |
| 'Ex Cap by Func Area' | TOTAL | | | | | | | | | | | | | | | | |
| Air_Veh | 1.3743908897475 | 0 | 3.54931071 | 1.0026001838561 | 1.4007123 | 1.1201035 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1.406788 | 1.38605976 | 0 | 0 |
| " | | | | | | | | | | | | | | | | | |
| 'Total Excess Capacity=' | 1.3743908897475 | | | | | | | | | | | | | | | | |
| " | | | | | | | | | | | | | | | | | |

'Total Summed Functional Val 312

'Total Workload-weighted FV = 766.47156214794

REMARKS: ELECTRONIC COMBAT

MIN # OF SITES = 8

DATE: 3 Nov 94
JCSG: T!E
RUN #:
MODEL: TEFINAL.MOD
DATA: TEEC.DAT

| SITES | MAX FUNC. VALUE (MINSITES W=0) | MAX F.V. (MINSITES W=95) | MAX F.V. (MINSITES W=0 NSITE=min) | MIN EX. CAP (MINXCAP W=100) | MAX SPR(M |
|---|---|---|---|---|---|
| CHINALAKE | 1 | 0 | 0 | 0 | 0 |
| NAWC-CRAIG | 1 | 1 | 1 | 1 | 1 |
| PAX RIVER | 1 | 1 | 1 | 1 | 1 |
| T MUGU | 1 | 1 | 1 | 1 | 1 |
| EPG | 1 | 1 | 1 | 1 | 1 |
| NFDTC | 1 | 1 | 1 | 1 | 1 |
| FENES | 1 | 1 | 1 | 1 | 1 |
| FFTC | 1 | 1 | 1 | 1 | 1 |
| COLLOMAN | 1 | 1 | 1 | 1 | 1 |
| EDCAP | 0 | 0 | 0 | 0 | 0 |
| TOTAL | 9 | 8 | 8 | 8 | 8 |
| F.V. | 520 | 510 | 510 | 478 | 485 |
| M.V. | - | - | - | - | - |
| CAP. | 1.85 | 1.72 | 1.72 | 1.615 | 1.68 |
| Obj Func | -72.79 | 72.43 | -71.34 | 92.34 | 84.5 |
| Outpt File | ecfv.txt | ecst95.txt | ecfv08.txt | ecxc.txt | ecsfo |

ecfv.txt

MINSITES 'Objective function=' -72.7928767 " 'Weight Parameter =' 0

'Number of sites restricted to ' 10

"

'Workload Assigned'

| Sites | " | CHINA_LAKE | NAWC_CRANE | PAXRIVER | PT_MUGU | USA_EPG | AFDTC | AFEWES | AFFTC | HOLLOMAN | REDCAP |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Open | " | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| EC | DMS | - | - | - | - | 246 | - | - | - | - | - |
| EC | MF_A | - | - | - | - | - | - | - | - | - | - |
| EC | AV_MF_C | - | - | - | - | - | - | - | - | - | - |
| EC | EC_MF_C | - | - | 218 | - | 80 | - | - | - | - | - |
| EC | AV_MF_E | - | - | - | - | - | - | - | - | - | - |
| EC | AR_MF_E | - | - | - | - | - | - | - | - | - | - |
| EC | EC_MF_E | - | - | - | - | 0 | 2174 | - | - | - | - |
| EC | AV_MF_EM | - | - | - | - | - | - | - | - | - | - |
| EC | AR_MF_EM | - | - | - | - | - | - | - | - | - | - |
| EC | EC_MF_EM | - | 3303 | - | - | 1626 | - | - | - | - | - |
| EC | AV_MF_G | - | - | - | - | - | - | - | - | - | - |
| EC | AR_MF_G | - | - | - | - | - | - | - | - | - | - |
| EC | EC_MF_G | - | - | - | - | - | - | - | - | 1728 | - |
| EC | MF_GO | - | - | - | - | - | - | - | - | - | - |
| EC | AV_MF_P | - | - | - | - | - | - | - | - | - | - |
| EC | AR_MF_P | - | - | - | - | - | - | - | - | - | - |
| EC | MF_R | 3843 | - | - | - | - | - | - | - | 2831 | - |
| EC | MF_S | - | - | - | 98 | - | 728 | - | - | - | - |
| EC | AV_MF_ST | - | - | - | - | - | - | - | - | - | - |
| EC | AR_MF_ST | - | - | - | - | - | - | - | - | - | - |
| EC | IL | 0 | - | - | 850 | - | - | - | 4467 | - | - |
| EC | HITL | - | - | - | 420 | - | - | 2413 | - | - | 0 |
| EC | ISTF | - | - | 1402 | - | - | 2202 | - | - | - | - |
| EC | OAR | 0 | - | - | - | 0 | 1978 | - | 793 | - | - |

"

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 'Excess Capacity' | " | 1 | 1.9076597033 | 2.9432098765432 | 1.504386 | 1.8668033 | 1.350466 | 3.783672 | 1.202662 | 2.702347006 | 0 |

"

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 'Ex Cap by Func Area' | TOTAL | | | | | | | | | | |
| EC | 1.8456687898089 | 1 | 1.9076597033 | 2.9432098765432 | 1.504386 | 1.8668033 | 1.350466 | 3.783672 | 1.202662 | 2.702347006 | 0 |

"

'Total Excess Capacity=' 1.8456687898089

"

'Total Summed Functional Value 385

'Total Workload-weighted FV = ' 520.46906843138

ecst95.txt

MINSITES 'Objective function=' 72.432836576 " 'Weight Parameter =' 95

'Number of sites restricted to ' 10

"

'Workload Assigned'

| Sites | " | CHINA_LAKE | NAWC_CRANE | PAXRIVER | PT_MUGU | USA_EPG | AFDTC | AFEWES | AFFTC | HOLLOMAN | REDCAP |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Open | " | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| EC | DMS | - | - | - | - | 246 | - | - | - | - | - |
| EC | MF_A | - | - | - | - | - | - | - | - | - | - |
| EC | AV_MF_C | - | - | - | - | - | - | - | - | - | - |
| EC | EC_MF_C | - | - | 218 | - | 80 | - | - | - | - | - |
| EC | AV_MF_E | - | - | - | - | - | - | - | - | - | - |
| EC | AR_MF_E | - | - | - | - | - | - | - | - | - | - |
| EC | EC_MF_E | - | - | - | - | 0 | 2174 | - | - | - | - |
| EC | AV_MF_EM | - | - | - | - | - | - | - | - | - | - |
| EC | AR_MF_EM | - | - | - | - | - | - | - | - | - | - |
| EC | EC_MF_EM | - | 3303 | - | - | 1626 | - | - | - | - | - |
| EC | AV_MF_G | - | - | - | - | - | - | - | - | - | - |
| EC | AR_MF_G | - | - | - | - | - | - | - | - | - | - |
| EC | EC_MF_G | - | - | - | - | - | - | - | - | 1728 | - |
| EC | MF_GO | - | - | - | - | - | - | - | - | - | - |
| EC | AV_MF_P | - | - | - | - | - | - | - | - | - | - |
| EC | AR_MF_P | - | - | - | - | - | - | - | - | - | - |
| EC | MF_R | 0 | - | - | - | - | - | - | - | 6674 | - |
| EC | MF_S | - | - | - | 98 | - | 728 | - | - | - | - |
| EC | AV_MF_ST | - | - | - | - | - | - | - | - | - | - |
| EC | AR_MF_ST | - | - | - | - | - | - | - | - | - | - |
| EC | IL | 0 | - | - | 850 | - | - | - | 4467 | - | - |
| EC | HITL | - | - | - | 420 | - | - | 2413 | - | - | 0 |
| EC | ISTF | - | - | 1402 | - | - | 2202 | - | - | - | - |
| EC | OAR | 0 | - | - | - | 0 | 1978 | - | 793 | - | - |
| " | | | | | | | | | | | |
| 'Excess Capacity' | " | 0 | 1.9076597033 | 2.9432098765432 | 1.504386 | 1.8668033 | 1.350466 | 3.783672 | 1.202662 | 1.466317543 | 0 |
| " | | | | | | | | | | | |
| 'Ex Cap by Func Area' | TOTAL | | | | | | | | | | |
| EC | 1.7232802547771 | 0 | 1.9076597033 | 2.9432098765432 | 1.504386 | 1.8668033 | 1.350466 | 3.783672 | 1.202662 | 1.466317543 | 0 |
| " | | | | | | | | | | | |
| 'Total Excess Capacity=' | 1.7232802547771 | | | | | | | | | | |
| " | | | | | | | | | | | |
| 'Total Summed Functional Value | 338 | | | | | | | | | | |
| 'Total Workload-weighted FV = ' | 510.10436960009 | | | | | | | | | | |

ectv08.txt

MINSITES 'Objective function=' -71.34326848 " 'Weight Parameter =' 0

'Number of sites restricted to ' 8

"

'Workload Assigned'

| Sites | " | CHINA_LAKE | NAWC_CRANE | PAXRIVER | PT_MUGU | USA_EPG | AFDTC | AFEWES | AFFTC | HOLLOMAN | REDCAP |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Open | " | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| EC | DMS | - | - | - | - | 246 | - | - | - | - | - |
| EC | MF_A | - | - | - | - | - | - | - | - | - | - |
| EC | AV_MF_C | - | - | - | - | - | - | - | - | - | - |
| EC | EC_MF_C | - | - | 218 | - | 80 | - | - | - | - | - |
| EC | AV_MF_E | - | - | - | - | - | - | - | - | - | - |
| EC | AR_MF_E | - | - | - | - | - | - | - | - | - | - |
| EC | EC_MF_E | - | - | - | - | 0 | 2174 | - | - | - | - |
| EC | AV_MF_EM | - | - | - | - | - | - | - | - | - | - |
| EC | AR_MF_EM | - | - | - | - | - | - | - | - | - | - |
| EC | EC_MF_EM | - | 3303 | - | - | 1626 | - | - | - | - | - |
| EC | AV_MF_G | - | - | - | - | - | - | - | - | - | - |
| EC | AR_MF_G | - | - | - | - | - | - | - | - | - | - |
| EC | EC_MF_G | - | - | - | - | - | - | - | - | 1728 | - |
| EC | MF_GO | - | - | - | - | - | - | - | - | - | - |
| EC | AV_MF_P | - | - | - | - | - | - | - | - | - | - |
| EC | AR_MF_P | - | - | - | - | - | - | - | - | - | - |
| EC | MF_R | 0 | - | - | - | - | - | - | - | 6674 | - |
| EC | MF_S | - | - | - | 98 | - | 728 | - | - | - | - |
| EC | AV_MF_ST | - | - | - | - | - | - | - | - | - | - |
| EC | AR_MF_ST | - | - | - | - | - | - | - | - | - | - |
| EC | IL | 0 | - | - | 850 | - | - | - | 4467 | - | - |
| EC | HITL | - | - | - | 420 | - | - | 2413 | - | - | 0 |
| EC | ISTF | - | - | 1402 | - | - | 2202 | - | - | - | - |
| EC | OAR | 0 | - | - | - | 0 | 1978 | - | 793 | - | - |

"

| 'Excess Capacity' | " | 0 | 1.9076597033 | 2.9432098765432 | 1.504386 | 1.8668033 | 1.350466 | 3.783672 | 1.202662 | 1.466317543 | 0 |
|---|---|---|---|---|---|---|---|---|---|---|---|

"

| 'Ex Cap by Func Area' | TOTAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| EC | 1.7232802547771 | 0 | 1.9076597033 | 2.9432098765432 | 1.504386 | 1.8668033 | 1.350466 | 3.783672 | 1.202662 | 1.466317543 | 0 |

"

'Total Excess Capacity=' 1.7232802547771

"

'Total Summed Functional Value 338

'Total Workload-weighted FV = ' 510.10436960009

ecxc.txt

MINXCAP 'Objective function=' 92.340349808 " 'Weight Parameter =' 100

'Number of sites restricted to ' 10

"

'Workload Assigned'

| Sites | " | CHINA_LAKE | NAWC_CRANE | PAXRIVER | PT_MUGU | USA_EPG | AFDTC | AFEWES | AFFTC | HOLLOMAN | REDCAP |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Open | " | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| EC | DMS | - | - | - | - | 246 | - | - | - | - | - |
| EC | MF_A | - | - | - | - | - | - | - | - | - | - |
| EC | AV_MF_C | - | - | - | - | - | - | - | - | - | - |
| EC | EC_MF_C | - | - | 218 | - | 80 | - | - | - | - | - |
| EC | AV_MF_E | - | - | - | - | - | - | - | - | - | - |
| EC | AR_MF_E | - | - | - | - | - | - | - | - | - | - |
| EC | EC_MF_E | - | - | - | - | 775 | 1399 | - | - | - | - |
| EC | AV_MF_EM | - | - | - | - | - | - | - | - | - | - |
| EC | AR_MF_EM | - | - | - | - | - | - | - | - | - | - |
| EC | EC_MF_EM | - | 4929 | - | - | 0 | - | - | - | - | - |
| EC | AV_MF_G | - | - | - | - | - | - | - | - | - | - |
| EC | AR_MF_G | - | - | - | - | - | - | - | - | - | - |
| EC | EC_MF_G | - | - | - | - | - | - | - | - | 1728 | - |
| EC | MF_GO | - | - | - | - | - | - | - | - | - | - |
| EC | AV_MF_P | - | - | - | - | - | - | - | - | - | - |
| EC | AR_MF_P | - | - | - | - | - | - | - | - | - | - |
| EC | MF_R | 0 | - | - | - | - | - | - | - | 6674 | - |
| EC | MF_S | - | - | - | 788 | - | 38 | - | - | - | - |
| EC | AV_MF_ST | - | - | - | - | - | - | - | - | - | - |
| EC | AR_MF_ST | - | - | - | - | - | - | - | - | - | - |
| EC | IL | 0 | - | - | 850 | - | - | - | 4467 | - | - |
| EC | HITL | - | - | - | 420 | - | - | 2413 | - | - | 0 |
| EC | ISTF | - | - | 3604 | - | - | 0 | - | - | - | - |
| EC | OAR | 0 | - | - | - | 861 | 1910 | - | 0 | - | - |
| " | | | | | | | | | | | |
| 'Excess Capacity' | " | 0 | 1.27835260702 | 1.2475143903715 | 1 | 1.8623853 | 2.199582 | 3.783672 | 1.147526 | 1.466317543 | 0 |
| " | | | | | | | | | | | |
| 'Ex Cap by Func Area' | TOTAL | | | | | | | | | | |
| EC | 1.6152547770701 | 0 | 1.27835260702 | 1.2475143903715 | 1 | 1.8623853 | 2.199582 | 3.783672 | 1.147526 | 1.466317543 | 0 |
| " | | | | | | | | | | | |
| 'Total Excess Capacity=' | 1.6152547770701 | | | | | | | | | | |
| " | | | | | | | | | | | |
| 'Total Summed Functional Value | 338 | | | | | | | | | | |
| 'Total Workload-weighted FV = ' | 478.73917524377 | | | | | | | | | | |

ecsfo8.txt

MAXSFV 'Objective function=' 84.5 " 'Weight Parameter =' 100

'Number of sites restricted to ' 8

"

'Workload Assigned'

| Sites | " | CHINA_LAKE | NAWC_CRANE | PAXRIVER | PT_MUGU | USA_EPG | AFDTC | AFEWES | AFFTC | HOLLOMAN | REDCAP |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Open | " | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| EC | DMS | - | - | - | - | 246 | - | - | - | - | - |
| EC | MF_A | - | - | - | - | - | - | - | - | - | - |
| EC | AV_MF_C | - | - | - | - | - | - | - | - | - | - |
| EC | EC_MF_C | - | - | 218 | - | 80 | - | - | - | - | - |
| EC | AV_MF_E | - | - | - | - | - | - | - | - | - | - |
| EC | AR_MF_E | - | - | - | - | - | - | - | - | - | - |
| EC | EC_MF_E | - | - | - | - | 775 | 1399 | - | - | - | - |
| EC | AV_MF_EM | - | - | - | - | - | - | - | - | - | - |
| EC | AR_MF_EM | - | - | - | - | - | - | - | - | - | - |
| EC | EC_MF_EM | - | 4929 | - | - | 0 | - | - | - | - | - |
| EC | AV_MF_G | - | - | - | - | - | - | - | - | - | - |
| EC | AR_MF_G | - | - | - | - | - | - | - | - | - | - |
| EC | EC_MF_G | - | - | - | - | - | - | - | - | 1728 | - |
| EC | MF_GO | - | - | - | - | - | - | - | - | - | - |
| EC | AV_MF_P | - | - | - | - | - | - | - | - | - | - |
| EC | AR_MF_P | - | - | - | - | - | - | - | - | - | - |
| EC | MF_R | 0 | - | - | - | - | - | - | - | 6674 | - |
| EC | MF_S | - | - | - | 98 | - | 728 | - | - | - | - |
| EC | AV_MF_ST | - | - | - | - | - | - | - | - | - | - |
| EC | AR_MF_ST | - | - | - | - | - | - | - | - | - | - |
| EC | IL | 0 | - | - | 191 | - | - | - | 5126 | - | - |
| EC | HITL | - | - | - | 0 | - | - | 2833 | - | - | 0 |
| EC | ISTF | - | - | 1402 | - | - | 2202 | - | - | - | - |
| EC | OAR | 0 | - | - | - | 0 | 1571 | - | 1200 | - | - |
| " | | | | | | | | | | | |
| 'Excess Capacity' | " | 0 | 1.27835260702 | 2.9432098765432 | 5.66782007 | 2.53678474 | 1.621017 | 3.222732 | 1 | 1.466317543 | 0 |
| " | | | | | | | | | | | |
| 'Ex Cap by Func Area' | TOTAL | | | | | | | | | | |
| EC | 1.6828025477707 | 0 | 1.27835260702 | 2.9432098765432 | 5.66782007 | 2.53678474 | 1.621017 | 3.222732 | 1 | 1.466317543 | 0 |
| " | | | | | | | | | | | |
| 'Total Excess Capacity=' | 1.6828025477707 | | | | | | | | | | |
| " | | | | | | | | | | | |
| 'Total Summed Functional Valu | 338 | | | | | | | | | | |
| 'Total Workload-weighted FV = | 485.05966195521 | | | | | | | | | | |

REMARKS: ARMAMENTS & MUNITIONS

MIN # OF SITES = 7

DATE: 3 Nov 94
JCSG: T&E
RUN #:
MODEL: TEFINAL.MOD
DATA: TEARM.DAT

| SITES | MAX Func Value (MINSITES w=0) | MAX F.V. (MINSITES w=95) | MAX F.V. (minsites w=0 NSITE = min) | MIN EX.CAP (MINXCAP w=100) | MAX SEV (n=7) |
|---|---|---|---|---|---|
| HINA LAKE | 1 | 1 | 1 | 1 | 1 |
| AHLGREN | 0 | 0 | 0 | 1 | 0 |
| DIAN HEAD | 0 | 0 | 0 | 1 | 0 |
| AWC-CRAIG | 0 | 0 | 0 | 0 | 0 |
| WC-WSMR | 0 | 0 | 0 | 1 | 0 |
| K RIVER | 1 | 1 | 1 | 1 | 1 |
| MUGU | 1 | 1 | 1 | 1 | 1 |
| EDSTONE | 0 | 0 | 0 | 0 | 0 |
| YPG | 0 | 0 | 0 | 0 | 0 |
| WSMR | 1 | 1 | 1 | 0 | 1 |
| AEDC | 1 | 1 | 1 | 0 | 1 |
| FDTC | 1 | 1 | 1 | 1 | 1 |
| ELLOMAN | 1 | 1 | 1 | 1 | 1 |
| TOTAL | 7 | 7 | 7 | 8 | 7 |
| .V. | 805 | 805 | 805 | 682 | 716 |
| M.V. | – | – | – | – | – |
| CAP. | 1.408 | 1.408 | 1.408 | 1.43 | 1.37 |
| Obj Func | -89.27 | 46.69 | -89.27 | 80.69 | 75.61 |
| Outpt File | arfv.txt | arst95.txt | arfv07.txt | arxc.txt | arsf07. |

arfv.txt

MINSITES 'Objective function=' -89.26692616 " 'Weight Parameter =' 0
'Number of sites restricted to ' 13
"

'Workload Assigned'

| Sites | " | CHINA_LAKE | DAHLGREN | INDIAN_HEAD | NAWC_CRANE | NAWC_WSMR | PAXRIVER | PT_MUGU | REDSTONE | USA_YPG | WSMR | AEDC | AFDTC | HOLLOM/ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Open | " | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 |
| Arm_Mun | DMS | 0 | - | - | - | - | - | 0 | - | - | - | - | 55305 | - |
| Arm_Mun | MF_A | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AV_MF_C | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | EC_MF_C | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AV_MF_E | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AR_MF_E | 0 | - | 0 | 0 | - | - | 56129 | 0 | 0 | 0 | - | - | - |
| Arm_Mun | EC_MF_E | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AV_MF_EM | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AR_MF_EM | - | 0 | - | - | - | - | 1700 | - | - | 396 | - | - | - |
| Arm_Mun | EC_MF_EM | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AV_MF_G | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AR_MF_G | 17310 | - | - | - | - | - | 1652 | 0 | - | - | - | 14045 | 11221 |
| Arm_Mun | EC_MF_G | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | MF_GO | 1426 | 0 | - | 0 | - | - | - | - | - | - | - | 12870 | - |
| Arm_Mun | AV_MF_P | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AR_MF_P | 6046 | - | 0 | - | - | - | - | - | - | - | 755 | - | - |
| Arm_Mun | MF_R | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | MF_S | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AV_MF_ST | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AR_MF_ST | 0 | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | IL | 1452 | - | - | - | - | - | 11916 | - | - | - | - | 2608 | 0 |
| Arm_Mun | HITL | 0 | - | - | - | - | - | 34056 | - | - | - | - | 18611 | - |
| Arm_Mun | ISTF | - | - | - | - | - | 349 | - | - | - | - | - | 443 | - |
| Arm_Mun | OAR | 3986 | - | - | - | 0 | - | 11609 | 0 | 0 | 111 | - | 16036 | - |
| " | | | | | | | | | | | | | | |
| 'Excess Capacity' | " | 1.804566512 | 0 | 0 | 0 | 0 | 2.667621777 | 1.31410705 | 0 | 0 | 57.2604 | 12.2728 | 1.03061 | 2.04973 |
| " | | | | | | | | | | | | | | |
| 'Ex Cap by Func Area' | TOTAL | | | | | | | | | | | | | |
| Arm_Mun | 1.4076355559365 | 1.804566512 | 0 | 0 | 0 | 0 | 2.667621777 | 1.31410705 | 0 | 0 | 57.2604 | 12.2728 | 1.03061 | 2.04973 |
| " | | | | | | | | | | | | | | |
| 'Total Excess Capacity=' | 1.4076355559365 | | | | | | | | | | | | | |
| " | | | | | | | | | | | | | | |

'Total Summed Functional Val 369
'Total Workload-weighted FV = 805.18767393186

arst95.txt

MINSITES 'Objective function=' 46.69049985 " 'Weight Parameter =' 95
'Number of sites restricted to ' 13
"

'Workload Assigned'

| Sites | " | CHINA_LAKE | DAHLGREN | INDIAN_HEAD | NAWC_CRANE | NAWC_WSMR | PAXRIVER | PT_MUGU | REDSTONE | USA_YPG | WSMR | AEDC | AFDTC | HOLLOM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Open | " | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 |
| Arm_Mun | DMS | 0 | - | - | - | - | - | 0 | - | - | - | - | 55305 | - |
| Arm_Mun | MF_A | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AV_MF_C | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | EC_MF_C | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AV_MF_E | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AR_MF_E | 0 | - | 0 | 0 | - | - | 56129 | 0 | 0 | 0 | - | - | - |
| Arm_Mun | EC_MF_E | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AV_MF_EM | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AR_MF_EM | - | 0 | - | - | - | - | 1700 | - | - | 396 | - | - | - |
| Arm_Mun | EC_MF_EM | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AV_MF_G | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AR_MF_G | 17310 | - | - | - | - | - | 1652 | 0 | - | - | - | 14045 | 11221 |
| Arm_Mun | EC_MF_G | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | MF_GO | 1426 | 0 | - | 0 | - | - | - | - | - | - | - | 12870 | - |
| Arm_Mun | AV_MF_P | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AR_MF_P | 6046 | - | 0 | - | - | - | - | - | - | - | 755 | - | - |
| Arm_Mun | MF_R | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | MF_S | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AV_MF_ST | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AR_MF_ST | 0 | - | - | - | - | - | - | - | - | - | - | 2608 | 0 |
| Arm_Mun | IL | 1452 | - | - | - | - | - | 11916 | - | - | - | - | - | - |
| Arm_Mun | HITL | 0 | - | - | - | - | - | 34056 | - | - | - | - | 18611 | - |
| Arm_Mun | ISTF | - | - | - | - | - | 349 | - | - | - | - | - | 443 | - |
| Arm_Mun | OAR | 3986 | - | - | - | 0 | - | 11609 | 0 | 0 | 111 | - | 16036 | - |
| " | | | | | | | | | | | | | | |
| 'Excess Capacity' | " | 1.804566512 | 0 | 0 | 0 | 0 | 2.667621777 | 1.31410705 | 0 | 0 | 57.2604 | 12.2728 | 1.03061 | 2.04973 |
| " | | | | | | | | | | | | | | |
| 'Ex Cap by Func Area' | TOTAL | | | | | | | | | | | | | |
| Arm_Mun | 1.4076355559365 | 1.804566512 | 0 | 0 | 0 | 0 | 2.667621777 | 1.31410705 | 0 | 0 | 57.2604 | 12.2728 | 1.03061 | 2.04973 |
| " | | | | | | | | | | | | | | |
| 'Total Excess Capacity=' | 1.4076355559365 | | | | | | | | | | | | | |
| " | | | | | | | | | | | | | | |

'Total Summed Functional Val 369
'Total Workload-weighted FV = 805.18767393186

arfv07.txt

MINSITES 'Objective function=' -89.26692616 " 'Weight Parameter =' 0
'Number of sites restricted to ' 7
"

'Workload Assigned'

| Sites | " | CHINA_LAKE | DAHLGREN | INDIAN_HEAD | NAWC_CRANE | NAWC_WSMR | PAXRIVER | PT_MUGU | REDSTONE | USA_YPG | WSMR | AEDC | AFDTC | HOLLOM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Open | " | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 |
| Arm_Mun | DMS | 0 | - | - | - | - | - | 0 | - | - | - | - | 55305 | - |
| Arm_Mun | MF_A | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AV_MF_C | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | EC_MF_C | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AV_MF_E | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AR_MF_E | 0 | - | 0 | 0 | - | - | 56129 | 0 | 0 | 0 | - | - | - |
| Arm_Mun | EC_MF_E | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AV_MF_EM | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AR_MF_EM | - | 0 | - | - | - | - | 1700 | - | - | 396 | - | - | - |
| Arm_Mun | EC_MF_EM | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AV_MF_G | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AR_MF_G | 17310 | - | - | - | - | - | 1652 | 0 | - | - | - | 14045 | 11221 |
| Arm_Mun | EC_MF_G | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | MF_GO | 1426 | 0 | - | 0 | - | - | - | - | - | - | - | 12870 | - |
| Arm_Mun | AV_MF_P | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AR_MF_P | 6046 | - | 0 | - | - | - | - | - | - | - | 755 | - | - |
| Arm_Mun | MF_R | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | MF_S | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AV_MF_ST | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AR_MF_ST | 0 | - | - | - | - | - | - | - | - | - | - | 2608 | 0 |
| Arm_Mun | IL | 1452 | - | - | - | - | - | 11916 | - | - | - | - | - | - |
| Arm_Mun | HITL | 0 | - | - | - | - | - | 34056 | - | - | - | - | 18611 | - |
| Arm_Mun | ISTF | - | - | - | - | - | 349 | - | - | - | - | - | 443 | - |
| Arm_Mun | OAR | 3986 | - | - | - | 0 | - | 11609 | 0 | 0 | 111 | - | 16036 | - |
| " | | | | | | | | | | | | | | |
| 'Excess Capacity' | " | 1.804566512 | 0 | 0 | 0 | 0 | 2.667621777 | 1.31410705 | 0 | 0 | 57.2604 | 12.2728 | 1.03061 | 2.04973 |
| " | | | | | | | | | | | | | | |
| 'Ex Cap by Func Area' | TOTAL | | | | | | | | | | | | | |
| Arm_Mun | 1.4076355559365 | 1.804566512 | 0 | 0 | 0 | 0 | 2.667621777 | 1.31410705 | 0 | 0 | 57.2604 | 12.2728 | 1.03061 | 2.04973 |
| " | | | | | | | | | | | | | | |
| 'Total Excess Capacity=' | 1.4076355559365 | | | | | | | | | | | | | |
| " | | | | | | | | | | | | | | |
| 'Total Summed Functional Val | 369 | | | | | | | | | | | | | |
| 'Total Workload-weighted FV = | 805.18767393186 | | | | | | | | | | | | | |

arxc.txt

MINXCAP 'Objective function=' 80.69303794 " 'Weight Parameter =' 100
'Number of sites restricted to ' 13
"

'Workload Assigned'

| Sites | " | CHINA_LAKE | DAHLGREN | INDIAN_HEAD | NAWC_CRANE | NAWC_WSMR | PAXRIVER | PT_MUGU | REDSTONE | USA_YPG | WSMR | AEDC | AFDTC | HOLLOM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Open | " | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 |
| Arm_Mun | DMS | 27672 | - | - | - | - | - | 0 | - | - | - | - | 27633 | - |
| Arm_Mun | MF_A | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AV_MF_C | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | EC_MF_C | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AV_MF_E | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AR_MF_E | 35419 | - | 1600 | 0 | - | - | 19110 | 0 | 0 | 0 | - | - | - |
| Arm_Mun | EC_MF_E | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AV_MF_EM | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AR_MF_EM | - | 1011 | - | - | - | - | 1085 | - | - | 0 | - | - | - |
| Arm_Mun | EC_MF_EM | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AV_MF_G | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AR_MF_G | 17310 | - | - | - | - | - | 0 | 0 | - | - | - | 14045 | 12873 |
| Arm_Mun | EC_MF_G | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | MF_GO | 12254 | 540 | - | 0 | - | - | - | - | - | - | - | 1502 | - |
| Arm_Mun | AV_MF_P | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AR_MF_P | 6046 | - | 755 | - | - | - | - | - | - | - | 0 | - | - |
| Arm_Mun | MF_R | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | MF_S | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AV_MF_ST | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AR_MF_ST | 1393 | - | - | - | - | - | - | - | - | - | - | 1214.92 | 0.0787 |
| Arm_Mun | IL | 13368 | - | - | - | - | - | 0 | - | - | - | - | - | - |
| Arm_Mun | HITL | 3167 | - | - | - | - | - | 49500 | - | - | - | - | 0 | - |
| Arm_Mun | ISTF | - | - | - | - | - | 792 | - | - | - | - | - | 0 | - |
| Arm_Mun | OAR | 3986 | - | - | - | 111 | - | 11609 | 0 | 0 | 0 | - | 16036 | - |
| " | | | | | | | | | | | | | | |
| 'Excess Capacity' | " | 1.013016623 | 1 | 1.5286624203822 | 0 | 35.3603603604 | 1.175505051 | 1.72517957 | 0 | 0 | 0 | 0 | 1.72983 | 1.84781 |
| " | | | | | | | | | | | | | | |
| 'Ex Cap by Func Area' | TOTAL | | | | | | | | | | | | | |
| Arm_Mun | 1.4311864358359 | 1.013016623 | 1 | 1.5286624203822 | 0 | 35.3603603604 | 1.175505051 | 1.72517957 | 0 | 0 | 0 | 0 | 1.72983 | 1.84781 |
| " | | | | | | | | | | | | | | |
| 'Total Excess Capacity=' | 1.4311864358359 | | | | | | | | | | | | | |
| " | | | | | | | | | | | | | | |

'Total Summed Functional Val 359
'Total Workload-weighted FV = 682.83168908745

arsf07.txt

MAXSFV 'Objective function= 75.6147541 " 'Weight Parameter =' 100

'Number of sites restricted to 7

"

'Workload Assigned'

| Sites | " | CHINA_LAKE | DAHLGREN | INDIAN_HEAD | NAWC_CRANE | NAWC_WSMR | PAXRIVER | PT_MUGU | REDSTONE | USA_YPG | WSMR | AEDC | AFDTC | HOLLOM/ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Open | " | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 |
| Arm_Mun | DMS | 0 | - | - | - | - | - | 0 | - | - | - | - | 55305 | - |
| Arm_Mun | MF_A | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AV_MF_C | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | EC_MF_C | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AV_MF_E | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AR_MF_E | 0 | - | 0 | 0 | - | - | 56129 | 0 | 0 | 0 | - | - | - |
| Arm_Mun | EC_MF_E | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AV_MF_EM | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AR_MF_EM | - | 0 | - | - | - | - | 1181 | - | - | 915 | - | - | - |
| Arm_Mun | EC_MF_EM | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AV_MF_G | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AR_MF_G | 17310 | - | - | - | - | - | 1652 | 0 | - | - | - | 14045 | 11221 |
| Arm_Mun | EC_MF_G | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | MF_GO | 12254 | 0 | - | 0 | - | - | - | - | - | - | - | 2042 | - |
| Arm_Mun | AV_MF_P | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AR_MF_P | 6046 | - | 0 | - | - | - | - | - | - | - | 755 | - | - |
| Arm_Mun | MF_R | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | MF_S | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AV_MF_ST | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AR_MF_ST | 1393 | - | - | - | - | - | - | - | - | - | - | 428 | 787 |
| Arm_Mun | IL | 13368 | - | - | - | - | - | 0 | - | - | - | - | - | - |
| Arm_Mun | HITL | 0 | - | - | - | - | - | 52665.1389 | - | - | - | - | 1.8611 | - |
| Arm_Mun | ISTF | - | - | - | - | - | 792 | - | - | - | - | - | 0 | - |
| Arm_Mun | OAR | 3986 | - | - | - | 0 | - | 11609 | 0 | 0 | 111 | - | 16036 | - |
| " | | | | | | | | | | | | | | |
| 'Excess Capacity' | " | 1.028883125 | 0 | 0 | 0 | 0 | 1.17550505 | 1.15157779 | 0 | 0 | 28.29532 | 12.27285 | 1.40165 | 1.980929 |
| " | | | | | | | | | | | | | | |
| 'Ex Cap by Func Area' | TOTAL | | | | | | | | | | | | | |
| Arm_Mun | 1.371286138727 | 1.028883125 | 0 | 0 | 0 | 0 | 1.17550505 | 1.15157779 | 0 | 0 | 28.29532 | 12.27285 | 1.40165 | 1.980929 |
| " | | | | | | | | | | | | | | |
| 'Total Excess Capacity=' | 1.371286138727 | | | | | | | | | | | | | |
| " | | | | | | | | | | | | | | |
| 'Total Summed Functional Va | 369 | | | | | | | | | | | | | |
| 'Total Workload-weighted FV | 716.94394063565 | | | | | | | | | | | | | |

REMARKS: Full-up Model with AV+ARM+EC

MIN # SITES = 13

DATE: 3 Nov 94
JCSG: T&E
RUN #:
MODEL: TEFINAL.MOD
DATA: TEFINAL.DAT

| SITES | MAX Func. Value (MINSITES w=0) | MAX F.V. (MINSITES w=95) | MAX F.V. (MINSITES w=0 NSITE=min) | MIN EX.CAP (MINXCAP w=100) | MAX SFV (n=13) |
|---|---|---|---|---|---|
| MINA LAKE | 1 | 1 | 1 | 1 | 1 |
| AHLGREN | 1 | 1 | 1 | 1 | 1 |
| ND-HEAD | 0 | 0 | 0 | 1 | 0 |
| DIANAP | 1 | 1 | 1 | 1 | 1 |
| AWC-CRANE | 1 | 1 | 1 | 1 | 1 |
| AWC-WSMR | 0 | 0 | 0 | 1 | 0 |
| x RIVER | 1 | 1 | 1 | 1 | 1 |
| MUGU | 1 | 1 | 1 | 1 | 1 |
| RMIAST | 0 | 0 | 0 | 0 | 0 |
| TC-EAFB | 0 | 0 | 0 | 0 | 0 |
| RUCKER | 0 | 0 | 0 | 0 | 0 |
| DSTONE | 0 | 0 | 0 | 0 | 0 |
| EPG | 1 | 1 | 1 | 1 | 1 |
| YPG | 1 | 0 | 0 | 0 | 1 |
| SMR | 1 | 1 | 1 | 0 | 0 |
| AEDC | 1 | 1 | 1 | 0 | 1 |
| FDTC | 1 | 1 | 1 | 1 | 1 |
| FEWES | 1 | 1 | 1 | 1 | 1 |
| FFTC | 1 | 1 | 1 | 1 | 1 |
| LOMAN | 1 | 1 | 1 | 1 | 1 |
| DCAP | 0 | 0 | 0 | 0 | 0 |
| TTR | 0 | 0 | 0 | 0 | 0 |
| 76-WEG | 0 | 0 | 0 | 0 | 0 |
| TOTAL | 14 | 13 | 13 | 13 | 13 |
| F.V. | 2120 | 2120 | 2120 | 2002 | 1950 |
| M.V. | – | – | – | – | – |
| CAP. | 1.447 | 1.447 | 1.439 | 1.325 | 1.375 |
| Obj Func | -80.4 | 49.67 | -80.4 | 90.99 | 80.19 |
| | tefv.txt | test95.txt | tefv13.txt | ~~tex~~exc.txt | tesf13. |

tefv.txt

MINSITES 'Objective function= -80.42366543 " 'Weight Parameter =' 0
'Number of sites restricted to 23
"

'Workload Assigned'

| Sites | " | CHINA_LAKE | DAHLGREN | INDIAN_HEAD | INDIANAP | NAWC_CRANE | NAWC_WSMR | PAXRIVER | PT_MUGU | WARMINST | ATTC_EAFB | FT_RUCKER | REDSTONE | USA_EPG | USA_YPG | WSMR | AEDC | AFDTC | AFEWES | AFFTC | HOLLOMAN | REDCAP | UTTR | 476_WEC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Open | " | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 |
| Air_Veh | DMS | - | - | - | - | - | - | - | - | 0 | - | - | - | - | - | - | - | - | - | 1273 | - | - | - | - |
| Air_Veh | MF_A | - | - | - | - | - | - | 809 | - | - | - | - | - | 0 | - | - | - | - | - | 1822 | - | - | - | - |
| Air_Veh | AV_MF_C | - | - | - | - | - | - | 1136 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | EC_MF_C | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | AV_MF_E | 1167 | - | - | 11062 | - | - | - | 575 | - | - | - | - | 1681 | 297 | - | - | 6816 | - | 1570 | - | - | - | - |
| Air_Veh | AR_MF_E | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | EC_MF_E | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | AV_MF_EM | - | 943 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | AR_MF_EM | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | EC_MF_EM | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | AV_MF_G | 2138 | - | - | - | - | - | 2904 | - | - | - | - | - | - | - | - | - | 245 | - | - | 25432 | - | - | - |
| Air_Veh | AR_MF_G | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | EC_MF_G | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | MF_GO | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | AV_MF_P | - | - | - | - | - | - | 25854 | - | - | - | - | - | - | - | - | 0 | - | - | - | - | - | - | - |
| Air_Veh | AR_MF_P | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | MF_R | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | MF_S | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | AV_MF_ST | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 170 | - | - | - |
| Air_Veh | AR_MF_ST | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | IL | - | - | - | 0 | - | - | 0.498 | - | - | - | - | - | - | - | - | - | - | - | 81805.5 | - | - | - | - |
| Air_Veh | HITL | - | - | - | - | - | - | 114171 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 |
| Air_Veh | ISTF | - | - | - | - | - | - | 7706 | - | - | - | - | - | - | - | - | - | - | - | 1868 | - | - | - | - |
| Air_Veh | OAR | - | - | - | - | - | - | 12246 | 3334 | - | 0 | 0 | - | 0 | 0 | - | - | - | - | 11998 | - | - | 0 | - |
| Arm_Mun | DMS | 0 | - | - | - | - | - | - | 0 | - | - | - | - | - | - | - | - | 55306 | - | - | - | - | - | - |
| Arm_Mun | MF_A | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AV_MF_C | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | EC_MF_C | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AV_MF_E | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AR_MF_E | 0 | - | 0 | - | 0 | - | - | 58129 | - | - | - | 0 | - | 0 | 0 | - | - | - | - | - | - | - | - |
| Arm_Mun | EC_MF_E | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AV_MF_EM | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AR_MF_EM | - | 0 | - | - | - | - | - | 1700 | - | - | - | - | - | - | 396 | - | - | - | - | - | - | - | - |
| Arm_Mun | EC_MF_EM | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AV_MF_G | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AR_MF_G | 17310 | - | - | - | - | - | - | 1652 | - | - | - | 0 | - | - | - | - | 14046 | - | - | 11221 | - | - | - |
| Arm_Mun | EC_MF_G | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | MF_GO | 1429 | 0 | - | - | 0 | - | - | - | - | - | - | - | - | - | - | - | 12870 | - | - | - | - | - | - |
| Arm_Mun | AV_MF_P | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AR_MF_P | 8048 | - | 0 | - | - | - | - | - | - | - | - | - | - | - | - | 755 | - | - | - | - | - | - | - |
| Arm_Mun | MF_R | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | MF_S | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AV_MF_ST | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AR_MF_ST | 0 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2608 | - | - | 0 | - | - | - |
| Arm_Mun | IL | 1462 | - | - | - | - | - | - | 11918 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | HITL | 0 | - | - | - | - | - | - | 34056 | - | - | - | - | - | - | - | - | 19811 | - | - | - | - | - | - |
| Arm_Mun | ISTF | - | - | - | - | - | - | 349 | - | - | - | - | - | - | - | - | - | 443 | - | - | - | - | - | - |
| Arm_Mun | OAR | 3966 | - | - | - | - | 0 | - | 11608 | - | - | - | 0 | - | 0 | 111 | - | 16036 | - | - | - | - | - | - |
| EC | DMS | - | - | - | - | - | - | - | - | - | - | - | - | 248 | - | - | - | - | - | - | - | - | - | - |
| EC | MF_A | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| EC | AV_MF_C | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| EC | EC_MF_C | - | - | - | - | - | - | 218 | - | - | - | - | - | 80 | - | - | - | - | - | - | - | - | - | - |
| EC | AV_MF_E | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| EC | AR_MF_E | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| EC | EC_MF_E | - | - | - | - | - | - | - | - | - | - | - | - | 0 | - | - | - | 2174 | - | - | - | - | - | - |
| EC | AV_MF_EM | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| EC | AR_MF_EM | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| EC | EC_MF_EM | - | - | - | - | 3303 | - | - | - | - | - | - | - | 1626 | - | - | - | - | - | - | - | - | - | - |
| EC | AV_MF_G | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| EC | AR_MF_G | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| EC | EC_MF_G | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1729 | - | - | - |
| EC | MF_GO | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| EC | AV_MF_P | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| EC | AR_MF_P | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| EC | MF_R | 3843 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2831 | - | - | - |
| EC | MF_S | - | - | - | - | - | - | - | 98 | - | - | - | - | - | - | - | - | 726 | - | - | - | - | - | - |
| EC | AV_MF_ST | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| EC | AR_MF_ST | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| EC | IL | 0 | - | - | - | - | - | - | 850 | - | - | - | - | - | - | - | - | - | - | 4487 | - | - | - | - |
| EC | HITL | - | - | - | - | - | - | - | 420 | - | - | - | - | - | - | - | - | - | 2413 | - | - | 0 | - | - |
| EC | ISTF | - | - | - | - | - | - | 1402 | - | - | - | - | - | - | - | - | - | 2202 | - | - | - | - | - | - |
| EC | OAR | 0 | - | - | - | - | - | - | - | - | - | - | - | 0 | - | - | - | 1878 | - | 793 | - | - | - | - |

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 'Excess Capacity' | " | 1.850837839 | 3.5493107 | 0 | 2.0988971 | 1.9076597033 | 0 | 1.4437201 | 1.3180752 | 0 | 0 | 0 | 0 | 1.4857308 | 1 | 67.2604 | 12.2728 | 1.0459 | 3.78367 | 1.36873 | 1.8861156 | 0 | 0 | 0 |
| "' | | | | | | | | | | | | | | | | | | | | | | | | |
| 'Ex Cap by Func Area' | TOTAL | | | | | | | | | | | | | | | | | | | | | | | |
| Air_Veh | 1.4431439646771 | 1 | 3.5493107 | 0 | 2.0988971 | 0 | 0 | 1.4263909 | 1.3717063 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1.37743 | 1.8722912 | 0 | 0 | 0 |
| Arm_Mun | 1.4076355569365 | 1.804566512 | 0 | 0 | 0 | 0 | 0 | 2.6676218 | 1.3141071 | 0 | 0 | 0 | 0 | 0 | 0 | 67.2604 | 12.2728 | 1.03061 | 0 | 0 | 2.0497282 | 0 | 0 | 0 |
| EC | 1.8456687899089 | 1 | 0 | 0 | 0 | 1.9076597033 | 0 | 2.9432099 | 1.504386 | 0 | 0 | 0 | 0 | 1.8668033 | 0 | 0 | 0 | 1.35047 | 3.78367 | 1.20266 | 2.702347 | 0 | 0 | 0 |
| "' | | | | | | | | | | | | | | | | | | | | | | | | |
| 'Total Excess Capacity=' | 1.4474192960068 | | | | | | | | | | | | | | | | | | | | | | | |
| "' | | | | | | | | | | | | | | | | | | | | | | | | |
| 'Total Summed Functional V | 1321 | | | | | | | | | | | | | | | | | | | | | | | |
| 'Total Workload-weighted F\ | 2120.7720673126 | | | | | | | | | | | | | | | | | | | | | | | |

test95.txt

MINSITES 'Objective function= 49.67531037 ' 'Weight Parameter =' 95
'Number of sites restricted to 23
"

'Workload Assigned'

| Sites | " | CHINA_LAKE | DAHLGREN | INDIAN_HEAD | INDIANAP | NAWC_CRANE | NAWC_WSMR | PAXRIVER | PT_MUGU | WARMINST | ATTC_EAFB | FT_RUCKER | REDSTONE | USA_EPG | USA_YPG | WSMR | AEDC | AFDTC | AFEWES | AFFTC | HOLLOMAN | REDCAP | UTTR | 476_WEC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Open | " | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 |
| Air_Veh | DMS | . | . | . | . | . | . | . | . | 0 | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| Air_Veh | MF_A | . | . | . | . | . | . | 809 | . | . | . | . | . | . | . | . | . | . | . | 1273 | . | . | . | . |
| Air_Veh | AV_MF_C | . | . | . | . | . | . | 1136 | . | . | . | . | . | 0 | . | . | . | . | . | 1822 | . | . | . | . |
| Air_Veh | EC_MF_C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| Air_Veh | AV_MF_E | 1157 | . | . | 11359 | . | . | . | 575 | . | . | . | . | 1681 | 0 | . | . | 6816 | . | 1570 | . | . | . | . |
| Air_Veh | AR_MF_E | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| Air_Veh | EC_MF_E | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| Air_Veh | AV_MF_EM | . | 843 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| Air_Veh | AR_MF_EM | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| Air_Veh | EC_MF_EM | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| Air_Veh | AV_MF_G | 2138 | . | . | . | . | . | 2904 | . | . | . | . | . | . | . | . | . | 245 | . | . | 25432 | . | . | . |
| Air_Veh | AR_MF_G | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| Air_Veh | EC_MF_G | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| Air_Veh | MF_GO | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| Air_Veh | AV_MF_P | . | . | . | . | . | . | 25854 | . | . | . | . | . | . | . | . | 0 | . | . | . | . | . | . | . |
| Air_Veh | AR_MF_P | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| Air_Veh | MF_R | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| Air_Veh | MF_S | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| Air_Veh | AV_MF_ST | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | 170 | . | . | . |
| Air_Veh | AR_MF_ST | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| Air_Veh | IL | . | . | . | 0 | . | . | 4880 | . | . | . | . | . | . | . | . | . | . | . | 78926 | . | . | . | . |
| Air_Veh | HTL | . | . | . | . | . | . | 114171 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | 0 |
| Air_Veh | ISTF | . | . | . | . | . | . | 7708 | . | . | . | . | . | . | . | . | . | . | . | 1968 | . | . | . | . |
| Air_Veh | OAR | . | . | . | . | . | . | 12246 | 3334 | . | 0 | 0 | . | 0 | 0 | . | . | . | . | 11998 | . | . | 0 | . |
| Arm_Mun | DMS | 0 | . | . | . | . | . | . | 0 | . | . | . | . | . | . | . | . | 55305 | . | . | . | . | . | . |
| Arm_Mun | MF_A | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| Arm_Mun | AV_MF_C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| Arm_Mun | EC_MF_C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| Arm_Mun | AV_MF_E | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| Arm_Mun | AR_MF_E | 0 | . | 0 | . | 0 | . | . | 58129 | . | . | . | 0 | . | 0 | 0 | . | . | . | . | . | . | . | . |
| Arm_Mun | EC_MF_E | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| Arm_Mun | AV_MF_EM | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| Arm_Mun | AR_MF_EM | . | 0 | . | . | . | . | . | 1700 | . | . | . | . | . | . | 398 | . | . | . | . | . | . | . | . |
| Arm_Mun | EC_MF_EM | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| Arm_Mun | AV_MF_G | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| Arm_Mun | AR_MF_G | 17310 | . | . | . | . | . | . | 1652 | . | . | . | 0 | . | . | . | . | 14045 | . | . | 11221 | . | . | . |
| Arm_Mun | EC_MF_G | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | 12870 | . | . | . | . | . | . |
| Arm_Mun | MF_GO | 1426 | 0 | . | . | 0 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| Arm_Mun | AV_MF_P | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| Arm_Mun | AR_MF_P | 6048 | . | 0 | . | . | . | . | . | . | . | . | . | . | . | . | 755 | . | . | . | . | . | . | . |
| Arm_Mun | MF_R | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| Arm_Mun | MF_S | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| Arm_Mun | AV_MF_ST | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| Arm_Mun | AR_MF_ST | 0 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| Arm_Mun | IL | 1462 | . | . | . | . | . | . | 11916 | . | . | . | . | . | . | . | . | 2609 | . | . | 0 | . | . | . |
| Arm_Mun | HTL | 0 | . | . | . | . | . | . | 34056 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| Arm_Mun | ISTF | . | . | . | . | . | . | 349 | . | . | . | . | . | . | . | . | . | 18811 | . | . | . | . | . | . |
| Arm_Mun | OAR | 3986 | . | . | . | . | 0 | . | 11609 | . | . | . | 0 | . | 0 | 111 | . | 443 | . | . | . | . | . | . |
| EC | DMS | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | 16036 | . | . | . | . | . | . |
| EC | MF_A | . | . | . | . | . | . | . | . | . | . | . | . | 246 | . | . | . | . | . | . | . | . | . | . |
| EC | AV_MF_C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| EC | EC_MF_C | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| EC | AV_MF_E | . | . | . | . | . | . | 218 | . | . | . | . | . | 80 | . | . | . | . | . | . | . | . | . | . |
| EC | AR_MF_E | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| EC | EC_MF_E | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| EC | AV_MF_EM | . | . | . | . | . | . | . | . | . | . | . | . | 0 | . | . | . | 2174 | . | . | . | . | . | . |
| EC | AR_MF_EM | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| EC | EC_MF_EM | . | . | . | . | 3303 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| EC | AV_MF_G | . | . | . | . | . | . | . | . | . | . | . | . | 1626 | . | . | . | . | . | . | . | . | . | . |
| EC | AR_MF_G | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| EC | EC_MF_G | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| EC | MF_GO | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | 1728 | . | . | . |
| EC | AV_MF_P | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| EC | AR_MF_P | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| EC | MF_R | 3843 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| EC | MF_S | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | 2831 | . | . | . |
| EC | AV_MF_ST | . | . | . | . | . | . | . | 98 | . | . | . | . | . | . | . | . | 728 | . | . | . | . | . | . |
| EC | AR_MF_ST | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| EC | IL | 0 | . | . | . | . | . | . | 850 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| EC | HTL | . | . | . | . | . | . | . | 420 | . | . | . | . | . | . | . | . | . | . | 4487 | . | . | . | . |
| EC | ISTF | . | . | . | . | . | . | 1402 | . | . | . | . | . | . | . | . | . | . | 2413 | . | . | 0 | . | . |
| EC | OAR | 0 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | 2202 | . | . | . | . | . | . |
| " | | | | | | | | | | | | | | 0 | . | . | . | 1978 | . | 793 | . | . | . | . |
| 'Excess Capacity' | " | 1.850837839 | 3.5493107 | 0 | 2.044018 | 1.9076597033 | 0 | 1.4026863 | 1.3180752 | 0 | 0 | 0 | 0 | 1.4857306 | 0 | 57.2604 | 12.2728 | 1.0459 | 3.78367 | 1.43498 | 1.8881156 | 0 | 0 | 0 |
| "' | | | | | | | | | | | | | | | | | | | | | | | | |
| 'Ex Cap by Func Area' | TOTAL | | | | | | | | | | | | | | | | | | | | | | | |
| Air_Veh | 1.4422132598797 | 1 | 3.5493107 | 0 | 2.044018 | 0 | 0 | 1.3853782 | 1.3717063 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1.44776 | 1.6722912 | 0 | 0 | 0 |
| Arm_Mun | 1.4076365559385 | 1.804588512 | 0 | 0 | 0 | 0 | 0 | 2.6876218 | 1.3141071 | 0 | 0 | 0 | 0 | 0 | 0 | 57.2604 | 12.2728 | 1.03061 | 0 | 0 | 2.0487282 | 0 | 0 | 0 |
| EC | 1.8456887898088 | 1 | 0 | 0 | 0 | 1.9076597033 | 0 | 2.9432099 | 1.504386 | 0 | 0 | 0 | 0 | 1.8669033 | 0 | 0 | 0 | 1.35047 | 3.78367 | 1.20288 | 2.702347 | 0 | 0 | 0 |
| " | | | | | | | | | | | | | | | | | | | | | | | | |
| 'Total Excess Capacity=' | 1.446848274906 | | | | | | | | | | | | | | | | | | | | | | | |
| " | | | | | | | | | | | | | | | | | | | | | | | | |
| 'Total Summed Functional V | 1257 | | | | | | | | | | | | | | | | | | | | | | | |
| 'Total Workload-weighted F\ | 2120.3282688018 | | | | | | | | | | | | | | | | | | | | | | | |

tefv13.txt

MINSITES 'Objective function' -80.4158848 " 'Weight Parameter' 0

Number of sites restricted t 13

*

'Workload Assigned'

| Func | Sub | CHINA_LAKE | DAHLGREN | INDIAN_HEAD | INDIANAP | NAWC_CRANE | NAWC_WSMR | PAXRIVER | PT_MUGU | WARMINST |
|---|---|---|---|---|---|---|---|---|---|---|
| Sites | * | CHINA_LAKE | DAHLGREN | INDIAN_HEAD | INDIANAP | NAWC_CRANE | NAWC_WSMR | PAXRIVER | PT_MUGU | WARMINST |
| Open | * | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |
| Air_Veh | DMS | | | | | | | | | 0 |
| Air_Veh | MF_A | | | | | | | 809 | | |
| Air_Veh | AV_MF_C | | | | | | | 1136 | | |
| Air_Veh | EC_MF_C | | | | | | | | | |
| Air_Veh | AV_MF_E | 1157 | | | 11359 | | | | 575 | |
| Air_Veh | AR_MF_E | | | | | | | | | |
| Air_Veh | EC_MF_E | | | | | | | | | |
| Air_Veh | AV_MF_EM | | 943 | | | | | | | |
| Air_Veh | AR_MF_EM | | | | | | | | | |
| Air_Veh | EC_MF_EM | | | | | | | | | |
| Air_Veh | AV_MF_G | 2138 | | | | | | 2904 | | |
| Air_Veh | AR_MF_G | | | | | | | | | |
| Air_Veh | EC_MF_G | | | | | | | | | |
| Air_Veh | MF_GO | | | | | | | | | |
| Air_Veh | AV_MF_P | | | | | | | 25854 | | |
| Air_Veh | AR_MF_P | | | | | | | | | |
| Air_Veh | MF_R | | | | | | | | | |
| Air_Veh | MF_S | | | | | | | | | |
| Air_Veh | AV_MF_ST | | | | | | | | | |
| Air_Veh | AR_MF_ST | | | | | | | | | |
| Air_Veh | IL | | | | 0 | | | 0 | | |
| Air_Veh | HITL | | | | | | | 114171 | | |
| Air_Veh | ISTF | | | | | | | 7706 | | |
| Air_Veh | OAR | | | | | | | 12248 | 3334 | |
| Arm_Mun | DMS | 0 | | | | | | | 0 | |
| Arm_Mun | MF_A | | | | | | | | | |
| Arm_Mun | AV_MF_C | | | | | | | | | |
| Arm_Mun | EC_MF_C | | | | | | | | | |
| Arm_Mun | AV_MF_E | | | | | | | | | |
| Arm_Mun | AR_MF_E | 0 | | 0 | | 0 | | | 56129 | |
| Arm_Mun | EC_MF_E | | | | | | | | | |
| Arm_Mun | AV_MF_EM | | | | | | | | | |
| Arm_Mun | AR_MF_EM | | 0 | | | | | | 1700 | |
| Arm_Mun | EC_MF_EM | | | | | | | | | |
| Arm_Mun | AV_MF_G | | | | | | | | | |
| Arm_Mun | AR_MF_G | 17310 | | | | | | | 1652 | |
| Arm_Mun | EC_MF_G | | | | | | | | | |
| Arm_Mun | MF_GO | 1428 | 0 | | | 0 | | | | |
| Arm_Mun | AV_MF_P | | | | | | | | | |
| Arm_Mun | AR_MF_P | 8046 | | 0 | | | | | | |
| Arm_Mun | MF_R | | | | | | | | | |
| Arm_Mun | MF_S | | | | | | | | | |
| Arm_Mun | AV_MF_ST | | | | | | | | | |
| Arm_Mun | AR_MF_ST | 0 | | | | | | | | |
| Arm_Mun | IL | 1452 | | | | | | | 11916 | |
| Arm_Mun | HITL | 0 | | | | | | | 34056 | |
| Arm_Mun | ISTF | | | | | | | 349 | | |
| Arm_Mun | OAR | 3996 | | | | | 0 | | 11609 | |
| EC | DMS | | | | | | | | | |
| EC | MF_A | | | | | | | | | |
| EC | AV_MF_C | | | | | | | | | |
| EC | EC_MF_C | | | | | | | 218 | | |
| EC | AV_MF_E | | | | | | | | | |
| EC | AR_MF_E | | | | | | | | | |
| EC | EC_MF_E | | | | | | | | | |
| EC | AV_MF_EM | | | | | | | | | |
| EC | AR_MF_EM | | | | | | | | | |
| EC | EC_MF_EM | | | | | 3303 | | | | |
| EC | AV_MF_G | | | | | | | | | |
| EC | AR_MF_G | | | | | | | | | |
| EC | EC_MF_G | | | | | | | | | |
| EC | MF_GO | | | | | | | | | |
| EC | AV_MF_P | | | | | | | | | |
| EC | AR_MF_P | | | | | | | | | |
| EC | MF_R | 3843 | | | | | | | | |
| EC | MF_S | | | | | | | | 98 | |
| EC | AV_MF_ST | | | | | | | | | |
| EC | AR_MF_ST | | | | | | | | | |
| EC | IL | 0 | | | | | | | 850 | |
| EC | HITL | | | | | | | | 420 | |
| EC | ISTF | | | | | | | 1402 | | |
| EC | OAR | 0 | | | | | | | | |
| * | | | | | | | | | | |
| 'Excess Capacity' | * | 1.860837838 | 3.5493107 | 0 | 2.044018 | 1.9076597033 | 0 | 1.4144668 | 1.3180752 | 0 |
| * | | | | | | | | | | |
| 'Ex Cap by Func Area' | TOTAL | | | | | | | | | |
| Air_Veh | 1.4269208712901 | 1 | 3.5493107 | 0 | 2.044018 | 0 | 0 | 1.3967881 | 1.3717063 | 0 |
| Arm_Mun | 1.4078355658386 | 1.804566512 | 0 | 0 | 0 | 0 | 0 | 2.6676218 | 1.3141071 | 0 |
| EC | 1.9456687998089 | 1 | 0 | 0 | 0 | 1.9076597033 | 0 | 2.8432099 | 1.504386 | 0 |

| Func | Sub | ATTC_EAFB | FT_RUCKER | REDSTONE | USA_EPG | USA_YPG | WSMR | AEDC | AFDTC | AFEWES | AFFTC | HOLLOMAN | REDCAP | UTTR | 476_WEG |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sites | * | ATTC_EAFB | FT_RUCKER | REDSTONE | USA_EPG | USA_YPG | WSMR | AEDC | AFDTC | AFEWES | AFFTC | HOLLOMAN | REDCAP | UTTR | 476_WEG |
| Open | * | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 |
| Air_Veh | DMS | | | | | | | | | | 1273 | | | | |
| Air_Veh | MF_A | | | | 0 | | | | | | 1922 | | | | |
| Air_Veh | AV_MF_C | | | | | | | | | | | | | | |
| Air_Veh | EC_MF_C | | | | | | | | | | | | | | |
| Air_Veh | AV_MF_E | | | | 1681 | 0 | | | 6816 | | 1570 | | | | |
| Air_Veh | AR_MF_E | | | | | | | | | | | | | | |
| Air_Veh | EC_MF_E | | | | | | | | | | | | | | |
| Air_Veh | AV_MF_EM | | | | | | | | | | | | | | |
| Air_Veh | AR_MF_EM | | | | | | | | | | | | | | |
| Air_Veh | EC_MF_EM | | | | | | | | | | | | | | |
| Air_Veh | AV_MF_G | | | | | | | | 245 | | | 25432 | | | |
| Air_Veh | AR_MF_G | | | | | | | | | | | | | | |
| Air_Veh | EC_MF_G | | | | | | | | | | | | | | |
| Air_Veh | MF_GO | | | | | | | | | | | | | | |
| Air_Veh | AV_MF_P | | | | | | | 0 | | | | | | | |
| Air_Veh | AR_MF_P | | | | | | | | | | | | | | |
| Air_Veh | MF_R | | | | | | | | | | | | | | |
| Air_Veh | MF_S | | | | | | | | | | | | | | |
| Air_Veh | AV_MF_ST | | | | | | | | | | | 170 | | | |
| Air_Veh | AR_MF_ST | | | | | | | | | | | | | | |
| Air_Veh | IL | | | | | | | | | | 81906 | | | | |
| Air_Veh | HITL | | | | | | | | | | | | | | 0 |
| Air_Veh | ISTF | | | | | | | | | | 1968 | | | | |
| Air_Veh | OAR | 0 | 0 | | 0 | 0 | | | | | 11988 | | | 0 | |
| Arm_Mun | DMS | | | | | | | | 55306 | | | | | | |
| Arm_Mun | MF_A | | | | | | | | | | | | | | |
| Arm_Mun | AV_MF_C | | | | | | | | | | | | | | |
| Arm_Mun | EC_MF_C | | | | | | | | | | | | | | |
| Arm_Mun | AV_MF_E | | | | | | | | | | | | | | |
| Arm_Mun | AR_MF_E | | | 0 | | 0 | 0 | | | | | | | | |
| Arm_Mun | EC_MF_E | | | | | | | | | | | | | | |
| Arm_Mun | AV_MF_EM | | | | | | | | | | | | | | |
| Arm_Mun | AR_MF_EM | | | | | | 398 | | | | | | | | |
| Arm_Mun | EC_MF_EM | | | | | | | | | | | | | | |
| Arm_Mun | AV_MF_G | | | | | | | | | | | | | | |
| Arm_Mun | AR_MF_G | | | 0 | | | | | 14045 | | | 11221 | | | |
| Arm_Mun | EC_MF_G | | | | | | | | | | | | | | |
| Arm_Mun | MF_GO | | | | | | | | 12870 | | | | | | |
| Arm_Mun | AV_MF_P | | | | | | | | | | | | | | |
| Arm_Mun | AR_MF_P | | | | | | | 755 | | | | | | | |
| Arm_Mun | MF_R | | | | | | | | | | | | | | |
| Arm_Mun | MF_S | | | | | | | | | | | | | | |
| Arm_Mun | AV_MF_ST | | | | | | | | | | | | | | |
| Arm_Mun | AR_MF_ST | | | | | | | | 2808 | | | 0 | | | |
| Arm_Mun | IL | | | | | | | | | | | | | | |
| Arm_Mun | HITL | | | | | | | | 18611 | | | | | | |
| Arm_Mun | ISTF | | | | | | | | 443 | | | | | | |
| Arm_Mun | OAR | | | 0 | | 0 | 111 | | 16036 | | | | | | |
| EC | DMS | | | | 246 | | | | | | | | | | |
| EC | MF_A | | | | | | | | | | | | | | |
| EC | AV_MF_C | | | | | | | | | | | | | | |
| EC | EC_MF_C | | | | 80 | | | | | | | | | | |
| EC | AV_MF_E | | | | | | | | | | | | | | |
| EC | AR_MF_E | | | | | | | | | | | | | | |
| EC | EC_MF_E | | | | 0 | | | | 2174 | | | | | | |
| EC | AV_MF_EM | | | | | | | | | | | | | | |
| EC | AR_MF_EM | | | | | | | | | | | | | | |
| EC | EC_MF_EM | | | | 1626 | | | | | | | | | | |
| EC | AV_MF_G | | | | | | | | | | | | | | |
| EC | AR_MF_G | | | | | | | | | | | | | | |
| EC | EC_MF_G | | | | | | | | | | | 1728 | | | |
| EC | MF_GO | | | | | | | | | | | | | | |
| EC | AV_MF_P | | | | | | | | | | | | | | |
| EC | AR_MF_P | | | | | | | | | | | | | | |
| EC | MF_R | | | | | | | | | | | 2831 | | | |
| EC | MF_S | | | | | | | | 728 | | | | | | |
| EC | AV_MF_ST | | | | | | | | | | | | | | |
| EC | AR_MF_ST | | | | | | | | | | | | | | |
| EC | IL | | | | | | | | | | 4467 | | | | |
| EC | HITL | | | | | | | | | 2413 | | | 0 | | |
| EC | ISTF | | | | | | | | 2202 | | | | | | |
| EC | OAR | | | | 0 | | | | 1979 | | 793 | | | | |
| * | | | | | | | | | | | | | | | |
| 'Excess Capacity' | * | 0 | 0 | 0 | 1.4857308 | 0 | 57.2604 | 12.2728 | 1.0458 | 3.78367 | 1.36872 | 1.8881156 | 0 | 0 | 0 |
| * | | | | | | | | | | | | | | | |
| 'Ex Cap by Func Area' | | | | | | | | | | | | | | | |
| Air_Veh | | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1.37742 | 1.6722912 | 0 | 0 | 0 |
| Arm_Mun | | 0 | 0 | 0 | 0 | 0 | 57.2604 | 12.2728 | 1.03061 | 0 | 0 | 2.0497282 | 0 | 0 | 0 |
| EC | | 0 | 0 | 0 | 1.8668033 | 0 | 0 | 0 | 1.35047 | 3.78367 | 1.20266 | 2.702347 | 0 | 0 | 0 |

*

'Total Excess Capacity' 1.4392089382984

*

'Total Summed Functional V 1267

'Total Workload-weighted F\ 2120.5668821066

texc.txt

'MINXCAP' 'Objective function= 90.99099413 ' 'Weight Parameter =' 100

'Number of sites restricted to 23

"

'Workload Assigned'

| Sites | " | CHINA_LAKE | DAHLGREN | INDIAN_HEAD | INDIANAP | NAWC_CRANE | NAWC_WSMR | PAXRIVER | PT_MUGU | WARMINST | ATTC_EAFB | FT_RUCKER | REDSTONE | USA_EPG | USA_YPG | WSMR | AEDC | AFDTC | AFEWES | AFFTC | HOLLOMAN | REDCAP | UTTR | 478_WEG |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Open | " | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 |
| Air_Veh | DMS | - | - | - | - | - | - | - | - | 0 - | - | - | - | - | - | - | - | - | - | 1273 - | - | - | - | - |
| Air_Veh | MF_A | - | - | - | - | - | - | 1454 - | - | - | - | - | - | 1177 - | - | - | - | - | - | 0 - | - | - | - | - |
| Air_Veh | AV_MF_C | - | - | - | - | - | - | 1138 - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | EC_MF_C | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | AV_MF_E | 1167 - | - | - | 12929 - | - | - | - | 575 - | - | - | - | - | 1681 | 0 - | - | - | 6816 - | - | 0 - | - | - | - | - |
| Air_Veh | AR_MF_E | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | EC_MF_E | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | AV_MF_EM | - | 843 - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | AR_MF_EM | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | EC_MF_EM | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | AV_MF_G | 2138 - | - | - | - | - | - | 2904 - | - | - | - | - | - | - | - | - | - | 245 - | - | - | 25432 - | - | - | - |
| Air_Veh | AR_MF_G | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | EC_MF_G | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | MF_GO | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | AV_MF_P | - | - | - | - | - | - | 25854 - | - | - | - | - | - | - | - | - | 0 - | - | - | - | - | - | - | - |
| Air_Veh | AR_MF_P | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | MF_R | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | MF_S | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | AV_MF_ST | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 170 - | - | - | - |
| Air_Veh | AR_MF_ST | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | IL | - | - | - | 0 - | - | - | 0 - | - | - | - | - | - | - | - | - | - | - | - | 81906 - | - | - | - | - |
| Air_Veh | HITL | - | - | - | - | - | - | 114171 - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 |
| Air_Veh | ISTF | - | - | - | - | - | - | 9674 - | - | - | - | - | - | - | - | - | - | - | - | 0 - | - | - | - | - |
| Air_Veh | OAR | - | - | - | - | - | - | 10147 | 4787 - | - | 0 | 0 - | - | 646 | 0 - | - | - | - | - | 11896 - | - | - | 0 - | - |
| Arm_Mun | DMS | 0 - | - | - | - | - | - | - | 0 - | - | - | - | - | - | - | - | - | 55305 - | - | - | - | - | - | - |
| Arm_Mun | MF_A | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AV_MF_C | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | EC_MF_C | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AV_MF_E | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AR_MF_E | 0 - | - | 0 - | - | 0 - | - | - | 56129 - | - | - | - | 0 - | - | 0 | 0 - | - | - | - | - | - | - | - | - |
| Arm_Mun | EC_MF_E | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AV_MF_EM | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AR_MF_EM | - | 1011 - | - | - | - | - | - | 1085 - | - | - | - | - | - | - | 0 - | - | - | - | - | - | - | - | - |
| Arm_Mun | EC_MF_EM | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AV_MF_G | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AR_MF_G | 17310 - | - | - | - | - | - | - | 0 - | - | - | - | 0 - | - | - | - | - | 14046 - | - | - | 12873 - | - | - | - |
| Arm_Mun | EC_MF_G | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | MF_GO | 0 | 0 - | - | - | 1420 - | - | - | - | - | - | - | - | - | - | - | - | 12870 - | - | - | - | - | - | - |
| Arm_Mun | AV_MF_P | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AR_MF_P | 8046 - | - | 766 - | - | - | - | - | - | - | - | - | - | - | - | - | 0 - | - | - | - | - | - | - | - |
| Arm_Mun | MF_R | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | MF_S | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AV_MF_ST | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | AR_MF_ST | 1393 - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1215 - | - | - | 0 - | - | - | - |
| Arm_Mun | IL | 13368 - | - | - | - | - | - | - | 0 - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arm_Mun | HITL | 0 - | - | - | - | - | - | - | 62667 - | - | - | - | - | - | - | - | - | 0 - | - | - | - | - | - | - |
| Arm_Mun | ISTF | - | - | - | - | - | - | 349 - | - | - | - | - | - | - | - | - | - | 443 - | - | - | - | - | - | - |
| Arm_Mun | OAR | 3986 - | - | - | - | - | 111 - | - | 11809 - | - | - | - | 0 - | - | 0 | 0 - | - | 18036 - | - | - | - | - | - | - |
| EC | DMS | - | - | - | - | - | - | - | - | - | - | - | - | 246 - | - | - | - | - | - | - | - | - | - | - |
| EC | MF_A | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| EC | AV_MF_C | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| EC | EC_MF_C | - | - | - | - | - | - | 219 - | - | - | - | - | - | 80 - | - | - | - | - | - | - | - | - | - | - |
| EC | AV_MF_E | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| EC | AR_MF_E | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| EC | EC_MF_E | - | - | - | - | - | - | - | - | - | - | - | - | 775 - | - | - | - | 1399 - | - | - | - | - | - | - |
| EC | AV_MF_EM | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| EC | AR_MF_EM | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| EC | EC_MF_EM | - | - | - | - | 3303 - | - | - | - | - | - | - | - | 1626 - | - | - | - | - | - | - | - | - | - | - |
| EC | AV_MF_G | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| EC | AR_MF_G | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| EC | EC_MF_G | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1728 - | - | - | - |
| EC | MF_GO | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| EC | AV_MF_P | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| EC | AR_MF_P | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| EC | MF_R | 3843 - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2831 - | - | - | - |
| EC | MF_S | - | - | - | - | - | - | - | 798 - | - | - | - | - | - | - | - | - | 38 - | - | - | - | - | - | - |
| EC | AV_MF_ST | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| EC | AR_MF_ST | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| EC | IL | 2456 - | - | - | - | - | - | - | 850 - | - | - | - | - | - | - | - | - | - | - | 2008 - | - | - | - | - |
| EC | HITL | - | - | - | - | - | - | - | 0 - | - | - | - | - | - | - | - | - | - | 2833 - | - | - | 0 - | - | - |
| EC | ISTF | - | - | - | - | - | - | 1402 - | - | - | - | - | - | - | - | - | - | 2202 - | - | - | - | - | - | - |
| EC | OAR | 1821 - | - | - | - | - | - | - | - | - | - | - | - | 0 - | - | - | - | 849.88 - | - | 0.12 - | - | - | - | - |

"

| 'Excess Capacity' | " | 1.029334828 | 2.2302868 | 2.8490066225166 | 1.7868079 | 1.68767181222 | 35.36036036 | 1.4101214 | 1.1481125 | 0 | 0 | 0 | 0 | 1.2715455 | 0 | 0 | 0 | 1.08899 | 3.22273 | 1.43491 | 1.8158341 | 0 | 0 | 0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

"

| 'Ex Cap by Func Area' | TOTAL | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Air_Veh | 1.415837023249 | 1 | 3.8493107 | 0 | 1.7868079 | 0 | 0 | 1.3924459 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1.3987 | 1.6722912 | 0 | 0 | 0 |
| Arm_Mun | 1.147847377442 | 1.037289504 | 1 | 2.8490066225166 | 0 | 1.17812061711 | 35.36036036 | 2.6876218 | 1.1545312 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1.05068 | 0 | 0 | 1.7866853 | 0 | 0 | 0 |
| EC | 1.8832484078433 | 1 | 0 | 0 | 0 | 1.9076597033 | 0 | 2.8432099 | 1 | 0 | 0 | 0 | 0 | 1.620462 | 0 | 0 | 0 | 2.08417 | 3.22273 | 3.14964 | 2.702347 | 0 | 0 | 0 |

"

'Total Excess Capacity=' 1.3256183143164

"

'Total Summed Functional V 1212

'Total Workload-weighted F\ 2002.4529686393

test13.txt

'Objective function=' 80.169274448 * Weight Parameter 100
'Number of sites restricted to' 13

'Workload Assigned'

| | | CHINA_LAKE | DAHLGREN | INDIAN_HEAD | INDIANAP | NAWC_CRANE | NAWC_WSMR | PAXRIVER | PT_MUGU | WARMINST | ATTC_EAFB | FT_RUCKER | REDSTONE | USA_EPG | USA_YPG | WSMR | AEDC | AFDTC | AFEWES | AFFTC | HOLLOMAN | REDCAP | UTTR | 476_WEG |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sites | * | | | | | | | | | | | | | | | | | | | | | | | |
| Open | * | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 |
| Air_Veh | DMS | | | | | | | | | 0 | | | | | | | | | | 1273 | | | | |
| Air_Veh | MF_A | | | | | | | 0 | | | | | | 1177 | | | | | | 1454 | | | | |
| Air_Veh | AV_MF_C | | | | | | | 1136 | | | | | | | | | | | | | | | | |
| Air_Veh | EC_MF_C | | | | | | | | | | | | | | | | | | | | | | | |
| Air_Veh | AV_MF_E | 0 | | | 12219 | | | | 575 | | | | | 1661 | 297 | | | 6816 | | 1570 | | | | |
| Air_Veh | AR_MF_E | | | | | | | | | | | | | | | | | | | | | | | |
| Air_Veh | EC_MF_E | | | | | | | | | | | | | | | | | | | | | | | |
| Air_Veh | AV_MF_EM | | 643 | | | | | | | | | | | | | | | | | | | | | |
| Air_Veh | AR_MF_EM | | | | | | | | | | | | | | | | | | | | | | | |
| Air_Veh | EC_MF_EM | | | | | | | | | | | | | | | | | | | | | | | |
| Air_Veh | AV_MF_G | 0.2138 | | | | | | 0 | | | | | | | | | | 0 | | | 30719.7862 | | | |
| Air_Veh | AR_MF_G | | | | | | | | | | | | | | | | | | | | | | | |
| Air_Veh | EC_MF_G | | | | | | | | | | | | | | | | | | | | | | | |
| Air_Veh | MF_GO | | | | | | | | | | | | | | | | | | | | | | | |
| Air_Veh | AV_MF_P | | | | | | | 26853.6185 | | | | | | | | | 0.4816 | | | | | | | |
| Air_Veh | AR_MF_P | | | | | | | | | | | | | | | | | | | | | | | |
| Air_Veh | MF_R | | | | | | | | | | | | | | | | | | | | | | | |
| Air_Veh | MF_S | | | | | | | | | | | | | | | | | | | | | | | |
| Air_Veh | AV_MF_ST | | | | | | | | | | | | | | | | | | | | 170 | | | |
| Air_Veh | AR_MF_ST | | | | | | | | | | | | | | | | | | | | | | | |
| Air_Veh | L | | | | 0 | | | 0 | | | | | | | | | | | | 81906 | | | | |
| Air_Veh | HTL | | | | | | | 114171 | | | | | | | | | | | | | | | | 0 |
| Air_Veh | ISTF | | | | | | | 3674 | | | | | | | | | | | | 0 | | | | |
| Air_Veh | OAR | | | | | | | 6906 | 0 | | 0 | 0 | | 646 | 6028 | | | | | 11998 | | | 0 | |
| Arm_Mun | DMS | 0 | | | | | | | 0 | | | | | | | | | 66306 | | | | | | |
| Arm_Mun | MF_A | | | | | | | | | | | | | | | | | | | | | | | |
| Arm_Mun | AV_MF_C | | | | | | | | | | | | | | | | | | | | | | | |
| Arm_Mun | EC_MF_C | | | | | | | | | | | | | | | | | | | | | | | |
| Arm_Mun | AV_MF_E | | | | | | | | | | | | | | | | | | | | | | | |
| Arm_Mun | AR_MF_E | 0 | | 0 | | 0 | | | 56129 | | | | 0 | | 0 | 0 | | | | | | | | |
| Arm_Mun | EC_MF_E | | | | | | | | | | | | | | | | | | | | | | | |
| Arm_Mun | AV_MF_EM | | | | | | | | | | | | | | | | | | | | | | | |
| Arm_Mun | AR_MF_EM | | 1011 | | | | | | 1066 | | | | | | | 0 | | | | | | | | |
| Arm_Mun | EC_MF_EM | | | | | | | | | | | | | | | | | | | | | | | |
| Arm_Mun | AV_MF_G | | | | | | | | | | | | | | | | | | | | | | | |
| Arm_Mun | AR_MF_G | 17316 | | | | | | | 0 | | | | 0 | | | | | 14046 | | | 12873 | | | |
| Arm_Mun | EC_MF_G | | | | | | | | | | | | | | | | | | | | | | | |
| Arm_Mun | MF_GO | 0 | 648 | | | 1686 | | | | | | | | | | | | 13876 | | | | | | |
| Arm_Mun | AV_MF_P | | | | | | | | | | | | | | | | | | | | | | | |
| Arm_Mun | AR_MF_P | 0 | | 0 | | | | | | | | | | | | | 6801 | | | | | | | |
| Arm_Mun | MF_R | | | | | | | | | | | | | | | | | | | | | | | |
| Arm_Mun | MF_S | | | | | | | | | | | | | | | | | | | | | | | |
| Arm_Mun | AV_MF_ST | | | | | | | | | | | | | | | | | | | | | | | |
| Arm_Mun | AR_MF_ST | 0 | | | | | | | | | | | | | | | | 1621 | | | 787 | | | |
| Arm_Mun | L | 1462 | | | | | | | 11916 | | | | | | | | | | | | | | | |
| Arm_Mun | HTL | 0 | | | | | | | 82666.1389 | | | | | | | | | 1.6611 | | | | | | |
| Arm_Mun | ISTF | | | | | | | 782 | | | | | | | | | | 0 | | | | | | |
| Arm_Mun | OAR | 3986 | | | | | 0 | | 11609 | | | | 0 | | 3997 | 0 | | 12160 | | | | | | |
| EC | DMS | | | | | | | | | | | | | 246 | | | | | | | | | | |
| EC | MF_A | | | | | | | | | | | | | | | | | | | | | | | |
| EC | AV_MF_C | | | | | | | | | | | | | | | | | | | | | | | |
| EC | EC_MF_C | | | | | | | 218 | | | | | | 80 | | | | | | | | | | |
| EC | AV_MF_E | | | | | | | | | | | | | | | | | | | | | | | |
| EC | AR_MF_E | | | | | | | | | | | | | | | | | | | | | | | |
| EC | EC_MF_E | | | | | | | | | | | | | 775 | | | | 1399 | | | | | | |
| EC | AV_MF_EM | | | | | | | | | | | | | | | | | | | | | | | |
| EC | AR_MF_EM | | | | | | | | | | | | | | | | | | | | | | | |
| EC | EC_MF_EM | | | | | 3303 | | | | | | | | 1628 | | | | | | | | | | |
| EC | AV_MF_G | | | | | | | | | | | | | | | | | | | | | | | |
| EC | AR_MF_G | | | | | | | | | | | | | | | | | | | | | | | |
| EC | EC_MF_G | | | | | | | | | | | | | | | | | | | | 1728 | | | |
| EC | MF_GO | | | | | | | | | | | | | | | | | | | | | | | |
| EC | AV_MF_P | | | | | | | | | | | | | | | | | | | | | | | |
| EC | AR_MF_P | | | | | | | | | | | | | | | | | | | | | | | |
| EC | MF_R | 3843 | | | | | | | | | | | | | | | | | | | 2631 | | | |
| EC | MF_S | | | | | | | | 788 | | | | | | | | | 38 | | | | | | |
| EC | AV_MF_ST | | | | | | | | | | | | | | | | | | | | | | | |
| EC | AR_MF_ST | | | | | | | | | | | | | | | | | | | | | | | |
| EC | L | 3486 | | | | | | | 0 | | | | | | | | | | | 2868 | | | | |
| EC | HTL | | | | | | | | 420 | | | | | | | | | | 3413 | | | 0 | | |
| EC | ISTF | | | | | | | 1402 | | | | | | | | | | 2202 | | | | | | |
| EC | OAR | 1571 | | | | | | | | | | | | 0 | | | | 0 | | 1200 | | | | |
| 'Excess Capacity' | * | 1.6194087317 | 1.863913382 | 0 | 1.3001866 | 1.60184559602 | 0 | 1.417691303 | 1.13890792 | 0 | 0 | 0 | 0 | 1.2718486 | 1 | 0 | 2.070284 | 1.289414 | 3.783672 | 1.398848 | 1.607097491 | 0 | 0 | 0 |

| 'Ex Cap by Func Area' | TOTAL | CHINA_LAKE | DAHLGREN | INDIAN_HEAD | INDIANAP | NAWC_CRANE | NAWC_WSMR | PAXRIVER | PT_MUGU | WARMINST | ATTC_EAFB | FT_RUCKER | REDSTONE | USA_EPG | USA_YPG | WSMR | AEDC | AFDTC | AFEWES | AFFTC | HOLLOMAN | REDCAP | UTTR | 476_WEG |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Air_Veh | 1.4228912288124 | 10000 | 3.54931971 | 0 | 1.3001866 | 0 | 0 | 1.403319697 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 10000 | 1 | 0 | 1.390169 | 1.386063356 | 0 | 0 | 0 |
| Arm_Mun | 1.2697660270826 | 1.5929433269 | 1 | 0 | 0 | 1 | 0 | 1.176606061 | 1.14074422 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1.362447 | 1.290064 | 0 | 0 | 1.74136164 | 0 | 0 | 0 |
| EC | 1.3166606096641 | 1.0317681391 | 0 | 0 | 0 | 1.3076597033 | 0 | 2.943209677 | 1 | 0 | 0 | 0 | 0 | 1.82048206 | 0 | 0 | 0 | 2.094639 | 3.783672 | 1.868612 | 2.702347006 | 0 | 0 | 0 |

'Total Excess Capacity=' 1.3756756299997

'Total Summed Functional Valu 1271
'Total Workload-weighted PV = 1860.8617538083

# OPTIMIZATION RUN REQUESTS

A prerequisite to requesting optimization model runs based on Appendix B of the *Test and Evaluation (T&E) Joint Cross-Service Group (JCSG) Analysis Plan for Base Realignment and Closure (BRAC 95) Cross Service Analyses*, was the successful calculation and validation of functional values for each test activity in each of the three T&E functional areas under evaluation (Air Vehicles [AV], Electronic Combat [EC], and Armament/ Weapons [A/W] ) and the calculation and validation of workload capacities and requirements for each test facility category at each test activity. The workload capacity estimates were based on T&E peak historical workloads for each T&E functional area as described in the change dated __ Sep 94 to Appendix C of the *Analysis Plan* [see Vol I (Tab D)]. The workload requirements were computed by multiplying a FY01-baseline projection percentage (72%) times the average of FY92 and FY93 historical T&E workloads in each T&E functional area as described in Appendix B of the *Analysis Plan.*

The Joint Cross-Service Working Group (JCSWG) completed its scoring of the responses to the T&E JCSG Data Call to determine the functional value and capacity (in test hours) for those activities and associated test facilities which should be included in the BRAC 95 T&E JCSG optimization runs, in accordance with the T&E JCSG *Analysis Plan.* The JCSWG determined the FY92, FY93 and peak historical T&E workloads from certified responses by the test activities to a Data Call submitted through Service BRAC offices. Requests for Clarification (RFCs) were submitted to the test activities through the Service BRAC offices.

All Data Call responses and RFC submissions and responses were monitored by the DoD Inspector General's (IG) Office. The DoD IG representatives also provided physical security for the certified data call responses from the field.

The request for optimization model runs was prepared by the T&E JCSWG and was submitted with the approval of the T&E JCSG to the Tri-Service BRAC team responsible for preparing and executing the optimization runs. The T&E JSCG data tables for functional value, capacity and workload requirements were attached to the optimization run request after validation for accuracy by the JCSWG functional area teams. The validation process was monitored by DoD IG representatives.

DoD IG representatives monitored the Tri-BRAC team during the process of loading the optimization model as documented in Appendix B of the T&E *Analysis Plan* and the input data (functional values, capacities, and requirements) provided by the T&E JCSG. The input data for the optimization model runs are included in Vol IV (Tab A). DoD IG and General Accounting Office (GAO) both validated that the data were loaded correctly before the optimization model was run by the Tri-BRAC team using the AMPL linear programming software specified in the T&E *Analysis Plan.*

The JCSWG reviewed the alternatives available for optimization runs described in Appendix B of the T&E *Analysis Plan.*

The workload and capacities for T&E measurement facilities were broken down into subcategories representing types of work that were more equivalent for each of the functional areas. These measurement facility subcategories were included in the capacity and workload tables provided to the Tri-BRAC team for the initial optimization run request. This subcategorization of workloads and capacities for the measurement facilities reduced the extent of technically infeasible solutions produced by the optimization model runs by categorizing the workload only at a very top level (*e.g.*, it prevented equating sled track workload with environmental chamber or wind tunnel workload). With the test facility categories and subcategories that remained, significant effort was still required by the T&E JCSWG functional area teams to identify the technical changes required to a "gaining" facility to absorb the workload from a "losing" facility before developing proposed alternatives for consideration by the T&E JCSG.

The T&E Analysis Plan included a requirement to run the T&E optimization model as follows:

- Run separately for each functional area - to determine the best possible solutions for each functional area in terms of the values of the objective function for each functional area

- Run globally over all three functional areas at once - to determine whether there were alternative solutions that could satisfy the overall workload requirements with fewer test activities but possibly lower values for the measures of merit compared to the optimization runs for each functional area separately.

Two measures of merit were used as indicators of the relative worth or utility of alternative solutions provided by the optimization model runs:

- Workload-weighted Functional Value (Weighted FV)

- Excess Capacity

Table 1 provides the equations used for each of these measures of merit.

Weighted FV is calculated by multiplying the workload assigned to a test facility category/ subcategory by the functional value (FV) assigned to the host test activity for the functional area under consideration (AV, EC, $o^{-}{}_{i}A/W$). A larger value for the weighted FV term is computed if the test activities with higher functional values are assigned the most workload by an optimization model run.

Excess Capacity was calculated as the sum of the capacities of all test facility categories/subcategories at each "open" test activity minus the sum of the corresponding projected workloads, divided by (normalized by) the workload requirements. This yields excess capacity measured as a ratio, equal to "one (1)" if there is a perfect fit between the capacity of the open test activities and the workload requirements. The extent to which the excess capacity, expressed as a ratio, exceeds one is the measure of "excess" capacity for each test facility category/subcategory. The excess capacity measure of merit includes the sum of this ratio over all test facility categories/subcategories for each functional area, so that the minimum value can be no less than the total number of "open" test activities with their associated test facility categories/subcategories.

These two measures of merit were calculated for each optimization run (regardless of the objective function selected), so that there would be a common basis for comparing the "goodness" of each solution obtained from the optimization model runs. The strategy selected for the initial optimization run request identified the following objective functions and constraints to be imposed (the objective functions selected are described in detail in Appendix B of the T&E *Analysis Plan*):

1. **MINSITES unconstrained (W = 100%).** In the context of the T&E Analysis Plan, the reference to "SITES" in MINSITES should be equated to test activities, the highest level of T&E organizational activity addressed by the T&E JCSWG. A particular test activity is also associated with a specific geographical location. For example, the Naval Air Warfare Center - Weapons Division (NAWC/WPNS) includes three test activities: NAWC/WPNS at China Lake, CA, NAWC/WPNS at Point Mugu, CA, and NAWC/WPNS at White Sands Missile Range. The goal for running this objective function unconstrained was to identify the minimum number of sites that had sufficient capacity to satisfy the aggregate workload requirements for each test facility category/subcategory in each functional area. This minimum number of sites would then be used as a constraint on the number of "open" test activities for some runs with other objective functions. An "open" test activity is defined as a test activity with workload assigned by the optimization model run for at least one test facility category/subcategory located at the test activity. The specific set of "open" test activities identified as part of the solution for this objective function are not necessarily a "good" solution or even a unique solution - there may very well be other alternatives for open test activities that would also satisfy the workload requirements and yield better values for overall functional value of the solution and better reductions in excess workload capacity.
2. **MINSITES unconstrained (W = 95%).** This objective function also yields a minimum set of open test activities but allows a "trickle" contribution from the second term in the objective function: workload-weighted s[illegible] of functional values for test activities over all test facility categories/subcategories assigned workload by the optimization model run. The contribution from this second term in the objective function insures that there will be a solution obtained from the optimization model run that will include the minimum number of test activities with associated test

facility categories/ subcategories that will satisfy the workload requirements but still provide a higher workload-weighted functional value.

3. **MINSITES unconstrained (W = 0%).** Setting W = 0% in this objective function provides a solution based strictly on Weighted FV. The solution for this optimization run could call for more than the minimum number of sites to remain open (as identified by runs 1 or 2), but the solution set will generate a high overall functional value. Conversely, the solution set for this optimization run does not necessarily require all test activities to be kept "open". This solution represented the best that could be achieved in Weighted FV for a set of test activities that satisfied the workload requirements. As noted in the comments for Run 2 above, this objective function would force the optimization model to use up the capacities of the highest value sites until all the workload requirements were satisfied. The value for Weighted FV for this optimization run then represented a "benchmark" (as the largest value possible) for comparison with the value of Weighted FV achieved for other optimization runs.

4. **MINSITES with NSITES = MINSITE number of test activities (W = 0%).** The setup for this run is equivalent to Run 3, except that the number of "open" test activities is limited to the minimum number of open activities necessary to satisfy the workload requirements (determined in Run 1). The goal for this run was to determine whether a solution with the MINSITE number of sites could be achieved with a higher functional value than Run 2. This run was necessary to verify whether the weight of W = 95% was sufficient to achieve the best value of weighted FV possible with the MINSITE limit on the number of open test activities. This solution in general would be expected to be the same as the solution for Run 2.

5. **MAXSFV with NSITES = MINSITE number of test activities (W = 100%).** This run was intended to identify the solution that would simply maximize the sum of functional values over all open test activities, subject to the constraint that the number of open test activities would be limited to the MINSITE minimum number of activities and also subject to the requirement that the capacity of the test facilities over all open test activities would be sufficient to satisfy the workload requirements. The solution for this objective function would not necessarily be identical to the solution for Run 4, because the objective function gains no benefit from the amount of work assigned to a particular test activity - the objective function value was the same whether one unit or a 1000 units of work were assigned. This objective function had to be constrained in the number of open test activities for there to be any possibility of suggesting a realignment alternative, because the optimal solution for this objective function *unconstrained* is to keep all the test activities open (which gives the objective function its maximum value - the sum of the functional values for *all* the test activities).

6. **MINXCAP unconstrained (W = 100%).** The goal for this optimization model run was to generate the solution set that would yield the minimum excess capacity (as

calculated by the excess-capacity measure of merit described above). An important consideration for this objective function is that the solution penalized an open test activity for any test facility categories or subcategories that are not assigned any workload (referred to as "idle" capacity) as well as any capacity of an "active" test facility category or subcategory that is not used. An "active" test facility is one that is assigned any workload in the solution for an optimization model run (which implies that it is located at an "open" test activity). The set of open test activities associated with the solution to this objective function will not necessarily be limited to the minimum of test activities necessary to satisfy the workload requirements. For this objective function, the emphasis is on reducing the relative amount of "unused" capacity at all open test activities (as compared to the workload requirement as a normative term). The value for Excess Capacity for this optimization run then represented a "benchmark" (as the minimum value possible) for comparison with the value of Excess Capacity achieved for other optimization runs.

Table 2 summarizes the optimization run cases and constraints selected for the initial optimization run request. The runs selected were expected to provide a baseline for the analyses to support the determination of a feasible set of alternatives. The optimization model run results are contained in Vol IV (Tab B). The realignment alternatives developed by the T&E JCSWG are contained in Vol IV (Tab C).

# TABLE 1. T&E OPTIMIZATION MODEL DEFINITIONS

| MEASURES OF MERIT | FORMULA |
|---|---|
| **Weighted FV** | $\sum_{i,j} fv_i \bullet \ell_{ij} / r_j$<br>where<br>• $fv_i$ is functional value for activity i,<br>• $\ell_{ij}$ is the workload assigned to activity i for test facility category j, and<br>• $r_j$ is the workload requirement for test facility category j |
| **Excess Capacity** | $\sum_{i,j} o_i \bullet c_{ij} / r_j$<br>where<br>• $o_i = 1$ if workload is assigned to at least one test facility category at activity i, otherwise = 0.<br>• $c_{ij}$ is the workload capacity of activity i for test facility category j, and<br>• $r_j$ is the workload requirement for test facility category j |

# TABLE 2. OPTIMIZATION MODEL RUN MATRIX

| RUN NO. | FUNCTIONAL AREA | TEST FACILITY RUN LEVEL | OBJECTIVE FUNCTION | WEIGHT, W (%) | SPECIAL RUN CONSTRAINTS, OR POLICY IMPERATIVES |
|---|---|---|---|---|---|
| 1 | Run objective functions for one functional area at a time [AV, AW, EC] and all areas comined | Partition capacities and workload requirements at the **subcategory** level for MF and **test facility category** level for DMS, IL, HITL, ISTF, OAR | MINSITE (primary goal is to determine the minimum number of sites that yields a solution to the workload & capacity constraints) | 100% (pure MINSITE case, no FV* workload term) | None<br><br>[Note: Report only the minimum number of sites (MINSITES) achieved as the objective function value for this run. This value of MINSITES will provide a benchmark for subsequent runs.] |
| 2 | ↓ | ↓ | ↓ | 95% ("trickle" for FV*wkld) | None |
| 3 | ↓ | ↓ | MINSITE (run with primary goal to determine the workload-weighted FV solution) | 0% (FV* workload sum) | None<br><br>[Note: Equivalent to MAXSFV with the weight W = 0%] |
| 4 | ↓ | ↓ | ↓ | ↓ | Use the MINSITE min no. of sites obtained in Run 1 as the NSITE limit for this run |
| 5 | ↓ | ↓ | MAXSFV (run with primary goal to determine the maximum FV sum solution) | 100% (FV sum over open sites) | Use the MINSITE min no. of sites obtained in Run 1 as the NSITE limit for this run |
| 6 | ↓ | ↓ | MINXCAP (Find min. site-limited sum of capacity-to-requirement ratios that is feasible) | 100% (no FV* workload term) | None<br><br>[Note: Record MINXCAP no. of sites] |

16 November 1994

**MEMORANDUM FOR T&E JCSG Co-Chairs**

**Subject:** T&E JCSG results from the Military Value constrained Optimization Model runs

Attached is an updated chart reflecting the results of the constrained optimization model runs (MINNMV) that were conducted this date. There was one change in the individual functional areas between these constrained runs and the previously presented unconstrained runs. In the Armament/Weapons functional area run the model did not assign workload to AFDTC Holloman AFB like it did in the unconstrained runs. Rather, the model assigned the workload to AFDTC Eglin AFB and Redstone Technical Test Center (RTTC), Redstone Arsenal, AL. The workload involved consists of Measurement Facility-Sled Track (MF-ST) and Guidance (MF-G) work respectively. These workload assignment are not compatible with the requirements of the type of testing involved (i.e. it does not satisfy the technical capbility fit). AFDTC Eglin can not accomplish the same type of sled track testing that AFDTC Holloman does, likewise, RTTC Redstone Arsenal can not accomplish the same type of MF-G work that AFDTC Holloman does with its CIGTF. In the integrated runs addressing all three functional areas, this workload is assigned to AFDTC Holloman. Therefore, no change is recommended to the alternatives previously presented as based on the constrained runs using the Military Value decisions made by the Military Departments.

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| | | Concur/Non-Concur |
|---|---|---|
| Coordination: | T&E JCSG Army Principal | _____ |
| | T&E JCSG Navy Principal | _____ |
| | T&E JCSG Air Force Principal | _____ |

Approved/Disapproved:

_____
John A. Burt
Co-Chairman
T&E Joint Cross-Service Group

Approved/Disapproved:

_____
Mr. Philip E. Coyle
Co-Chairman
T&E Joint Cross-Service Group

Atch: 1. Optimization Model Run Results

# OPTIMIZATION MODEL RESULTS - AV

**MINSITES = 6**

| ACTIVITY | MAXSFV (w=0) | MINSITES (w=95) | MAXSFV (w=0; NSITE) | MINXCAP (w=100) | MAXSFV (w=100; NSITE) | MINNMV (W=95) |
|---|---|---|---|---|---|---|
| Arnold (18) | - | - | - | - | - | - |
| Edwards (85) | X | X | X | X | X | X |
| Eglin (56) | X | - | - | - | - | - |
| Holloman (33) | X | X | X | X | X | X |
| UTTR (46) | - | - | - | X | - | - |
| Tyndall (49) | - | - | - | - | - | - |
| China Lake (43) | X | - | - | - | - | - |
| Dahlgren (25) | X | X | X | X | X | X |
| Indianapolis (19) | X | X | X | X | X | X |
| Patuxent (81) | X | X | X | X | X | X |
| Point Mugu (69) | X | X | X | - | X | X |
| Warminster (14) | - | - | - | - | - | - |
| ATTC- Fort Rucker (34) | - | - | - | - | - | - |
| ATTC - Edwards AFB (46) | - | - | - | - | - | - |
| EPG (44) | X | - | - | - | - | - |
| YPG (35) | X | - | - | - | - | - |
| Number of activities | 10 | 6 | 6 | 6 | 6 | 6 |

# OPTIMIZATION MODEL RESULTS - EC

**MINSITES = 8**

| ACTIVITY | MAXSFV (w=0) | MINSITES (w=95) | MAXSFV (w=0; NSITE) | MINXCAP (w=100) | MAXSFV (w=100; NSITE) | MINNMV (W=95) |
|---|---|---|---|---|---|---|
| AFEWES (17) | X | X | X | X | X | X |
| Edwards (52) | X | X | X | X | X | X |
| Eglin (65) | X | X | X | X | X | X |
| Holloman (29) | X | X | X | X | X | X |
| REDCAP (15) | - | - | - | - | - | - |
| China Lake (47) | X | - | - | - | - | - |
| Crane (17) | X | X | X | X | X | X |
| Patuxent (53) | X | X | X | X | X | X |
| Point Mugu (58) | X | X | X | X | X | X |
| EPG (47) | X | X | X | X | X | X |
| Number of activities | 9 | 8 | 8 | 8 | 8 | 8 |

# OPTIMIZATION MODEL RESULTS - A/W

**MINSITES = 7**

| ACTIVITY | MAXSFV (w=0) | MINSITES (w=95) | MAXSFV (w=0; NSITE) | MINXCAP (w=100) | MAXSFV (w=100; NSITE) | MINNMV (W=95) |
|---|---|---|---|---|---|---|
| Arnold (16) | X | X | X | - | X | X |
| Eglin (82) | X | X | X | X | X | X |
| Holloman (30) | X | X | X | X | X | - |
| China Lake (57) | X | X | X | X | X | X |
| Dahlgren (17) | - | - | - | X | - | - |
| Indian Head (14) | - | - | - | X | - | - |
| Crane (13) | - | - | - | - | - | - |
| NAWC - WSMR (25) | - | - | - | X | - | - |
| Patuxent (57) | X | X | X | X | X | X |
| Point Mugu (77) | X | X | X | X | X | X |
| RTTC (21) | - | - | - | - | - | X |
| YPG (29) | - | - | - | - | - | - |
| WSMR (50) | X | X | X | - | X | X |
| Number of activities | 7 | 7 | 7 | 8 | 7 | 7 |

# OPTIMIZATION MODEL RESULTS - AV, EC, and A/W

**MINSITES = 13**

| ACTIVITY | MAXSFV (w=0) | MINSITES (w=95) | MAXSFV (w=0; NSITE) | MINXCAP (w=100) | MAXSFV (w=100; NSITE) | MINNMV (w=95) |
|---|---|---|---|---|---|---|
| Arnold | X | X | X | - | X | X |
| Edwards | X | X | X | X | X | X |
| AFEWES | X | X | X | X | X | X |
| Eglin | X | X | X | X | X | X |
| Holloman | X | X | X | X | X | X |
| REDCAP | - | - | - | - | - | - |
| UTTR | - | - | - | - | - | - |
| Tyndall | - | - | - | - | - | - |
| China Lake | X | X | X | X | X | X |
| Dahlgren | X | X | X | X | X | X |
| Indian Head | - | - | - | X | - | - |
| Indianapolis | X | X | X | X | X | X |
| Crane | X | X | X | X | X | X |
| NAWC - WSMR | - | - | - | X | - | - |
| Patuxent | X | X | X | X | X | X |
| Point Mugu | X | X | X | X | X | X |
| Warminster | - | - | - | - | - | - |
| ATTC- Fort Rucker | - | - | - | - | - | - |
| ATTC - Edwards AFB | - | - | - | - | - | - |
| EPG | X | X | X | X | X | X |
| RTTC | - | - | - | - | - | - |
| YPG | X | - | - | - | X | - |
| WSMR | X | X | X | - | - | X |
| Number of Activities | 14 | 13 | 13 | 13 | 13 | 13 |

REMARKS: AIR VEHICLES

MIN # OF SITES = 6

DATE: 3 Nov 94
JCSG: T & E
RUN #:
MODEL: TEFINAL.MOD
DATA: TEAV.DAT

| SITES | MAX Func.Value (MINSITES w=0) | MAX F.V. (MINSITES w=95) | MAX F.V. (MINSITES w=0 NSITE=min 6) | MIN EX. CAP (MINXCAP w=100) | MAX SFV (n=6) |
|---|---|---|---|---|---|
| INA LAKE | 1 | 0 | 0 | 0 | 0 |
| PAHLG | 1 | 1 | 1 | 1 | 1 |
| DIANAP. | 1 | 1 | 1 | 1 | 1 |
| K RIVER | 1 | 1 | 1 | 1 | 1 |
| MUGU | 1 | 1 | 1 | 0 | 1 |
| RMINST | 0 | 0 | 0 | 0 | 0 |
| TC_EAB | 0 | 0 | 0 | 0 | 0 |
| RUCKER | 0 | 0 | 0 | 0 | 0 |
| EPG | 1 | 0 | 0 | 0 | 0 |
| YPG | 1 | 0 | 0 | 0 | 0 |
| EDC | 0 | 0 | 0 | 0 | 0 |
| FDTC | 1 | 0 | 0 | 0 | 0 |
| FTC | 1 | 1 | 1 | 1 | 1 |
| LLOMAN | 1 | 1 | 1 | 1 | 1 |
| TTR | 0 | 0 | 0 | 1 | 0 |
| WEG | 0 | 0 | 0 | 0 | 0 |
| TOTAL | 10 | 6 | 6 | 6 | 6 |
| .V. F.V. | 795 | 780 | 780 | 763 | 766 |
| M.V. | – | – | – | – | – |
| CAP. | 1.428 | 1.389 | 1.389 | 1.37 | 1.37 |
| Obj Func | -77.95 | 31.8 | -76.48 | 87.21 | 44.76 |
| Output File | avfv[redacted].txt | avst95.txt | avfv06.txt | avxc.txt | avsf06.t |

avfv.txt

MINSITES 'Objective function= -77.9524842 " 'Weight Parameter = 0

'Number of sites restricted to ' 16

"

'Workload Assigned'

| Sites | " | CHINA_LAKE | DAHLGREN | INDIANAP | PAXRIVER | PT_MUGU | WARMINST | ATTC_EAFB | FT_RUCKER | USA_EPG | USA_YPG | AEDC | AFDTC | AFFTC | HOLLOMAN | UTTR | 476_WEG |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Open | " | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 0 |
| Air_Veh | DMS | - | - | - | - | - | 0 | - | - | - | - | - | - | 1273 | - | - | - |
| Air_Veh | MF_A | - | - | - | 809 | - | - | - | - | 0 | - | - | - | 1822 | - | - | - |
| Air_Veh | AV_MF_C | - | - | - | 1136 | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | EC_MF_C | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | AV_MF_E | 1157 | - | 11062 | - | 575 | - | - | - | 1681 | 297 | - | 6816 | 1570 | - | - | - |
| Air_Veh | AR_MF_E | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | EC_MF_E | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | AV_MF_EM | - | 943 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | AR_MF_EM | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | EC_MF_EM | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | AV_MF_G | 2138 | - | - | 2904 | - | - | - | - | - | - | - | 245 | - | 25432 | - | - |
| Air_Veh | AR_MF_G | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | EC_MF_G | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | MF_GO | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | AV_MF_P | - | - | - | 25854 | - | - | - | - | - | - | 0 | - | - | - | - | - |
| Air_Veh | AR_MF_P | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | MF_R | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | MF_S | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | AV_MF_ST | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | AR_MF_ST | - | - | - | - | - | - | - | - | - | - | - | - | 170 | - | - | - |
| Air_Veh | IL | - | - | 0 | 0 | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | HITL | - | - | - | 114171 | - | - | - | - | - | - | - | - | 81806 | - | - | - |
| Air_Veh | ISTF | - | - | - | 7706 | - | - | - | - | - | - | - | - | - | - | - | 0 |
| Air_Veh | OAR | - | - | - | 12246 | 3334 | - | 0 | 0 | 0 | 0 | - | - | 1968 | - | - | - |
| " | | | | | | | | | | | | | | 11998 | - | 0 | - |
| 'Excess Capacity' | " | 1 | 3.54931071 | 2.0988971252938 | 1.396788128 | 1.37170632 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1.377421 | 1.6722912272 | 0 | 0 |
| " | | | | | | | | | | | | | | | | | |
| 'Ex Cap by Func Area' | TOTAL | | | | | | | | | | | | | | | | |
| Air_Veh | 1.4278515760875 | 1 | 3.54931071 | 2.0988971252938 | 1.396788128 | 1.37170632 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1.377[illegible] | 1.6722912272 | 0 | 0 |
| " | | | | | | | | | | | | | | | | | |
| 'Total Excess Capacity=' | 1.4278515760875 | | | | | | | | | | | | | | | | |
| " | | | | | | | | | | | | | | | | | |
| 'Total Summed Functional Val | 490 | | | | | | | | | | | | | | | | |
| 'Total Workload-weighted FV = | 795.11533881062 | | | | | | | | | | | | | | | | |

avst95.txt

MINSITES 'Objective function= 31.800848617 " 'Weight Parameter = 95

'Number of sites restricted to ' 16

"

'Workload Assigned'

| Sites | " | CHINA_LAKE | DAHLGREN | INDIANAP | PAXRIVER | PT_MUGU | WARMINST | ATTC_EAFB | FT_RUCKER | USA_EPG | USA_YPG | AEDC | AFDTC | AFFTC | HOLLOMAN | UTTR | 476_WEG |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Open | " | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| Air_Veh | DMS | - | - | - | - | - | 0 | - | - | - | - | - | - | 1273 | - | - | - |
| Air_Veh | MF_A | - | - | - | 809 | - | - | - | - | 0 | - | - | - | 1822 | - | - | - |
| Air_Veh | AV_MF_C | - | - | - | 1136 | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | EC_MF_C | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | AV_MF_E | 0 | - | 21013 | - | 575 | - | - | - | 0 | 0 | - | 0 | 1570 | - | - | - |
| Air_Veh | AR_MF_E | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | EC_MF_E | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | AV_MF_EM | - | 943 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | AR_MF_EM | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | EC_MF_EM | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | AV_MF_G | 0 | - | - | 2904 | - | - | - | - | - | - | - | 0 | - | 27815 | - | - |
| Air_Veh | AR_MF_G | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | EC_MF_G | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | MF_GO | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | AV_MF_P | - | - | - | 25854 | - | - | - | - | - | - | 0 | - | - | - | - | - |
| Air_Veh | AR_MF_P | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | MF_R | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | MF_S | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | AV_MF_ST | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Air_Veh | AR_MF_ST | - | - | - | - | - | - | - | - | - | - | - | - | - | 170 | - | - |
| Air_Veh | IL | - | - | 0 | 0 | - | - | - | - | - | - | - | - | 81c 6 | - | - | - |
| Air_Veh | HITL | - | - | - | 114171 | - | - | - | - | - | - | - | - | - | - | - | 0 |
| Air_Veh | ISTF | - | - | - | 7706 | - | - | - | - | - | - | - | - | 1968 | - | - | - |
| Air_Veh | OAR | - | - | - | 12246 | 3334 | - | 0 | 0 | 0 | 0 | - | - | 11998 | - | 0 | - |
| " | | | | | | | | | | | | | | | | | |
| 'Excess Capacity' | " | 0 | 3.54931071 | 1.1049350402132 | 1.396788128 | 1.37170632 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1.377421 | 1.529891013 | 0 | 0 |
| " | | | | | | | | | | | | | | | | | |
| 'Ex Cap by Func Area' | TOTAL | | | | | | | | | | | | | | | | |
| Air_Veh | 1.3892006906644 | 0 | 3.54931071 | 1.1049350402132 | 1.396788128 | 1.37170632 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1.377421 | 1.529891013 | 0 | 0 |
| " | | | | | | | | | | | | | | | | | |
| 'Total Excess Capacity=' | 1.3892006906644 | | | | | | | | | | | | | | | | |
| " | | | | | | | | | | | | | | | | | |
| 'Total Summed Functional Val | 312 | | | | | | | | | | | | | | | | |
| 'Total Workload-weighted FV = | 780.12688205702 | | | | | | | | | | | | | | | | |

| ,NCTIONA | Air Force |
|---|---|
| Rec | |
| 1. Required | |
| a. Total Sq | 22,500 |
| b. Downran | 150 |
| c. Crossrar | 150 |
| d. System/ | F-15 |
| 2. Restricte | |
| a. Total Sq | 17,000 |
| b. Downrar | 130 |
| c. Crossrar | 130 |
| d. System/ | B-2 |
| 3. Required | |
| a. Total Sc | 17,000 |
| b. Downra | 130 |
| c. Crossra | 130 |
| d. System | B-2 |
| 4. Requirec | |
| a. Total S | 17,000 * |
| b. Downra | 130 |
| c. Crossra | 130 |
| d. Systerr | B-2 |
| 5. Require | |
| a. Total S | 86,500 * |
| b. Downra | 294 |
| c. Crossra | 294 |
| d. Systen | TSSAM B-2 ? |
| 6. Require | |
| a. Total F | ~~800~~ area ? |
| b. Supers | 100 |
| c. Syster | F/EF-111 FCF Routing |

CM.

350 for B-2

Supplemental Data Sets, Technical Evaluation Requirements

FOR OFFICIAL USE ONLY

FUNCTIONAL AREA = ARMAMENT/WEAPONS - SURFACE-TO-AIR

| Requirement Areas | Army | Navy | Air Force |
|---|---|---|---|
| 1. Required Air Space | | | |
| a. Total Square NM | 11,358 | 50,000 | 18,000 |
| b. Downrange (NM) | 240 | 240 | 130 |
| c. Crossrange (NM) | 50 | 240 | 130 |
| d. System/Scenario Driving Requirements | UOS 81398A | AEGIS/SM 2-TGT PRESENT | Aegis - SM II |
| 2. Restricted Air Space | | | |
| a. Total Square NM | 5188 | 50,000 | 18,000 |
| b. Downrange (NM) | 121 | 240 | 130 |
| c. Crossrange (NM) | 45 | 240 | 130 |
| d. System/Scenario Driving Requirements | UOS 81398A | AEGIS/SM 2-TGT | Aegis - SM II |
| 3. Required Total Land Space | | | |
| a. Total Square NM | 5003 | 900 | 6,000 |
| b. Downrange (NM) | 121 | 45 | 55 |
| c. Crossrange (NM) | 45 | 20 | 35 |
| d. System/Scenario Driving Requirements | UOS 81398A | — | F/EF-111 |
| 4. Required DoD Land Space | | | |
| a. Total Square NM | 5000 | 66 | 6,000 |
| b. Downrange (NM) | 100 | 11 | 55 |
| c. Crossrange (NM) | 50 | 6 | 35 |
| d. System/Scenario Driving Requirements | PATRIOT | ESSM | F/EF-111 |
| 5. Required Sea Space | | | |
| a. Total Square NM | N/A | 50,000 | 18,000 |
| b. Downrange (NM) | N/A | 240 | 130 |
| c. Crossrange (NM) | N/A | 240 | 130 |
| d. System/Scenario Driving Requirements | N/A | AEGIS/SM2 | Aegis - SM II |
| 6. Required Straight Line Segment | | | |
| a. Total Requirement (NM) | 240 | 240 | 100 |
| b. Supersonic Corridor (NM) | 215 | 180 | 150 |
| c. System/Scenario Driving Requirements | UOS 81398A | AEGIS/SM2 | All |

FUNCTIONAL AREA = CRUISE MISSILES

| Requirement Areas | Army | Navy | Air Force |
|---|---|---|---|
| 1. Required Air Space | | | |
| a. Total Square NM | N/A | 14,000 | 88,200 |
| b. Downrange (NM) | N/A | 400 | 300 |
| c. Crossrange (NM) | N/A | 100 | 300 |
| d. System/Scenario Driving Requirements | N/A | TOMAHAWK | GTL |
| 2. Restricted Air Space | | | |
| a. Total Square NM | N/A | 14,000 | 87,200 |
| b. Downrange (NM) | N/A | 400 | 300 |
| c. Crossrange (NM) | N/A | 100 | 300 |
| d. System/Scenario Driving Requirements | N/A | TOMAHAWK | R/UGM-109 A/C GTL |
| 3. Required Total Land Space | | | |
| a. Total Square NM | N/A | 700 | 17,000 |
| b. Downrange (NM) | N/A | 35 | 130 |
| c. Crossrange (NM) | N/A | 20 | 130 |
| d. System/Scenario Driving Requirements | N/A | TOMAHAWK | TSSAM |
| 4. Required DoD Land Space | | | |
| a. Total Square NM | N/A | 700 | 17,000 |
| b. Downrange (NM) | N/A | 35 | 130 |
| c. Crossrange (NM) | N/A | 20 | 130 |
| d. System/Scenario Driving Requirements | N/A | TOMAHAWK | TSSAM |
| 5. Required Sea Space | | | |
| a. Total Square NM | N/A | 10,000 | 86,500 |
| b. Downrange (NM) | N/A | 100 | 294 |
| c. Crossrange (NM) | N/A | 100 | 294 |
| d. System/Scenario Driving Requirements | N/A | TOMAHAWK | TSSAM |
| 6. Required Straight Line Segment | | | |
| a. Total Requirement (NM) | N/A | 100 | 174 |
| b. Supersonic Corridor (NM) | N/A | N/A | |
| c. System/Scenario Driving Requirements | N/A | TOMAHAWK | |

FUNCTIONAL AREA = TMD SHORT RANGE

| Requirement Areas | Army | Navy | Air Force |
|---|---|---|---|
| 1. Required Air Space | | | |
| a. Total Square NM | N/A | 60,000 | 68,800 |
| b. Downrange (NM) | N/A | 300 | 540 |
| c. Crossrange (NM) | N/A | 200 | 240 |
| d. System/Scenario Driving Requirements | N/A | THAAD | BPI |
| 2. Restricted Air Space | | | |
| a. Total Square NM | N/A | 60,000 | ~~68,800~~ |
| b. Downrange (NM) | N/A | 300 | 540 |
| c. Crossrange (NM) | N/A | 200 | 240 |
| d. System/Scenario Driving Requirements | N/A | THAAD | BPI |
| 3. Required Total Land Space | | | |
| a. Total Square NM | N/A | N/A | ~~2~~ |
| b. Downrange (NM) | N/A | N/A | 1 |
| c. Crossrange (NM) | N/A | N/A | 1 |
| d. System/Scenario Driving Requirements | N/A | N/A | BPI |
| 4. Required DoD Land Space | | | |
| a. Total Square NM | N/A | N/A | ~~2~~ |
| b. Downrange (NM) | N/A | N/A | 1 |
| c. Crossrang (NM) | N/A | N/A | 1 |
| d. System/Scenario Driving Requirements | N/A | N/A | BPI |
| 5. Required Sea Space | | | |
| a. Total Square NM | N/A | 60,000 | 18,900 |
| b. Downrange (NM) | N/A | 300 | 540 |
| c. Crossrange (NM) | N/A | 200 | 100 |
| d. System/Scenario Driving Requirements | N/A | THAAD | BPI |
| 6. Required Straight Line Segment | | | |
| a. Total Requirement (NM) | N/A | 300 | 540 |
| b. Supersonic Corridor (NM) | N/A | N/A | 90 |
| c. System/Scenario Driving Requirements | N/A | THAAD | BPI |

FUNCTIONAL AREA = TMD MEDIUM RANGE

| Requirement Areas | Army | Navy | Air Force |
|---|---|---|---|
| 1. Required Air Space | | | |
| a. Total Square NM | 4223.3 | 40,000 | 270,000 |
| b. Downrange (NM) | 121.6 | 650 | 520 |
| c. Crossrange (NM) | 52.6 | 50 | 520 |
| d. System/Scenario Driving Requirements | UDS 08904/01202 | THAAD/CEC | BPI-KKV |
| 2. Restricted Air Space | | | |
| a. Total Square NM | 4223.3 | 32,500 | 270,000 |
| b. Downrange (NM) | 121.6 | 650 | 520 |
| c. Crossrange (NM) | 52.6 | 50 | 520 |
| d. System/Scenario Driving Requirements | UDS 08904/01202 | THAAD | BPI-KKV |
| 3. Required Total Land Space | | | |
| a. Total Square NM | 4223.3 | N/A | 50,400 |
| b. Downrange (NM) | 121.6 | N/A | 20 |
| c. Crossrange (NM) | 52.6 | N/A | 100 |
| d. System/Scenario Driving Requirements | UDS 08904/01202 | N/A | BPI-KKV |
| 4. Required DoD Land Space | | | |
| a. Total Square NM | 3016.6 | N/A | 2,000 |
| b. Downrange (NM) | 86.8 | N/A | 20 |
| c. Crossrange (NM) | 34.7 | N/A | 100 |
| d. System/Scenario Driving Requirements | UDS 08904/01202 | N/A | BPI-KKV |
| 5. Required Sea Space | | | |
| a. Total Square NM | N/A | 32,500 | 219,600 |
| b. Downrange (NM) | N/A | 650 | 840 |
| c. Crossrange (NM) | N/A | 50 | 420 |
| d. System/Scenario Driving Requirements | N/A | THAAD | BPI-KKV |
| 6. Required Straight Line Segment | | | |
| a. Total Requirement (NM) | 121.6 | 650 | 1260 |
| b. Supersonic Corridor (NM) | N/A | N/A | N/A |
| c. System/Scenario Driving Requirements | UDS 08904/01202 | THAAD | BPI-KKV |

FUNCTIONAL AREA = TMD LONG RANGE

| Requirement Areas | Army | Navy | Air Force |
|---|---|---|---|
| 1. Required Air Space | | | |
| a. Total Square NM | 5990.8 | 97,500 | 1,000,000 |
| b. Downrange (NM) | 346.9 | 1,950 | 1,000 |
| c. Crossrange (NM) | 48.6 | 50 | 1,000 |
| d. System/Scenario Driving Requirements | THAAD/HERA | THAAD | Airborne Laser |
| 2. Restricted Air Space | | | |
| a. Total Square NM | 5990.8 | 97,500 | 1,000,000 |
| b. Downrange (NM) | 346.9 | 1,950 | 1,000 |
| c. Crossrange (NM) | 48.6 | 50 | 1,000 |
| d. System/Scenario Driving Requirements | THAAD/HERA | THAAD | Airborne Laser |
| 3. Required Total Land Space | | | |
| a. Total Square NM | 4502.3 | N/A | 40,000 |
| b. Downrange (NM) | 138.9 | N/A | 200 |
| c. Crossrange (NM) | 28.1 | N/A | 200 |
| d. System/Scenario Driving Requirements | THAAD/HERA | N/A | Multi-Aircraft |
| 4. Required DoD Land Space | | | |
| a. Total Square NM | 4219.3 | N/A | 2,500 |
| b. Downrange (NM) | 104.2 | N/A | 50 |
| c. Crossrange (NM) | 34.7 | N/A | 50 |
| d. System/Scenario Driving Requirements | THAAD/HERA | N/A | TMD |
| 5. Required Sea Space | | | |
| a. Total Square NM | N/A | 97,500 | 1,000,000 |
| b. Downrange (NM) | N/A | 1,950 | 1,000 |
| c. Crossrange (NM) | N/A | 50 | 1,000 |
| d. System/Scenario Driving Requirements | N/A | THAAD | Airborne Laser |
| 6. Required Straight Line Segment | | | |
| a. Total Requirement (NM) | 346.9 | 1,950 | 2,400 |
| b. Supersonic Corridor (NM) | N/A | N/A | N/A |
| c. System/Scenario Driving Requirements | THAAD/HERA | THAAD | Brilliant Eyes |

FUNCTIONAL AREA = AIR VEHICLES

| Requirement Areas | Army | Navy | Air Force |
|---|---|---|---|
| 1. Required Air Space | | | |
| a. Total Square NM | 8735 | 80,000 | 46,000 |
| b. Downrange (NM) | 107 | 400 | 1,000 |
| c. Crossrange (NM) | 81 | 200 | 200 |
| d. System/Scenario Driving Requirements | JTUAV | JTIDS | TIER II + UAV |
| 2. Restricted Air Space | | | |
| a. Total Square NM | 40,320 | 25,000 | ~~46,000~~ 40,000 |
| b. Downrange (NM) | 130 | 200 | ~~1,000~~ 200 |
| c. Crossrange (NM) | 174 | 125 | ~~200~~ 200 |
| d. System/Scenario Driving Requirements | FAA Ft Huachuca | F-14 | ~~TIER II + UAV~~ B-2 |
| 3. Required Total Land Space | | | |
| a. Total Square NM | 22,623 | 40,000 | 40,000 |
| b. Downrange (NM) | 130 | 400 | 200 |
| c. Crossrange (NM) | 174 | 100 | 200 |
| d. System/Scenario Driving Requirements | JTUAV | AEW | B-2 |
| 4. Required DoD Land Space | | | |
| a. Total Square NM | 630 | 1,350 | 40,000 |
| b. Downrange (NM) | 42 | ~~45~~ 4.5 | 200 |
| c. Crossrange (NM) | 15 | 30 | 200 |
| d. System/Scenario Driving Requirements | UAV-MAE | F/A-18 / AMRAAM | B-2 |
| 5. Required Sea Space | | | |
| a. Total Square NM | N/A | 40,000 | 40,000 |
| b. Downrange (NM) | N/A | 400 | 200 |
| c. Crossrange (NM) | N/A | 100 | 200 |
| d. System/Scenario Driving Requirements | N/A | AEW 7 | B-2 |
| 6. Required Straight Line Segment | | | |
| a. Total Requirement (NM) | 130 | 400 | 1200 |
| b. Supersonic Corridor (NM) | 0 | 400 | 220 |
| c. System/Scenario Driving Requirements | ORD | AEW | TIER II + UAV |

FUNCTIONAL AREA = ELECTRONIC COMBAT

| Requirement Areas | Army | Navy | Air Force |
|---|---|---|---|
| 1. Required Air Space | | | |
| a. Total Square NM | 13,950 | 342,000 | 490,000 |
| b. Downrange (NM) | 80 | 330 | 700 |
| c. Crossrange (NM) | 25.4 | 660 | 700 |
| d. System/Scenario Driving Requirements | J STARS/Gulfstream G11/EPLRS | RWR, JAMMERS, ELINT | B-1B |
| 2. Restricted Air Space | | | |
| a. Total Square NM | 302 | 21,000 | 100,000 |
| b. Downrange (NM) | 85 | 150 | 500 |
| c. Crossrange (NM) | 8.7 | 140 | 200 |
| d. System/Scenario Driving Requirements | FAA - Ft Huachuca | EA-6B/HARM | Penetration |
| 3. Required Total Land Space | | | |
| a. Total Square NM | 13,500 | 2,600 | 160,000 |
| b. Downrange (NM) | 53.9 | 120 | 400 |
| c. Crossrange (NM) | 25.4 | 48 | 400 |
| d. System/Scenario Driving Requirements | J STARS/LAV/EPLRS | JAMMER EFFECTIVENESS | B-1B |
| 4. Required DoD Land Space | | | |
| a. Total Square NM | 132.3 | 1,298 | 100,000 |
| b. Downrange (NM) | 9.8 | 110 | 500 |
| c. Crossrange (NM) | 13.5 | 48 | 200 |
| d. System/Scenario Driving Requirements | Available Space - Ft Huachuca | JAMMER EFFECTIVENESS | Penetration |
| 5. Required Sea Space | | | |
| a. Total Square NM | N/A | 90,000 | 122,500 |
| b. Downrange (NM) | N/A | 300 | 350 |
| c. Crossrange (NM) | N/A | 300 | 350 |
| d. System/Scenario Driving Requirements | N/A | CLASSIFIED TRI-SVC DATA CWR | B-1B |
| 6. Required Straight Line Segment | | | |
| a. Total Requirement (NM) | 80 | 660 | 500 |
| b. Supersonic Corridor (NM) | 0 | N/A | 0 |
| c. System/Scenario Driving Requirements | EA-6B/EC-130H | RWR, JAMMERS, ELINT | Penetration |

G

# TEST AND EVALUATION REQUIREMENTS FORM

| Requirement Areas | Categories | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Armament/ Weapons | | | Cruise Missiles | Theater Missile Defense | | | Air Vehicles | Electronic Combat |
| | Air-to-Air | Air-to-Surface | Surface-to-Air | | Short Range | Medium Range | Long Range | | |
| 1. Required Air Space | | | | | | | | | |
| a. Total Square NM | 22,500 | 22,500 | 18,000 | 88,200 | 68,800 | 270,000 | 1,000,000 | 46,000 | 490,000 |
| b. Downrange (NM) | 150 | 150 | 130 | 300 | 540 | 520 | 1,000 | 1,000 | 700 |
| c. Crossrange (NM) | 150 | 150 | 130 | 300 | 240 | 520 | 1,000 | 200 | 700 |
| d. System/Scenario Driving Requirement* | AIM-120 | F-15 | Aegis - SM II | GTL | BPI | BPI-KKV | Airborne Laser | TIER II & UAV | B-1B |
| 2. Restricted Air Space | | | | | | | | | |
| (to include Warning Areas) | 22,500 | 17,000 | 18,000 | 87,200 | 68,800 | 270,000 | 1,000,000 | 46,000 | 100,000 |
| a. Total Square NM | 150 | 130 | 130 | 300 | 540 | 520 | 1,000 | 1,000 | 500 |
| b. Downrange (NM) | 150 | 130 | 130 | 300 | 240 | 520 | 1,000 | 200 | 200 |
| c. Crossrange (NM) | AIM-120 | B-2 | Aegis- SM II | R/UGM-109A/C OTL | BPI | BPI-KKV | Airborne Laser | TIER II & UAV | Penetration |
| d. System/Scenario Driving Requirement* | | | | | | | | | |
| 3. Required Total Land Space | | | | | | | | | |
| a. Total Square NM | 21,000 | 17,000 | 6,000 | 17,000 | 2 | 50,400 | 40,000 | 40,000 | 160,000 |
| b. Downrange (NM) | 175 | 130 | 55 | 130 | 1 | 20 | 200 | 200 | 400 |
| c. Crossrange (NM) | 120 | 130 | 35 | 130 | 1 | 100 | 200 | 200 | 400 |
| d. System/Scenario Driving Requirement* | AIM-120 | B-2 | F/EF-111 | TSSAM | BPI | BPI-KKV | Multi-Acft | B-2 | B-1B |
| 4. Required DoD Land Space | | | | | | | | | |
| a. Total Square NM | 21,000 | 17,000 | 6,000 | 17,000 | 2 | 2,000 | 2,500 | 40,000 | 100,000 |
| b. Downrange (NM) | 175 | 130 | 55 | 130 | 1 | 20 | 50 | 200 | 500 |
| c. Crossrange (NM) | 120 | 130 | 35 | 130 | 1 | 100 | 50 | 200 | 200 |
| d. System/Scenario Driving Requirement* | AIM-120C | B-2 | F/EF-111 | TSSAM | BPI | BPI-KKV | TMD | B-2 | Penetration |
| 5. Required Sea Space | | | | | | | | | |
| a. Total Square NM | 21,000 | 86,500 | 18,000 | 86,500 | 18,900 | 219,600 | 1,000,000 | 40,000 | 122,500 |
| b. Downrange (NM) | 175 | 294 | 130 | 294 | 540 | 840 | 1,000 | 200 | 350 |
| c. Crossrange (NM) | 120 | 294 | 130 | 294 | 100 | 420 | 1,000 | 200 | 350 |
| d. System/Scenario Driving Req* | AIM-120C | TSSAM | Aegis-SM II | TSSAM | BPI | BPI-KKV | Abne Lasr | B-2 | B-1B |
| 6. Required Straight Line Segment | | | | | | | | | |
| a. Total Requirement (NM) | 220 | 800 | 100 | 174 | 540 | 1260 | 2,400 | 1200 | 500 |
| b. Supersonic Corridor Requirement (NM) | 220 | 100 | 150 | | 90 | N/A | N/A | 220 | 0 |
| c. System/Scenario Driving Req* | F-15 | F/EF-111 FCF Routing | ALL | | BPI | BPI-KKV | Brilliant Eyes | TIER II & UAV | Penetration |

* Use as many copies of the attached form as required to provide an explanation of the requirements driver(s) and the method(s) used to determine the numerical values.

SINGLE SUMMARIZED PAGE FROM CERTIFIED DATA (SUPPLEMENTAL DATA CALL RESPONSES)



ATCH 1

H

USAF AIR WARFARE CENTER TEST A. UATION REQUIREMENTS FORM

| Requirement Areas | Categories: Armament/Weapons: Air-to-Air | Armament/Weapons: Air-to-Surface | Armament/Weapons: Surface-to-Air | Cruise Missiles | Theater Missile Defense: Short Range | Theater Missile Defense: Medium Range | Theater Missile Defense: Long Range | Air Vehicles | Electronic Combat |
|---|---|---|---|---|---|---|---|---|---|
| 1. Required Space | | | | | | | | | |
| a. Total Square NM | 22,500 | 13,300 | 6,000 | 17,000 | | | 10,800 | | 53,100 |
| b. Downrange (NM) | 150 | 130 | 100 | 200 | N/A | N/A | 90 | N/A | 60 |
| c. Crossrange (NM) | 150 | 130 | 60 | 85 | | | 120 | | 30 |
| d. System/Scenario Driving Requirement* | AIM-120 | Scenario | All | ALCM/Tercom Maps | | | TMD | | A/A ECM/ J-STARS |
| 2. Restricted Air Space (to include Warning Areas) | | | | | | | | | |
| a. Total Square NM | 22,500 | 8,800 | 6,000 | 3,000 | | | | | 50,000 |
| b. Downrange (NM) | 150 | 110 | 100 | 60 | N/A | N/A | N/A | N/A | 60 |
| c. Crossrange (NM) | 150 | 85 | 60 | 50 | | | | | 30 |
| d. System/Scenario Driving Requirement* | AIM-120 | Scenario/AGM-84 | Fighters | CALCM | | | | | A/A ECM/AWAC |
| 3. Required Total Land Space | | | | | | | | | |
| a. Total Square NM | | 8,800 | 400 | 17,000 | | | | | 2,835 |
| b. Downrange (NM) | N/A | 110 | 20 | 200 | N/A | N/A | N/A | N/A | |
| c. Crossrange (NM) | | 80 | 20 | 85 | | | | | |
| d. System/Scenario Driving Requirement* | | Scenario | Shorad | FTS, ALCM | | | | | J-STARS |
| 4. Required DoD Land Space | | | | | | | | | |
| a. Total Square NM | | 8,000 | 250 | | | | 2,500 | | |
| b. Downrange (NM) | N/A | 100 | 25 | N/A | N/A | N/A | 50 | N/A | N/A |
| c. Crossrange (NM) | | 80 | 15 | | | | 50 | | |
| d. System/Scenario Driving Requirement* | | AGM-88 | JSOW/Longshot | | | | TMD | | |
| 5. Required Sea Space | | | | | | | | | |
| a. Total Square NM | | 7,225 | 6,000 | | | | | | |
| b. Downrange (NM) | N/A | 85 | 100 | N/A | N/A | N/A | N/A | N/A | N/A |
| c. Crossrange (NM) | | 85 | 60 | | | | | | |
| d. System/Scenario Driving Requirement* | | AGM-84 | Aegis | | | | | | |
| 6. Required Straight Line Segment | | | | | | | | | |
| a. Total Requirement (NM) | 100 | | 100 | | | | | | TBD |
| b. Supersonic Corridor Requirement (NM) | 100 | N/A | 50 | N/A | N/A | N/A | N/A | N/A | 50 |
| c. System/Scenario Driving Req* | Live Fire | | ALL | | | | | | All/AWAC |

*Use as many copies of the attached form as required to provide an explanation of the requirements driver(s) and the method(s) used to determine the numerical value.

USAF AIR WARFARE CENTER
Description of Requirements Drivers and Methodology Form

Category: Weapons

Subcategory: Air-to-Air Live Fire

Requirements Area: 10,000 Square Miles

a. System Description: F-15 MSIP advanced armament and avionics fires AIM-7s and AIM-120s to validate software upgrades to the F-15 fleet. Before a live fire, a complete test matrix is generated and flown to detect limitations and fixes.

b. Engagement/Scenario Description: 1v1 intercepts to validate software (test matrix). Fighter vs drone dress passes and live fires. Live fires require a minimum 100NM by 100NM to protect against missile footprint of intercept is not made. Most test intercepts require 60NM separation between aircraft.

c. Description of Method Used to Determine Space Requirements: The live fires require the largest chunk of airspace. The objective of the shot (parameters-altitude, airspeed, pitch range) determines the safety footprint for the shot. We shoot 6 to 8 missiles a year with a normal shoot box being 10,000 square miles.

d. DT&E or OT&E Requirements (check whichever applies):

DT&E _____

OT&E _____

Both X

USAF AIR WARFARE CENTER
Description of Requirements Drivers and Methodology Form

Category: Weapons

Subcategory: Air-to-Air

Requirements Area: Restricted Air Space

a. System Description: AIM-120 AMRAAM, Launch and Leave Missile.

b. Engagement/Scenario Description: Missile flies to a mid course INS point, wakes up and autonomously intercepts target.

c. Description of Method Used to Determine Space Requirements: Conservative number used to encompass operational range.

d. DT&E or OT&E Requirements (check whichever applies):

DT&E _____

OT&E __X__

Both _____

USAF AIR WARFARE CENTER
Description of Requirements Drivers and Methodology Form

Category: Weapons JADO/JEZ

Subcategory: Surface to Air

Requirements Area: 1, 2, 3, 5, 6

a. System Description: Surface to air missile systems that include Patriot, Hawk, Stinger, Avenger and Aegis. Systems include missiles, tracking, acquisition radars, and supporting C2 Equipment.

b. Engagement/Scenario Description: Littoral or overland Joint Integrated Air Defense System defends against significant airborne threat. Assets integrated include Air Force, Army, Navy, and Marine Corps C2 and Defensive systems.

c. Description of Method Used to Determine Space Requirements: Generic Air Defense sector normal requirements are 100 NM x 60 NM to allow for tactical interplay of ACC systems to include fighter aircraft.

d. DT&E or OT&E Requirements (check whichever applies):

DT&E _____

OT&E _____

Both X

USAF AIR WARFARE CENTER
Description of Requirements Drivers and Methodology Form

Category: Theater Missile Defense (TMD)

Subcategory: Long Range* (Simulated Launch)

Requirements Area: Required Air Space

a. System Description: TMD combat capability can be dissected into specific tasks associated with attack operations such as: detection of transporter, erector, launcher and its associated support equipment before launch; detection of theater ballistic missile (TBM) launches; determining location of launch and impact areas; identification of missiles of the launch site and/or hide sites; tracking of launchers and their associated support equipment from garrison, to launch, to hide site; tasking of resources to provide surveillance, command and control, or attack and finally attacking launchers at the garrison, launch, or hide sites.

b. Engagement/Scenario Description: TMD attack operations concentrates on incorporating data link communications methods where applicable, exploring interservice command and control links, identifying deficiencies and limitations associated with participating assets, and recommending enhancements to existing equipment and procedures to strengthen the overall TMD effort.

c. Description of Method Used to Determine Space Requirements: Air Space requirement is determined by the number of aircraft, tankers (refuel), AWACS, type of TMD scenario, targets, launchers, and missile trajectories including all safety corridors.

d. DT&E or OT&E Requirements (check whichever applies):

DT&E _____

OT&E ___X___

Both _____

TEST AND EVALUA[illegible] QUIREMENTS FORM
Catego[illegible]

| Requirement Areas | | | | Cruise Missiles | Theater | Missile | Defense | Air Vehicles | Electronic Combat |
|---|---|---|---|---|---|---|---|---|---|
| 1. Air Space | Air to Air | Air to Surface | Surface to Air | N/A | Short Range | Medium Rang | Long Range | | |
| a. Tot Sq. NM | 2400 | 10,000 | | | | | 40,000 | 7200 | 7200 |
| b. Downrange | 60 | 200 | | | | | 200 | 120 | 120 |
| c. Crossrange | 40 | 50 | | | | | 200 | 60 | 60 |
| d. System/ Scenario | AMRAAM | HARM Block IV | N/A | | N/A | N/A | Multi-Aircraft | F-22 | Multi-Aircraft SEAD |
| 2. Restricted Air Space | Eglin/ Pt. Mugu | R2508/ White Sands | N/A | N/A | N/A | N/A | N/A | Nellis AFB | Nellis AFB |
| a. Tot Sq. NM | 2400 | 10,000 | | | | | | 1600 | 1600 |
| b. Downrange | 60 | 200 | | | | | | 40 | 40 |
| c. Crossrange | 40 | 50 | | | | | | 40 | 40 |
| d. System/ Scenario | Live Fire | Live Fire | | | | | | Live Drop Area /F-22 | Multi-Aircraft SEAD |
| 3. Land Space | N/A | N/A | N/A | N/A | N/A | N/A | | N/A | N/A |
| a. Tot Sq. NM | | | | | | | 40,000 | | |
| b. Downrange | | | | | | | 200 | | |
| c. Crossrange | | | | | | | 200 | | |
| d. System/ Scenario | | | | | | | Multi- Aircraft | | |
| 4. DoD Land | White Sands | White Sands/ R2508 | N/A | N/A | N/A | N/A | N/A | Nellis AFB | Nellis, UTTR, R2508 |
| a. Tot Sq. NM | 2400 | 10,000 | | | | | | 1600 | 1600 |
| b. Downrange | 120 | 200 | | | | | | 40 | 40 |
| c. Crossrange | 60 | 50 | | | | | | 40 | 40 |
| d. System/ Scenario | Live Fire | Live Fire | | | | | | Live Drop Area/F-22 | Multi-Aircraft SEAD |
| 5. Sea Space | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | Pt. Mugu |
| a. Tot Sq. NM | | | | | | | | | 40,000 |
| b. Downrange | | | | | | | | | 200 |
| c. Crossrange | | | | | | | | | 200 |
| d. System/ Scenario | | | | | | | | | Maritime SEAD |
| 6. Straight Line Segment | 60 | 200 | N/A | N/A | N/A | N/A | 300 | 122 if sq. | N/A |
| a. Total NM | 2400 | 10,000 | | | | | 40,000 | 7200 | 7200 |
| b. Supersonic Coridor | N/A | N/A | | | | | N/A | 120 | 120 |
| c. System/ Scenario | AMRAAM Live Fire | Live Fire HARM IV | | | | | Multi- Aircraft | F-22 | Multi-Aircraft SEAD |

## Description of Requirements Drivers and Methodology Form

**Category:** Theater Missile Defense

**Subcategory:** Long Range

**Requirements Area:** Air Space and Land Space, Straight Line Segment

a. **System Description:** Mult-Sensor, Multi-Aircraft, Command and Control and Intelligence

b. **Engagement/ Scenario Description:** Large scale, Large force tests with real-time integration of intelligence information to locate objects on the ground.

c. **Description of Method Used to Determine System Requirement:** Requires adequate air space to contain 40+ aircraft. Will require adequate land space to test the capabilities of sensor and intelligence systems.

d. **DT&E Or OT&E Requirements (check whichever applies):**

**DT&E** _____
**OT&E** X
**Both** _____

J

## TEST AND EVALUATION REQUIREMENTS FORM
(ATTACHMENT 1)

| Requirements Areas | Categories: Armament/ Weapons: Air-to-Air | Armament/ Weapons: Air-to-Surface | Armament/ Weapons: Surface-to-Air | Cruise Missiles | Theater Missile Defense: Short Range | Theater Missile Defense: Medium Range | Theater Missile Defense: Long Range | Air Vehicles | Electronic Combat |
|---|---|---|---|---|---|---|---|---|---|
| 1. Required Air Space | | | | | | | | | |
| a. Total Square NM | N/A | 5000 | 5000 | N/A | N/A | N/A | N/A | A-10 F-111 EF-111 | EF-111 |
| b. Downrange (NM) | | 45 | 45 | | | | | | |
| c. Crossrange (NM) | | 25 | 25 | | | | | | |
| d. System/Scenario Driving Requirements* | | N/A | N/A | | | | | | |
| 2. Restricted Air Space (to include Warning Areas) | | | | | | | | | |
| a. Total Square NM | N/A | 6000 | 6000 | N/A | N/A | N/A | N/A | A-10 F-111 EF-111 | EF-111 |
| b. Downrange (NM) | | 55 | 55 | | | | | | |
| c. Crossrange (NM) | | 35 | 35 | | | | | | |
| d. System/Scenario Driving Requirements* | | N/A | N/A | | | | | | |
| 3. Required Total Land Space | | | | | | | | | |
| a. Total Square NM | N/A | 6000 | 6000 | N/A | N/A | N/A | N/A | A-10 F-111 EF-111 | EF-111 |
| b. Downrange (NM) | | 55 | 55 | | | | | | |
| c. Crossrange (NM) | | 35 | 35 | | | | | | |
| d. System/Scenario Driving Requirements* | | N/A | N/A | | | | | | |
| 4. Required DoD Land Space | | | | | | | | | |
| a. Total Square NM | N/A | 6000 | 6000 | N/A | N/A | N/A | N/A | A-10 F-111 EF-111 | EF-111 |
| b. Downrange (NM) | | 55 | 55 | | | | | | |
| c. Crossrange (NM) | | 35 | 35 | | | | | | |
| d. System/Scenario Driving Requirements* | | N/A | N/A | | | | | | |
| 5. Required Sea Space | | | | | | | | | |
| a. Total Square NM | N/A | 1200 | N/A | N/A | N/A | N/A | N/A | A-10 F-111 EF-111 | EF-111 |
| b. Downrange (NM) | | 120x10 | | | | | | | |
| c. Crossrange (NM) | | | | | | | | | |
| d. System/Scenario Driving Req* | | N/A | | | | | | | |
| 6. Required Straight Line Segment | | | | | | | | | |
| a. Total Requirment (NM) | N/A | 800 | N/A | N/A | N/A | N/A | N/A | A-10 F-111 EF-111 | EF-111 |
| b. Supersonic Corridor Requirment (NM) | | 100x8 | | | | | | | |
| c. Systems/Scenario Driving Req* | | FCF Routing | | | | | | | |

*Use as many copies of the attached form as required to provide an explanation of the requirements driver(s) and the method(s) used to determine the numerical values.

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# FOR OFFICIAL USE ONLY

## Description of Requirements Drivers and Methodology Form - Sacramento ALC

Category: Test and Evaluation

Subcategory: Air-Surface (Surface-Air Subcategory on matrix form refers to receiving signals from surface systems)

Requirements Area: Ranges/Restricted Airspace

a. System Description:

F-111E, F-111F, F-111C Fighters/Bombers
EF-111A Electronic Jamming Platform
A-10A Close Air Support Fighter
T-38A Jet Trainer for Chase Requirements

b. System/Scenario Description:

Functional Check Flights (FCFs) - Supersonic Airspeed used
DT&E Software updates requiring Air-Surface Ranges
Digital Flight Control Testing
Electronic Jamming updates requiring electronic range use
GPS/IDM Testing for A-10 aircraft and Army controllers

Programs Supported:

| | |
|---|---|
| F-111 | Pacer Strike Upgrade Program |
| EF-111 | System Improvement Program (SIP) |
| | EF-02 Software Improvement Program |
| | Digital Software Control System Program |
| A-10 | GPS Compatibility Test Program |
| | IDM Testing Program |
| A-10/F-111 | Wing Stores and Pylon Test Programs |

c. Description of Method Used to Determine Space Requirements:

Space requirements are built around test programs. If Air-Surface ranges are necessary, then range airspace is coordinated and utilized. Each test program is handled on an individual basis. Some tests do not require special use airspace, but most do.

d. DT&E or OT&E Requirements(Check whichever applies)

DT&E ___X___

OT&E _____

Both _____

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K

# TEST AND EVALUATION REQUIREMENTS FORM

| Requirement Areas | Categories | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Armament/Weapons | | | Cruise Missiles | Theater Missile Defense | | | Air Vehicles | Electronic Combat |
| | Air to Air | Air to Surface | Surface to Air | | Short Range | Medium Range | Long Range | | |
| 1 Required Airspace | | | | | | | | | |
| a. Total Square NM | | | | | | | | | 100,000 |
| b. Downrange NM | | | | | | | | | 500 |
| c. CrossRange NM | | | | | | | | | 200 |
| d. System/Scenario | | | | | | | | | Penetration |
| 2 Restricted Air Space | | | | | | | | | |
| a. Total Square NM | | | | | | | | | 100,000 |
| b. Downrange NM | | | | | | | | | 500 |
| c. CrossRange NM | | | | | | | | | 200 |
| d. System/Scenario | | | | | | | | | Penetration |
| 3 Req Tot Land Space | | | | | | | | | |
| a. Total Square NM | | | | | | | | | 100,000 |
| b. Downrange NM | | | | | | | | | 500 |
| c. CrossRange NM | | | | | | | | | 200 |
| d. System/Scenario | | | | | | | | | Penetration |
| 4 Req DOD Land Space | | | | | | | | | |
| a. Total Square NM | | | | | | | | | 100,000 |
| b. Downrange NM | | | | | | | | | 500 |
| c. CrossRange NM | | | | | | | | | 200 |
| d. System/Scenario | | | | | | | | | Penetration |
| 5 Req Sea Space | | | | | | | | | |
| a. Total Square NM | | | | | | | | | 100,000 |
| b. Downrange NM | | | | | | | | | 500 |
| c. CrossRange NM | | | | | | | | | 200 |
| d. System/Scenario | | | | | | | | | Penetration |
| 6 Req Straight Line Segment | | | | | | | | | |
| a. Total Req NM | | | | | | | | | 500 |
| b. Supersonic Corridor Requirement NM | | | | | | | | | 0 |
| c. System/Scenario | | | | | | | | | Penetration |

Description of Requirements Drivers and Methodology Form

Category: Electronic Combat

Subcategory: None

Requirements Area: **Restricted Airspace**

**a. System Description:**

The bomber (which includes B-52, B1, B2)

**b. Engagement/Scenario Description:**

Large Scale Operational Penetration Test Evaluation

**c. Description of Method Used to Determine Space Requirements:**

The method used was to take into account the following factors; 1) Number of bomber aircraft involved, 2) Number of support aircraft involved (i.e. AWACS, refuelers, escorts, etc.), 3) Ground air defense area involved (to simulate command, control, and communications), 4) Munitions (flares, chaff rockets, etc.), 5) Areas covered by long range air defense acquisition systems, 6) Maneuvers (space vs speed), 7) Environmental variables (terrain flat and rolling vs mountainous, altitude, ground surface condition to experience arid, forested, ice, etc.), and 8) Safety; and integrate these with the mission and capabilities of the bomber force to achieve a quantifiable airspace.

These requirements were injected into a penetration scenario which drove a requirement for a chunk of airspace 200 nautical miles wide by 500 nautical miles deep. The width requirement is derived from the maximum distance between radar pickets in an enemy airspace. The penetration depth is derived from scenarios involving both Europe and the Middle East.

We have to have 100% control in these tests to provide for safety and security. This drives the necessity for this airspace to be restricted.

Further specification of requirements is classified.

**d. DT&E or OT&E Requirements (check whichever applies)**

DT&E _____

OT&E X

Both _____

Preparer: I certify the above information is accurate and complete to the best of my knowledge and belief.

Dean C. Spraggins Date: 16 Aug 94

DEAN C. SPRAGGINS, Lt Col, USAF, 513 ETS/EEM, DSN 271-2059

MAJCOM Reviewer: I certify the above information is accurate and complete to the best of my knowledge and belief.

_____ Date_____

_____

Typed Name, Rank, Office Symbol, DSN Number

Description of Requirements Drivers and Methodology Form

Category: Electronic Combat

Subcategory: None

Requirements Area: **Required DOD Land Space**

**a. System Description:**

The bomber (which includes B-52, B1, B2)

**b. Engagement/Scenario Description:**

Large Scale Operational Penetration Test Evaluation

**c. Description of Method Used to Determine Space Requirements:**

The method used was to take into account the following factors; 1) Number of bomber aircraft involved, 2) Number of support aircraft involved (i.e. AWACS, refuelers, escorts, etc.), 3) Ground air defense area involved (to simulate command, control, and communications), 4) Munitions (flares, chaff rockets, etc.), 5) Areas covered by long range air defense acquisition systems, 6) Maneuvers (space vs speed), 7) Environmental variables (terrain flat and rolling vs mountainous, altitude, ground surface condition to experience arid, forested, ice, etc.), and 8) Safety; and integrate these with the mission and capabilities of the bomber force to achieve a quantifiable required total land space.

These requirements were injected into a penetration scenario which drove a requirement for a chunk of airspace 200 nautical miles wide by 500 nautical miles deep. The width requirement is derived from the maximum distance between radar pickets in an enemy airspace. The penetration depth is derived from scenarios involving both Europe and the Middle East.

The airspace scenario requirements drive required total land space requirements. The above airspace requirements have to be supported by appropriate ground equipment. There is an essential requirement for both threat simulators and test measuring equipment emplaced in ground stations along the periphery of and inside, the required test area.

We have to have 100% control in these tests to provide for safety and security. This drives the necessity for this land requirement to be under our (DOD) control.

Further specification of requirements is classified.

**d. DT&E or OT&E Requirements (check whichever applies)**

DT&E _____
OT&E X
Both _____

Preparer: I certify the above information is accurate and complete to the best of my knowledge and belief.

Dean C. Spraggins Date: 16 Aug 94
DEAN C. SPRAGGINS, Lt Col, USAF, 513 ETS/EEM, DSN 271-2059

MAJCOM Reviewer: I certify the above information is accurate and complete to the best of my knowledge and belief.

_____ Date_____

_____
Typed Name, Rank, Office Symbol, DSN Number

Description of Requirements Drivers and Methodology Form

Category: Electronic Combat

Subcategory: None

Requirements Area: **Required Straight Line Space**

**a. System Description:**

The bomber (which includes B-52, B1, B2)

**b. Engagement/Scenario Description:**

Large Scale Operational Penetration Test Evaluation

**c. Description of Method Used to Determine Space Requirements:**

The method used was to take into account the following factors; 1) Number of bomber aircraft involved, 2) Number of support aircraft involved (i.e. AWACS, refuelers, escorts, etc.), 3) Ground air defense area involved (to simulate command, control, and communications), 4) Munitions (flares, chaff rockets, etc.), 5) Areas covered by long range air defense acquisition systems, 6) Maneuvers (space vs speed), 7) Environmental variables (terrain flat and rolling vs mountainous, altitude, ground surface condition to experience arid, forested, ice, etc.), and 8) Safety; and integrate these with the mission and capabilities of the bomber force to achieve a quantifiable airspace.

These requirements were injected into a penetration scenario which drove a requirement for a chunk of airspace 500 nautical miles deep. The penetration depth is derived from scenarios involving both Europe and the Middle East.

Further specification of requirements is classified.

**d. DT&E or OT&E Requirements (check whichever applies)**

DT&E ____

OT&E X

Both ____

Preparer: I certify the above information is accurate and complete to the best of my knowledge and belief.

Dean C. Spraggins Date: 16 Aug 94

DEAN C. SPRAGGINS, Lt Col, USAF, 513 ETS/EEM, DSN 271-2059

MAJCOM Reviewer: I certify the above information is accurate and complete to the best of my knowledge and belief.

_____ Date_____

_____

Typed Name, Rank, Office Symbol, DSN Number

L

# TEST AND EVALUATION REQUIREMENTS FORM

| Requirement Area | Categories: Armament/Weapons: Air-to-Air | Armament/Weapons: Air-to-Surface | Armament/Weapons: Surface-to-Air | Cruise Missiles | Theater Missile Defense: Short Range | Theater Missile Defense: Medium Range | Theater Missile Defense: Long Range | Air Vehicles | Electronic Combat |
|---|---|---|---|---|---|---|---|---|---|
| 1. Required Air Space | | | | | | | | | |
| a. Total Square NM | 10,000 | 17,500 | | 17,000 | | 64 | | 46,000 | 13,000 |
| b. Downrange (NM) | 100 | 350 | | 200 | | 8 | | 1,000 | 130 |
| c. Crossrange (NM) | 100 | 50 | | 60 | | 8 | | 200 | 100 |
| d. System/Scenario Driving Req* | F-15 | B-2A | N/A | | N/A | HERA B | N/A | TIER II & UAV | **/*** |
| 2. Required Restricted Air Space (to include Warning Areas) | | | | | | | | | |
| a. Total Square NM | 10,000 | 8,800 | | 3,000 | | 64 | | 46,000 | 8,800 |
| b. Downrange (NM) | 100 | 110 | | 60 | | 8 | | 1,000 | 110 |
| c. Crossrange (NM) | 100 | 80 | | 50 | | 8 | | 200 | 80 |
| d. System/Scenario Driving Req* | F-15 | ** | N/A | | N/A | HERA B | N/A | TIER II & UAV | **/*** |
| 3. Required Total Land Space | | | | | | | | | |
| a. Total Square NM | 10,000 | 8,800 | | 17,000 | | 64 | | 40,000 | 8,800 |
| b. Downrange (NM) | 100 | 110 | | 200 | | 8 | | 1,000 | 110 |
| c. Crossrange (NM) | 100 | 80 | | 60 | | 8 | | 200 | 80 |
| d. System/Scenario Driving Req* | F-15 | ** | N/A | | N/A | HERA B | N/A | TIER II & UAV | **/*** |
| 4. Required DoD Land Space | | | | | | | | | |
| a. Total Square NM | 10,000 | 5,000 | | 3,000 | | 64 | | 40,000 | 2,000 |
| b. Downrange (NM) | 100 | 100 | | 60 | | 8 | | 1,000 | 50 |
| c. Crossrange (NM) | 100 | 50 | | 50 | | 8 | | 200 | 40 |
| d. System/Scenario Driving Req* | F-15 | B-2A/F-15 | N/A | | N/A | HERA B | N/A | TIER II & UAV | **/*** |
| 5. Required Sea Space | | | | | | | | | |
| a. Total Square NM | 10,000 | 5,000 | | 1575 | | | | 10,500 | 4,900 |
| b. Downrange (NM) | 100 | 100 | | 174 | | | | 150 | 70 |
| c. Crossrange (NM) | 100 | 50 | | 32 | | | | 70 | 70 |
| d. System/Scenario Driving Req* | F-15 | F-15 | N/A | | N/A | N/A | N/A | B-2A | B-2A |
| 6. Required Straight Line Segment | | | | | | | | | |
| a. Total Requirement (NM) | 220 | 350 | | 174 | | 540 | | 1,200 | |
| b. Supersonic Corridor Requirement (NM) | 220 | 5 | | | | N/A | | 220 | |
| c. System/Scenario Driving Req* | F-15 | B-2/BSU-50B | N/A | N/A | N/A | HERA B | N/A | TIER II & UAV/F-15 | *** |

* Use as many copies of the attached form as required to provide an explanation of the requirements driver(s) and the method(s) used to determine the numerical values.
** AGM 88 (HARM)
*** NOTE 1: Only unclassified range requirements identified. Additional requirements provided through classified channels.

08/25/94, 01:56 PM

## Description of Requirements Drivers and Methodology Form

Category: Armament/Weapons
Sub-Category: Air-to-Air
Requirements Area: 6. Required Straight Line Segment

a. System Description: F-15E

b. Engagement/Scenario Description: F-15E flying at supersonic speeds detecting and tracking a supersonic target with its radar. This scenario requires 220 nm down range separation allowing set-up and acceleration to maximum speeds of both aircraft. This testing is done to verify the radar's ability to accurately track targets at high rates of speed and closure, ensuring the F-15's ability to detect, track, and shoot down high flying supersonic enemy aircraft.

c. Description of Method Used to Determine Space Requirement (total 220nm, supersonic corridor 220nm): The method used was to provide separation allowing both aircraft to accelerate to maximum air speeds and the F-15E still have the ability to detect, track, and launch simulated missiles. This testing was done in formal qualification testing of the APG-70 radar for the F-15 in 1988 and is anticipated in APG-63U radar formal qualification testing currently planned for 1998. This information was determined after discussions with Dr Warren Eastman, 445 FLTS/DOER, Chief of Radar Testing.

d. DT&E or OT&E Requirement (check whichever applies):

DT&E __X__
OT&E _____
BOTH _____

## Description of Requirements Drivers and Methodology Form

Category: Armament/Weapons
Sub-Category: Air-to-Surface
Requirements Area: 1. Required Air Space
4. Required DoD Land Space
6. Required Straight Line Segment: Total Requirement

a. System Description:

Aircraft: B-2A with conventional and special (classified) weapons

b. Engagement/Scenario Description: For weapons release, the B-2 needs to maneuver some safe (buffer) distance from the edge of the airspace. All low observable, stealth, aircraft have maneuvering constraints placed on them so their stealthiness is not compromised. This results in larger maneuvering airspace than conventional aircraft. The ballistics of the B-2 weaponry are still being calculated, and will be classified when known. This means the mandatory safety buffers, that all aircraft must use, must be even larger. The range that the weapon travels to impact will depend on several variables: airspeed, altitudes, wind, weapon type, and whether the weapon functions properly. Flight test requires the effects of each of these variables be tested at the estimated high and low values.. The B-2, unlike fighter aircraft, carries up to 80 weapons; therefore, the spacing between weapons is significant. The worst case for a premature and a late release must be considered for all weapons. Finally, the same safety buffer leading into a bomb run is added at the end. Again, this is a common feature to all fighters and bombers and varies with the known, or in the B-2's case estimated, impact footprint. Once the bomb run is complete, the B-2 must turn off target and still remain within the buffer of the range airspace.

c. Description of Method Used to Determine Space Requirement:

The actual numbers calculated for each element were derived from classified B-2 and weapon performance figures. These calculations are on file in classified storage in the 420th Flight Test Squadron (Lt Col Cameron, 412 FLTS/CC, DSN 525-8027).

- Required Air Space (total 17,500 sq nm, down range 350nm, cross range 50nm): The 17,500 square miles of total airspace required is driven by the combined elements in the Engagement/Scenario Description section.

- Required DoD Land Space (total 5,000 sq nm, down range 100nm, cross range 50nm): DoD owned land is required from the time that the aircraft is cleared to unlock and /or arm weapons, until past a point at which a weapon could depart the aircraft and impact the ground.

- Required Straight Line Segment (total 350nm): The straight line segment is driven by a combination of aircraft set up, run-in and post release requirements, as well as various classified requirements.

d. DT&E or OT&E Requirement (check whichever applies):

DT&E _____
OT&E _____
BOTH __X__

## Description of Requirements Drivers and Methodology Form

Category: Armament Weapons
Subcategory: Air-to-Surface
Requirements Area: 6. Required Straight Line Segment: Supersonic Corridor

a. System Description: The BSU-50/B Air Inflatable Retarder (AIR) must be tested at supersonic speeds to determine first article functional reliability of preproduction samples of BSU-50/B AIR in the high drag delivery mode. Flight testing must be conducted or the contractor will not be authorized to continue with production until verification of specification requirements are met through testing. Samples of these assets are required to be flown at supersonic speeds to verify that the manufacturer has met production specifications. Sustainment testing is also required to ensure serviceability of war reserve materials in the inventory. Tests must be performed under actual delivery conditions, including low-level altitudes and supersonic speeds over fully instrumented test targets in order to collect aircraft/munitions data from munitions release to impact.

b. Engagement/Scenario Description: F-111 Aircraft will accelerate from Mach 1 to release velocity over a distance of 3 miles, fly at steady speeds for another mile, release its weapon at 750' AGL and pull up one mile before the target. F-16 aircraft will approach the target in a 20 degree dive passing Mach 1 at 6500' AGL and attaining release velocity at 400' AGL, at which point it will pull up. The minimum altitude reached during pull up will be 2000' AGL. The release point would be 1.5 miles from target. F-4 aircraft can use either of these profiles as well as the hybrid of the two involving an additional 20 degree dive, followed by straight-in approach and release, and pull up one mile before the target. Maximum speeds attained during these deployments would 1.4 Mach.

c. Description of Method Used to Determine Space Requirements:
- Required Straight Line Segment (5nm): The supersonic corridor is required to allow an aircraft to accelerate to release velocity, stabilize, and release its weapon.

d. DT&E or OT&E Requirement (check whichever applies):

DT&E _____
OT&E ___X___
BOTH _____

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## Description of Requirements Drivers and Methodology Form

Category: Cruise Missiles
Subcategory: N/R
Requirements Area:
1. Required Air Space
2. Required Restricted Air Space
3. Required Total Land Space
4. Required DoD Land Space
5. Required Sea Space
6. Required Straight Line Segment

a. System Description:
(Input from 28 TS)

The Air-Launched and Advanced Cruise Missiles (ALCM) is a subsonic nuclear missile launched from the B-52. The ALCM consists of airframe, engine, navigation and guidance and warhead segments. It is capable of flying mid-altitude cruise and/or low-altitude terrain-following (TF) segments. The missile employs an inertial guidance system, augmented by a terrain contour matching (TERCOM) which uses digital terrain mapping. The missile follows programmed flight paths at commanded flight modes, mach numbers and altitudes. At present, the B-52 can carry 12 ALCMs externally with six on each of two wing pylons. A B-52H can carry eight additional ALCMs internally on a Common Strategic Rotary Launcher.

The Advanced Cruise Missile (ACM) shares the basic operational characteristics of the ALCM, but has improved flight performance and navigational systems. The ACM is capable of flying a variety of barometric and TF missions. The ACM employs an inertial guidance system updated by TERCOM and a laser doppler velocimeter (LDV). The B-52H can carry 12 ACMs externally.

The Conventional ALCM (CALCM) utilizes the basic parts of the ALCM with the exception of the warhead and nav-guidance areas. The inertial navigation system is augmented by a global positioning system vice the TERCOM. The nuclear warhead is removed and replaced with a poured conventional warhead. Due to center of gravity requirements, some of the fuel is removed and the range is greatly reduced.

b. Engagement/Scenario Description:
(28TS Input)

Both the ALCM and the ACM augment their inertial navigation guidance systems with TERCOM maps. These maps utilize terrain which must meet strict guidelines as defined and selected by the Defense Mapping Agency. The TERCOM maps are defined by the variety of terrain which exists within each cell of the map. There are four types of maps: landfall, mid-course, en route and terminal. The maps are larger earlier in the mission (landfall) and get smaller as the mission progresses to the terminal. The maps must be entered at a precise angle which coincides with the long axis of the map. If this is not accurately achieved, then the missile does not update its position and will not reach the intended target. These maps do not exist at numerous locations on range due to varying terrain features. Those that do exist require the missile to maneuver to enter the map at the required angle.

The CALCM has a warhead which cannot be removed. Due to the warhead explosive range safety chase cannot be employed during these tests. This requires that the flight test be conducted entirely within the confines of restricted airspace.

None of these variants have high performance engines. The cruise missiles are designed for long distance, subsonic flights which do not utilize high speed turns. Therefore, the missile cannot turn in tight corners. This restricts us to areas which allow the missile to maneuver well and remain inside the boundaries and all safety areas.

(545TG Input) Current Air Force cruise missiles and carrier aircraft utilize almost all of the 12,573 sq. nm of the Utah Test and Training Range (UTTR) to conduct flight test operations. As stated above, cruise missiles fly at subsonic velocities and require large areas to execute major turns. Typical ALCM flight trajectories can be approx. 1,550 nm long and require large amounts of airspace and uninhabited ground under the flight path. ACM range is longer, but that distance may be classified. Ideal conditions would be straight line flight paths at low level navigating around terrain such as mountains, this requirement has been accomplished using IR-200 low level inland route from the Pacific Ocean off the coast of southern California to UTTR. Although this route is only about 650 nm long, it satisfies the requirement. The overland missions are conducted within the boundaries of the UTTR's 12,837 sq. nm of airspace. The majority of UTTR is used to conduct a mission and the 173 nm by 74 nm cross and down range offer the required space to make turns and conduct straight line dashes to meet the required

navigation requirements. The continual turns required to keep the missile within the airspace boundaries is not desired, but program objectives can be met. The TERCOM map location and orientation drive missile flight trajectories.

The CALCM is flown without chase aircraft due to the non removable high explosive warhead. FAA requires unmanned vehicles without chase to remain in restricted airspace. The CALCM maneuvers much the same as the ALCM, only in less airspace and over DoD owned ground of less than 2607 Sq. nm with a down range of 44 nm and cross range of 40 nm. Areas of UTTR which have high value/manned facilities are excluded from CALCM overflight

During the Development Test and Evaluation phase of the ALCM and ACM is the requirement to evaluate the water to land transition. This requirement was met using part of IR-200 utilizing Restricted Area R-2534B. The over the water launches have been conducted using Warning Areas 523, 527,289,412 and R2534B. The test objectives of individual missions determine the location and azimuth of launch.. The sea space required was developed by using a cruise missile launch box of 4 nm by 4 nm and a corridor 5 nm wide by 315 nm long, this would require 1575 sq. nm of ocean with a downrange of 174 nm and cross range of 32 nm, which does not include the airspace required by the B-52 carrier aircraft.

Airspace in the vicinity of the cruise missile flight requires altitudes of 100 ft. Above Ground Level (AGL) to 25,000 ft. AGL. The support aircraft include ARIA, fuel tanker, chase aircraft, and recovery helicopters. During the flight the support aircraft are in trail of the missile and the chase aircraft are continually transitioning between the tanker and the cruise missile throughout the flight. Current cruise missile missions at UTTR are from 10 to 14 per year requiring range assets for a full day during the mission. Cruise missile missions, including carrier aircraft off range activities, are from 8 to 12 hours in duration. Test range assets, i.e. mission control, TSPI systems, and communication networks, supporting the flights are required before B-52 take off making them unavailable to support other programs.

Airspace in the vicinity of the cruise missile flight require altitudes of 100 feet Above Ground Level (AGL) to 25,000 AGL. The support aircraft include ARIA, fuel tanker, chase aircraft, and recovery helicopters. During the flight the support aircraft are in trail of the missile and the chase aircraft are continually transitioning between the tanker and the cruise missile through-out the flight.

c. Description of Method Used to Determine Space Requirements: These requirements were supplied by the Air Warfare Center, Eglin AFB, FL.

(28TS Input)
For total land and airspace, the minimum amount of area which allowed the missile to maneuver in and out of TERCOM maps was investigated. The safety footprint was also verified to ensure sufficient space was allowed for unscheduled recoveries and terminations.

For restricted airspace, the CALCM is the driving force. It must remain totally within the restricted area throughout the flight. If the CALCM terminated early, then it is required to be on DoD land due to security reasons.

(545TG Input)
Review of flight test documents: Operations directive for SAC/AFOTEC B-52/ALCM Follow-on Operational test and evaluation 19 Oct 1982, Operation Directive Supplement SAC/AFOTEC FOT&E mission No. 83-1, Operations Directive Supplement ALCM T-1 Day Checks and Double Live mission 29 Mar 1994, Operations Directive Supplement 921ACM Range rehearsal and Live Mission 20 Feb 1992.

| Area | Total | Downrange | Crossrange |
|---|---|---|---|
| Required Air Space | 17,000 sq nm | 200 nm | 60 nm |
| Required Restricted Air Space | 3,000 sq nm | 60 nm | 50 nm |
| Required Total Land Space | 17,000 sq nm | 200 nm | 60 nm |
| Required DoD Land Space | 3,000 sq nm | 200 nm | 60 nm |
| Required Sea Space | 1,575 sq nm | 174 nm | 32 nm |
| Straight Line Requirement | 174 nm | | |

NOTE: The downrange and crossrange values multiplied together do not equal the value of total airspace required in all areas. These data were supplied by the Air Warfare Center at Eglin AFB, FL and were included as received.

d. DT&E or OT&E Requirements:

DT&E _____
OT&E ___X___
BOTH _____

## Description of Requirements Drivers and Methodology Form

Category: Air Vehicle
Subcategory: N/R
Requirements Area:
1. Required Air Space
2. Required Restricted Air Space
3. Required Total Land Space
4. Required DoD Land Space
6. Required Straight Line Segment: Total Requirement

a. System Description: The TIER II + is a new, high-altitude endurance (HAE), Unmanned Aerial Vehicle (UAV), Advance Capability Demonstration (ACDT) Program. Contractors are being given the single hard requirement to design the HAE/UAV to a specified, fixed, flyaway cost. For that price, each vehicle must be delivered complete with airframe, propulsion, avionics, sensors, and communications systems. The objective is to develop and demonstrate an HAE/UAV system capable of affordable, continuous, all-weather, wide-area surveillance in support of military operations.

b. Engagement/Scenario Description: Specific TIER II + UAV mission goals and needs include:
- Takeoff from a 5,000 ft military runway
- Climb rapidly to 50,000 - 65,000 ft altitude within a 200 nautical mile corridor
- Fly 1,000 - 3,000 nautical miles to a desired surveillance area
- Loiter for at least 24 hours at altitudes up to 65,000 ft
- Search 40,000 square nautical miles per day, covering 1,667 square nautical miles per hour
- Return to base over a 1,000 - 3,000 nautical mile egress segment, descending en-route within a 200 nautical mile zone, loitering for one hour, then landing at a 5,000 ft field

Due to its unmanned characteristics, the TIER II + vehicle will be flown within a combination of restricted areas, warning areas, Military Operations Areas (MOAs), and Air Traffic Control Assigned (ATCA) areas for all operations below FL 600 to mitigate risk and interference with other military and civilian air traffic. Additionally, these operating areas will be chosen, whenever possible, to overlay sparsely populated, government controlled lands as an additional, practical safety consideration.

c. Description of Method Used to Determine Space Requirements:

- Required Air Space (total 46,000 sq nm, down range 1,000nm, cross range 200nm): Driving requirements are the performance goals established by the TIER II and UAV program.

- Required Restricted Air Space (including warning, MOAs and ATCAs) (total 46,000 sq nm, down range 1,000nm, cross range 200nm): This airspace was arrived at by adding together climbout corridor airspace, flyout airspace, and loiter/search area airspace. Actual airspace for the return-to-base leg and descent corridors would be the same as the climbout and flyout corridors and, therefore, would not constitute additional area requirements.

Climbout Corridor = 200 nm length X 5 nm width = 1,000
Flyout Corridor = 1,000 nm length X 5 nm width = 5,000
Loiter/search area given as 40,000 square nm/24 hr = 40,000
TOTAL = 46,000 square nm

Downrange (nm) length was taken to be equal to the lower goal value of 1,000 nautical miles for a flyout/return corridor. Cross range (nm) length of 200 nm was obtained by taking the square root of the given loiter/search area (200 X 200 = 40,000 square nm).

- Required Total Land Space (total 40,000 sq nm, down range 1,000nm, cross range 200nm): Driving requirements are the performance goals established by the TIER II and UAV program.

- Required DoD Land Space (total 40,000 sq nm, down range 1,000nm, cross range 200nm): This was taken as equal to the loiter/search area desired as 40,000 square nm. Downrange (nm) length required was taken to be equal to the flyout/return leg length of 1,000 nm. Cross range (nm) length required was taken to be equal to the square root of the loiter search area (200 nm) since a specific value was not given in the reference source.

- Required Straight Line Segment (total 1,200nm): An expected straight line segment would be 1,200 nm and is obtained by adding the length of the climbout/descent corridor to the length of the flyout/return leg (200 + 1,000 = 1,200).

d. DT&E or OT&E Requirement (check whichever applies):

DT&E _____
OT&E _____
BOTH __X__

M

# TEST AND EVALUATION REQUIREMENTS FORM

EGLIN AFB

| Requirement Areas | CATEGORIES | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Armament/Weapons | | | Cruise Missiles | Theater Missile Defense | | | Air Vehicles | Electronic Combat |
| | Air-to-Air | Air-to-Surface | Surface-to-Air | | Short Range | Medium Range | Long Range | | |
| **1. Required Air Space** | | | | | | | | | |
| a. Total Range NM | | 7,000 | 18,000 | 88,200 | 68,800 | 68,800 | 24,400 | 11,140 | 14,000 |
| b. Downrange (NM) | | 100 | 130 | 300 | 540 | 430 | 540 | 96 | 200 |
| c. Crossrange (NM) | | 70 | 130 | 300 | 240 | 240 | 120 | 116 | 70 |
| d. System/Scenario Driving Requirement | | AGM-142 B-52 ≤ 40K | Aegis-SM II | R/UGM-109A/C OTL | BPI | THAAD | THAAD | Flutter/ Loads | EF-111 Standoff Jammer |
| **2. Restricted Air Space** | | | | | | | | | |
| (Including Warning Areas) | | | | | | | | | |
| a. Total Square NM | | 4,900 | 18,000 | 87,200 | 68,800 | 68,800 | 24,400 | 11,140 | 14,000 |
| b. Downrange (NM) | | 70 | 130 | 300 | 540 | 430 | 540 | 96 | 200 |
| c. Crossrange (NM) | | 70 | 130 | 300 | 240 | 240 | 120 | 116 | 70 |
| d. System/Scenario Driving Requirement | | AGM-142 B-52 ≤ 40K | Aegis-SM II | R/UGM-109A/C OTL | BPI | THAAD | THAAD | Flutter/ Loads | EF-111 Standoff Jammer |
| **3. Required Total Land Space** | | | | | | | | | |
| a. Total Square NM | 1,138 | 4,900 | 291 | 1,720 | 2 | 7 | 7 | 3,629 | 300 |
| b. Downrange (NM) | 70 | 70 | 16 | 120 | 1 | 2 | 2 | 86 | 15 |
| c. Crossrange (NM) | 30 | 70 | 14.2 | 20 | 1 | 4 | 4 | 42.1 | 20 |
| d. System/Scenario Driving Requirement | AIM-120 | AGM-142 B-52 ≤ 40K | FIM-92 Stinger | R/UGM-109A/C OTL | BPI | THAAD | THAAD | LANTIRN/ Integration | RWR/TEWS |
| **4. Required DoD Land Space** | | | | | | | | | |
| a. Total Square NM | 1,138 | 4,900 | 291 | 720 | 2 | 7 | 7 | 4,200 | 300 |
| b. Downrange (NM) | 70 | 70 | 16 | 40 | 1 | 2 | 2 | 52 | 15 |
| c. Crossrange (NM) | 30 | 70 | 14.2 | 20 | 1 | 4 | 4 | 80.7 | 20 |
| d. System/Scenario Driving Requirement | AIM-120 | AGM-142 B-52 ≤ 40K | FIM-92 Stinger | R/UGM-109A/C OTL | BPI | THAAD | THAAD | LANTIRN/ Integration | RWR/TEWS |
| **5. Required Sea Space** | | | | | | | | | |
| a. Total Square NM | | 4,900 | 18,000 | 86,500 | 18,900 | 19,000 | 13,200 | 11,140 | 7,000 |
| b. Downrange (NM) | | 70 | 130 | 300 | 540 | 430 | 540 | 96 | 100 |
| c. Crossrange (NM) | | 70 | 130 | 300 | 100 | 100 | 80 | 116 | 70 |
| d. System/Scenario DrivinG Requirement | | AGM-142 B-52 ≤ 40K | Aegis-SM II | R/UGM-109A/C OTL | BPI | THAAD | THAAD | Flutter/ Loads | EF-111 Standoff Jammer |
| **6. Required Straight Line Segment** | | | | | | | | | |
| a. Total Requirement (NM) | | 100 | 40 | N/A | 540 | 430 | 540 | 212 | 80 |
| b. Supersonic Corridor Requirement (NM) | | N/A | N/A | N/A | 90 | 100 | 100 | N/A | N/A |
| c. System/Scenario Driving Requirement | | AGM-142 B-52 ≤ 40K | Aegis-SM II | N/A | BPI | THAAD | THAAD | Airborne Radio Test | RWR/TEWS |

Description of Requirements Drivers and Methodology Form (U)

(U) Category: Armaments/Weapons

(U) Subcategory: Surface-to-Air

(U) Requirements Area: 1, 2, 5, 6

a. (U) System Description: Navy acceptance sea trials of new Aegis Cruisers and Destroyers. The sea trial is to verify operational performance of the ship's combat systems prior to US Navy acceptance of the ship. The Aegis fire control system is tested to verify how well it detects incoming airborne threat targets and how it provides guidance commands to the Standard Missile II (SM II) to intercept the threat.

b. (U) Engagement/Scenario Description: The sea trial scenario includes tracking and firing a SM-II Surface-to-Air Missile at a subscale drone simulating a medium altitude threat. The ship undergoing the sea trial is positioned on the western edge of W-151 in the Gulf Test Range. An unmanned target drone is launched from the drone facility at Tyndall AFB, FL, flown to the western end of W-151, and enters the firing box at 20,000 feet and Mach 0.80. When the drone is within range, the ship launches a SM-II Missile to engage the threat. The performance is evaluated by scoring the drone's Miss Distance Indicator.

c. (U) Description of Method Used to Determine Space Requirements: Calculated total airspace requirement based on the launch platform safety zone, missile's flight path, trajectory range, and debris pattern predicted by Range Safety. Operational and test specifics are documented in AFDTC Test Directive 921BAW32, Navy Test Support, dated 28 February 1984.

d. (U) DT&E or OT&E Requirements (Check Whichever Applies):

DT&E:
OT&E: X
BOTH:

(U) POINT OF CONTACT: Mr. Tom LaMonica, 46OG/OGM, DSN 872-5751

Description of Requirements Drivers and Methodology Form (U)

(U) Category: Cruise Missiles

(U) Subcategory: Not Applicable.

(U) Requirements Area: 1 through 6

a. (U) System Description: The system being tested is the Tomahawk Cruise Missile (R/UGM-109A/C). Launches are conducted from battleships, cruisers, destroyers, and submarines. Systems being evaluated include the ship's fire control system, and launch platform crew performance. The Tomahawk's guidance, navigation, and software upgrades are evaluated.

b. (U) Engagement/Scenario Description: Scenarios vary depending on specific Operational Test Launch (OTL) requirements. The worst case scenario for air, land and sea space requirements is to launch the cruise missile from a ship positioned in the southeast Gulf of Mexico. Its trajectory requires it to fly a series of orbits and turns over the Gulf, then make a sea/land transition onto the Eglin Test Range, continuing north through an overland low-level route into South Alabama, returning to and flying an orbit within the Eglin Test Range, and terminating in the target area on the Eglin Test Range. Reconnaissance aircraft monitor weather through all required areas prior to launch and during flight. As required by safety, the missile is safety-chased by two aircraft capable of overriding the missile guidance system and controlling the missile's flight path. A third chase aircraft is used to conduct a radar sweep of the route of flight ahead of the missile to deconflict any airborne traffic from the missile and chase aircraft.

c. (U) Description of Method Used to Determine Space Requirements: Calculated total airspace requirement for a cruise missile flying this mission profile. Reference documentation for these tests is contained in AFDTC Test Directive 921DAT31, Tomahawk Training Support, dated 17 April 1985.

d. (U) DT&E or OT&E Requirements (Check Whichever Applies):

DT&E:
OT&E: X
BOTH:

(U) POINT OF CONTACT: Mr. Tom LaMonica, 46OG/OGM, DSN 872-5751

Description of Requirements Drivers and Methodology Form (U)

(U) Category: Theater Missile Defense

(U) Subcategory: Short Range

(U) Requirements Area: 1 through 6

a. (U) System Description: The most demanding Theater Missile Defense (TMD) system for short range test requirements will be the Air Force Boost Phase Interceptor (BPI) air-launched missile. The BPI will be designed to intercept target missiles while they are still under boost. This program has been approved as an Advanced Concept Technology Demonstration (ACTD) with three live launches in FY 98-99.

b. (U) Engagement/Scenario Description: The short range testing scenario covers a BPI missile launch to target missile launch distance of 54 - 135 NM. The BPI missile would be launched from an F-15C aircraft over the Gulf of Mexico. The target missile would be launched from Eglin's Site D-3A on Cape San Blas. The entire intercept, except for the short time the target missile is launched from land, would be contained over the Gulf of Mexico.

c. (U) Description of Method Used to Determine Space Requirements: Since the BPI missile has not been developed yet, all space requirements were determined using analogies to similar TMD programs such as the Army THAAD missile. The downrange distance is determined by the 540 NM the target missile would travel if the intercept was missed. Crossrange distance depends on the debris hazard area. The total square mileage consists of the BPI and target missile launch hazard areas, the target missile booster impact zone, the debris impact areas for BPI and the target missile, and the BPI missed-intercept impact area. No airspace or sea space is required for mission activity above 60,000 ft altitude. The only land space required is for the target missile launch area.

d. (U) DT&E or OT&E Requirements (Check Whichever Applies):

DT&E:
OT&E:
BOTH: X

(U) POINT OF CONTACT: Mr. Tom LaMonica, 46OG/OGM, DSN 872-5751

Mo

# Attachment 1 - Test and Evaluation Requirements Form

| Requirement Areas | Armament/Weapons | | | | Theater Missile Defense | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Air-to-Air | Air-to-Surface | Surface-to-Air | Cruise Missiles | Short Range | Medium Range | Long Range | Air Vehicle | Electronic Combat |
| 1. Required Air Space | | | | | | | | | |
| a. Total Square NM | a. 21,000 | a. 22,500 | a. 375 | a. 17,000 | a. 4,000 | a. 270,000 | a. 1,000,000 | a. 40,000 | a. 490,000 |
| b. Downrange (NM) | b. 175 | b. 150 | b. 25 | b. 130 | b. 100 | b. 520 | b. 1000 | b. 200 | b. 700 |
| c. Crossrange (NM) | c. 120 | c. 150 | c. 15 | c. 130 | c. 40 | c. 520 | c. 1000 | c. 200 | c. 700 |
| d. System/Scenario Driving Requirement | d. AIM-120C | d. F-15 MDS | d. AMWS | d. TSSAM | d. Brilliant Eyes | d. BPI-KKV | d. Airborne Laser | d. B-2 | d. B-1B |
| 2. Restricted Airspace (Including Warning Areas) | | | | | | | | | |
| a. Total Square NM | a. 21,000 | a. 17,000 | a. 375 | a. 17,000 | a. 4000 | a. 270,000 | a. 1,000,000 | a. 40,000 | ~~a. 22,500~~ |
| b. Downrange (NM) | b. 175 | b. 130 | b. 25 | b. 130 | b. 100 | b. 520 | b. 1000 | b. 200 | b. 150 |
| c. Crossrange (NM) | c. 120 | c. 130 | c. 15 | c. 130 | c. 40 | c. 520 | c. 1000 | c. 200 | c. 150 |
| d. System/Scenario Driving Requirement | d. AIM-120C | d. B-2 | d. AMWS | d. TSSAM | d. Brilliant Eyes | d. BPI-KKV | d. Airborne Laser | d. B-2 | d. B-1B |
| 3. Required Total Land Space | | | | | | | | | |
| a. Total Square NM | a. 21,000 | a. 17,000 | a. 375 | a. 17,000 | N/A | a. 50,400 | a. 400 | a. 40,000 | a. 160,000 |
| b. Downrange (NM) | b. 175 | b. 130 | b. 25 | b. 130 | N/A | b. 20 | b. 20 | b. 200 | b. 400 |
| c. Crossrange (NM) | c. 120 | c. 130 | c. 15 | c. 130 | N/A | c. 100 | c. 20 | c. 200 | c. 400 |
| d. System/Scenario Driving Requirement | d. AIM-120C | d. B-2 | d. AMWS | d. TSSAM | N/A | d. BPI-KKV | d. Airborne Laser | d. B-2 | d. B-1B |
| 4. Required DoD Land Space | | | | | | | | | |
| a. Total Square NM | a. 21,000 | a. 17,000 | a. 375 | a. 17,000 | N/A | a. 2000 | a. 400 | a. 40,000 | a. 22,500 |
| b. Downrange (NM) | b. 175 | b. 130 | b. 25 | b. 130 | N/A | b. 20 | b. 20 | b. 200 | b. 150 |
| c. Crossrange (NM) | c. 120 | c. 130 | c. 15 | c. 130 | N/A | c. 100 | c. 20 | c. 200 | c. 150 |
| d. System/Scenario Driving Requirement | d. AIM-120C | d. B-2 | d. AMWS | d. TSSAM | N/A | d. BPI-KKV | d. Airborne Laser | d. B-2 | d. B-1B |
| 5. Required Sea Space | | | | | | | | | |
| a. Total Square NM | a. 21,000 | a. 86,500 | N/A | a. 86,500 | N/A | a. 219,600 | a. 1,000,000 | a. 40,000 | a. 122,500 |
| b. Downrange (NM) | b. 175 | b. 294 | N/A | b. 294 | N/A | b. 840 | b. 1,000 | b. 200 | b. 350 |
| c. Crossrange (NM) | c. 175 | c. 294 | N/A | c.294 | N/A | c. 420 | c. 1,000 | c. 200 | c. 350 |
| d. System/Scenario Driving Requirement | d. AIM-120C | d. B-2 | N/A | d. TSSAM | N/A | d. BPI-KKV | d. Airborne Laser | d. B-2 | d. B-1B |
| 6. Required Straight Line Segment | | | | | | | | | |
| a. Total Square NM | a. 100 | a. 200 | a. 10 | N/A | a. 100 | a. 1260 | a. 2400 | a. 120 | a.350 |
| b. Supersonic Corridor Requirement (NM) | b. 100 | b. 200 | b. N/A | N/A | b. N/A | b. N/A | b. N/A | b. 120 | b. 100 (F-22) |
| c. System/Scenario Driving Requirement | c. AIM-120C | c. WCMD | c. N/A | N/A | c. Brilliant Eyes | c. BPI-KKV | c. Brilliant Eyes | c. F-22 | c. B-1B |



P.3
P.003
505 846 5214
AUG-31-1994 15:08

Description of requirements Drivers and Methodology Form

Category: Armament/Weapons

Subcategory: Air-Air

Requirements Area: Air Space

a. System Description: AMRAAM (AIM 120C) Air to air missile. Used at long range.

b. Engagement/ Scenario Description: Two aircraft approach each other, at the edge of the weapon envelope, from various aspects. Engagement will be over both land and sea during various conditions. It is preferable that the land be DOD controlled.

c. Description of Method Used to Determine Space Requirements:

| | |
|---|---|
| Safety footprint for the weapon launched at max altitude: | 150 nm x 120 nm |
| Aircraft separation at time of engagement plus set up : | 100 nm |
| Combined total: | 175 nm x 120 nm |

d. DT&E or OT&E Requirements

DT&E

OT&E

Both X

Description of Requirements Drivers and Methodology Form

Category: Armament/Weapons

Subcategory: Air-to-Surface

Requirements Area: Required Air Space

a. System Description:
F-15 Manned Destructive SEAD (MDS). Harm targeting system - Provide target information (ID, range, azimuth) of ground emitters to allow employment of HARM is SEAD role.

b. Engagement/Scenario Description:
Detect target at long range and employ HARM to achieve hard kill.

c. Description of Method Used to Determine Space Requirements:
Required detection range, HARM missile safety footprint.

d. DT&E or OT&E Requirements (check whichever applies):

DT&E _____

OT&E __X__

Both _____

Description of Requirements Drivers and Methodology Form

Category: Armament/Weapons B-2 Weapons Effectivity

Subcategory: Air to Surface

Requirements Area:

Air - 17,000 Sq N mi.

Land - 17,000 Sq mi.

Sea - 86,500 Sq mi.

a. System Description: The B-2 is a long range, all wing, two crew member aircraft, which uses low-observable technology for enhanced survivability. The B-2 is capable of carrying a variety of modern bomb and missile systems.

b. Engagement/Scenario Description: Classified.

c. Description of Method Used to Determine Space Requirements: Review of Test and Evaluation Master Plan (TEMP) and Data Management and Analysis Plan (DMAP). A large ground/air footprint is required for lethal cruise missiles and guided bombs that will be tested with systems.

d. DT&E or OT&E Requirements (check whichever applies):

DT&E _____

OT&E _____

Both __X__

Description of Requirements Drivers and Methodology Form

Category: Cruise Missiles

Subcategory: n/a

Requirements Area:

Air - 17,000 Sq mi.

Land - 17,000 Sq mi.

Sea - 86,500 Sq mi.

a. System Description: The Tri-Service Standoff Attack Missile (TSSAM) is a long range, cruise missile which uses low-observable technology for enhanced survivability. The B-2 is capable of carrying a variety of modern bomb and missile systems.

b. Engagement/Scenario Description: Classified.

c. Description of Method Used to Determine Space Requirements: Review of Test and Evaluation Master Plan (TEMP) and Data Management and Analysis Plan (DMAP). A large ground/air footprint is required for these lethal cruise missiles.

d. DT&E or OT&E Requirements (check whichever applies):

DT&E _____

OT&E _____

Both __X__

Description of Requirements Drivers and Methodology Form

Category: Theater Missile Defense

Subcategory: Medium Range

Requirements Area: ALL

a. System Description: Boost Phase Intercept - Kinetic Kill Vehicle (BPI-KKV):
F-15 aircraft launched hypervelocity kinetic energy missile to intercept theater ballistic missiles during boost phase.

b. Engagement/Scenario Description:
1. Aircraft launch of interceptor missile against point in space. No actual target. Eglin over water range desired.
2. Aircraft launch of interceptor against a multistage target missile from a 30 deg to 60 deg side angle (from head on).

c. Description of Method Used to Determine Space Requirements
Contractor simulations include intercept, stagings, frag pattern, failed intercept with failed self-destruct, intercept with altered TBM course.

d. DT&E or OT&E Requirements (check whichever applies):

DT&E _____

OT&E _____

Both __X__

Description of Requirements Drivers and Methodology Form

Category: Theater Missile Defense

Subcategory: Short, medium, long range

Requirements Area: Air Space

a. System Description: Brilliant Eyes is a space base satellite system with IR, UV and visible sensors on board with capabilities to detect and track TMD launches and report to the Theater CINC's Staff.

b. Engagement/Scenario Description: Observe TMD Launches (short, medium and long range trajectories). Utilize targets of opportunity as well as dedicated targets. Utilize range tests scheduled for other TMD testing, and any theater missile launch.

c. Description of Method Used to Determine Space Requirements: Determine ballistic trajectory for each type of TMD (short, medium, long) from launch point into the impact area.

d. DT&E or OT&E Requirements (check whichever applies):

DT&E ____

OT&E __X__

Both _____

Description of requirements Drivers and Methodology Form

Category: Theater Missile Defense

Subcategory: Long Range

Requirements Area: Air Space

a. System Description: Airborne LASER Laser system used to destroy inbound missiles.

b. Engagement/ Scenario Description: Live fire of the Laser against an inbound missile. Engagement will be over water due to the extensive safety requirements. Expected impact of the missile will be on a DOD controlled area.

c. Description of Method Used to Determine Space Requirements:
Safety requirement for eye sight protection from a high power laser: 1000 nm x 1000 nm
All other Air Space requirements are less than this.

DT&E or OT&E Requirements

DT&E

OT&E X

Both

Description of requirements Drivers and Methodology Form

Category: Theater Missile Defense

Subcategory: Long Range

Requirements Area: Total Land Space

a. System Description: Airborne LASER Laser system used to destroy inbound missiles.

b. Engagement/ Scenario Description: Live fire of the Laser against an inbound missile. Engagement will be over water due to the extensive safety requirements. Expected impact of the missile will be on a DOD controlled area.

c. Description of Method Used to Determine Space Requirements:
Safety requirement for launching target missile: 20 nm x 20 nm

DT&E or OT&E Requirements

DT&E

OT&E X

Both

Description of Requirements Drivers and Methodology Form

Category: Air Vehicle; B-2

Subcategory: n/a

Requirements Area:

Air - 40,000 Sq mi. 200mi x 200mi

Land - 40,000 Sq mi. 200mi x 200mi

Sea - 40,000 Sq mi. 200mi x 200mi

a. System Description: The B-2 is a long range, all wing, two crew member aircraft, which uses low-observable technology for enhanced survivability.

b. Engagement/Scenario Description: Classified.

c. Description of Method Used to Determine Space Requirements: Review of Test and Evaluation Master Plan (TEMP) and Data Management and Analysis Plan (DMAP).

d. DT&E or OT&E Requirements (check whichever applies):

DT&E _____

OT&E __X__

Both _____

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CAPACITY ANALYSIS
INSTALLATION WORKSHEET
HQ AFOTEC/XR

**PURPOSE:** To update information provided by AFOTEC (letter from AFOTEC/CC,dated 22 Aug 94) to the 1995 Base Realignment and Closure (BRAC) Test and Evaluation (T&E) Joint Cross-Service Group supplemental Data call.

**SOURCE:** The source of updated information was obtained from the AFOTEC program manger/team members for B-1B and F-22.

**METHOD:** Conversations between Mr Harold Byington, AFOTEC/XRR and LtCol Peterson, AFOTEC/TFA, B-1B Program Manager, and Capt Hack, AFOTEC/TFF, F-22 Test Team.

**CONCLUSION:** B-1B and F-22 original inputs were not correct due to a misunderstanding in desired information. As a result, the T&E Supplemental Data Call Requirements provided to USAF/RT in the Electronic Combat column do not accurately reflect AFOTEC requirements. The correct data has been provided in the attached T&E Requirements Form. The only changes are in the Electronic Combat column and virtually everything in that column has been changed. Changes are indicated in bold print.

**Preparer:** I certify the above information is accurate and complete to the best of my knowledge.

Harold E Byington Date 30 AUG 94
Signature

HAROLD E. BYINGTON, GS-12, AFOTEC/XRR, DSN 246-5202

**Center Reviewer:** I certify the above information is accurate and complete to the best of my knowledge.

Marvin A. Schott Date 30 Aug 94
Signature

MARVIN A. SCHOTT, COL, USAF, AFOTEC/XR, DSN 246-5141

ttachment: T&E Requirements Form

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DEPARTMENT OF THE AIR FORCE
WASHINGTON DC

22 SEP 1994

OFFICE OF THE ASSISTANT SECRETARY

MEMORANDUM FOR THE CHAIRMAN, JOINT CROSS-SERVICE GROUP FOR TEST & EVALUATION

SUBJECT: Air Force Input to the Joint Cross-Service Group (JCSG) for Test & Evaluation

Provided at attachment 2 is an Air Force validated data submission to the JCSG for Test & Evaluation. This submission is in addition to the data submitted on 22 Sep 94 (Atch 3). The data has been collected and certified in accordance with the Air Force Internal Control Plan. Attachment 1 is a list of the data we are providing. Data provided at attachment 2 in the form of Air Staff worksheets, Audit-related, and/or Request For Clarification responses should be incorporated as "pen and ink" changes. The Test & Evaluation Supplemental Data Call is complete. Questions can be referred to Lt Col Mark Bruggemeyer or Maj Michael Wallace, HQ USAF/RTR, 54578.

JAMES F. BOATRIGHT
Deputy Assistant Secretary of the Air Force
(Installations)

Attachments:
1. List of Air Force Test & Evaluation Data Provided
2. Joint Test & Evaluation Data Changes
3. Air Force Input to Test & Evaluation JCSG (w/o Atchs), 22 Sep 94

## LIST OF AIR FORCE TEST & EVALUATION DATA PROVIDED

ACTIVITY

1. Test & Evaluation Supplemental Data Call (Single Page Summary)
2. Test & Evaluation Supplemental Data Call (Supporting Documentation)
3. Test & Evaluation JCSG RFCs (Eight): AV 045, EC 021, EC 023, A/W 071, A/W 073, A/W 081, A/W 082, A/W 084
4. One AF/CEVP Correction Worksheet, 23 Sep 94

PLACE HOLDER

FOR

JOINT DATA SUBMISSION

DEPARTMENT OF THE AIR FORCE
WASHINGTON DC

22 S 1994

FFICE OF THE ASSISTANT SECRETARY

MEMORANDUM FOR THE CHAIRMAN, JOINT CROSS-SERVICE GROUP FOR TEST & EVALUATION

SUBJECT: Air Force Input to the Joint Cross-Service Group (JCSG) for Test & Evaluation

Provided at attachment 2 is an Air Force validated data submission to the JCSG for Test & Evaluation. This submission is in addition to the data submitted on 19 Sep 94 (Atch 3). The data has been collected and certified in accordance with the Air Force Internal Control Plan. Attachment 1 is a list of the data we are providing. Data provided at attachment 2 in the form of Air Staff worksheets and/or Request For Clarification responses should be incorporated as "pen and ink" changes. Outstanding data is listed at attachment 4. When the remaining information is available, I will forward it to you under separate cover. Questions can be referred to Lt Col Mark Bruggemeyer or Maj Michael Wallace, HQ USAF/RTR, 54578.

JAMES F. BOATRIGHT
Deputy Assistant Secretary of the Air Force
(Installations)

Attachments:
1. List of Air Force Test & Evaluation Data Provided
2. Joint Test & Evaluation Data Changes
3. Air Force Input to Test & Evaluation JCSG (w/o Atchs), 19 Sep 94
4. List of Outstanding Air Force Test & Evaluation Data

| Requirement Areas | CATEGORIES | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Armament/Weapons | | | Cruise | Theater Missile Defense | | | Air | Electronic |
| | Air-to-Air | Air-to-Surface | Surface-to-Air | Missiles | Short | Medium | Long | Vehicles | Combat |
| 1. Required Air Space | | | | | | | | | |
| a. Total Square NM | 2045.1 | 7000 | 11358 | N/A | N/A | 4223.3 | 5990.8 | 8735 | 13,950 |
| b. Downrange (NM) | 69.1 | 100 | 240 | N/A | N/A | 121.6 | 346.9 | 107 | 80 |
| c. Crossrange (NM) | 29.6 | 70 | 50 | N/A | N/A | 52.6 | 48.6 | 81 | 25.4 |
| d. System/Scenario Driving Requirements | UDS 36208A | AGM-142/B-52 | UDS 81398A | N/A | N/A | UDS 08904/ UDS 01202 | St. Line Engagement THAAD/HERA | JTUAV | JSTARS/ Compass Call/EPLRS |
| 2. Restricted Air Space | | | | | | | | | |
| a. Total Square NM | 2045.1 | 4900 | 5188 | N/A | N/A | 4223.3 | 5990.8 | 40,320 | 302 |
| b. Downrange (NM) | 69.1 | 70 | 121 | N/A | N/A | 121.6 | 346.9 | 130 | 35 |
| c. Crossrange (NM) | 29.6 | 70 | 45 | N/A | N/A | 52.6 | 48.6 | 174 | 8.7 |
| d. System/Scenario Driving Requirements | UDS 36208A | AGM-142/B-52 | UDS 81398A | N/A | N/A | UDS 08904/ UDS 01202 | St. Line Engagement THAAD/HERA | FAA Ft. Huachuca | FAA Ft. Huachuca |
| 3. Required Total Land Space | | | | | | | | | |
| a. Total Square NM | 1656.5 | 4900 | 5003 | N/A | N/A | 4223.3 | 4502.3 | 22,623 | 13,500 |
| b. Downrange (NM) | 70 | 70 | 121 | N/A | N/A | 121.6 | 138.9 | 130 | 53.9 |
| c. Crossrange (NM) | 30 | 70 | 45 | N/A | N/A | 52.6 | 28.1 | 174 | 25.4 |
| d. System/Scenario Driving Requirements | AIM-120 | AGM-142/B-52 | UDS 81398A | N/A | N/A | UDS 08904/ UDS 01202 | St. Line Engagement THAAD/HERA | JTUAV | JSTARS/LAV/ EPLRS |
| 4. Required DoD Land Space | | | | | | | | | |
| a. Total Square NM | 1656.5 | 4900 | 5000 | N/A | N/A | 3016.6 | 4219.3 | 630 | 132.3 |
| b. Downrange (NM) | 70 | 70 | 100 | N/A | N/A | 86.8 | 104.2 | 42 | 9.8 |
| c. Crossrange (NM) | 30 | 70 | 50 | N/A | N/A | 34.7 | 34.7 | 15 | 13.5 |
| d. System/Scenario Driving Requirements | AIM-120 | AGM-142/B-52 | PATRIOT | N/A | N/A | UDS 08904/ UDS 01202 | St. Line Engagement THAAD/HERA | UAV-MAE | Available space Ft. Huachuca |
| 5. Required Sea Space | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 6. Required Straight Line Segment | | | | | | | | | |
| a. Total Requirement (NM) | 69.1 | 100 | 240 | N/A | N/A | 121.6 | 346.9 | 130 | 80 |
| b. Supersonic Corridor (NM) | N/A | N/A | 215 | N/A | N/A | N/A | N/A | 0 | 0 |
| c. System/Scenario Driving Requirements | UDS 36208A | AGM-142/B-52 | UDS 81398A | N/A | N/A | UDS 08904/ UDS 01202 | St. Line Engagement THAAD/HERA | Operational Requirement Document | EA-6B/ EC-130H |

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WSMR

Description of Requirements Drivers and Methodology Form

Category: Armaments/Weapons 1994-08-28

Subcategory: Air-to-Air

Requirement areas: Air Space, Restricted Air Space, Total Land Space, DOD Land Space, Sea Space, and Straight Line Segment

a. System Description: Universal Documentation System (UDS): 362 and 370 - Advanced Medium Range Air-to-Air Missile (AMRAAM), 359 - BRIGHT EYES, 364 - HAVE DASH, 380 - ASRAAM, 561 - AIM 9, 425 - ILLUMINATOR II.
The programs above all utilize resources described in the requirement areas, and AMRAAM is the program that uses the maximum safety footprint and fight envelope. The AMRAAM is an all-weather, radar-guided, air-to-air missile. It will be employed on the f-14, f-15, f16, f/a-18 and follow-on fighter aircraft against air vehicles operating from very low to high altitudes in a variety of weather and electronic combat conditions. It has the capability of engaging multiple targets (QF-106 w/ECM, MQM-107) with multiple missiles simultaneously. Descriptions of the other programs listed above are furnished in the UDS program descriptions document.

b. Engagement/ Scenario Description:

| Requirement Area | Sq. NM | Down Range (NM) | Cross Range (NM) |
|---|---|---|---|
| ***AMRAAM**** | | | |
| Air Space | 2045.1 | 69.1 | 29.6 |
| Restricted Air Space | 2045.1 | 69.1 | 29.6 |
| Total Land Space | 1656.5 | 62.2 | 26.6 |
| DOD Land Space | 1656.5 | 62.2 | 26.6 |
| Straight Line Engagement | N/A | 60 | N/A |
| * UDS 35208A was used for this scenario. | | | |
| The altitude engagement can take place between .5-30FT AGL. | | | |
| | | | |
| ***Possible Targets: QF106 & MQM107*** | | | |

Safety Footprint and Flight Envelopes:
Refer to enclosure 1.
NOTE: If captive flights are conducted, this can double the parameter in the table above.

WSMR 1994-08-28

Description of Requirements Drivers and Methodology Form

c. Description of Method Used to Determine Space Requirement:

Conducting tests in a safe manner is a part of the WSMR mission. Since weapon testing carries inherent dangers, every precaution must be taken to minimize risks. All lethal test debris from test events must impact within WSMR-controlled land and airspace. Air space requirements must be planned so that normal flight and impact dispersion areas do not endanger on-range sensitive areas of the Range boundaries. WSMR evaluates the program requirements and processes and approves operational requirements. Refer to encl 1 for scenario description.

d. DT&E or OT&E Requirements (check whichever applies):

DT&E _____
OT&E _____
Both __x__

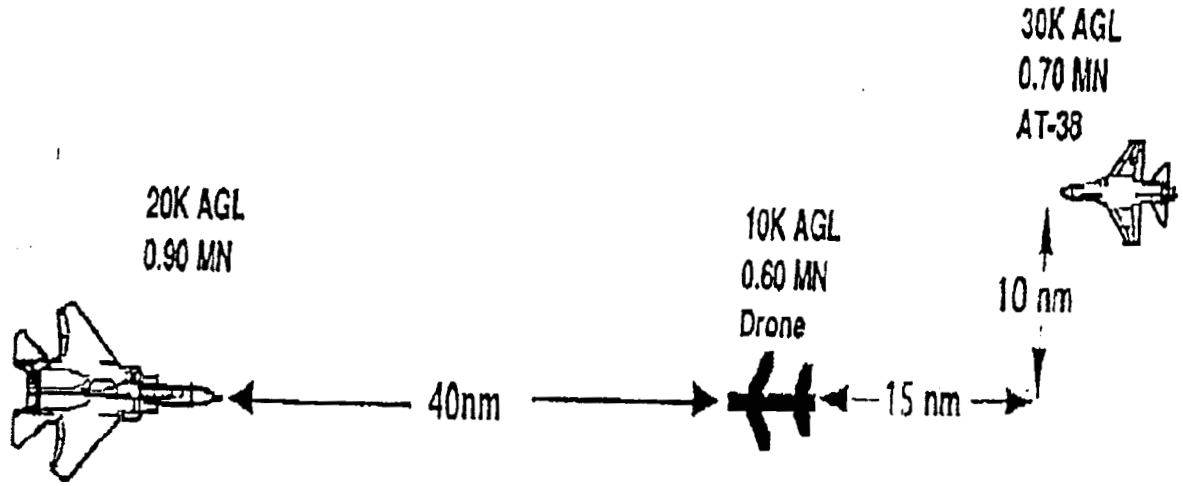


TAB A-2

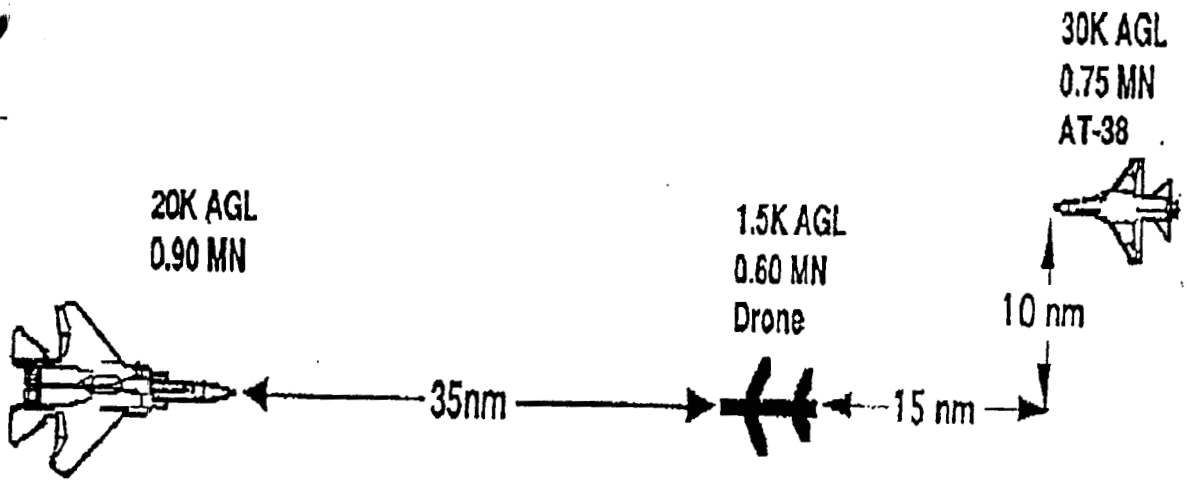
WSMR

PROGRAM TITLE: AMRAAM Flight Test

1994-08-28




GPS 1




GPS 2

TAB-A3

PROGRAM TITLE: AMRAAM FOT&E 2
GD 31200A

WSMR

500,000

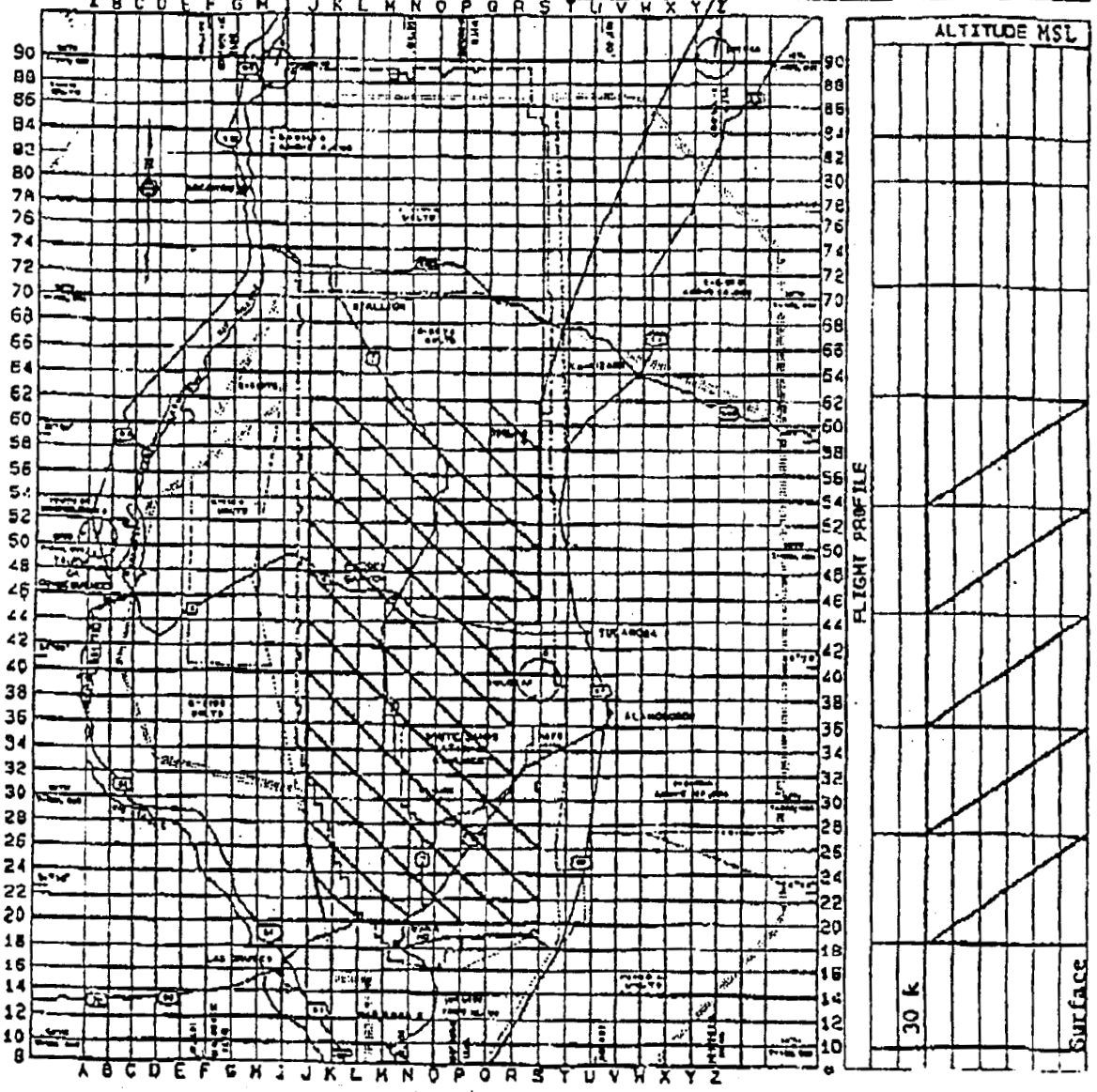
560,000

# AIRSPACE OPERATIONS REQUIREMENTS

(WSMR RANGE DOCUMENTATION HANDBOOK)

DATE:
PREPARED BY:

WSR MAP NO. 3
TEST:
DESIGNATOR:




## MISSION PROFILE

| | VEHICLE 1 | VEHICLE 2 | VEHICLE 3 | VEHICLE 4 |
|---|---|---|---|---|
| SPEED | | | | |
| CLIMB RATE | | | | |
| TURN RATE | | | | |
| BEARING | | | | |
| CRITICAL POINTS | | | | |
| TIME ON STATION | | | | |
| CHASE A/C REQ. | | | | |
| MEASUREMENT REQ. | | | | |

REMARKS

Airspace: J-S, 20-62
Surface to 30 k ft MSL
except stay west of R
30-44.



TAB A-4

5

37

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**Description of Requirements Drivers and Methodology Form (U)**

**(U) Category:** Armament/Weapons

**(U)Subcategory:** Air-to-Air

**(U)Requirements Area:** 3 and 4

a. (U) System Description: AIM-120 AMRAAM. The AIM-120 AMRAAM is a medium range air-to-air missile powered by a rocket motor. It is capable of being launched from all inventory fighters (including the F-14D, all F-15 models, all F-16 models, and all F/A-18 models) and is compatible with the F-22. It receives a pre-launch message and post-launch data link messages from the launch aircraft before finding the target with its own onboard radar.

b. (U) Engagement/Scenario Description: Look-down, shoot-down scenario at subsonic speed on both launch aircraft and target. Target is in the ground clutter return at 75 feet above ground level (AGL). Launch aircraft at 29K feet altitude. Launch under head-on, medium range conditions. This is an actual launch in the AMRAAM $F^3I$ test program which was conducted at White Sands Missile Range (WSMR). Actual profile was LP-188. Missile must be equipped with a Flight Termination System. All land ranges capable of supporting AIM-120 air-to-air missile launches require a Flight Termination System installed on both the missile and the drone target aircraft.

c. (U) Description of Method Used to Determine Space Requirements: Used the evacuation requirements for LP-188 conducted at WSMR under the above conditions. Evacuation requirements were determined by range safety. The evacuation area for the above launch was 1,138 sq. NM (Source: WSMR Operations Directive 37838A, AMRAAM LP-188 Launch).

d. (U) DT&E or OT&E Requirements (Check Whichever Applies):

DT&E:
OT&E:
BOTH: X

(U) POINT OF CONTACT: Mr. Tom LaMonica, 460G/OGM, DSN 872-5751

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TAB E

6

58A

WSMR

FOR OFFICIAL USE ONLY

Description of Requirements Drivers and Methodology Form

Category: Armaments/Weapons

Subcategory: Air-to-Surface

Requirement areas: Air Space, Restricted Air Space, Total Land Space, DOD Land Space, Sea Space, and Straight Line Segment

a. System Description: Universal Documentation System (UDS): 353 - HAVE NAP, 881 - Standoff Land Attack Missile (SLAM), 965 - Precision Guided Missile (PGM), 489 - TAC Training Program.

The programs above all utilize resources described in the requirement areas, and HAVE NAP is the program that has been identified as the one requiring the maximum safety footprint and fight envelope. HAVE NAP is an Israeli-developed air-to-ground missile system for use by USAF. Captive and live firing tests will be conducted from a B-52 aircraft. The system consists of a 3,000 lb TV guided missile and and aircraft communications pod to transmit and receive data from the missile while in free-flight. Range support willl consist of radar, telemetry, optecs, revovery and data reductions. The missile carries a flight termination system. Descriptions of the other programs listed above are furnished in the UDS program descriptions document.

b. Engagement/ Scenario Description:

| Requirement Area | Sq. NM | Down Range (NM) | Cross Range (NM) |
|---|---|---|---|
| *HAVE NAP* | | | |
| Air Space | 4165.9 | 115.1 | 36.2 |
| Restricted Air Space | 4165.9 | 115.1 | 36.2 |
| Total Land Space | 1874.7 | 65.9 | 28.4 |
| DOD Land Space | 1874.7 | 65.9 | 28.4 |
| Straight Line Engagement | N/A | 30.0 | N/A |
| * UDS 35307 was used for this scenario. | | | |
| The drop can take place at 3200FT AGL. | | | |
| | | | |
| *Possible Targets: Concrete slaps* | | | |

Safety Footprint and Flight Envelopes:
Refer to enclosure 1.
NOTE: If captive flights are conducted, this can increase the parameter in the table above. TAB B-1

Description of Requirements Drivers and Methodology Form

c. Description of Method Used to Determine Space Requirement:

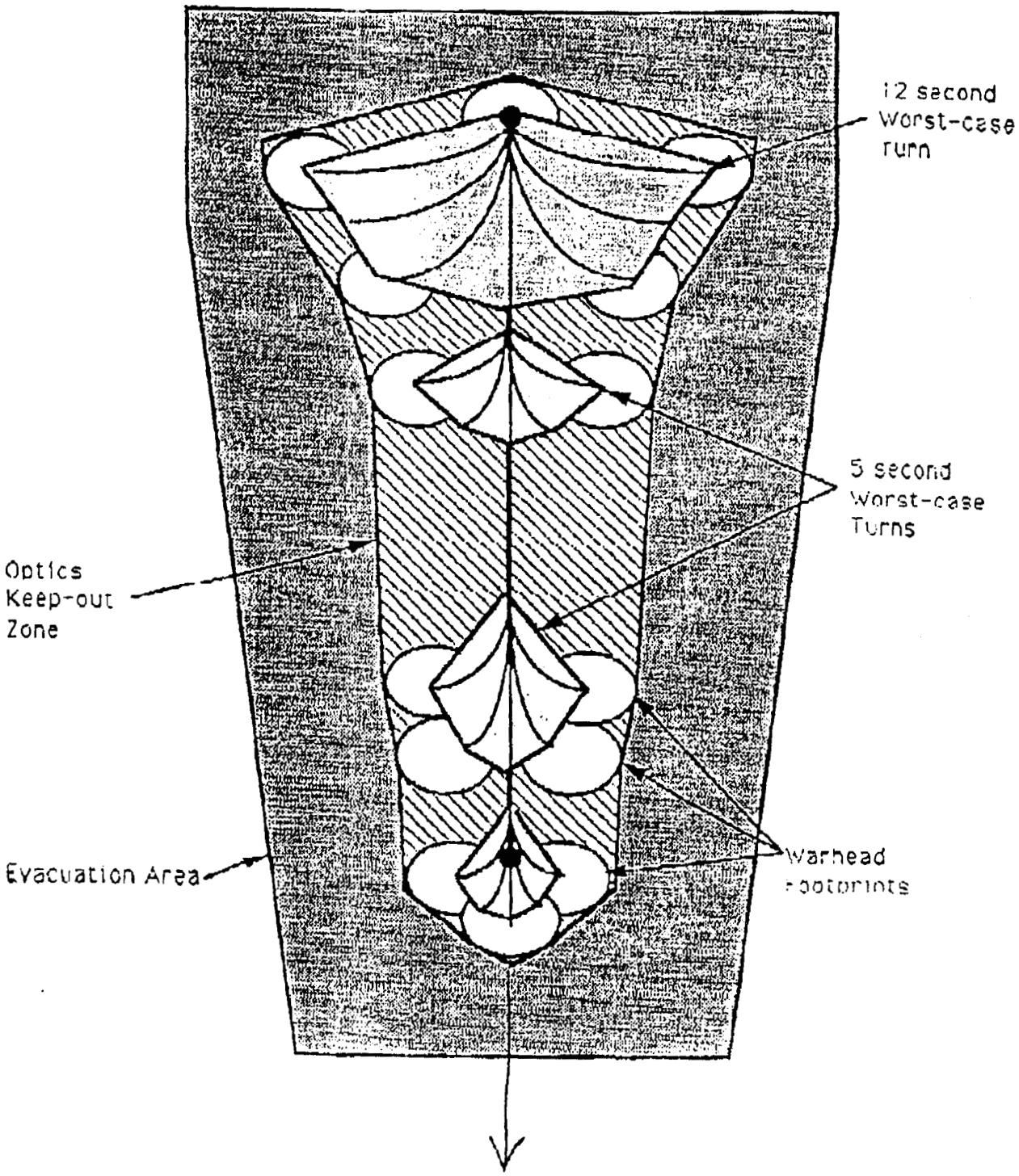
Conducting tests in a safe manner is a part of the WSMR mission. Since weapon testing carries inherent dangers, every precaution must be taken to minimize risks. All lethal test debris from test events must impact within WSMR-controlled land and airspace. Air space requirements must be planned so that normal flight and impact dispersion areas do not endanger on-range sensitive areas of the Range boundaries. WSMR evaluates the program requirements and processes and approves operational requirements. Refer to encl 1 for scenario description.

d. DT&E or OT&E Requirements (check whichever applies):

DT&E ____
OT&E ____
Both __x__

WSMR

# HAVE NAP FOOTPRINT & EVACUATION AREA




TAB B-3

T-0 seconds — Announce missile separation (KICK-OFF) on safety net (NR-CE).

B. Test Limits - 1700

1. Heading at launch: 345°T.

2. Altitude at launch: 7,200 ft. MSL.

3. Velocity at launch: 380 Knots.

4. Position at launch: X = 506,122 Y = 455,936 (WSTM).

5. Target position: X = 458,364 Y = 632,093 (WSTM).

C. Operating Limits - 2000

1. Missile flight will be terminated by the MFTSM if tracking data on a missile is lost; if a missile endangers a sensitive area or WSMR range boundary; or under any circumstances where, in the judgment of the MFTSM, continuation of the flight would create a hazardous situation.

2. All data sources and plotting displays must be functional, and destruct system verified flightworthy, before a launch will be allowed.

V RANGE DERIVED REQUIREMENTS 2099

A. Roadblocks and Evacuations -

1. Roadblocks will be set as follows:

a. Public highways - N/A.

b. Special roadblock instructions - N/A.

c. NR-CR will establish internal roadblocks as required to ensure the integrity of the evacuation area.

2. Evacuate the following:

a. Evacuate all non-mission essential personnel from an area bounded by the following WSTM coordinate lines:

(1) X = 530,000 Y = 430,000

(2) X = 530,000 Y = 480,000

(3) X = 480,000 Y = 650,000

(4) X = 430,000 Y = 650,000

(5) X = 430,000 Y = 540,000

(6) X = 490,000 Y = 430,000

b. Evacuation area is shown on Attachment 1.

c. The following manned optics sites are exceptions to the evacuation area:

| | | | |
|---|---|---|---|
| T-470 | RUSS | T-492 | WEAP |
| T-553 | COWAN | T 610 | FRAN |
| T-659 | NW70 | T-660 | NE70 |
| T-662 | SE70 | T-722 | STRONG |
| T-751 | GILL | T-755 | MINNOW |
| T-801 | VICK | T-860 | WOOD |
| T-875 | SW50 | T-876 | NW50 |
| T-877 | NE50 | T-844 887 | TELLES |
| T-918 | SALINAS | | |

d. Recovery standby point is ZURF Site.

e. Project personnel located at Millers Watch are exempt from the evacuation.

B. Tracking Sites -

1. One radar assigned to transponder track the launch aircraft.

2. A minimum of two radars to provide positive transponder track of the missile from launch to impact. (Radars assigned to the missile must not be co-located).

3. One radar to skin track the missile from launch to impact.

C. Communications - OCDF, Bldg 300 (voice communications)

1. Main floor of the OCDF -

a. MFS nets R0060 and R0061.

b. Isolation net with Range Control.

c. Monitor of Command Isolation net.

d. Monitor of shooter/missile project UHF net.

2. Project room in the OCDF -

a. MFS nets R0060.

b. Monitor of Command Isolation net

c. Monitor of shooter/missile project UHF net.

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**Description of Requirements Drivers and Methodology Form (U)**

(U) Category: Armament/Weapons

(U) Subcategory: Air-to-Surface

(U) Requirements Area: 1 through 6

a. (U) System Description: The AGM-142 (HAVE NAP) program is an Air Force (AF) acquisition of the Israeli-built POPEYE, medium range, standoff missile. HAVE NAP provides long range bombers with a conventional precision strike capability. Primary carrier aircraft are dedicated B-52s. AGM-142 is powered by a solid-propellant rocket motor. Guidance is inertial, with data link, TV or IIR homing. The weapon weighs 3,300 lb. and has a 750 lb-class blast/fragmentation or penetrator warhead.

b. (U) Engagement/Scenario Description: The AGM-142 is employed against high value targets and delivered from a subsonic B-52 at high altitude (≤ 40K ft.). The test scenario usually involves an extended straight-line run-in of approximately 30 NM prior to weapon release. Test missiles can have live warheads and/or UHF Flight Termination Systems for command destruct.

c. (U) Description of Method Used to Determine Space Requirements: The HAVE NAP Operational Requirements document, dated 1 Dec 89 was used as reference for the scenario described above. The weapon footprint and range/airspace requirements were derived from the AGM-142 System Program Office's (ASC/YHH) Missile Mission Planning System which is a 6 degree-of-freedom flyout simulation (Version 3.7, dated Jun 94).

d. (U) DT&E or OT&E Requirements (Check Whichever Applies):

DT&E:
OT&E:
BOTH: X

(U) POINT OF CONTACT: Mr. Tom LaMonica, 460G/OGM, DSN 872-5751

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TAB F

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58B

WSMR

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Description of Requirements Drivers and Methodology Form

Category: Armaments/Weapons

Subcategory: Surface-to-Air

Requirement areas: Air Space, Restricted Air Space, Total Land Space, DOD Land Space, Sea Space, and Straight Line Segment

a. System Description: Universal Documentation System (UDS): 813 - Standard Missile (SM-2), 012 - Extended Range Intercept Technology (ERINT), 089 - PATRIOT, 144 - STINGER, 301 - HAWK HIP, 084 - CHAPARRAL.

The programs above all utilize resources described in the requirement areas, and the Standard Missile is the program that has been identified as the one requiring the maximum safety footprint and fight envelope. The purpose of this program is to test ship-to-air defense missiles in the Standard Missile series. The Standard Missile is a sold fuel missile with and infrared and/or a semi-active radar guidance system and a blast/fragmentation high explosive warhead. A solid fuel booster can be added for extended range. Range Area: From LC-35 uprange as far as Northern Range Extension. Major Support: Radar, RTDS, optics, telemetry, communications, drone control, and data reduction. The missile carries a flight termination system. Descriptions of the other programs listed above are furnished in the UDS program descriptions document.

b. Engagement/ Scenario Description:

| Requirement Area | Sq. NM | Down Range (NM) | Cross Range (NM) |
|---|---|---|---|
| ***STANDARD MISSILE*** | | | |
| Air Space | NAVY submitted parameters | | |
| Restricted Air Space | | | |
| Total Land Space | | | |
| DOD Land Space | | | |
| Straight Line Engagement | | | |
| * UDS 81398A was used for this scenario. | | | |
| The altitude engagement can take place between, | | | |
| (see NAVY input). | | | |
| ***Possible Targets: AQM-37C*** | | | |

Safety Footprint and Flight Envelopes:
Refer to enclosure 1.

WSMR

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NOTE: If captive flights are conducted, this can increase the parameter in the table above

Description of Requirements Drivers and Methodology Form

c. Description of Method Used to Determine Space Requirement:

Conducting tests in a safe manner is a part of the WSMR mission. Since weapon testing carries inherent dangers, every precaution must be taken to minimize risks. All lethal test debris from test events must impact within WSMR-controlled land and airspace. Air space requirements must be planned so that normal flight and impact dispersion areas do not endanger on-range sensitive areas of the Range boundaries. WSMR evaluates the program requirements and processes and approves operational requirements. Refer to encl 1 for scenario description.

d. DT&E or OT&E Requirements (check whichever applies):

DT&E _____
OT&E _____
Both x

2098 - FLIGHT SAFETY OPERATIONAL CONCEPTS (CONTINUED)

2. AQM-37C

Verification of the AQM-37C FTS will be in accordance with preflight checkout procedures approved by NR-CE.

C. Roadblocks

1. Highway 380 will be blocked at Gold and Silver at T-1 hour and 20 minutes.

2. Brass and Barney roadblocks will be set at T-1 hour.

3. Highway 70 will be blocked at Red and Yellow at T-55 minutes.

4. The road at Copper roadblock will be barricaded and the area vacated at T-35 minutes.

5. NR-CR will establish internal roadblocks as required to ensure the integrity of the evacuation area. Internal roadblocks will be set at T-3 hours and 30 minutes.

D. Evacuations. See map on next page.

1. On-Range

a. All non-mission essential personnel will be evacuated from the area bounded by the following (WSIM) coordinates:

| X | Y |
|---|---|
| 550,000 | 160,000 |
| 550,000 | 420,000 |
| East Range Boundary | 420,000 |
| East Range Boundary | North Range Boundary |
| West Range Boundary | North Range Boundary |
| West Range Boundary | 190,000 |
| 460,000 | 190,000 |
| 480,000 | 160,000 |

b. LC-38, Rhodes Canyon, RAMS, RATSCAT, Salinas Peak and White Sands National Monument will be evacuated.

(Continued)



TAB C-3

15

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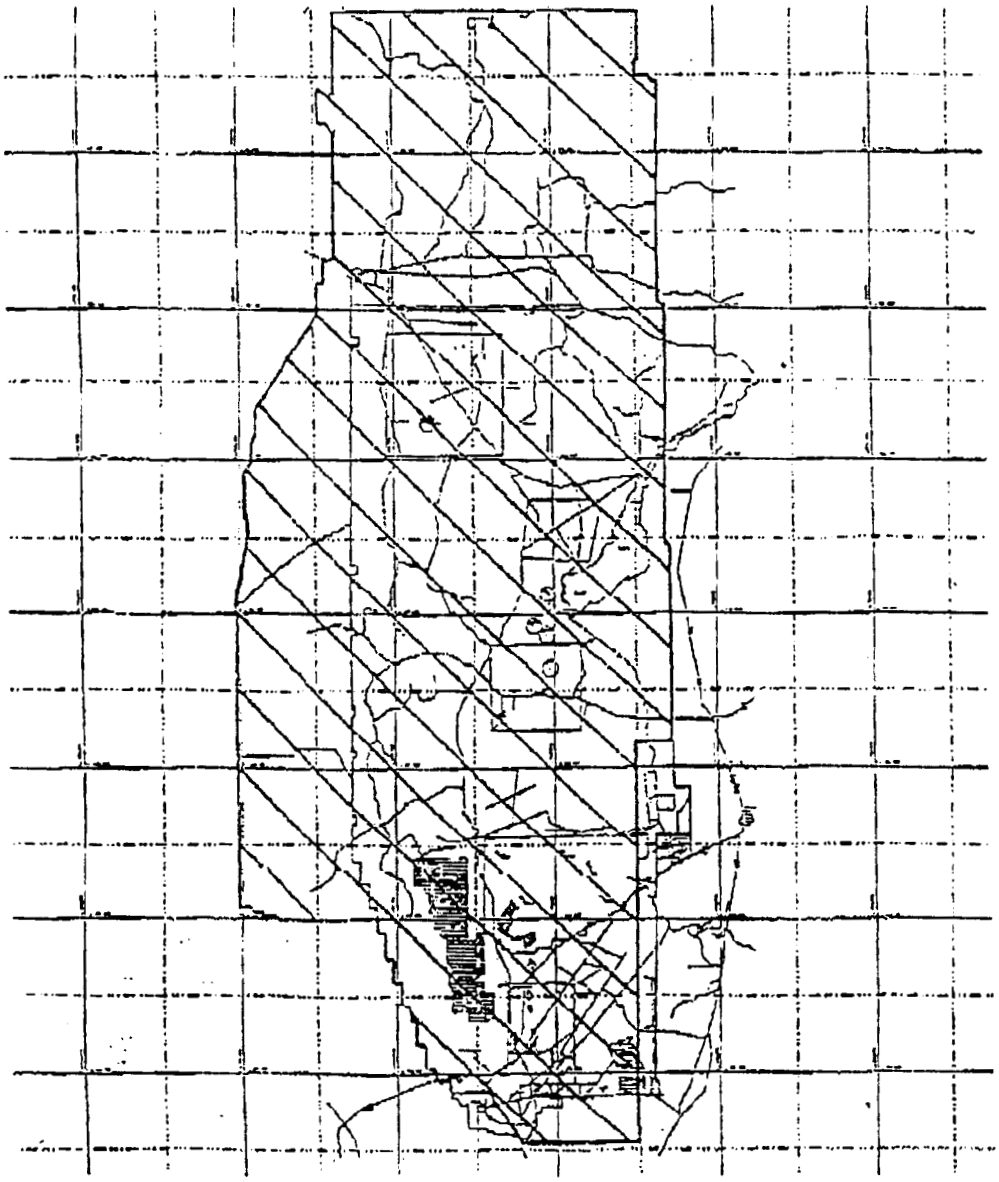
WS MR

PROGRAM TITLE: STANDARD MISSILE
DOC NO.: OD 81398A

EVACUATION AREA





TAB-C-4

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WSMR

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Description of Requirements Drivers and Methodology Form

Category: Armament/Weapons

Subcategory: Surface-to-Air

Requirements Area: Air Space/Land Space

a. System Description: CNO Projects 463 and 623-2. AEGIS STANDARD Missile 2 (SM-2) Block IV testing utilizing Desert Ship (LLS-1) AEGIS Fire Control System and the MK 41 Vertical Launching System.

b. Engagement/Scenario Description: SM-2 Block IV Missile vs air-launched, high altitude, supersonic target with Top Level Requirement airborne Standoff Jammer in the background.

c. Description of Method Used to Determine Space Requirements:
Scenario
Aircraft Flight Envelopes
Missile Safety Footprint
Target Safety Footprint

d. DT&E or OT&E Requirements (check whichever applicable):

DT&E X

OT&E ____

Both ____

Attachment 2

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TAB-C-5

WSMR

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Description of Requirements Drivers and Methodology Form

Category: Armament/Weapons

Subcategory: Air-to-Surface

Requirements Area: Air Space/Land Space

a. System Description: The Standoff Land Attack Missile (SLAM) missile is launched from A-6 or F/A-18 aircraft. SLAM consists of a Harpoon missile body and propulsion system, a Global Positioning System receiver, a data link and a Maverick infrared seeker.

b. Engagement/Scenario Description: A SLAM mission consists of up to six aircraft and one missile launched against a ground target. Airspace Used: R5103B/C, R5107A and R5107B in addition to FAA airspace southeast of WSMR.

c. Description of Method Used to Determine Space Requirements:
Scenario
Aircraft Flight Envelopes
Missile Safety Footprint

d. DT&E or OT&E Requirements (check whichever applicable):

DT&E ____

OT&E ____

Both X

Attachment 2

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TAB - C - 6



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Description of Requirements Drivers and Methodology Form

**Category: Armament/Weapons**

**Subcategory: Surface to Air**

**Requirements Area: White Sands**

a. System Description: The PATRIOT Advanced Capabilities (PAC-3) program is being implemented through a series of fielding configurations. Each configuration consists of a grouping of material change packages (MCPs). In accordance with the Operational Requirements Document (ORD) fielding document, each configuration will be fielded through a hardware retrofit and concurrently released post deployment software builds.

PAC 3 Configuration 2 consists of four major improvements: Radar Enhancement (RE) Phase II; Classification, Discrimination, Identification (CDI) Phase I; Counter Anti-radiation Missile (CARM) Phase I; and Communications Enhancements (CE) Phase I.

(1) RE Phase II, Pulse Doppler Processor (PDP), applied to the Radar Station, is a dedicated high speed processor that performs data processing as a background function which complements software implementation. The PDP improves multi-function capability, TBM detection, low altitude performance, and presence of biological clutter.

(2) CDI Phase I enhances the target processes by integrating processed information received from the Tactical Information Broadcast System (TIBS) and correlating this information with the weapon system information.

(3) CARM Phase I consists of several software modifications to be included in Configuration 2/Post Deployment Build (PDB)-4 to minimize PATRIOT system vulnerability to ARMs.

(4) The initial portion of the PATRIOT CE Phase I is dedicated to improving above-battalion communications. Specific implemented capabilities can allow PATRIOT to interface with (a) Mobile Subscriber Equipment (MSE), (b) US and coalition Tactical Automatic Digital Information Links (TADIL)-A networks, (c) US TADIL-J networks, and (d) platforms distributing remote sensor information.

The PAC 3 Configuration 3 consists of six major product improvements: five hardware MCPs; RE Phase III, CDI Phases II and III, Remote Launch Phase III, and CE Phase II; and Launch Point Determination (LPD) software upgrade. Configuration 3 will be

(Patriot - continued)
implemented by PDB-5 software. Configuration 3, along with the improved launcher, Theater High Altitude Air Defense (THAAD) integration, and the Automated Battery Command Post (when fielded) will enable the PATRIOT system to meet the PAC 3 ORD performance requirements.

b. Engagement/Scenario Description: The ability of the PATRIOT PAC-3 Configuration 2 and Configuration 3 system to operate in an operational environment while utilizing existing unit personnel in a fielded unit will be examined. Areas to be examined include system performance, logistics supportability, reliability, availability, and maintainability (RAM), safety, and human factors engineering. Field training exercises (FTXs) will be conducted during all weather, day and night, tactical operations in an operational environment in accordance with the operational mode summary/mission profile (OMS/MP). An air defense artillery (ADA) brigade (Bde) minus (-) will deploy in defense of critical assets. Operations will be conducted in a simulated battlefield environment using approved Combined Arms Center (CAC) scenarios.

(1) Training will be conducted by the United States Army Air Defense School (USAADASCH) for the player unit and the test team. Upon completion of training, USAADASCH will provide the Operational Test Readiness Statement (OTRS) to the tester for inclusion in test documentation.

(2) A pilot test will be conducted approximately 14 days prior to record trial test start date. The pilot test will consist of two 3 day FTXs driven by a simulated battlefield scenario for a PATRIOT battalion. The scenario will provide sufficient scripted events to allow for the collection of data necessary to verify the data reduction and validation process. Additionally, the Flight Mission Simulator (FMS) located at Launch Complex (LC) 38, White Sands Missile Range (WSMR) will be used to conducted simulated air battle scenarios at various times during the pilot test.

(3) Record trials will be conducted on North Fort Bliss and WSMR LC-38. Record trials will be conducted identical to those conducted during the pilot test, but will consist of four (4) 3 day FTXs. The OMS/MP being developed for PAC-3 will be used to construct as realistic as possible scenarios for test conduct. Air battle scenarios used in the FMS will be approved by the USAADASCH Threat Office and CAC. Detailed events, scenarios, and scripts will be published in the Detailed Test Plan (DTP) for PATRIOT PAC 3.

c. Description of Method Used to Determine Space Requirements: To validate the operational effectiveness/performance of the

(Patriot - continued)
Patriot PAC-3 Config-2 and 3 systems, airspace straight line requirements must be at least 100 nautical miles (NM) and maneuver landspace at least 50 nm.

d. DT&E or OT&E Requirements (check whichever applies):

DT&E ____

OT&E _XX_

Both ____

WSMR - TMD
Medium

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Description of Requirements Drivers and Methodology Form

Category: Theater Missile Defense (TMD) and Armaments/Weapons

Subcategory: Medium Range TMD and Surface-to-Air

Requirement areas: Air Space, Restricted Air Space, Total Land Space, DOD Land Space, Sea Space, and Straight Line Segment

a. System Description: Universal Documentation System (UDS): 089 - Phased Array Tracking to Intercept of Target (PATRIOT), 012 - Extended Range Intercept Technology (ERINT), 813 - Standard Missile (SM-2), 144 - STINGER, 301 - HAWK HIP, 084 - CHAPARRAL.

The programs above all utilize resources described in the requirement areas, and the Standard Missile (SM - The NAVY'S TMD SYSTEM) is the program that has been identified as the one requiring the maximum safety footprint and flight envelope (UDS 81398A - SM BLK 4 VS AQM-37C). In addition, PATRIOT and ERINT (The Army's TMD system) are systems that utilize range resources to the maximum similar to SM. The SM system has been described in another description of requirements drivers and methodology form. This description looks at the PATRIOT and ERINT systems:

1. PATRIOT is an advanced surface-to-air missile system capable of operation in an electronic countermeasure environment that can conduct multiple simultaneous engagements against high performance targets likely to be encountered in the 1990-2000 time frame. The test program is designed to develop and demonstrate the PATRIOT system capability to meet the required military specifications. Specific types of tests are: Ground system checks, target acquisition tests, target tracking tests, missile firing tests, and large scale target (approximately 50 aircraft) search/track tests. The PATRIOT system undergoing tests at WSMR is located at LC-38. Range instrumentation support consists of radars, telescopes, cinetheodolites, telemetry, drone formation control system, drone tracking control system, and real-time control. Active flight safety support consists of an on-board destruct system which is a command guidance failsafe and voltage failsafe destruct system, initiation results in warhead detonation, with resultant missile breakup and thrust termination. Range Area: From LC-38 uprange as far as Northern Range Extension or the western extension area, depending on target(PATRIOT, QF-100). Descriptions of the other programs listed above are furnished in the UDS program descriptions document.

2. ERINT will develop and demonstrate technology and hardware which can be used for the protection of theater-wide areas against ballistic missile attack. The Extended Range Intercept Technology program entails flight tests of a single-stage, agile hypervelocity, terminal homing missile which uses the high energy generated in a body-to-body intercept to destroy the target. The flight test program will demonstrate tactical ballistic intercept at mid-endoatmospheric altitudes.

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TAB H-1

SBD

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b. Engagement/ Scenario Description:

| Requirement Area | FIX + WSMR | WEST EXT + WSMR | Down Range | Down Range | Cross Range |
|---|---|---|---|---|---|
| | Sq NM | Sq NM | FIX (NM) | WEST EXT (NM) | FIX/WEST EXT (NM) |
| PATRIOT VS CF-100 (FIX or WEST EXT are used depending on target flight pattern) | | | | | |
| Air Space | 4223.3 | 3981.5 | 121.6 | 88.8 | 34.7/52.6 |
| Restricted Air Space | 4223.3 | 3981.5 | 121.6 | 88.8 | 34.7/52.6 |
| Total Land Space | 4223.3 | 3981.5 | 121.6 | 88.8 | 34.7/52.6 |
| DOD Land Space | 3016.6 | 3016.6 | 88.8 | 88.8 | 34.7 |
| Straight Line Engagement | N/A | N/A | 78.2 | 51.3 | N/A |
| NOTE UDS # 089/9 and 089/1 (PATRIOT VS CF100), 0890A (PATRIOT VS PATRIOT), and 01202 (ERINT VS STORM) | | | | | |
| WERE USED IN THIS EVALUATION | | | | | |
| The ERINT VS STORM scenario will utilize all of WSMR without FIX and WEST EXT AREAS | | | | | |

Safety Footprint and Flight Envelopes:
Refer to enclosure 1.

Description of Requirements Drivers and Methodology Form

c. Description of Method Used to Determine Space Requirement:

The Ballistic Missile Defense Organization (BMDO) has requested WSMR initiate the necessary evaluations that would ensure the safe and successful T&E of the PATRIOT mid - range TMD program. Refer to encl 1 for scenario description. Conducting tests in a safe manner is a part of the WSMR mission. Since weapon testing carries inherent dangers, every precaution must be taken to minimize risks. All lethal test debris from test events must impact within WSMR-controlled land and airspace. Air space requirements must be planned so that normal flight and impact dispersion areas do not endanger on-range sensitive areas of the Range boundaries. WSMR evaluates the program requirements and processes and approves operational requirements.

d. DT&E or OT&E Requirements (check whichever applies):

DT&E _____
OT&E _____
Both x

TAB H-2

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58E

F/X

| NO. 08979 | MISSILE FLIGHT SAFETY OPERATIONAL PLAN | Test Designator: A |
|---|---|---|
| Title: PATRIOT vs LONGRANGE QF-100 (E-24) | | Page: 6 of 11 |
| Para | | UDS REQ |

d. A QF-100 may be destroyed by the Air Force in accordance with WSMR/ADWC Memorandum of Agreement.

e. Other operational constraints are given in the WSMR AFSWC Memorandum of Agreement.

f. If an emergency landing at White Sands Space Harbor is to be attempted, the Air Force must provide an emergency assistance aircraft standing by in a safe area to assist with the landing.

g. Any manned aircraft employed in conjunction with this test must remain at all times a safe distance from the drone, as WSMR cannot guarantee warning of a destruct action.

h. Target must begin a decent in altitude to 10,000 ft after I/C.

V RANGE DERIVED REQUIREMENTS 2099

A. Roadblocks and Evacuations -

1. Roadblocks

a. Public Highways - US Hwy 70 at BLUE and YELLOW and lock access gates between blocks.

b. Special roadblocks instruction - Block all access roads into the evacuation area north of Nike Avenue.

c. NR-CR will establish internal roadblocks as required to ensure the integrity of the evacuation area.

2. Evacuations -

a. Evacuate all personnel from an area defined by the line connecting the following WSTM coordinates (see Attachment 2):

| | |
|---|---|
| X = Western Range Boundary | Y = 340,000 |
| X = Western Range Boundary | Y = Northern Range Boundary |
| X = Eastern Range Boundary | Y = Northern Range Boundary |
| X = Eastern Range Boundary | Y = 440,000 |
| X = 550,000 | Y = 440,000 |
| X = 550,000 | Y = 187,500 |
| X = 478,000 | Y = 185,500 |

b. Evacuate the Northern Fix Area and WSNM.

3. Exceptions:

a. Mission essential personnel in support of the Patriot launch at LC-38.

ENCL 1

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58F

T - 2 minutes MFTSM at OCDF provides GREEN to Range for Patriot launch.

NOTE: "TO" refers to countdown to take off of target drone.

"T" refers to launch of the Patriot missile.

B. Test Limits - 1700

1. Patriot.

a. Launch azimuth: 350° T ± 1°.

b. Elevation: 37° to 39°.

2. QF-100 target.

a. Target heading: 170° T ± 1°.

b. Target velocity: 308 m/s.

c. Target altitude: 13.7 km MSL.

C. Operating Limits - 2000

1. Patriot.

a. The missile will not be destroyed by the MFTSM during the first 8 seconds of flight. All data sources will be evaluated to determine any action required after 8 seconds.

b. The missile will not be allowed to go past a line located 4 km from a WSMR range or safety boundary.

c. The missile will be destroyed if it endangers a sensitive on range area.

d. All data sources and plotting displays must be functional and destruct system verified flightworthy before a launch will be allowed.

2. QF-100.

a. Failsafe timer setting not to exceed 10 seconds from interrogation loss to destruct command.

b. The QF-100 will be destroyed at the discretion of the MFTSM if it crosses the safety boundary, endangers a sensitive area, or if, in his judgment, continuation of the flight will create a hazardous situation.

c. Between launch and recovery the QF-100 may not exceed safety boundaries shown in Attachment 1.

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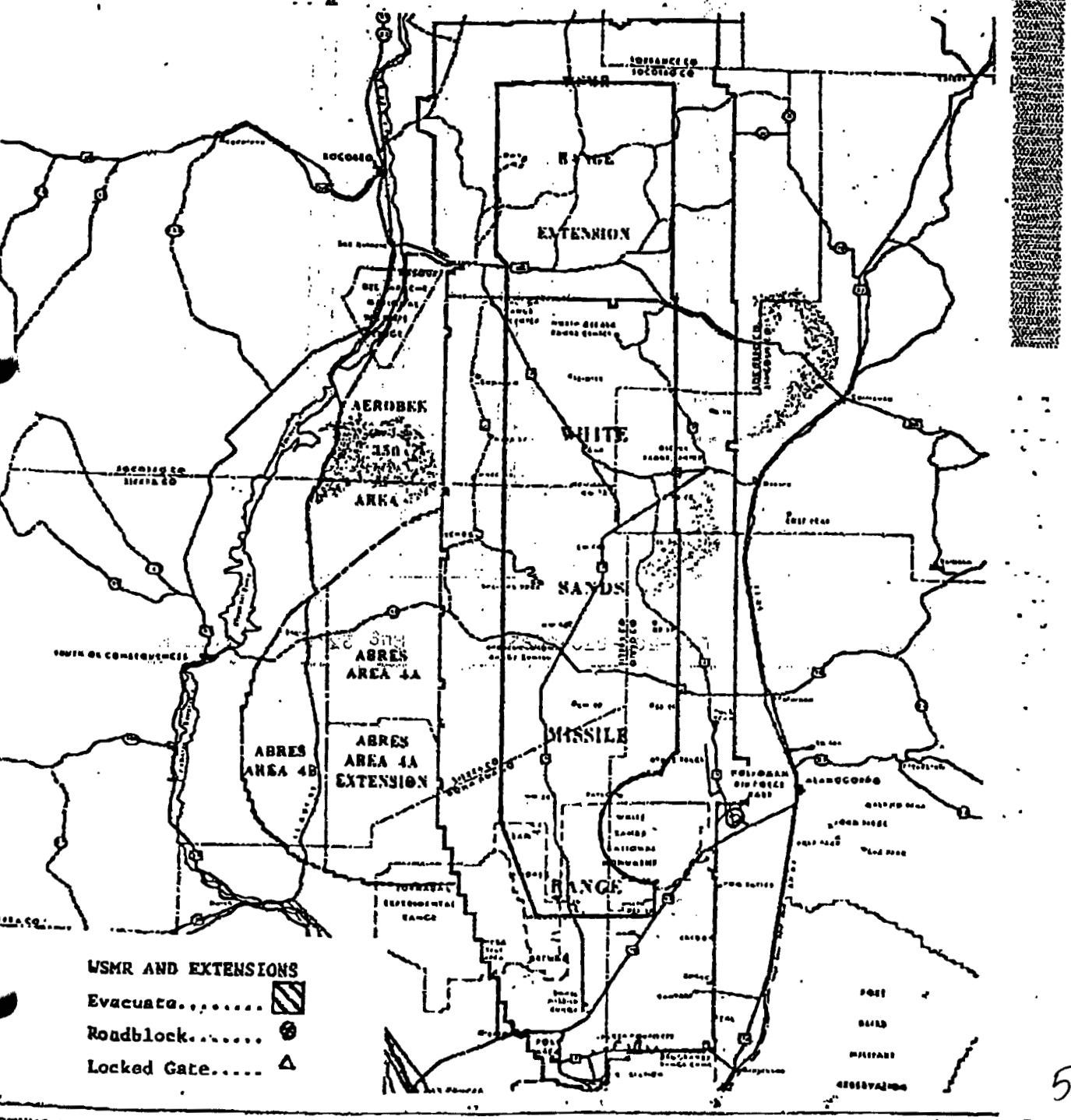
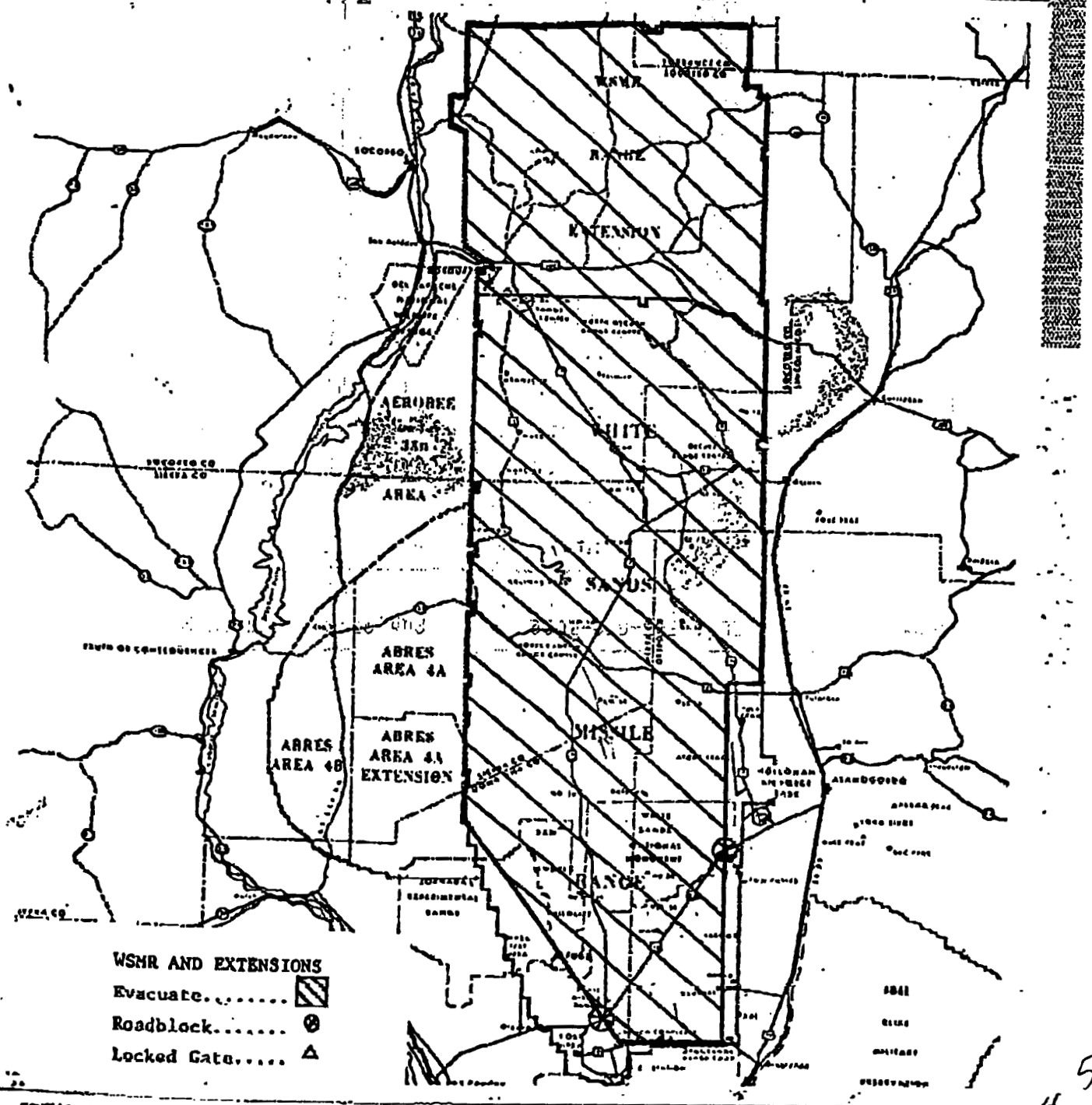
| | | |
|---|---|---|
| D NO: 08979 | ROAD BLOCK AND EVACUATION MAP | REV NO: |
| ITLE: PATRIOT | | TEST DESIGNATOR: A |
| | | PAGE: ATTCH 1 |




58H

LC

| OD NO: 08979 | ROAD BLOCK AND EVACUATION MAP | REV NO: |
|---|---|---|
| TITLE: PATRIOT | | TEST DESIGNATOR: A |
| | | PAGE: ATTCH 2 |




STEWS-NR-C FORM 71a 1 Sep 1978

TAB H-6 4 58I

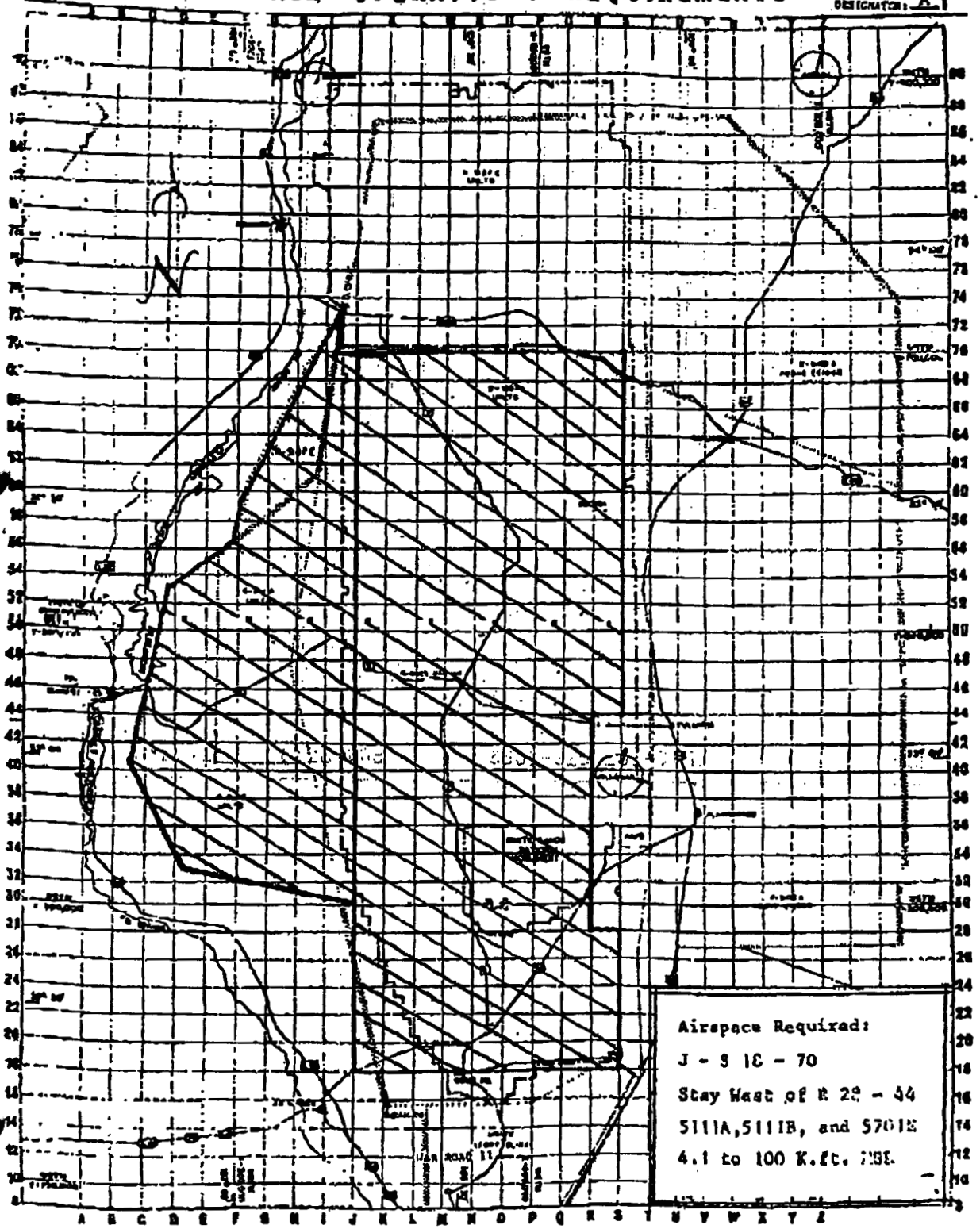
WEST EXT

PATRIOT

HQ 00089714

# AIRSPACE OPERATIONS REQUIREMENTS

TEST DESIGNATION: A



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TAB H-7 5 59 J

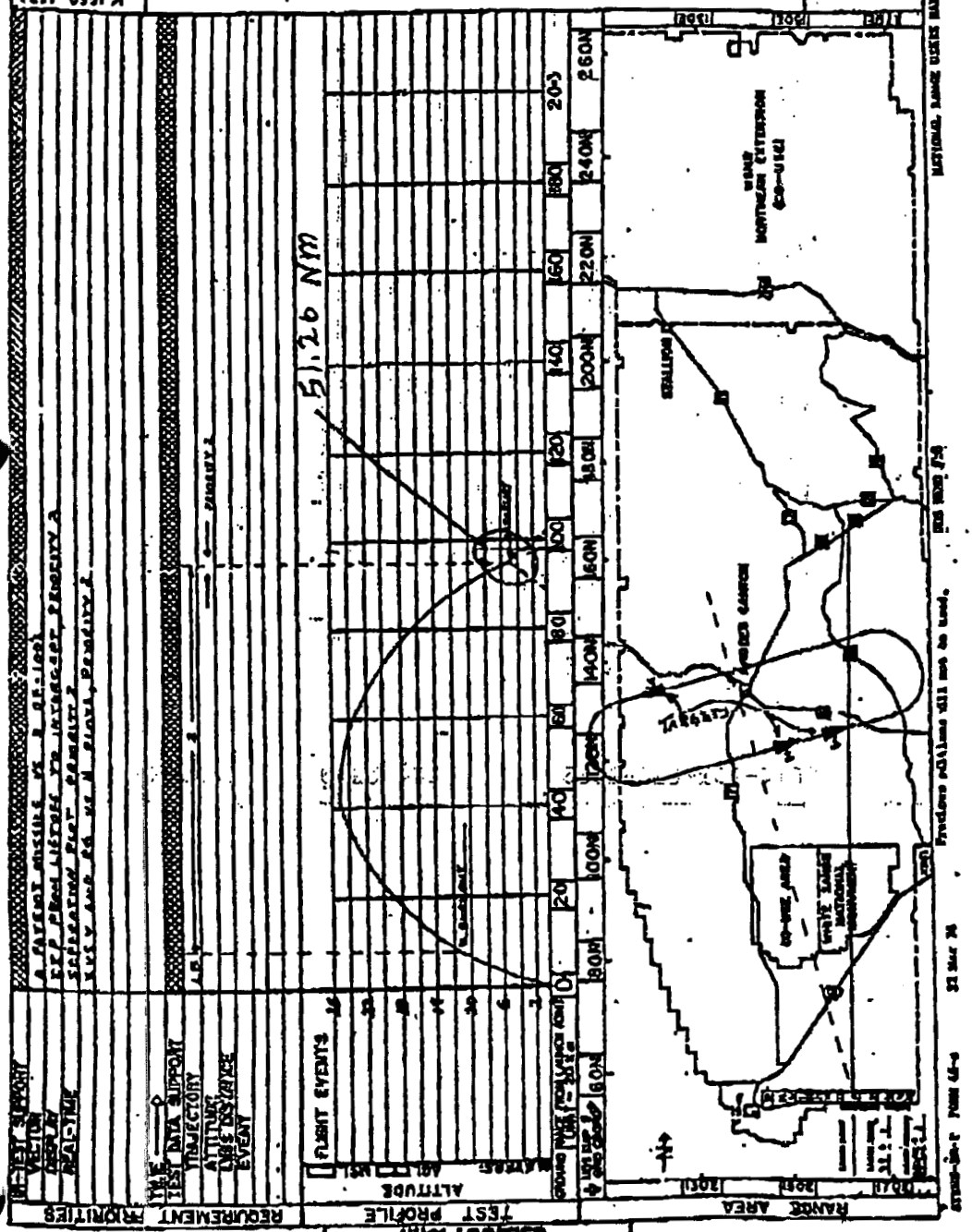
UNCLASSIFIED

UDS MAP NO.

PATT NO.
TEST 0531 A

TEST REQUIREMENT PRIORITIES CORRELATED BY TRAJECTORY PHASE

REVISION
DATE: MAY 87



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TAB H86 58K

WSMR

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Description of Requirements Drivers and Methodology Form

Category: Theater Missile Defense (TMD)

Subcategory: Long Range

Requirement areas: Air Space, Restricted Air Space, Total Land Space, DOD Land Space, Sea Space, and Straight Line Segment

a. System Description: Universal Documentation System (UDS): 020 - Theater High Altitude Area Defense (THAAD), and 007 - HERA.
The THAAD missile is an upper tier defense for Tactical Missile Defense (TMD). The program will develop a transportable missile with a kinetic kill vehicle. The mission of THAAD is to extend the anti-tactical ballistic missile (ATBM) capabilities of air defense forces in various theaters of operation. The HERA is a theater missile defense target. The HERA program will provide tactical ballistic missile reentry vehicle targets and conduct target missions in support of the THAAD interceptor flight test programs.

b. Engagement/ Scenario Description:

| Requirement Area | Sq. NM | Down Range (NM) | Cross Range NM |
|---|---|---|---|
| THAAD | | | |
| Air Space | 5990.8 | 138.9 | 48.6 |
| Restricted Air Space | 5990.8 | 138.9 | 48.6 |
| Total Land Space | 4502.3 | 138.9 | 28.1 |
| DOD Land Space | 4219.3 | 104.2 | 34.7 |
| Straight Line Engagemer | N/A | 60-70 | N/A |
| | | | |
| HERA | FT WINGATE/ GREEN RIVER/ WSMR | FT WINGATE/ GREEN RIVER TO WSMR | FT WINGATE/ GREEN RIVER TO WSMR |
| Air Space | 3637.5 | 173.5/346.9** | 4.0/4.0 |
| Restricted Air Space* | 3637.5 | 173.5/346.9* | 4.0/4.0 |
| Total Land Space | 3637.5 | 15/15 | 4.0/4.0 |
| DOD Land Space | 3079.6 | 0/10 | 0/10 |
| Straight Line Engagemer | N/A | 173.5/346.9** | N/A |
| | | | |
| * The HERA target will rich 80kft (uncontrolled air space) | | | |
| while within the launch hazard area. | | | |
| ** The HERA target will utilize requirement areas already called out by | | | |
| THAAD | | | |

Safety Footprint and Flight Envelopes:
Refer to enclosure 1.

TAB D-1

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WSMR

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Description of Requirements Drivers and Methodology Form

c. Description of Method Used to Determine Space Requirement:

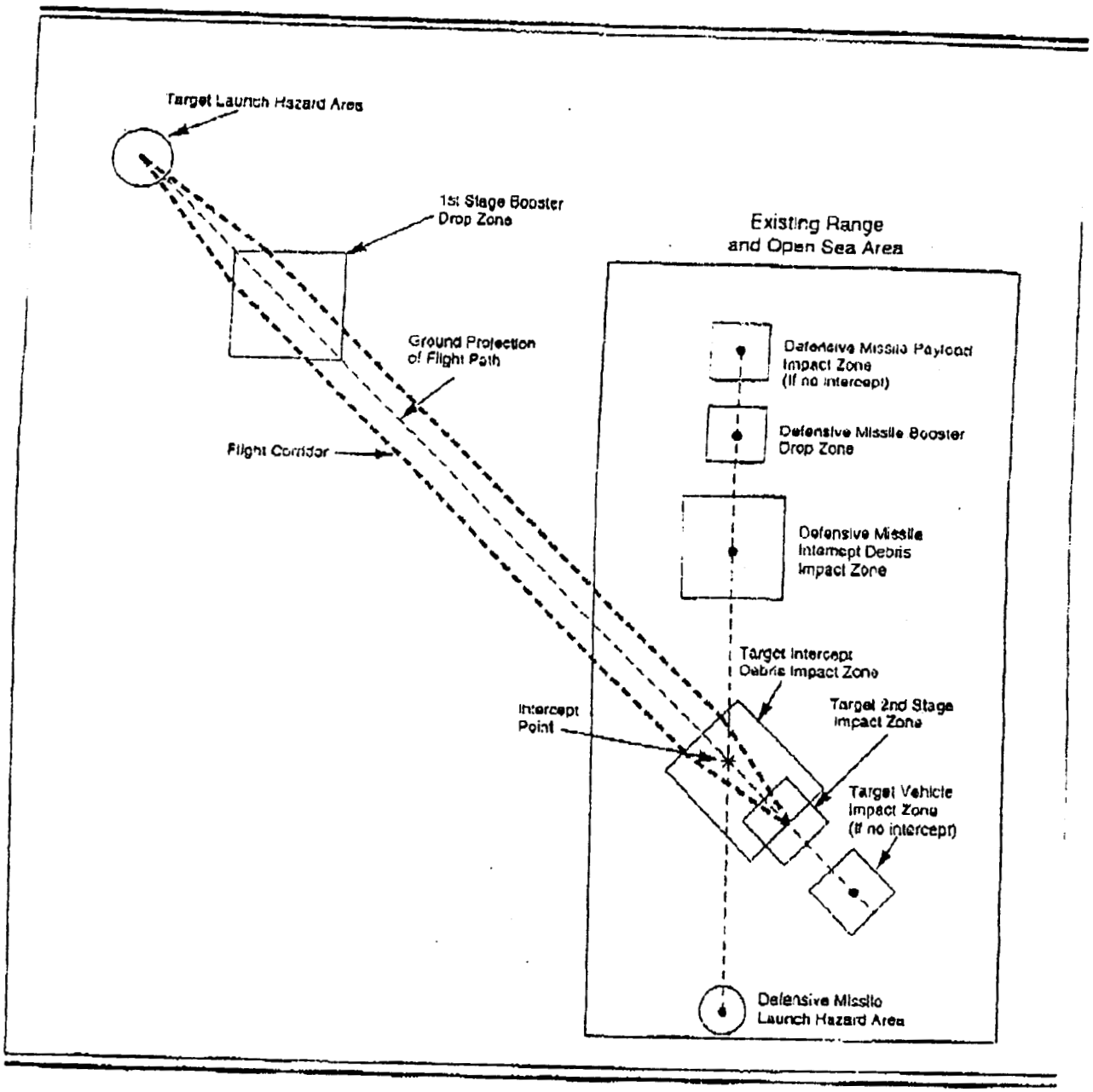
The Ballistic Missile Defense Organization (BMDO) has requested WSMR initiate the necessary evaluations that would ensure the safe and successful T&E of the TMD program. WSMR is evaluating the requirements and is in the process of formulating the operational requirements. Refer to encl 1 for scenario description.

d. DT&E or OT&E Requirements (check whichever applies):

DT&E _____
OT&E _____
Both x

TAB - D-2

WSMR




**Representative Impact Zones**

Not To Scale

**Figure 2.1-6**



TAB D-3
ENCL 1

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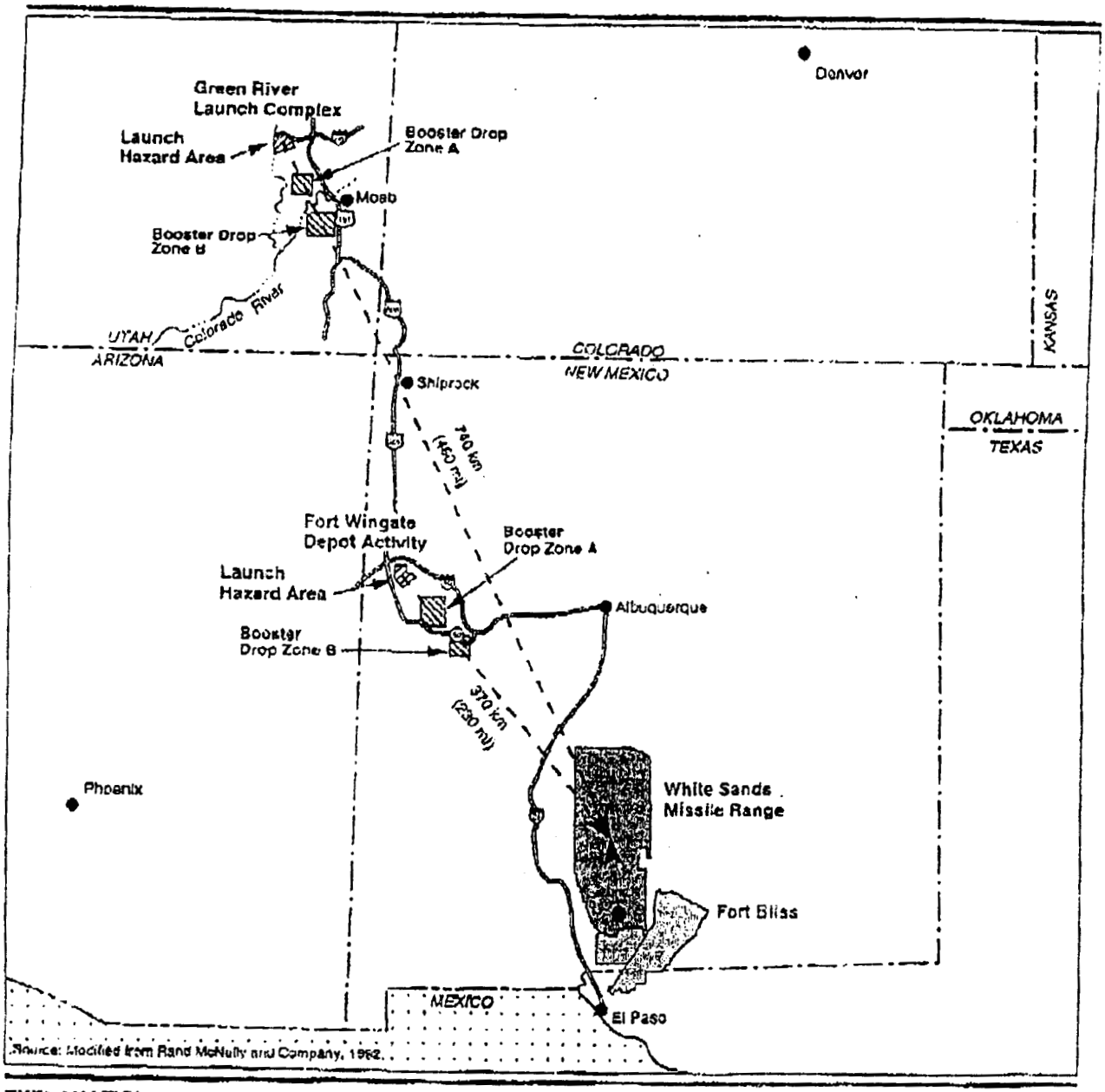
WSMR




Source: Modified from Rand McNally and Company, 1962.

**EXPLANATION**

- Alternative First Stage Booster Drop Zone
- Launch Hazard Area
- Potential Missile Flight Paths

0 75 150 Kilometers
0 50 100 Miles

**Candidate Test Area Activities**

White Sands Missile Range
Candidate Test Area

**Figure 2.2-1**



TAB D-4

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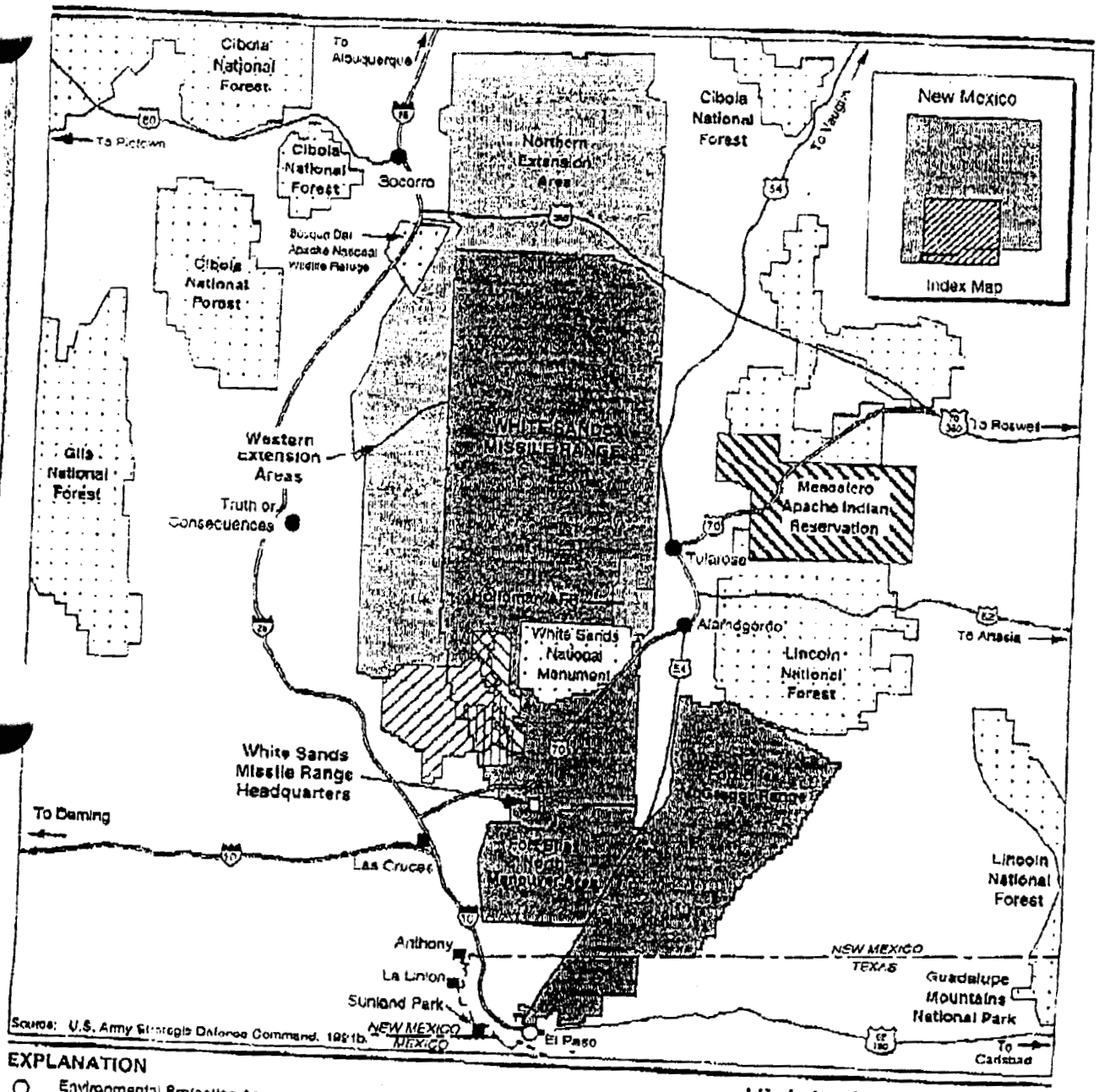
WSMR




EXPLANATION

- Environmental Protection Agency Air Quality Data Collection Site
- New Mexico State Air Quality Data Collection Site
- NASA White Sands Test Facility
- San Andres National Wildlife Refuge
- Jornada Experimental Range
- Indian Reservation

0 20 40 Kilometers
0 15 30 Miles

**Vicinity Location Map, White Sands Missile Range**

White Sands Missile Range Candidate Test Area

Figure 2.2-2



TAB D-5

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WSMR

**Table 3.1-9: White Sands Missile Range and Fort Bliss Restricted Airspace**

| Restricted Area | Altitude | | Area | | Operations | | | Hours in Use |
|---|---|---|---|---|---|---|---|---|
| | Lower | Upper | km² | mi² | Aircraft[a] | Missile[b] | Other[c] | |
| R-5107B | Surface | Unlimited | 9,075 | 3,504 | 9,715 | 236 | 126 | 8,784[d] |
| R-5107C | 9,000 | Unlimited | 3,035 | 1,172 | 3,816 | yes[e] | yes | 2,717 |
| R-5107D | Surface | 22,000 | 1,901 | 734 | 2,669 | yes | yes | 3,406 |
| R-5107E | Surface | Unlimited | 438 | 169 | 860 | yes | yes | 212 |
| R-5107F | FL240 | FL450 | 4,113 | 1,588 | 0 | none | none | 0 |
| R-5107G | FL240 | FL450 | 3,292 | 1,271 | 0 | none | none | 0 |
| R-5107H | Surface | 9,000 | 2,800 | 1,081 | 3,309 | none | none | 2,561 |
| R-5107J | Surface | 9,000 | 220 | 85 | 4,140 | yes | yes | 3,264 |
| R-5108A | 24,000 | Unlimited | 5,814 | 2,245 | 875 | none | none | 180 |
| R-5108B | 24,000 | Unlimited | 3,460 | 1,336 | 840 | none | none | 180 |
| R-5111A | 13,000 | Unlimited | 1,502 | 580 | 1,467 | yes | yes | 1,213 |
| R-5111B | Surface | 13,000 | 1,502 | 580 | 871 | yes | none | 225 |
| R-5111C | Surface | Unlimited | 1,191 | 460 | 858 | yes | none | 134 |
| R-5103A | Surface | 18,000 | - | - | 830 | yes | none | 1,000 |
| R-5103B | Surface | 12,500 | - | - | 689 | yes | yes | 1,707 |
| R-5103C | 12,500 | Unlimited | - | - | 483 | yes | none | 1,723 |
| R-5103D | 18,000 | Unlimited | - | - | 389 | yes | none | 804 |
| R-5107A | Surface | Unlimited | - | - | 747 | yes | yes | 3,489 |

[a]Aircraft include helicopters, drones, fighter/bomber/cargo aircraft, high-flying test aircraft, and test track ejection components.
[b]Missiles include air-to-air, air-to-surface, surface-to-air, and surface-to-surface missiles and ordnance.
[c]Other includes remote-controlled vehicles, ground explosive tests, launches of high-altitude balloon research tests, and laser operations.
[d]As utilized by WSMR, 8,784 hours equals one full year (1992 was a leap year).
[e]"Yes" indicates that the area was used for that purpose but numbers are not available
Source: White Sands Missile Range, 1992b; Fort Bliss, 1992.

Bliss. Areas within the complex are combined when necessary to support missions which may require more space than is available within only one area. Activities which occur in various sections of the Fort Bliss McGregor Range fall into three main categories: aircraft, missile and artillery, and other, which were noted previously for WSMR operations (table 3.1-9).

There is a narrow corridor of Class E airspace floored at 365 m (1,200 ft) (with Class G airspace below) between WSMR and the McGregor Range. This corridor serves as a VFR flyway between the El Paso and Alamogordo areas. Approximately 85 km (53 mi) long and 3.7 to 9.3 km (2.3 to 5.7 mi) wide, it is the only feasible air route between these two areas (National Oceanic and Atmospheric Administration, 1993a).

### 3.1.1.3 Biological Resources – White Sands Missile Range and Fort Bliss McGregor Range

Several Federal agencies oversee various aspects of biological resource management. The Endangered Species Act declares that it is the policy of Congress that all Federal departments and agencies shall seek to conserve endangered species and threatened species (16 USC 1531 et seq.). Further, the act directs Federal agencies to use their

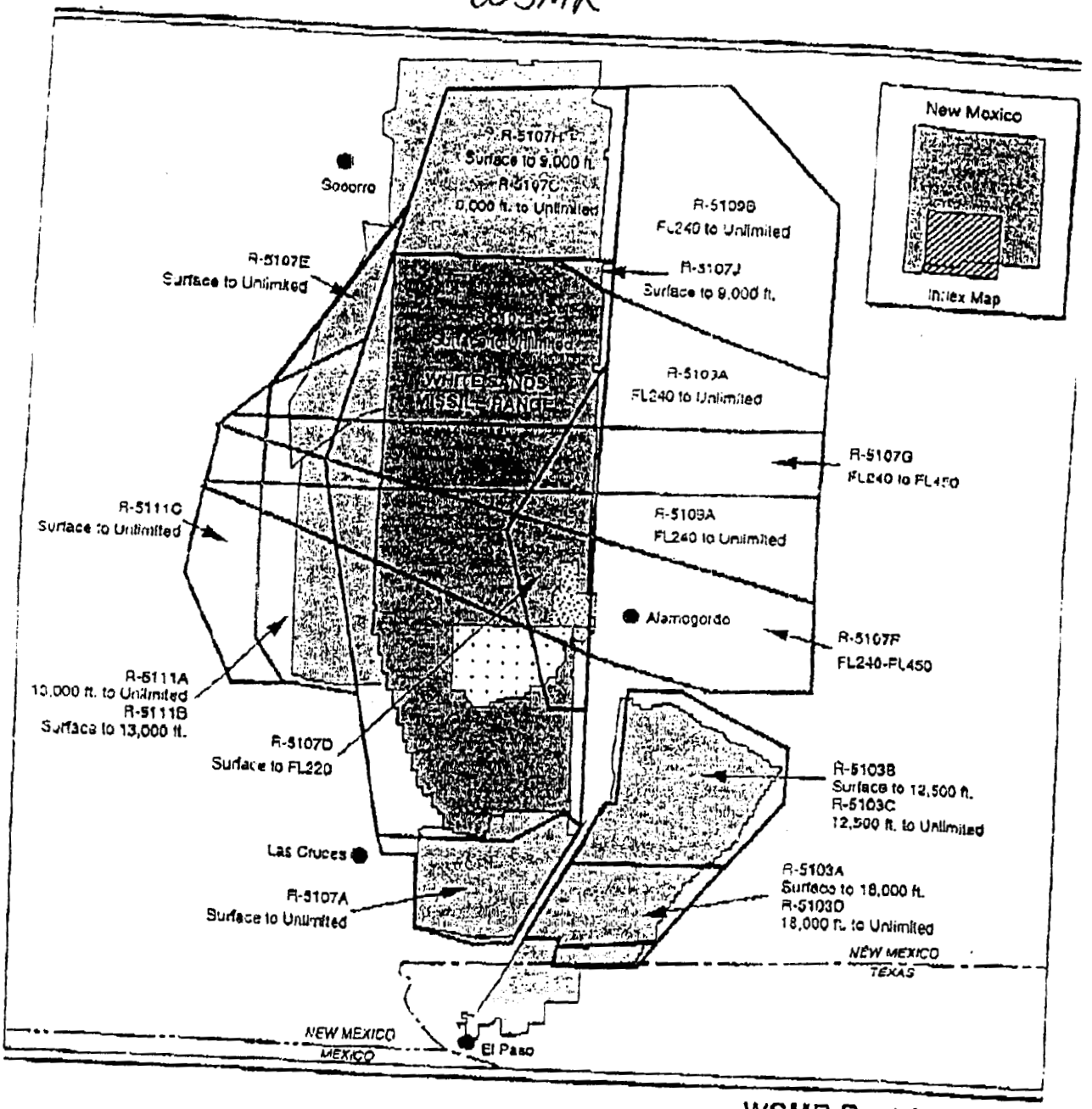


TAB-D-6

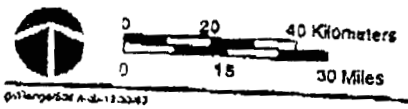
35

55

WSMR




**WSMR Restricted Airspace**




White Sands Missile Range
Candidate Test Area

Figure 3.1-1

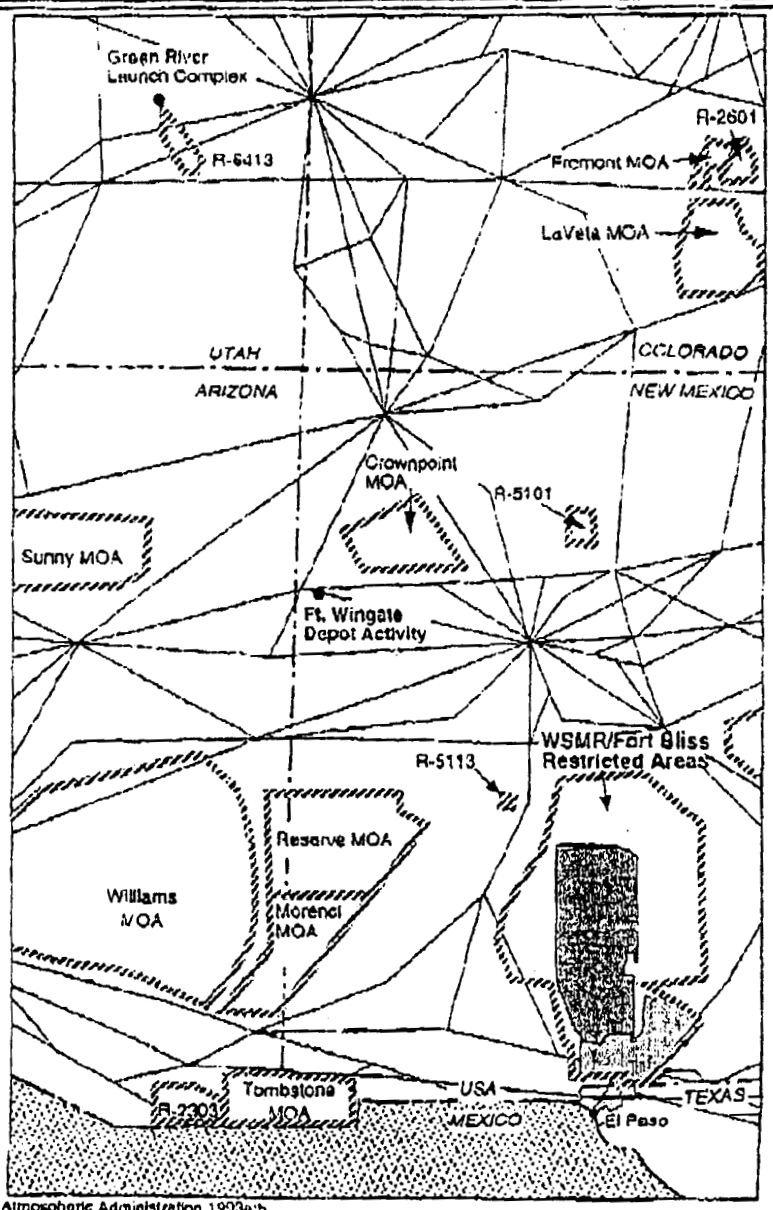


TAB D-7

36

56

WSMR




Source: National Oceanic and Atmospheric Administration, 1993a;b.

**EXPLANATION**

Restricted Area and MOA Boundaries

**Low Altitude Airways, Restricted Areas, Military Operations Areas**

White Sands Missile Range
Candidate Test Area

0 50 100 Kilometers
0 30 60 Miles

**Figure 3.1-10**

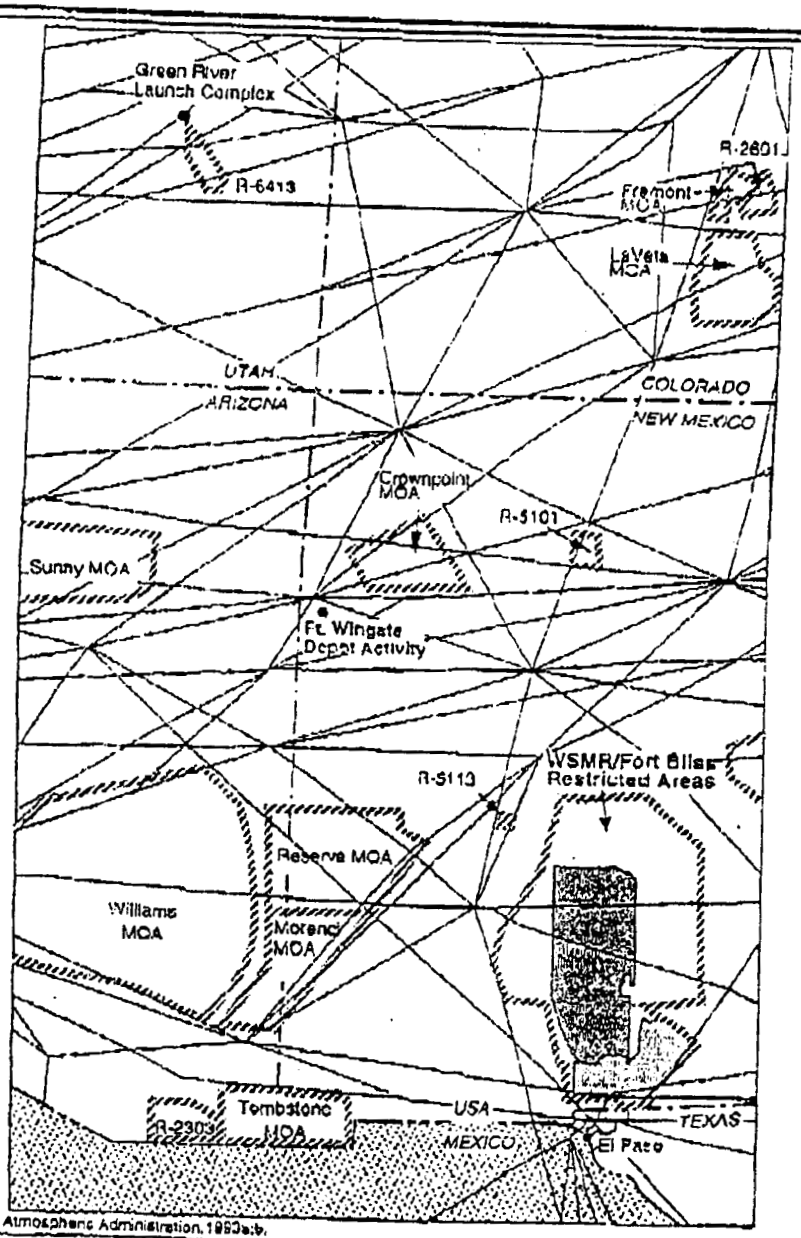


TAB D-8

37

52

WSMR




Source: National Oceanic and Atmospheric Administration, 1993a;b.

EXPLANATION

Restricted Area and MOA Boundaries

**High Altitude Jet Routes, Restricted Areas, Military Operations Areas**

White Sands Missile Range Candidate Test Area

0 50 100 Kilometers
0 30 60 Miles

**Figure 3.1-11**



TAB D-9

38

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Air Veh



Description of Requirements Drivers and Methodology Form

**Category: Air Vehicles**

**Subcategory: Unmanned Air Vehicles (UAV)**

**Requirements Area: Air Vehicles @ Ft Huachuca**

a. System Description: The Joint Tactical Unmanned Aerial Vehicle (JTUAV) consists of air vehicles (AV), modular mission payloads (MMP), ground data terminals (GDT), remote video terminals (RVT), mission planning stations (MPS), launch and recovery systems (LRS), ground control stations (GCS), ground support equipment and air data delays. A single system can consist of up to eight AVs and associated equipment. The JTUAV will support an Army Corps or a Marine Expeditionary Force (MEF).

b. Engagement/Scenario Description: The operational test scenario is based on the UAV-Short Range (UAV-SR) System Threat Assessment Report (STAR) and the Threat and the Doctrinal and Organizational Test Support Packages, tailored as necessary to provide adequate data on the critical issues. Specific threat targets for detection, location, and recognition will be portrayed consistent with the mission requirements of the on-board mission payload. The tactical scenario will be consistent with the Operational Level of War and Military Operations Other than War. Since the JTUAV is an Army Corps level system, threat targets will be tactically deployed in an area of approximately 130.26NM x 173.68NM available within Fort Huachuca, AZ and adjacent Federal and Public lands. The JTUAV AV is required to have an operational range of out to 107.92 NM from the FLOT.

c. Description of Method Used to Determine Space Requirements: The overall capabilities of the JTUAV are documented in: the Mission Needs Statement for UAV-SR dated 16 Dec 88; the Operational Requirements Document, dated 16 Oct 92; and the current JTUAV Test and Evaluation Master Plan, dated 15 Jan 93. Using these and the UAV-SR STAR, an employment scenario was jointly developed by Army and Marine Corps users which describes how the system would be employed and tasked by Army Corps and USMC MEF commanders. This scenario will be used in the operational testing of JTUAV.

d. DT&E or OT&E Requirements:

DT&E ____

OT&E __X__

Both ____

USATPG

Description of Requirements Drivers and Methodology Form

Category: Air Vehicle

Subcategory: none

Requirement Area: All (excluding sea space)

a. System Description:

UAV-MAE: Unmanned Air Vehicle - Medium Altitude Endurance

The Unmanned Air Vehicle - Medium Altitude Endurance system is an long range unmanned air vehicle system to be used for reconnaissance activities.

b. Engagement/Scenario Definition:

The test scenario includes launch operations, aircraft vehicle performance evaluations within restricted airspace to prove the vehicles airworthiness, target sensor evaluations using multiple ground target vehicles, navigation systems accuracy, and air vehicle endurance operations with flight profiles up to 250 NMi.

c. Description of Method Used to Determine Space Requirements:

Review of established system safety fans. Range requirement is driven primarily by the long range endurance operations with the vehicle required to operate for over 12 hours.

d. DT&E or OT&E Requirements

DT&E x

OT&E_____

BOTH_____

# For Official Use Only

USAWSMR (EPG)

## Description of Requirements Drivers and Methodology Form

Category: Electronic Combat

Subcategory: N/A

Requirements Area: Land: 40 km, line-of-sight, DOD land, 90 degree sector, 100 km point-to-point.
Other: A continuous frequncy authorization throughout the range of 10 kHz to 18 GHz.

a. System Description: Saudi Arabian National Guard—Light Assault Vehicle (SANG-LAV). The scope of the testing on the 10 LAV variants to be purchased by the SANG includes Electromagnetic Interference (EMI), Electromagnetic Compatibility (EMC), and EMC cosite. The variants include the 25-millimeter personnel carrier, electronic warfare, communication and control, ambulance, recovery, etc. Systems are to be tested starting October 1994 through September 1997.

b. Scenario Description: Testing will include connectivity, EMC evaluation and scoring of VHF, and HF radio links. The 40-km distance (point-to-point, 90-degree sector) will be utilized while performing evaluations of the vehicles VHF communication equipment (SINCGARS). The 100-km distance (point-to-point) will be utilized to conduct assessments of the imbedded HF radio system for both ground wave and air wave scoring. These areas need to be free of man-made obstacles to support propagation analysis. The 40-km distance needs to be line-of-sight. A portion of the EMI test will be conducted outside using RF radiated fields (via test laboratory antennas) impinged upon each of the variant vehicles from 10 kHz to approximately 18 GHz.

c. Description of Method Used to Determine Space Requirements:

(1) The 40-km line-of-sight is required to evaluate the SINCGARS radios mounted upon the various platforms. The current SINCGARS rating is 35 km; however, improvements are forthcoming to extend the range to approximately 40 km.

(2) The 100-km range is essential to test the HF link to customer imposed requirements. This range will be used to score the effectiveness, and develop a comparison between, the Near Vertical Incident Skywave antenna versus a standard 13-inch whip antenna utilized upon each of the 10 variants.

(3) The radiating of large RF in the outside environment is necessary in order to test each of the variants for radiated susceptibility IAW MIL-STD-461D.

d. DT&E or OT&E Requirements (check whichever applies):

DT&E _X_
OT&E ____
Both ____

**Attachment 2**

# For Official Use Only

# For Official Use Only

USAWSMR (EPG)

## Description of Requirements Drivers and Methodology Form

Category: Electronic Combat

Subcategory: N/A

Requirements Area: Air: 13,500 sq nmi over 120 sq nmi of DOD Land
Land: 120 sq nmi

a. System Description: JSTARS. Airborne Intelligence gathering system that in turn transmits data to selected terminals on the ground and can retrieve data from other airborne and ground-based systems.

b. Engagement/Scenario Description: Airborne platforms will carry the JSTARS system over an area of 120 sq nmi of DOD Land and 13,500 sq nmi of State Land where targets will be both fixed and mobile. The Airborne platforms will use Airspace approximately equal to the land except for one aircraft that will be using non-DOD airspace of approximately 150 sq nmi.

c. Description of Method Used to Determine Space Requirements: Airspace requirements are dictated by the system performance requirements to be demonstrated.

d. DT&E or OT&E Requirements (check whichever applies):

DT&E ____

OT&E ____

Both __x__

Attachment 2

# For Official Use Only

USA USMC (EP6)

# Description of Requirements Drivers and Methodology Form

Category: Electronic Combat

Subcategory: N/A

Requirements Area: Air: 800 sq nmi, 80 nmi corridor, 10 nmi wide, straight line 400 nmi.
Land: 220 sq nmi

a. System Description: Technical and user testing of software upgrades to USAF Compass Call system.

b. Engagement/Scenario Description:

(1) For technical testing, USAF contractor develops latest software package and installs it into the EC-130H aircraft. We deploy 25 emitter systems in and around Fort Huachuca's ranges and establish communications nets and links, emulating a threat division communications slice. The aircraft flies between Tucson and Willcox and applies EW to these emitter systems. The USAF contractor on the ground controls the test and collects the EW data. We also provide all range support (range communications, air-ground net, real estate, test facilities, etc.) necessary as well as the emitter systems. The EC-130H departs Ontario Airport, California and flies directly to orbit between Tucson and Willcox. At test conclusion, the aircraft returns to Ontario. No restricted airspace is used. Straight line distance from Ontario to Tucson is approximately 400 nmi. During testing, the orbit consists of 80 nmi east-west with a corridor width of 10 nmi, for an orbit area of 800 sq nmi.

(2) For user testing, USAF personnel install contractor-developed software into the EC-130H Compass Call aircraft. We deploy 25 emitter systems in and around Fort Huachuca's ranges and establish communications nets and links, emulating a threat division communications slice. The aircraft flies between Tucson and Willcox and applies EW to these emitter systems. The USAF personnel on the ground controls the test and collects the EW data. We also provide all range support (range communications, air-ground net, real estate, test facilities, etc.) necessary as well as the emitter systems. The EC-130H departs Davis-Monthan AFB, Arizona (DMAFB) and flies directly to orbit between Tucson and Willcox. At test conclusion, the aircraft returns to DMAFB. No restricted airspace is used. Straight line distance from DMAFB to orbit station is negligible (DMAFB is in Tucson). During testing, the typical orbit consists of 80 nmi east-west with a corridor width of 10 nmi, for an orbit area of 800 sq nmi.

(3) Emitter systems deploy to surveyed sites on State of Arizona, Cochise County, and Fort Huachuca right-of-ways, covering an area of approximately 220 sq nmi .

c. Description of Method Used to Determine Space Requirements:

(1) USAF requirements and doctrine.

USAWSMR (LOG)

(2) Threat doctrine.

(3) State of Arizona, Cochise County, and Fort Huachuca realty requirements and restrictions.

d. DT&E or OT&E Requirements (check whichever applies):

DT&E _____

OT&E _____

Both ___x___

# For Official Use Only

USA WSMR(EPG)

## Description of Requirements Drivers and Methodology Form

Category: Electronic Combat

Subcategory: N/A

Requirements Area: Air: 644 sq nmi
Land: 644 sq nmi

a. System Description: The Enhanced Position Location Reporting System (EPLRS) will be used by tactical forces for Command and Control (C2), Position/Navigation, identification, and limited user-to-user digital host communications. It is a frequency hopping radio operating in the 420 to 450 MHz frequency range and is capable of providing secure data communications under stressed conditions (jamming and high RF noise enviroment).

b. Engagement/Scenario Description: The EPLRS radio is required to provide line-of-sight communications over a 47-km range under a variety of terrain and conditions. Battlefield data communications systems would be deployed at widely separated sites covering a large geographical area to represent a diverse set of field conditions approximating actual tactical battlefield conditions. Jamming and high level RF environments (mutual interference and cosite) are often provided to stress the data communications links.

c. Description of Method Used to Determine Space Requirements: The requirement to have up to 47-km communications links dictates the space requirements. In order to provide the diversity of link distances and site separations, a 47 by 47-km area (644 sq nmi) is required. In order to provide for testing ground-to-air EPLRS communications, space above the 47 by 47-km area (644 sq nmi) up to the operational altitude limits (15 km) of the aircraft using EPLRS radios is required.

d. DT&E or OT&E Requirements (check whichever applies):

DT&E __x__

OT&E _____

Both _____

**Attachment 2**

# For Official Use Only

# For Official Use Only

USA WSMR (EPG)

## Description of Requirements Drivers and Methodology Form

Category: Electronic Combat

Subcategory: N/A

Requirements Area: Air: 800 sq nmi, 80 nmi corridor and 10 nmi wide; straight line 410 nmi.
Land: 220 sq nmi

a. System Description: Testing of communications electronic warfare system in USN EA6B aircraft.

b. Engagement/Scenario Description:

(1) We deploy approximately 25 emitter systems in and around Fort Huachuca's ranges and establish communications nets and links, emulating a threat division communications slice. The aircraft flies between Tucson and Willcox and applies EW to these emitter systems. The USN personnel on the ground controls the test and collects the EW data. We also provide all range support (range communications, air-ground net, real estate, test facilities, etc.) necessary as well as the emitter systems.

(2) The EA6B departs China Lake, California and flies to Davis Monthan AFB (DMAFB), Tucson, Arizona to refuel. The aircraft then goes directly into orbit between Tucson and Willcox. At test conclusion, the aircraft returns to DMAFB to refuel, then returns to China Lake. No restricted airspace is used. Straight line distance from China Lake to DMAFB is approximately 410 nmi. Straight line distance from DMAFB to orbit station is negligible. During testing, the typical orbit consists of 80 nmi east-west with a corridor width of 10 nmi, for an orbit area of 800 square nmi.

(3) Emitter systems deploy to surveyed sites on State of Arizona, Cochise County, and Fort Huachuca right-of-ways, covering an area of approximately 220 square nmi.

c. Description of method used to Determine Space Requirements:

(1) USN requirements and doctrine.

(2) Threat doctrine.

(3) State of Arizona, Cochise County, and Fort Huachuca realty requirements and restrictions.

d. DT&E or OT&E Requirements (check whichever applies):

DT&E _____
OT&E _____
Both ___x___

**Attachment 2**

# For Official Use Only

Description of Requirements Drivers and Methodology

**Category: Electronic Combat**

**Subcategory: Electronic Combat**

**Requirements Area: Ft Huachuca**

a. System Description: The Intelligence Electronic Warfare Common Sensor (IEWCS) is composed of modular, single disciplined intelligence, platform independent subsystems and combat information processors that interoperate to satisfy the intercept, direction finding, and situation development of Signals Intelligence (SIGINT) signals and target acquisition of Electronic Intelligence (ELINT) signals in support of the commander. IEWCS consists of three platforms: Ground Based Common Sensor-Heavy (GBCS-H) (mounted in a tracked Bradley variant), Ground Based Common Sensor-Light (GBCS-L) (mounted on a heavy High Mobility Multipurpose Wheeled Vehicle) and Advanced Quickfix (AQF) (mounted on the EH-60 Blackhawk helicopter). The GBCS-H, GBCS-L and AQF will be deployed to Army Division, Separate Brigade and Armored Calvary Regiment Intelligence Units.

b. Engagement/Scenario Description: The operational test scenario will be based on a mid-intensity conflict with an active electronic warfare threat. The target threat for the IEWCS system will be communications nets including HF, VHF and UHF stations and non-communications threat simulators deployed to simulate a threat division and corps. A land area of approximately 34.736 NM x 69.472 NM is required to operationally employ the GBCS-L and GBCS-H and to deploy the target threat environment. The flight track for the AQF for operational testing will be approximately 34.736 NM x 8.684 at 500 to 5000 feet above ground level.

c. Description of Method Used to Determine Space Requirements: The required operational and technical capabilities of the IEWCS are documented in: the GBCS H/L Required Operational Capability dated 21 Dec 90; the AQF Required Operational Capability dated 21 Dec 90; and the AQF Operational Requirement Document dated 2 Oct 92. Using these and the IEWCS System Threat Assessment Report, an employment scenario was developed by Army users which describes how the system would be employed and tasked by Army commanders. This scenario will be used in operational testing of the IEWCS.

(IEWCS - continued)

d. DT&E or OT&E Requirements:

DT&E ____

OT&E _X___

Both ____

# CONVERSATION RECORD

TIME: 0910 | DATE: 16 Sep 94

TYPE: ☐ VISIT ☐ CONFERENCE ☒ TELEPHONE ☒ INCOMING ☐ OUTGOING

Location of Visit/Conference:

| NAME OF PERSON(S) CONTACTED OR IN CONTACT WITH YOU | ORGANIZATION (Office, dept., bureau, etc.) | TELEPHONE NO: |
|---|---|---|
| LTC Thomas G. Wills | OPTEC | 703-756-4985 |

| ROUTING | |
|---|---|
| NAME/SYMBOL | INT |
| | |

SUBJECT: Clarification of OPTEC responses in 26 Aug 94 memo; subject: BRAC 95 Data Call #7 - Test and Evaluation, Supplemental

SUMMARY

a) Requested clarification on attached questions

b) ~~Stated~~ LTC Wills stated he would have to contact field activities to get answers

c) stated he had explained basis for 1001 nm downrange requirement to Tom Roller last week. Basis was safety requirement by FAA should something happen that would cause lost of control of UAV during test. (Note: I later determined that he spoke to Don Jeanblanc on this vice Tom Roller)

ACTION REQUIRED

| NAME OF PERSON DOCUMENTING CONVERSATION | SIGNATURE | DATE |
|---|---|---|
| Gary L. Holloway | Gary L. Holloway | 16 Sep 94 |

ACTION TAKEN

| SIGNATURE | TITLE | DATE |
|---|---|---|
| | | |

16 Sep 94

OPTEC Responses

Surface - to - Air

- Item 1 - Is 5550 nm a typo? responses to items 2-4 show 5500 nm
- Items 1-4 - table shows downrange requirement of 80nm - item 6 and writeup shows requirement of 100nm - which is correct
- Area is listed as 5500 + sq nm but product of downrange and crossrange is 4000 sq nm - why the difference?

Air Vehicles

- Item 1 - why is the required air space less than the required land space? why less than restricted airspace
- Item 2 - what is basis for 100 downrange
- why the difference between area listed and product of downrange and cross-range
- Item 6 - why straight line requirement of 0 given response to Items 1-4

Electronic Combat

- Item 1 - why are these values less than those for restricted air space?
- Item 2 - what is basis for 100.6 downrange and why difference in area and product of downrange and crossrange
- Item 6 - why straight line of 0 given responses to items 1-4

# CONVERSATION RECORD

TIME: 1455

DATE: 16 Sep 94

TYPE

☐ VISIT ☐ CONFERENCE ☒ TELEPHONE

☐ INCOMING ☒ OUTGOING

Location of Visit/Conference:

| NAME OF PERSON(S) CONTACTED OR IN CONTACT WITH YOU | ORGANIZATION (Office, dept., bureau, etc.) | TELEPHONE NO: |
|---|---|---|
| Gene Forsythe | WSMR | 505-678-8200 |

ROUTING

| NAME/SYMBOL | INT |
|---|---|
| | |

SUBJECT

Responses to BRAC T&E Data Call #7 - Test and Evaluation, Supplemental

SUMMARY

a) I called Gene to request clarification on the attached inconsistencies in the WSMR response to our supplemental data call.

b) Gene promised to investigate inconsistencies and provide any required changes by Monday.

c) Gene indicated the size of the areas reported should not be equal to product of downrange and crossrange (e.g., L-shape area required for reported AMRAAM testing.

ACTION REQUIRED

None, await any updates to response.

| NAME OF PERSON DOCUMENTING CONVERSATION | SIGNATURE | DATE |
|---|---|---|
| Gary Holloway | Gary Holloway | 16 Sep 94 |

ACTION TAKEN

| SIGNATURE | TITLE | DATE |
|---|---|---|
| | | |

WSMR -

Air-to-Air

- Item 3 - square nm listed as 1138 but dimensions are 70 x 30 = 2100?
- Item 6 - why is straight line less than downrange for items 1-4
- why wasn't 1 & 2 updated when 3 & 4 were updated

Surface-to-Air

- Areas do not agree with product of down-range and cross-range dimensions OK

TMD-M why is item 6a less than Items 1b, 2b, 3b & 4b

TMD-Long - why wasn't HERA used as basis for requirements - 173.5 or 346.9 for straight line

Air Vehicles - why response to item 6 but not on other items - this appeared to be Holloman requirement vice WSMR

# CONVERSATION RECORD

TIME: 1220

DATE: 16 Sep 94

TYPE: ☐ VISIT ☐ CONFERENCE ☒ TELEPHONE ☐ INCOMING ☒ OUTGOING

Location of Visit/Conference:

| NAME OF PERSON(S) CONTACTED OR IN CONTACT WITH YOU | ORGANIZATION (Office, dept., bureau, etc.) | TELEPHONE NO: |
|---|---|---|
| Mr John Hart | WSMR/EPG | |

ROUTING

| NAME/SYMBOL | INT |
|---|---|
| | |

SUBJECT: Responses to BRAC T&E Data Call #7- Test and Evaluation, Supplemental

SUMMARY

a) I called John to request clarification on the attached inconsistencies/anomalies in the EPG responses to our supplemental data call.

b) John explained he hadn't generated this response himself and would have to get with Dan Searles to address these questions.

ACTION REQUIRED

| NAME OF PERSON DOCUMENTING CONVERSATION | SIGNATURE | DATE |
|---|---|---|
| Gary Holloway | Gary Holloway | 16 Sep 94 |

ACTION TAKEN

| SIGNATURE | TITLE | DATE |
|---|---|---|
| | | |

EPG

Air Vehicles

- Item 2 - what is FAA safety requirement for UAV (OPTEC reported 1001 nm × 6.6 nm)?
- Item 6 - do we include radar track lengths as basis for this requirement - why wasn't this reported for air space requirements

Electronic Combat

- Item 3a - units in writeup are Km - table states nm - which is correct?
  - area is much less than product of downrange + crossrange - why the difference (problem also on items 1-4)
  - 644 in table but 699.8 in writeup - which is correct?
- Items 3a+4a - downrange and crossrange values not supported by indicated writeups - why
- Item 6 - straight line is for flying from Edwards to test site - writeup indicates test requirement is 80 Km × 10 Km - is this correct?

P

**DEPARTMENT OF THE ARMY**
**OFFICE OF THE CHIEF OF STAFF**
**200 ARMY PENTAGON**
**WASHINGTON DC 20310-0200**

REPLY TO
ATTENTION OF

1994-09-28

28 SEP 94

DACS-TAB (50-7)

MEMORANDUM FOR THE CHAIRMAN, TEST AND EVALUATION JOINT CROSS-SERVICE WORKING GROUP

SUBJECT: Format of Supplemental T&E Data Submission

The enclosed supplemental T&E data is provided in accordance with the Defense Base Closure and Realignment Act of 1990, as amended, which requires certification of the accuracy and completeness of all information provided to the Commission and the Secretary of Defense.

The attached data is a compilation of the reported data into a composite table for use by the JCSG. It has been certified at both the Installation and the Major Command level. The information contained in this report is true and complete to the best of my knowledge and belief.

If we can be of further assistance, please contact The Army Basing Study Office, T&E representative, LTC Jack Marriott, 697-1765.

for John A. Marriott LTC, GS
MICHAEL G. JONES
Colonel, U.S. Army
Director, The Army Basing Study

Printed on Recycled Paper

Q

# TEST AND EVALUA[illegible] REQUIREMENTS FORM
## (ATTACHMENT I)

| Requirement Areas | Categories | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Armament/ Weapons | | | Cruise Missiles 6 | Theater Missile Defense | | | Air Vehicles | Electronic Combat |
| | Air-to-Air | Air-to-Surface 3 | Surface-to-Air 4 | | Short Range | Medium Range | Long Range | | |
| 1. Required Air Space 1 | | | | | | | | | |
| a. Total SQ Miles (NM) | 30200 | 20,000 | 50,000 | 14,000 | 60,000 | 40,000 | 97,500 | 80,000 | 342,00 |
| b. Down Range (NM) | 196 | 160 | 240 | 400 | 300 | 650 | 1950 | 400 | 330 |
| c. Cross Range (NM) | 196 | 160 | 240 | 100 | 200 | 50 | 50 | 200 | 660 |
| d. System/Scenario Driving Requirements | AMRAAM WARHEAD | HARM SLAM HARPOON | AEGIS/SM 2 TARGET PRESENTN | TOMA-HAWK | THAAD | THAAD/ CEC | THAAD | JTIDS | RWR,JAMMERS, ELINT |
| 2. Restricted Air Space 2 | | | | | | | | | |
| (To include Warning Areas) | | | | | | | | | |
| a. Total SQ Miles (NM) | 30,200 | 20,000 | 50,000 | 14,000 | 60,000 | 32,500 | 97,500 | 25,000 | 21,000 |
| b. Down Range (NM) | 196 | 160 | 240 | 400 | 300 | 650 | 1950 | 200 | 150 |
| c. Cross Range (NM) | 196 | 160 | 240 | 100 | 200 | 50 | 50 | 125 | 140 |
| d. System/Scenario Driving Requirements | AMRAAM WARHEAD | HARPOON | AEGIS/SM 2 TARGET | TOMA-HAWK | THAAD | THAAD | THAAD | F-14 | EA-6B/ HARM |
| 3. Required Total Land Space | | | | | | | | | |
| a. Total SQ Miles (NM) | 5000 | 2000 | 900 | 700 | N/A | N/A | N/A | 40,000 | 2600 |
| b. Down Range (NM) | 100 | 100 | 45 | 35 | N/A | N/A | N/A | 400 | 120 |
| c. Cross Range (NM) | 50 | 20 | 20 | 20 | N/A | N/A | N/A | 100 | 48 |
| d. System/Scenario Driving Requirements | AMRAAM | HARM | | TOMA-HAWK | N/A | N/A | N/A | AEW | JAMMER EFFECTIVENESS |
| 4. Required DOD Land Space 5 | | | | | | | | | |
| a. Total SQ Miles (NM) | 5000 | 2000 | 66 | 700 | N/A | N/A | N/A | 1350 | 1298 |
| b. Down Range (NM) | 100 | 100 | 11 | 35 | N/A | N/A | N/A | 4.5 ? | 110 |
| c. Cross Range (NM) | 50 | 20 | 6 | 20 | N/A | N/A | N/A | 30 | 48 |
| d. System/Scenario Driving Requirements | AMRAAM | HARM | ESSM | TOMA-HAWK | N/A | N/A | N/A | F/A-18/ AMRAAM | JAMMER EFFECTIVENESS |
| 5. Required Sea Space | | | | | | | | | |
| a. Total SQ Miles (NM) | 30,200 | 20,000 | 50,000 | 10,000 | 60,000 | 32,500 | 97,500 | 40,000 | 90,000 |
| b. Down Range (NM) | 196 | 160 | 240 | 100 | 300 | 650 | 1950 | 400 | 300 |
| c. Cross Range (NM) | 196 | 160 | 240 | 100 | 200 | 50 | 50 | 100 | 300 |
| d. System/Scenario Driving Requirements | AMRAAM WARHEAD | SLAM HARM WARHEAD | AEGIS/ SM2 | TOMA-HAWK | THAAD | THAAD | THAAD | AEW 7 | CLASSIFIED TRI-SVC DATALINK |
| 6. Required Straight Line Segment | | | | | | | | | |
| a. Total Requirement (NM) | 196 | 120 | 240 | 100 | 300 | 650 | 1950 | 400 | 660 |
| b. Supersonic Corridor Requirement (NM) | 200 | 5 | 180 | N/A | N/A | N/A | N/A | 400 | N/A |
| c. System/Scenario Driving Requirement | AMRAAM | HARM | AEGIS/ SM2 | TOMA-HAWK | THAAD | THAAD | THAAD | AEW | RWR,JAMMERS ELINT |

**NOTES**
**ATTACHMENT 1**

1. Included in all weapons requirements are the shooter, targets (sub-sonic and supersonic), support aircraft, and support ships.

2. Requirements include DT and OT, plus additional fleet requirements.

3. SLAM and JSOW require sea/land transition in missile scenarios with the ability to utilize live warheads. Requirements reflect both programs.

4. AEGIS littoral scenario requires land background. AEGIS surface-to-air scenarios require multiple simultaneous target presentations ranging from high/fast (100K, Mach 4.0), low/fast (less than 100 ft, greater than Mach 2.0) to low/slow (less than 100 ft., 200 knots).

5. Air, land, and sea space requirements are not always a simple multiplication of downrange and cross range requirements.

6. TOMAHAWK requires sea/land transition in missile scenarios, i.e., sea/mountain/ desert terrain. Also requires sub-munitions land impact area.

7. Also have a long range nearland scenario with E-2C placed 30-40 NM over water and targets flying less than 400 nautical miles straight line from the land direction and maneuvering in a 30 NM wide box projecting to less than 400 NM over land. Still need 100 nautical miles cross range for jammer placement.

# Description of Requirements Drivers and Methodology Form

**Category:** Armaments/Weapons

**Subcategory:** Air-to-Air

**Requirements Area:** Restricted air space, sea space and land space, DOD land space.

## a. Systems Description:

Advanced medium range air-to-air missile (AMRAAM) is a radar guided, air-launched, air intercept missile launched from the F-18, F-14, F-22, F-15, and F-16 aircraft. The weapon system consists of aircraft and missile. The aircraft radar sends RF data link updates (position and velocity of target) to the missile after launch to enhance the missile guidance capability. The missile then guides on its own internal active radar to intercept an enemy aircraft.

## b. Engagement/Scenario Description:

A typical AMRAAM weapon system flight test consists of one to four target aircraft being attacked by one to four AMRAAMs. Air space requirements range from 20 to 100 miles down range and 50 miles crossrange. Altitudes of target aircraft vary from 1,000 to 60,000 feel. Launch aircraft altitudes vary from 1,000 to 50,000 feet. Target speeds can be up to mach 2.5 and launch aircraft speed up to mach 2.0 in the 60,000 feet target engagement the missile can reach a maximum altitude of 75,000 feet. Fleet air-to-air missiles are launched without a flight termination system on the Sea Test Range. FLEETEX-type exercises include any variety in multiple quantities of these missiles usually launched within a 3-hour window.

## c. Description of Method used to Determine Space Requirements:

Predicted dynamic variables which constitute the space requirements are generated by a 6-degree of freedom computer model of the AMRAAM. This data is verified by actual flight test data. This data is gathered by ground-based tracking radars. Launch aircraft speed, altitude, range, target speed and altitude are the drivers.

Range safety hazard patterns, which are based on kinematic profile of the missile, targets, air and surface debris pattern of a missile warhead detonation and target destruction.

## d. DT&E or OT&E Requirements (check whichever applies):

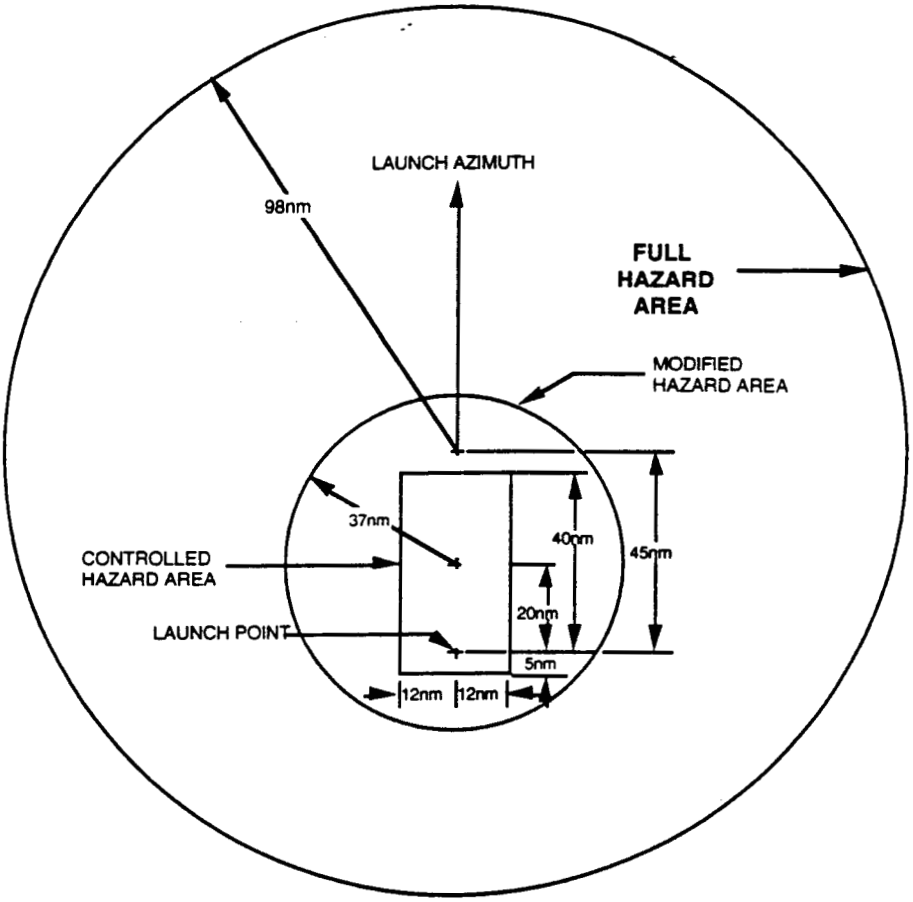
**DT&E:**

**OT&E:**

**Both:** √

## Description of Requirements Drivers and Methodology Form

AIR-TO-AIR HAZARD PATTERN




**FULL HAZARD AREA = Maximum kinematic range warhead without Flight termination System**
**MODIFIED HAZARD AREA = Flight Termination System without positive radar track (termination based on time of flight)**
**CONTROLLED HAZARD AREA = Flight Termination System with positive radar track**

## Description of Requirements Drivers and Methodology Form

**Category:** Armaments/Weapons

**Subcategory:** Air-to-Air Radar Guided Missile

**Requirements Area:** Restricted Air Space, Sea Space, Land Space, DOD Land Space

### a. Systems Description:

The Advanced Medium Range Air-to-Air Missile (AMRAAM) is a radar-guided, air-launched, air intercept missile. Launch platforms include F-18, F-14, F-15, F-16, and F-22 aircraft. The weapon system consists of the aircraft and the missile. The aircraft radar provides the missile with target position and velocity information at launch and provides updates by radio frequency link during missile flyout. The missile then guides on its own by use of an onboard active radar to intercept the threat aircraft.

### b. Engagement/Scenario Description:

A typical AMRAAM flight test consists of one to four target aircraft being attacked by one to four AMRAAMs. Airspace requirements vary depending on the test objective and range from 20 to 100 miles with cross ranges from up to 50 miles. Target altitudes vary from 100 feet to 60,000 feet and launch aircraft altitudes vary from 1,000 feet to 50,000 feet. Target speeds can be up to Mach 2.5 and launch aircraft speeds up to Mach 2.

Overland tests are required to test missile performance with land mass clutter backgrounds and when photo theodolite coverage is required for special separation or control vehicle flights. The overland objectives are accomplished in scenarios requiring footprints less than the maximum aerodynamic capabilities of the missile. The overland scenarios would typically be a look-down shoot-down or coaltitude test with a telemetry set and a command Flight Termination System. A profile of this sort would be a launch from 15,000 feet at Mach 0.7 against a target at 10,000 feet and Mach 0.8 with a launch range of 25 nm and a target maneuver such as a turn and run.

### c. Description of Method used to Determine Space Requirements:

Predicted dynamic variables that constitute the space requirements are generated by a 6-degree-of-freedom computer simulation model of the AMRAAM. The data are verified by actual flight test results of previous firings. The drivers to the model are launch aircraft speed, altitude and launch range, and target altitude speed and maneuver. The SPLASH pattern is predicted by assuming the Flight Termination System will be activated within 5 seconds after a missile failure or target flyby and assuming a 40-knot wind in an adverse direction.

**SPLASH Pattern**

| | |
|---|---|
| Downrange: | 20 nm |
| Crossrange: | 9 nm |
| System/Scenario Drive Requirement: | Clutter background, target maneuver, launcher and target altitude and speed |

### d. DT&E or OT&E Requirements (check whichever applies):

**DT&E:**

**OT&E:**

**Both:** √

## Description of Requirements Drivers and Methodology Form

**Category:** Armaments/Weapons

**Subcategory:** Air-to-Air

**Requirements Area:** Required Air Space, Required Restricted Air Space, Required Land Space, Required DOD Land Space, Required Straight Line Segment.

**a. Systems Description:**

The F/A-18 uses its Operational Flight Program (OFP) to launch the Advanced Medium Range Air-to-Air Missile (AMRAAM). The on-going development of OFP upgrades requires that the aircraft launch AMRAAM's against threat representative targets in a realistic scenario.

**b. Engagement/Scenario Description:**

High altitude, high speed launch against a medium altitude, full scale drone target.

**c. Description of Method used to Determine Space Requirements:**

Requirements based on: Range safety footprints for a missile with a Flight Termination System (FTS); target profile requirements; pre-launch shooter profile requirement.

**d. DT&E or OT&E Requirements (check whichever applies):**

**DT&E:**

**OT&E:**

**Both:** √

## Description of Requirements Drivers and Methodology Form

**Category:** Armament /Weapons

**Subcategory:** Air-to-Surface

**Requirements Area:** Air/Sea/Land Spaces

**a. Systems Description:**

Air-to-Surface weapons range requirements are driven by the needs of the SLAM and Joint Standoff Weapon (JSOW) programs.

**b. Engagement/Scenario Description:**

Long range air launch against a land based target with live warhead or dispensing submunitions prior to impact. See attached air-to-surface requirement.

**c. Description of Method used to Determine Space Requirements:**

Range requirements are based on kinematic profile of the missile and the air and surface debris pattern of associated with missile warhead detonation and submunition dispensing pattern.

**d. DT&E or OT&E Requirements (check whichever applies):**

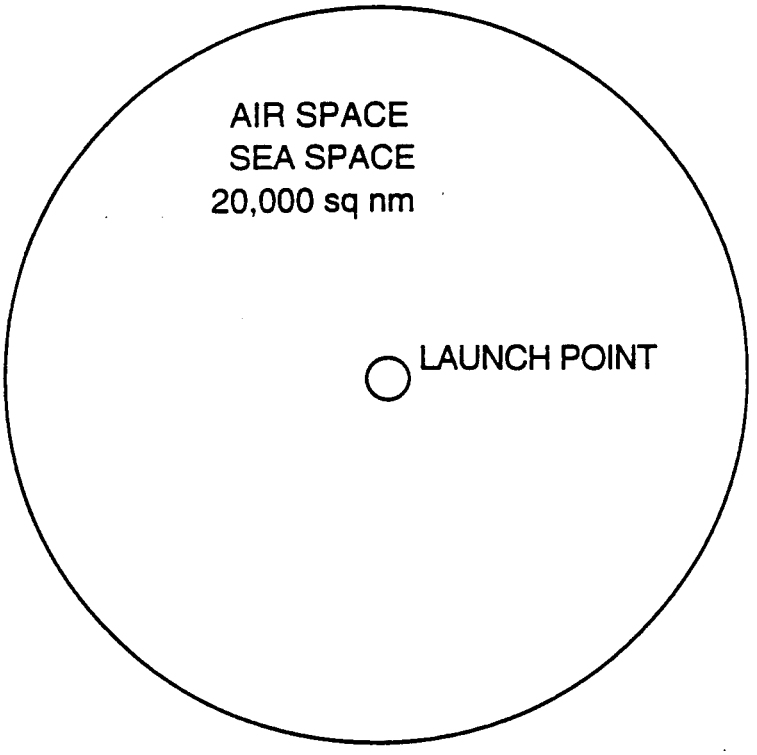
**DT&E:**

**OT&E:**

**Both:** √

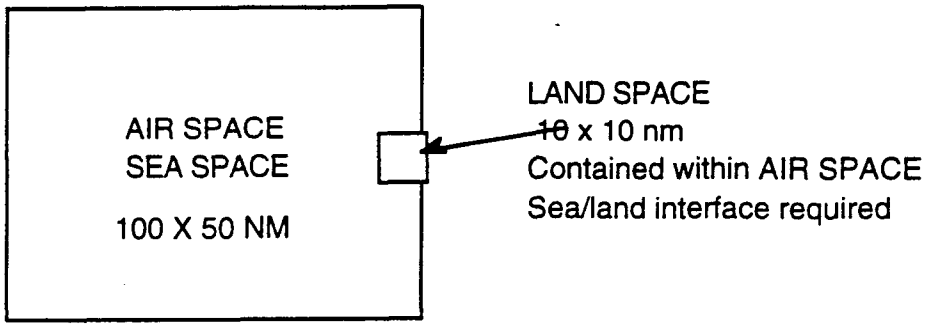
**Description of Requirements Drivers and Methodology Form**

# HARPOON RANGE REQUIREMENT



**Description of Requirements Drivers and Methodology Form**

# AIR/SURFACE RANGE REQUIREMENT




AIR SPACE = 5,000 SQ nm
TOT LAND SPACE = 100 SQ nm
DOD LAND SPACE = 100 SQ nm
SEA SPACE = 5,000 SQ nm
STRAIGHT LINE SEGMENT = 30 nm

## Description of Requirements Drivers and Methodology Form

**Category:** Armament/Weapons

**Subcategory:** Air-to-Surface

**Requirements Area:** Air/Sea/Land Spaces

**a. Systems Description:**

Air-to-Surface weapons range requirements are driven by the needs of the HARPOON, SLAM, and Joint Standoff Weapon (JSOW) programs.

**b. Engagement/Scenario Description:**

Long range air launch against a land based target with live warhead or dispensing submunitions prior to impact. See attached air-to-surface requirement.

Air-launched HARPOON warhead-equipped missile(s) flown to near maximum system range against a ship target. See attached HARPOON requirement.

Non-warhead HARPOON tests against either single or multiple surface target engagements with small, medium, and large seaborne targets can be accommodated in approximately one fourth of the range requirement.

**c. Description of Method used to Determine Space Requirements:**

Space utilized is driven by range safety requirements which are based on kinematic profile of the missile, and the air and surface debris pattern of associated with missile warhead detonation or submunition dispensing pattern. Warhead-equipped missiles do not have flight termination capability.

**d. DT&E or OT&E Requirements (check whichever applies):**

**DT&E:**

**OT&E:**

**Both:** √

# Description of Requirements Drivers and Methodology Form

**Category:** Armaments/Weapons

**Subcategory:** Surface-to-Air

**Requirements Area:** Sea and Air Space

## a. Systems Description:

AEGIS Combat System and Ship Building Program with the Standard Missile. (Maximum missile in flight (MAXMIF) scenario.)

## b. Engagement/Scenario Description:

AEGIS Program has a requirement to evaluate the ship combat system performance with the maximum number of simultaneous Standard Missiles in flight against multiple threat targets from multiple threat axes in a heavy electronic jamming environment. The mission parameters were defined as one AEGIS ship simulating support of a CVBG with a mission of Battlegroup AAW defense. The threat would consist of multiple EW jamming aircraft, attacks from a minimum of three threat axes with a minimum constraint on firing sector (360 degree firing bearing would be optimum). Half the targets would be directed against the ship and the other half against the simulated BG. Targets were to be a mixture composed of high altitude, supersonic; low altitude, supersonic; and low and medium altitude, subsonic threats.

This DT scenario required the following target requirements presented in a threat sector of 180 degrees around the ship:

4 AQM-37C targets, high altitude, Mach 2.0
2 MQM-8G(ER) targets, low altitude, Mach 2.1
14 BQM-34S targets, medium altitude, Mach 0.8
2 BQM-74C targets, medium altitude, Mach 0.7
3 Stand-Off Jammer Aircraft at 175 miles, 30k feet

Note: these scenarios also required three KC-135 tanker aircraft, three C-130 target launch aircraft, and three telemetry receiving aircraft.

## c. Description of Method used to Determine Space Requirements:

Range Safety calculations
Target flight path
Support aircraft positions
Long-range detection capability of AEGIS system
Time of flight and kinematics of the STANDARD Missile

## d. DT&E or OT&E Requirements (check whichever applies):

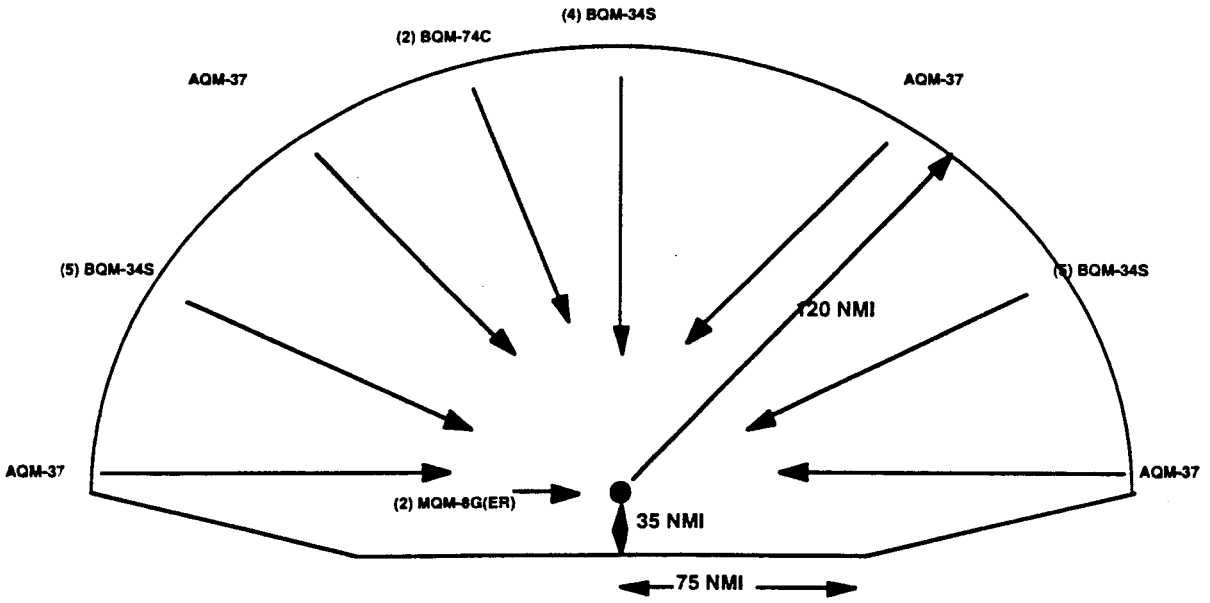
**DT&E:** √

**OT&E:**

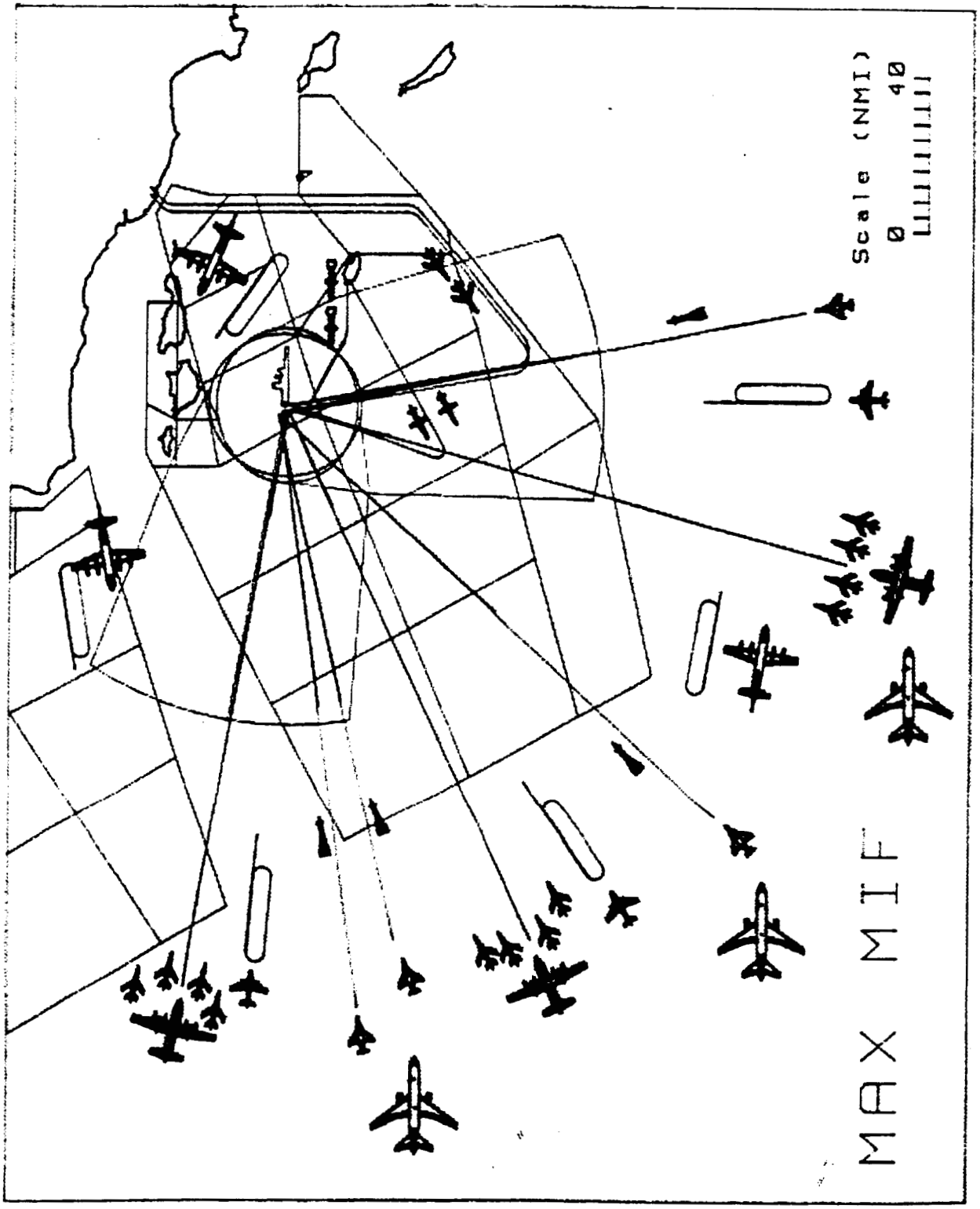
**Both:**

## Description of Requirements Drivers and Methodology Form

### AEGIS MAXIMUM MISSILE IN FLIGHT SCENARIO



## Description of Requirements Drivers and Methodology Form



# Description of Requirements Drivers and Methodology Form

**Category:** Armament/Weapons

**Subcategory:** Surface-to-Air

**Requirements Area:** Sea and Air Space

**a. Systems Description:**

Standard Missile

**b. Engagement/Scenario Description:**

Maximum range intercept against high altitude, high speed target, one missile against one target in a clear or jamming environment.

**c. Description of Method used to Determine Space Requirements:**

Target launch aircraft and target flight path
Range Safety calculations for both missile and target hazard patterns

**d. DT&E or OT&E Requirements (check whichever applies):**

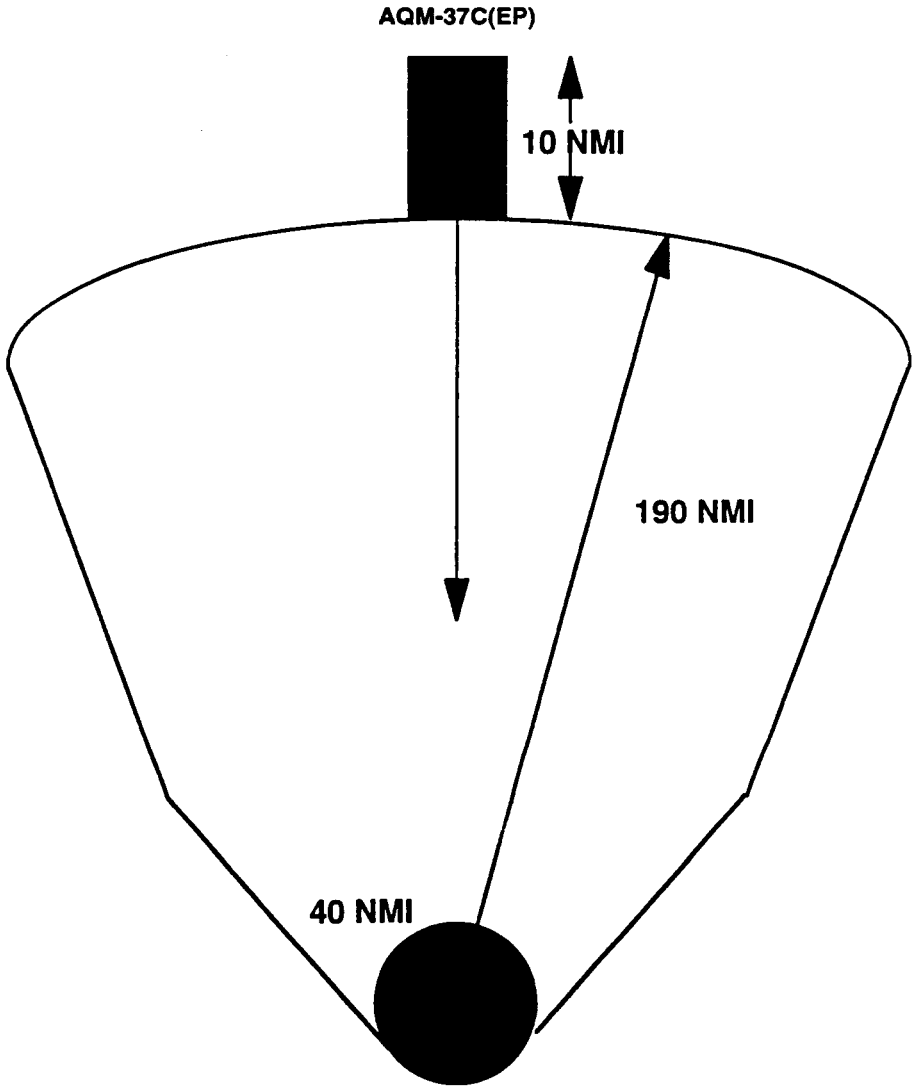
**DT&E:** √

**OT&E:**

**Both:**

**Description of Requirements Drivers and Methodology Form**

# STANDARD MISSILE



# Description of Requirements Drivers and Methodology Form

**Category:** Armaments/Weapons

**Subcategory:** Surface-to-Air

**Requirements Area:** Sea and Air Space

**a. Systems Description:**

AEGIS Combat System with the Standard Missile.

**b. Engagement/Scenario Description:**

AEGIS and Standard Missile programs have a littoral warfare requirement to evaluate the ship combat systems and Standard Missile performance against three threat targets over land in dear and heavy electronic jamming environments. DT and OT scenarios have required target presentations with intercepts over land or in front of a land mass background against various targets including:

AQM-37C targets, high altitude, Mach 3.0
MQM-8G (ER) targets, low altitude, Mach 2.1
BQM-34S targets, medium altitude, Mach 0.8
Stand-Off Jammer Aircraft at 175 miles, 30k feet

Note 1: These scenarios also required support aircraft, including tankers, target launch aircraft, and telemetry receiving aircraft.

Note 2: These scenarios can be satisfied by engaging targets over an island.

**c. Description of Method used to Determine Space Requirements:**

Range Safety calculations
Target flight path
Support aircraft positions

**d. DT&E or OT&E Requirements (check whichever applies):**

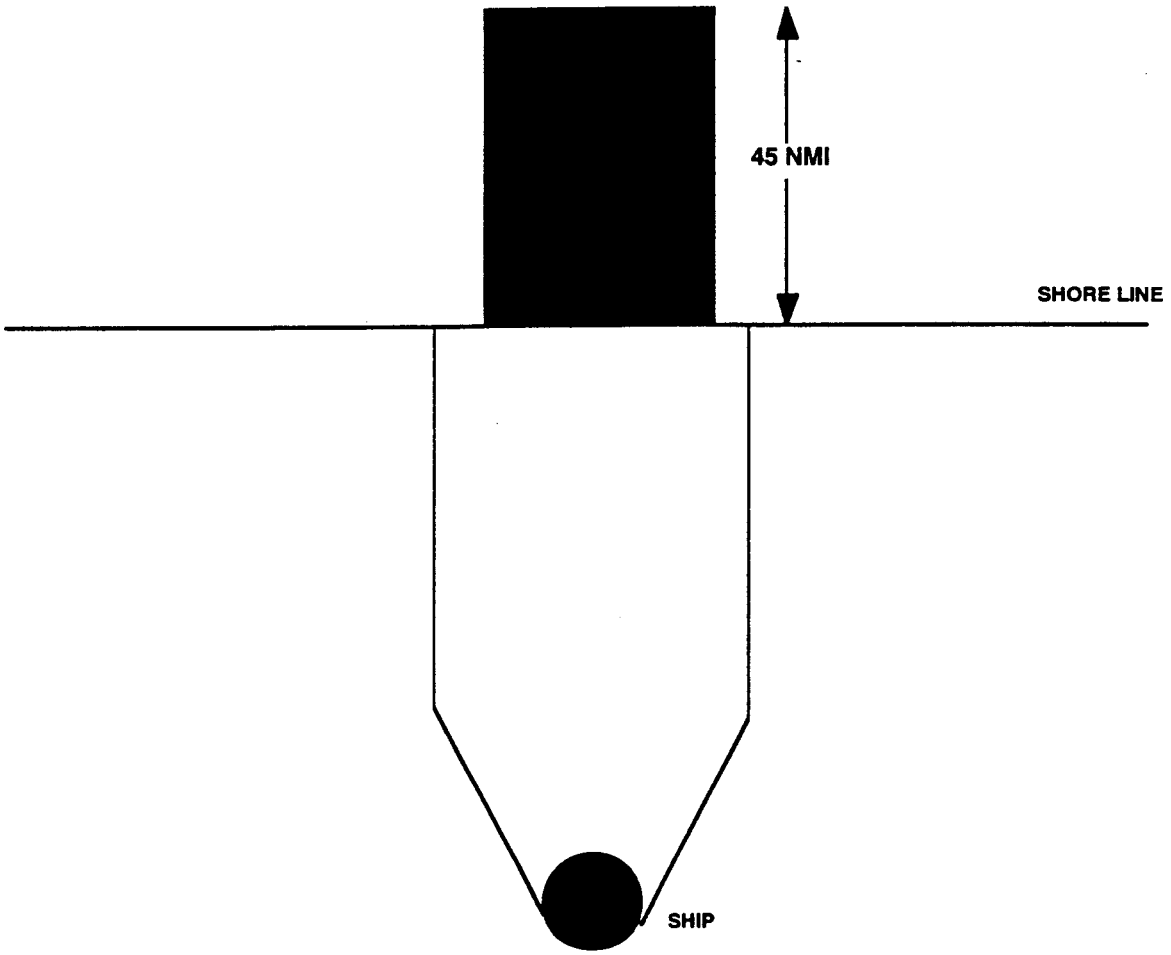
**DT&E:**

**OT&E:**

**Both:** √

## Description of Requirements Drivers and Methodology Form

### LITTORAL SCENARIO



## Description of Requirements Drivers and Methodology Form

**Category:** Armaments Weapons

**Subcategory:** Surface-to-surface

**Requirements Area:** Sea Space, air space

**a. Systems Description:**

HARPOON Anti-Ship missile

**b. Engagement/Scenario Description:**

Sea-launched (ship/submarine) HARPOON warhead equipped missile(s) flown to near maximum system range against a ship target. See attached HARPOON Requirement.

Non-warhead HARPOON tests against either single or multiple surface target engagements with small, medium and large seaborne targets can be accommadated in approximately one fourth of the range requirement.

**c. Description of Method used to Determine Space Requirements:**

Sea space utilized is driven by range safety requirements which are based on kinematic profile of the missile, and the air and surface debris pattern of a missile warhead detonation. Warhead equipped missiles do not have flight termination capability.

**d. DT&E or OT&E Requirements (check whichever applies):**

**DT&E:**

**OT&E:**

**Both:** √

## Description of Requirements Drivers and Methodology Form

**Category:** Cruise Missile

**Subcategory:** N/A

**Requirements Area:** Sea /Air /Land Spaces

**a. Systems Description:**

TOMAHAWK Land Attack Missile (TLAM)

**b. Engagement/Scenario Description:**

Single sea-launched (ship/submarine) Tomahawk flown near maximum system range, multiple enroute, over land, navigation updates within FAA approved flight corridor and terminal impact area on instrumented land range with inert warhead/submunitions. See attached TOMAHAWK Requirement #1.

**c. Description of Method used to Determine Space Requirements:**

Sea space utilized is driven by requirement to fly missile long enough to burn-off sufficient fuel weight to allow for land transition over high terrain and to allow launch platform maximum operating area flexibility.

Land space utilized is driven by requirement for missile to over-fly terrain size adequate to support enroute navigation updates, multiple target(s) (up to three) with adequate separation to support terminal scoring for multiple target attacks (submunitions) with same missile, and scoring instrumentation.

Land space in terminal area must also support coordinated scenarios involving Unmanned Aerial Vehicles (UAVs) for targeting and battle damage assessment and aircraft strikes against other targets in the same operating area.

**d. DT&E or OT&E Requirements (check whichever applies):**

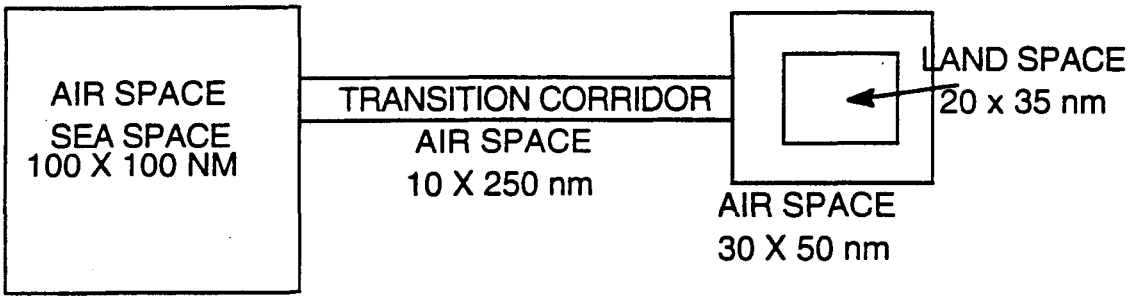
**DT&E:**

**OT&E:**

**Both:** √

**Description of Requirements Drivers and Methodology Form**

# TOMAHAWK RANGE REQUIREMENT #1




AIR SPACE = 14,000 SQ nm
TOT LAND SPACE = 700 SQ nm
DOD LAND SPACE = 700 SQ nm
SEA SPACE = 10,000 SQ nm
STRAIGHT LINE SEGMENT = 100 nm

## Description of Requirements Drivers and Methodology Form

**Category:** Cruise Missile

**Subcategory:** N/A

**Requirements Area:** Sea /Air /Land Spaces

**a. Systems Description:**

TOMAHAWK Land Attack Missile (TLAM)

**b. Engagement/Scenario Description:**

Single sea -launched (Ship/Submarine) Tomahawk flown near maximum system range, multiple enroute navigation upgrades over island land mass, impact target(s) on island with live warhead/submunitions detonation.

Missile remains over water and over island for entire mission (live warhead safety requirement). See attached TOMAHAWK Requirement #2.

**c. Description of Method used to Determine Space Requirements:**

Sea space utilized is driven by requirement to fly near maximum system flight range and to allow launch platform maximum operating area flexibility.

Land space utilized (island) is driven by requirement for missile to over-fly terrain size adequate to support enroute navigation updates, live warhead detonations, multiple targets (up to three) with adequate separation to support terminal scoring for multiple target attacks (submunitions) with same missile, and scoring instrumentation.

**d. DT&E or OT&E Requirements (check whichever applies):**

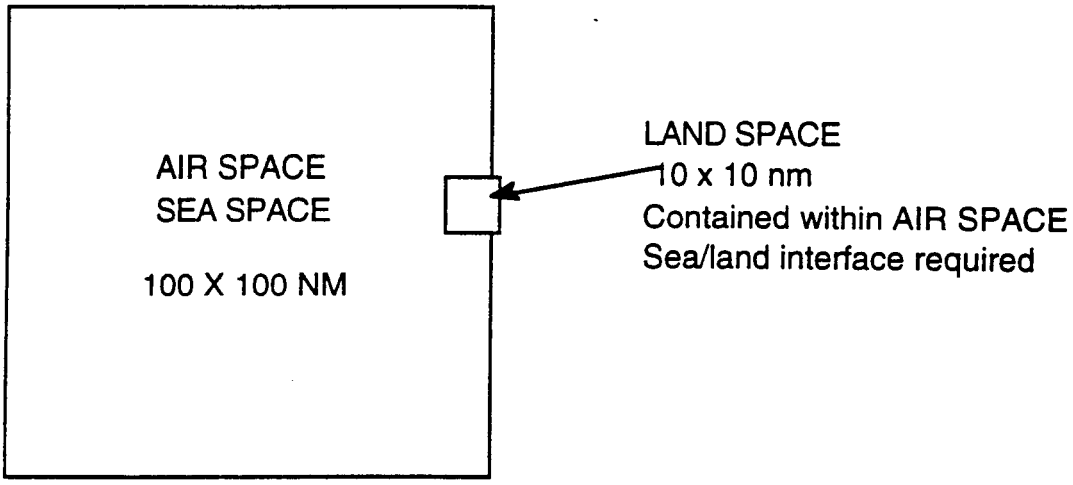
**DT&E:**

**OT&E:**

**Both:** √

**Description of Requirements Drivers and Methodology Form**

# TOMAHAWK RANGE REQUIREMENT #2




AIR SPACE = 10,000 SQ nm
TOT LAND SPACE = 100 SQ nm
DOD LAND SPACE = 100 SQ nm
SEA SPACE = 10,000 SQ nm
STRAIGHT LINE SEGMENT = No requirement

## Description of Requirements Drivers and Methodology Form

**Category:** Theater Missile Defense

**Subcategory:** Short/Medium/Long Range

**Requirements Area:** Sea & Air Spaces

**a. Systems Description:**

The Army Theater high altitude Area Defense (THAAD) system is composed of a missile and sensor system which will be used to protect deployed U.S. forces against ballistic, cruise, or air-to-surface missiles.

**b. Engagement/Scenario Description:**

Mix of missions with desired intercept points ranging from close in to far away and high altitudes/ Mix of intercepts would be against a variety of targets.

**c. Description of Method used to Determine Space Requirements:**

Hd VSATECOM THAAD Test site study report of 21 Mar 94

Range Safety requirements

**d. DT&E or OT&E Requirements (check whichever applies):**

**DT&E:** √

**OT&E:**

**Both:**

## Description of Requirements Drivers and Methodology Form

Category: Air Vehicle

Subcategory:

Requirements Area: Required Air Space

a. System Description: JTIDS provides a time domain multiplexed multi-platform information distribution systems operating via RF data link with multiple aircraft. ships and land stations. Aircraft include the E-2C, F-14, F-15, E-3A. Ships include the AEGIS cruiser.

b. Engagement/Scenario Description: Typical test scenarios included from 15-20 land sea and air platforms engaged in various interoperability scenarios covering 400 nmi by 200 nmi. Specific scenarios were at sea with some overland participants. Specific requirements were close location to fleet Navy and Air Force participants so scenarios could be supported for extended periods.

c. Description of Method Used to Determine Space Requirements: The JTIDS DT/OT test scenario was driven by several factors. First, a sufficient number of participants both command and control such as the E-2C, E-3A Airborne Warning and Control System (AWACS), the Ticonderoga class cruiser; and fighter aircraft such as F-14D and F-15 were required. Additionally widely dispersed land, sea and air units were required to demonstrate the JTIDS interoperability. Secondly, sufficient controlled target aircraft flying controlled flight profiles were required. Third, aircraft had to be deployed at distances to demonstrate direct line communications with the JTIDS and "relay" mode communications by the JTIDS. Fourth, targets were required to be dispersed at the maximum sensors ranges. Finally, the test required ground truth radar surveillance and control from a test and evaluation site.

d. DT&E or OT&E Requirements

DT&E

OT&E

Both X

## Description of Requirements Drivers and Methodology Form

Category: Air Vehicles

Subcategory: N/A

Requirements Area: Required Total Land Space

a. System Description:

AEW Radar with Cooperative Engagement Capability (CEC)

b. Engagement/Scenario Description:

Long range AEW radar and CEC data fusion system requires airborne aircraft, cruise missile and TBM detection and tracking data to maximum range of systems. The requirement to test detection of targets to the maximum system range defines the maximum airspace length. The cross track requirement is driven by the necessity for off axis maneuvering airborne targets and jammers. For instance, a system specification may require a jammer be placed at approximately half of the maximum range of the system and within the peak of the first antenna horizontal sidelobe. Must be able to jam a wide variety of frequencies. Require airspace from 0 (helicopters and low flying aircraft) to 600,000 ft (latest ATBM data point actually collected) for various scenarios. Testing requires adequate baselining of clutter environment and casual EMI. We now have 15 years of baseline flights in this area. An adequate baseline will require 4-5 years of data collection at another set of conditions (airspace, local casual emitters, terrain, cultural features, etc). Clutter baseline will become even more crucial with new upgrade systems in overland scenario. Land space is required since the system must be tested in the overwater, overland and nearland environments to provide adequate design feedback and to verify specification compliance.

c. Description of Method Used to Determine Space Requirements:

Typical DT and OT testing profile used historically. Over 100 profiles have been coordinated with the FAA, NORAD and frequency managers and are available for testing. The airspace requirements listed in the matrix overlay the downrange and crossrange dimensions of a typical scenario. These profiles are used an average of approximately 100 times per year. The 600,000 feet vertical requirement listed above was needed for a recent data collect. This scenario will be repeated for the forseeable future. Projected system update (in work) will require similar, but larger airspace requirements; therefore, these numbers are considered conservative.

d. DT&E or OT&E Requirements (check whichever applies):

DT&E

OT&E

Both X

## Description of Requirements Drivers and Methodology Form

**Category:** Air Vehicles

**Subcategory:** N/A

**Requirements Area:** All

**a. Systems Description:**

F/A-18 system development includes radar, mission computer, EO/IR sensors, air-to-air/air-to-ground weapon integration, navigation systems, and system built-in test and monitoring software/hardware development, performance assessment and verification/validation testing.

**b. Engagement/Scenario Description:**

1. Radar development surface to 50,000 ft/MSL. Targeting aircraft and one to six targets.
2. Air-to-surface weapons surface to 40,000 ft/MSL.
3. Air-to-air weapons surface to 50,000 ft/MSL.
4. Navigation performance 200 ft/AGL, 30,000 ft/MSL.

**c. Description of Method used to Determine Space Requirements:**

Based on test profiles developed over the past 10 years, standard radar development profiles (40 nm) minimum turn-in required, look-up, look-down required. Weapon launch profiles based on sensor/weapon maximum targeting ranges.

**d. DT&E or OT&E Requirements (check whichever applies):**

**DT&E:** √

**OT&E:**

**Both:**

## Description of Requirements Drivers and Methodology Form

Category: Air Vehicles

Subcategory: N/A

Requirements Area: Required Sea Space

a. System Description:

AEW Radar with Cooperative Engagement Capability (CEC)

b. Engagement/Scenario Description:

Long range AEW radar and CEC data fusion system requires airborne aircraft, cruise missile and TBM detection and tracking data to maximum range of systems. The requirement to test detection of targets to the maximum system range defines the maximum airspace length. The cross track requirement is driven by the necessity for off axis surface and airborne targets and jammers. For instance, a system specification may require a jammer be placed at approximately half of the maximum range of the system and within the peak of the first antenna horizontal sidelobe. Surface ship targets are required to the limits of the E-2C radar horizon. Must be able to jam a wide variety of frequencies. Require airspace from 0 (surface ships and helicopters) to 600,000 ft (latest ATBM data point actually collected) for various scenarios. Testing requires adequate baselining of clutter environment and casual EMI. We now have 15 years of baseline flights in this area. An adequate baseline will require 4-5 years of data collection at another set of conditions (airspace, local casual emitters, terrain, cultural features, etc). Sea space is required since the system must be tested in the overwater, overland and nearland environments to provide adequate design feedback and to verify specification compliance.

c. Description of Method Used to Determine Space Requirements:

Typical DT and OT testing profile used historically. Over 100 profiles have been coordinated with the FAA, NORAD and frequency managers and are available for testing. The airspace requirements listed in the matrix overlay the downrange and crossrange dimensions of a typical scenario. These profiles are used an average of approximately 100 times per year. The 600,000 feet vertical requirement listed above was needed for a recent data collect. This scenario will be repeated for the forseeable future. Projected system update (in work) will require similar, but larger airspace requirements; therefore, these numbers are considered conservative.

d. DT&E or OT&E Requirements (check whichever applies):

DT&E

OT&E

Both X

## Description of Requirements Drivers and Methodology Form

Category: Air Vehicles

Subcategory: N/A

Requirements Area: Required Straight-Line Segment

a. System Description:

AEW Radar with Cooperative Engagement Capability (CEC)

b. Engagement/Scenario Description:

Long range AEW radar and CEC data fusion system requires airborne aircraft tracking data to maximum range of systems. Tracking algorithms must be tested at supersonic speeds. The requirement to test detection of targets to the maximum system range defines the maximum airspace length. The across track requirement may be relaxed somewhat (perhaps to 50nm) depending upon geometry and the number of targets used. Require airspace from 15,000 ft to FL 600 to provide block altitudes for the E-2C and the targets. Testing requires adequate baselining of clutter environment and casual EMI. We now have 15 years of baseline flights in this area. An adequate baseline will require 4-5 years of data collection at another set of conditions (airspace, local casual emitters, terrain, cultural features, etc).

c. Description of Method Used to Determine Space Requirements:

Typical DT and OT testing profile used historically. The airspace requirements listed in the matrix overlay the downrange and crossrange dimensions of a typical scenario. System specifications require a medium to large radar cross section target flying a supersonic profile inbound from the maximum system range. In most cases, this requirement has been filled by using scheduled flights of the BA Concorde inbound from Europe. This may not be viable in the future. The supersonic tracking scenario will be repeated for the forseeable future. Projected system update (in work) will require similar, but larger straight line segments; therefore, these numbers are considered conservative.

d. DT&E or OT&E Requirements (check whichever applies):

DT&E

OT&E

Both X

## Description of Requirements Drivers and Methodology Form

**Category:** Air Vehicles

**Subcategory:** None

**Requirements Area:** Air, sea and land spaces

**a. Systems Description:**

F-14A, A/B, D, A/B Upgrade
a.) Radar detection and acquisition
b.) Air-to-air weapons engagement at maximum range

**b. Engagement/Scenario Description:**

a) Radar detection and tracking at maximum design range.
b) Multiple air-to-air weapons engagements and release for combined standoff and reattack scenarios over both land and sea at all altitudes.

**c. Description of Method used to Determine Space Requirements:**

a) Maximum radar detection range plus turn radius of aircraft and system initialization times drive range requirements for target and intercept aircraft.
b) Same as a), plus re-attack (IR missile) time drives range requirements.

**d. DT&E or OT&E Requirements (check whichever applies):**

**DT&E:**

**OT&E:**

**Both:** √

## Description of Requirements Drivers and Methodology Form

**Category:** Air Vehicles

**Subcategory:** None

**Requirements Area:** Air & Surface Spaces

**a. Systems Description:**

E-3 (AWACS) Radar System Improvement Program (RSIP) Test bed AWACS has undergone upgrades to the radar hardware and total replacement of the radar computer and associated software.

**b. Engagement/Scenario Description:**

E-3 will track airborne and surface targets over extended distances in order to evaluate the modified E-3 radar.

**c. Description of Method used to Determine Space Requirements:**

Space requirements determined from E-3 Test requirement scenarios.

**d. DT&E or OT&E Requirements (check whichever applies):**

**DT&E:** √

**OT&E:**

**Both:**

## Description of Requirements Drivers and Methodology Form

**Category:** Air Vehicles

**Subcategory:** N/A

**Requirements Area:** Air & Sea Spaces

**a. Systems Description:**

F-14/D radar system checks
Avionics system checks (Special Access Program)

**b. Engagement/Scenario Description:**

Program designed scenarios
(1) tracking flights
(2) system accuracy

**c. Description of Method used to Determine Space Requirements:**

Program Requires Scenario
Support Units
Project Security

**d. DT&E or OT&E Requirements (check whichever applies):**

**DT&E:** √

**OT&E:**

**Both:**

## Description of Requirements Drivers and Methodology Form

**Category:** Electronic Combat

**Subcategory:** N/A

**Requirements Area:** Air & Surface Spaces

**a. Systems Description:**

EA-6B Electronic Combat aircraft and weapons systems

**b. Engagement/Scenario Description:**

EA-6B HARM maximum range shot at 30K feet altitude and .8 mach.

**c. Description of Method used to Determine Space Requirements:**

Range Safety Criteria for live fire missile launches of HARM Topgun and Strike Warfare Tactics guide. Intelligence on threat scenarios and tactics.

**d. DT&E or OT&E Requirements (check whichever applies):**

**DT&E:**

**OT&E:**

**Both:** √

## Description of Requirements Drivers and Methodology Form

**Category:** Electronic Combat

**Subcategory:** N/A

**Requirements Area:** Air & Surface Spaces

**a. Systems Description:**

Data Link
Classified program to be used on multiple platforms for all services to be used in joint operations.

Radar and Missile Warning systems (RWR/MWR)
Live fire tests to determine detectability and survivability of tactical aircraft in missile threat environments.

**b. Engagement/Scenario Description:**

Multiple axis targets both friendly and threat for cooperative targeting and handoff. War-at-sea scenarios with approved tactics and Command, Control, Communications and Intelligence interfacing.

**c. Description of Method used to Determine Space Requirements:**

Range Safety Criteria for live fire missile launches. Topgun and Strike Warfare Tactics guide. Intelligence on threat scenarios and tactics.

**d. DT&E or OT&E Requirements (check whichever applies):**

**DT&E:**

**OT&E:**

**Both:** √

## Description of Requirements Drivers and Methodology Form

**Category:** Electronic Combat

**Subcategory:** _____

**Requirements Area:** Required total land space, required DoD land space.

**a. System Description:**

Air-to-Surface weapons launched during DT&E and OT&E live fire exercises (specifically HARM).

**b. Engagement/Scenario Description:**

Weapons launch typically occurs in the Electronic Combat environment to impact radiating targets included in the littoral threat up to 80 nautical miles away.

**c. Description of method used to determine space requirements:**

Maximum kinematic ranges of weapon plus range safety requirements.

**d. DT&E or OT&E Requirements: (check whichever applies)**

DT&E _____

OT&E _____

Both ___X___

## Description of Requirements Drivers and Methodology Form

**Category:** Electronic Combat

**Subcategory:**

**Requirements Area:** Required airspace, required restricted airspace, required straight-line segment

**a. Systems Description:**

Airborne Integrated Electronic Warfare Systems including radar warning receivers (APR-39, APR-47, ALR-67) and jammers (ALQ-126B, ALQ-99, ALQ-165) aboard various platforms (F-16, F-4G, F/A-18).

**b. Engagement/Scenario Description:**

An airstrike against an air defense system. Tactical ELINT supports all aspects of an airstrike utilizing radar warning receivers, active and passive jamming, and weapons footprints, including air to air, air to ground, and surface to surface. ELINT systems may also be used for damage assessment.

**c. Description of Method used to Determine Space Requirements:**

Determined by the threat envelope of acquisition and fire-control systems and multiplied by the sensitivity of ELINT platforms.

**d. DT&E or OT&E Requirements (check whichever applies):**

**DT&E:**

**OT&E:**

**Both:** √

Subj: BRAC DATA CALL SIXTY NINE

1. Naval Sea System Command has no T&E requirements within the scope of BRAC Data Call Sixty Nine.

2. Information concerning T&E performed at the Atlantic Undersea Test and Evaluation Center (AUTEC) has not been provided because it is outside the purview of this data call.

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## TEST AND EVALUATION REQUIREMENTS FORM
## (ATTACHMENT 1)

| REQUIREMENT AREAS | TBMD ONLY | TBMD & AAW |
|---|---|---|
| **1. Required Air Space** | | |
| a. Total Square NM | 60000 | 142000 |
| b. Downrange (NM) | 590 | 590 |
| c. Crossrange (NM) | 192 | 500 |
| d. System/Scenario Driving Requirement | Navy Area TBMD | Navy Area TBMD |
| **2. Restricted Air Space** | | |
| (to include Warning Areas) | | |
| a. Total Square NM | 58000 | 133000 |
| b. Downrange (NM) | 225 | 300 |
| c. Crossrange (NM) | 192 | 500 |
| d. System/Scenario Driving Requirement | Navy Area TBMD | Navy Area TBMD |
| **3. Required Total Land Space** | | |
| a. Total Square NM | 900 | 900 |
| b. Downrange (NM) | 45 | 45 |
| c. Crossrange (NM) | 20 | 20 |
| d. System/Scenario Driving Requirement | Navy Area TBMD | Navy Area TBMD |
| **4. Required DoD Land Space** | | |
| a. Total Square NM | NA | NA |
| b. Downrange (NM) | NA | NA |
| c. Crossrange (NM) | NA | NA |
| d. System/Scenario Driving Requirement | | |
| **5. Required Sea Space** | | |
| a. Total Square NM | 60000 | 142000 |
| b. Downrange (NM) | 590 | 300 |
| c. Crossrange (NM) | 192 | 500 |
| d. System/Scenario Driving | Navy Area TBMD | Navy Area TBMD |
| **6. Required Straight Line Space** | | |
| a. Total Requirement(NM) | 590 | 590 |
| b. Supersonic Corridor requirement (NM) | NA | 180 |
| d. System/Scenario Driving Requirement | Navy Area TBMD | Navy Area TBMD |

## DT&E/OT&E REQUIREMENTS

BRAC 95 DATA CALL #69

### Description of Requirements Drivers and Methodology form

**Category:** Theater Missile Defense

**Subcategory:** Medium Range/TBMD ONLY

**Requirements Area:** Air/Sea/Land Spaces

**a. Systems Description:**
AEGIS Combat System with Standard Missile SM-2 Block IVA and TBMD modifications. The system will engage short range/mid range TBM targets.

**b. Engagement/Scenario Description:**
PEO(TAD) has requirement to demonstrate/evaluate ship combat system performance during TBM engagements against both short and medium range TBM targets. Test scenarios will employ at least two (2) TBM targets simultaneously in flight, attacking from at least two (2) axes, which will be engaged in a realistic countermeasures environment.

A DT scenario can require one medium range TBM target (800-1000KM) and one short range TBM target (100-500KM) presented on two separate axes. Stand-off jamming aircraft will be required to operate at distances of up to 225 miles from the ship. One TBM would be launched from an alternate geographic location and might be ship launched.

Scenarios would require telemetry receiving aircraft, and stand-off jamming aircraft.

**c. Description of Method used to Determine Space Requirements:**
Range Safety considerations
Target flight path
Support aircraft and ship positions
Long-range detection capability of AEGIS system
Time of flight and kinematics of STANDARD Missile
Realistic countermeasures environment

**d. DT&E or OT&E Requirements (check whichever applies):**
**DT&E:** √

**OT&E:**

**Both:**

## DT&E/OT&E REQUIREMENTS

BRAC 95 DATA CALL #69

### Description of Requirements Drivers and Methodology form

**Category:** Theater Missile Defense

**Subcategory:** Medium Range/TBMD and AAW engagements

**Requirements Area:** Air/Sea/Land Spaces

**a. Systems Description:**
AEGIS Combat System with Standard Missile SM-2 Block IVA and TBMD modifications. The system will engage short range/mid range TBM targets and AAW targets concurrently.

**b. Engagement/Scenario Description:**
PEO(TAD) has requirement to demonstrate/evaluate ship combat system performance in combined TBMD-AAW engagements. Test scenarios will employ at least four (4) targets simultaneously. Scenarios could include at least two (2) TBM targets simultaneously in flight, attacking from two (2) axes, and up to 3 AAW targets in flight from multiple axes.

A DT scenario can require one medium range TBM target (800-1000KM) and one short range TBM target (100-500KM) presented on two separate axes. AAW targets could include high altitude supersonic (AQM-37C), low altitude subsonic cruise missile target (BQM-34/74), and low altitude supersonic target (e.g., MQM-8G(ER)). One TBM would be launched from an alternate geographic location and might be ship launched. Stand-off jamming aircraft will be required to operate at distances of up to 225 miles from the ship.

Scenarios would require tanker aircraft (KC-135/KC-130), DC-130 target launch aircraft, and telemetry receiving aircraft, and stand-off jamming aircraft.

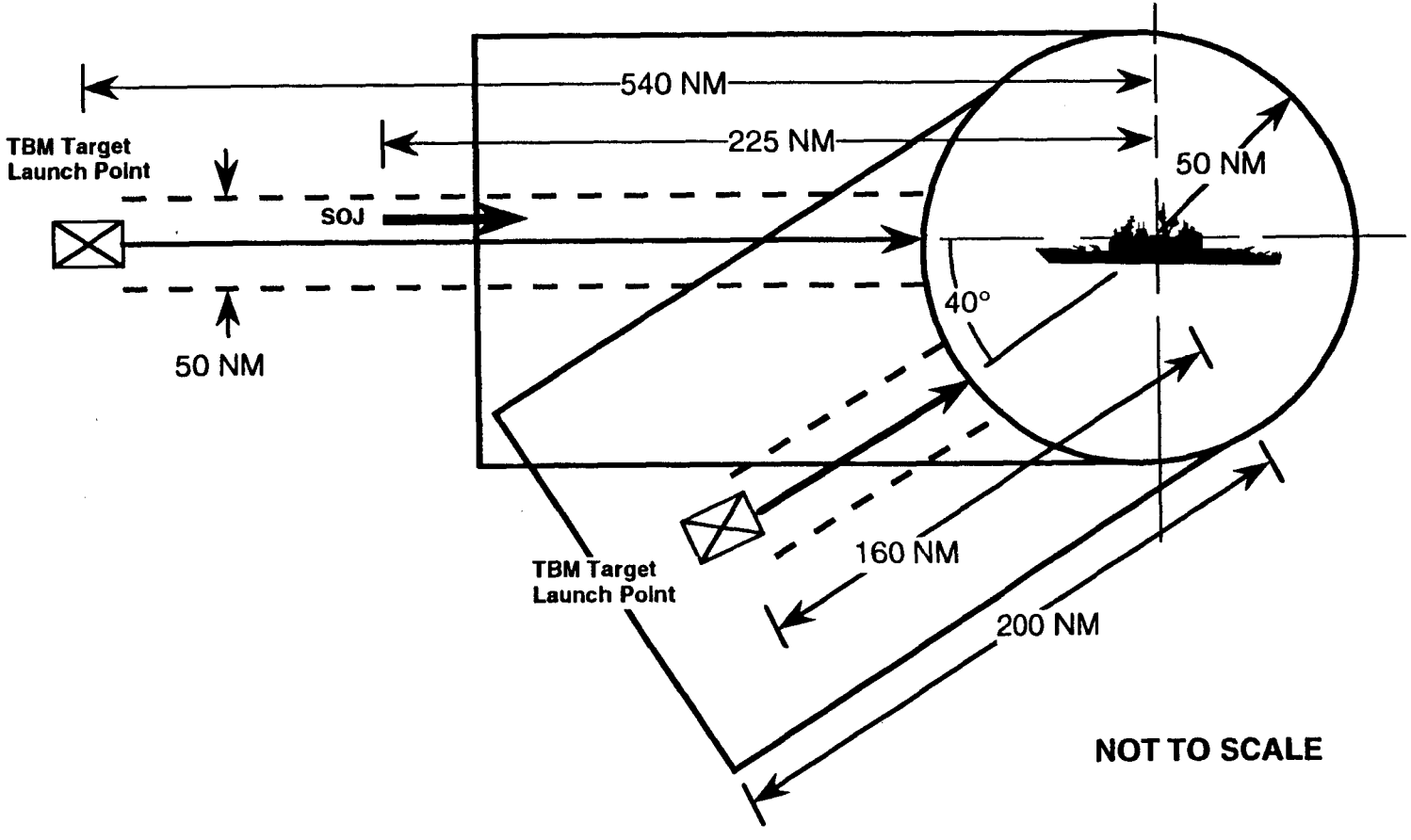
**c. Description of Method used to Determine Space Requirements:**
Range Safety considerations
Target flight path
Support aircraft and ship positions
Long-range detection capability of AEGIS system
Time of flight and kinematics of STANDARD Missile
Realistic countermeasures environment

**d. DT&E or OT&E Requirements (check whichever applies):**
**DT&E:** √

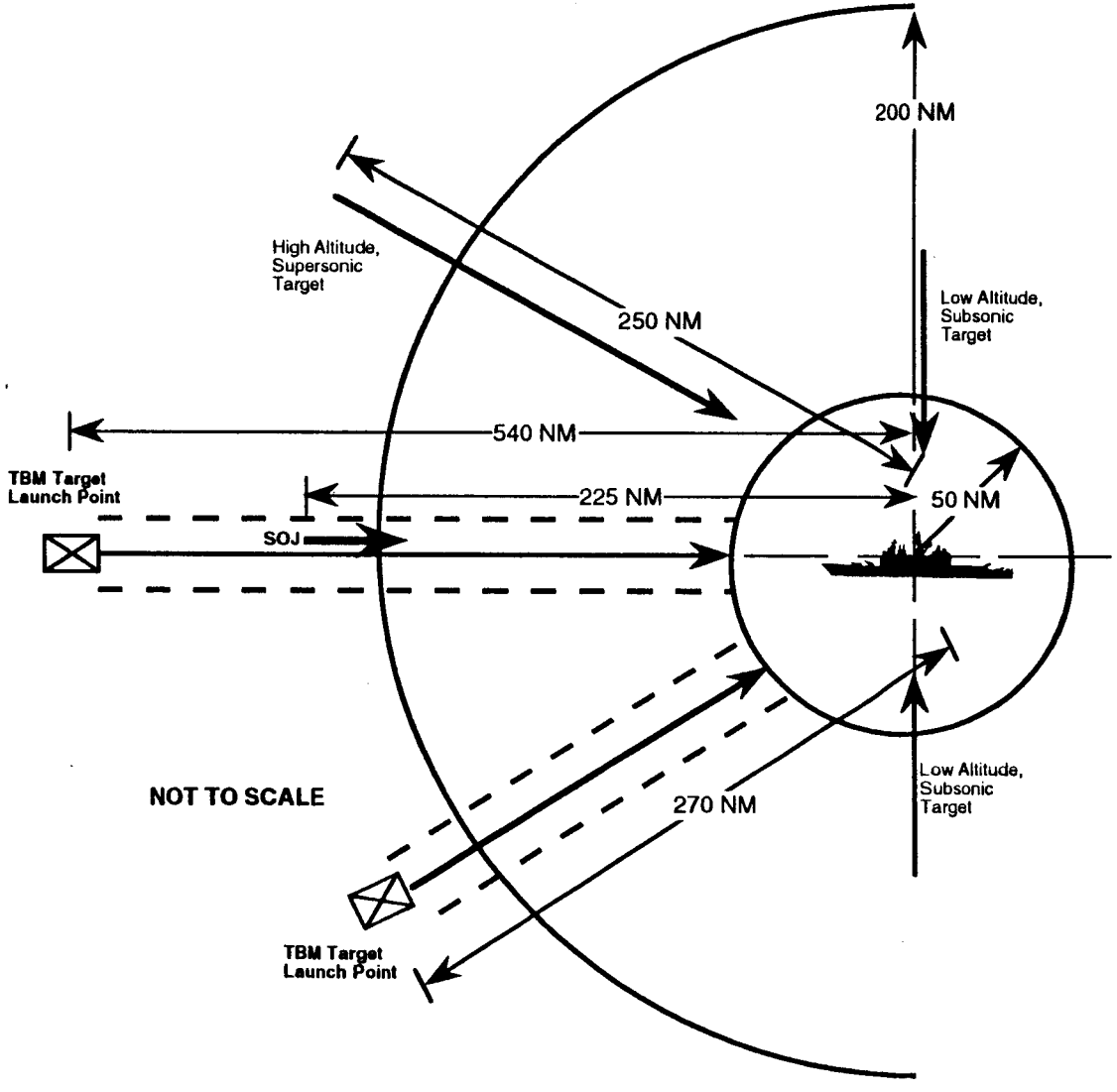
**OT&E:**

**Both:**

## Navy Area TBMD - Notional TBMD Warfare Only Scenario



# Navy Area TBMD - Notional Combined TBMD/AAW Warfare Scenario



DEPARTMENT OF THE NAVY
OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20350-1000

MM-0361-F7
BSAT/MS
3 October 1994

MEMORANDUM FOR CO-CHAIRS, TEST AND EVALUATION JOINT CROSS-SERVICE GROUP

Subj: PROVISION OF CERTIFIED NAVY DATA TO BRAC 95 TEST AND EVALUATION JOINT CROSS-SERVICE GROUP

In compliance with the Internal Control Plan for Managing the Identification of DoD Cross-Service Opportunities as Part of the DoD 1995 Base Realignment and Closure Process, dated 13 April 1994 and as authorized by the BRAC 95 Steering Group by memorandum dated 5 August 1994, I am forwarding the enclosed data and information to be used for analysis by the Test and Evaluation Joint Cross-Service Group. This data was obtained by the Department of the Navy (DoN) in response to the Test and Evaluation Joint Cross-Service Group Supplemental Data Call issued on 4 August 1994 and was certified in acordance with the DoN BRAC 95 certification policy and procedure.

The enclosed document is a certified true copy of the data call responses received from the Assisant Secretary of the Navy (RD&A). The only changes authorized for the enclosed data call responses will be any technical corrections made in response to errors identified by internal DoN verification checks, or for any additional clarifying information requested by the Test and Evaluation Joint Cross-Service Group. In either circumstance, another formal transmission will be made by DoN for any such data submitted to the Test and Evaluation Joint Cross-Service Group.

Charles P. Nemfakos
Vice Chairman,
Base Structure Evaluation Committee

94-10-03 19:44 RCVD