DEFENSE BASE REALIGNMENT AND CLOSURE COMMISSION
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MEMORANDUM OF MEETING

DATE:	**August 2, 2005**
TIME:	**3:00 pm**
MEEING WITH:	**Alan R. Shaffer, Executive Director OSD Technical Joint Cross-Service Group**
OBJECTIVE:	**To discuss the Technical Joint Cross-Service (TJCSG) Group recommendations**
JCSG STAFF:	**Dave Van Saun Les Farrington Glenn Knoephle**

OTHER COMMISSION PARTICIPANTS:

David Epstein, Navy Group

NON-COMMISSION PARTICIPANT(S):

None.

MEETING RESULTS/FOLLOW-UP ACTION:

We discussed several of the TJCSG recommendations to obtain clarification and insights. Mr. Shaffer provided the following information in response to questions we asked:

1.Concerning TECH-6, the C4ISR recommendation, the attempt was to create synergy by relocating Gunter and WPAFP to Hanscom, a high technology area Rated high in military value. The "brain drain" problem would be present, because many civilians and contractors from Maxwell, WPAFB and Lackland would not move to the higher cost of living area of Boston.

2 Concerning TECH-15 and 28, the relocation of personnel from Point Mugu to China Lake, the Navy supports the realignments. While it is recognized that only 20-30% of the people would probably move, the Navy has recognized this fact and still supports the consolidation. There would be usable land at Point Mugu if the recommendations were adopted. The experience has been that people will move if there is a job available.

3. Concerning TECH-12, the underlying rationale for this move was a decision to limit the number of sites where the basic material handling of materials is performed.

4. Concerning TECH-22, it makes good sense to move sensor functions from Rome and Hanscom to WPAFB. About 80% of the work at Rome is already contracted out.

5. The TJCSG was not given any proposals for privatization (e.g., Mesa Lab).

6. The movements of gun and ammunition work to Picatinny (TECH-18) is an area where jointness was achieved by the TJCSG. Picatinny has over 3,000 people and replicating their labs elsewhere would be huge.

Additional discussion was held concerning specifics behind most of the TJCSG recommendations. Mr. Shaffer offered to brief any or all of the Commissioners concerning the process followed by the TJCSG in coming up with their recommendations.

Mr. Shaffer agreed to look into the following matters and get back to us as soon as possible:

a. **Revised COBRA on the Point Mugu/China Lake move (TECH-15)**
b. **Revised COBRA on Dahlgren assuming the weapons capability stays**
c. **Revised COBRAs on Indian Head & Newport**
d. **COBRA breakouts of TECH-15, 18, 19 & 22**
e. **MATRIX showing all TJCJG recommendations, dollars, payback, etc.**

Farrington, Lester, CIV, WSO-BRAC

From: Phil Arnold [phil@iwvisp.com]
Sent: Monday, August 01, 2005 2:11 PM
To: Farrington, Lester, CIV, WSO-BRAC; david.epstein@wso.whs.mil
Cc: Bill Porter
Subject: Last installment of China Lake Defense Alliance BRAC material

Attachments: T&E Issues.doc; The Future Role of Electronic Warfare.v1.doc; BRAC Recommendations Overview.doc

T&E Issues.doc (30 KB) | The Future Role of Electronic ... | BRAC nmendations Overvi

Les and Davis,

At last we have completed the attached papers which cover everything we intend to send unless you have questions or concerns. We hope they are useful. As a companion to the comments sent earlier on EW issues and the point by point commentary on the Ventura County BRAC Task Force testimony, we are attaching a short set of comments on Sea Range staffing and support and two other papers.

One is a paper given to us by a local contractor who is a former EW aviator who is much more qualified than Bill or I or most other people on where EW is going and how it affects the aircraft of the future and system integration in the future.

The short paper, "BRAC Recommendations Overview", was generated because of our concern that we might find ourselves losing sight of the big picture that the TJCSG and DOD were painting for BRAC. We don't want to get so absorbed in the pieces in responding to allegations that we lose sight of the larger objectives.

Bill Porter and I are considering making a trip to the DC area early next week. We don't want to be pests who waste your time when we know you're extremely busy, but we could stop be to answer any questions or address any concerns on your part. After you have a chance to scan the attachments, we'll give a call to see if a visit would be worthwhile for you.

Phil

Naval Integrated Weapons and Armaments RDAT&E Center
Issues on Sea Range Staffing and Support

August 1, 2005

Introduction

The Technical Joint Cross Service Group (TJCSG) proposed and Secretary of Defense accepted creating an Integrated Weapons and Armaments Research, Development & Acquisition and Test & Evaluation Center in each service. The recommendation for the Navy was a complex one, affecting 10 bases and creating two specialty centers as well as the integrated center.

Ventura County challenged the recommendation in testimony at the Los Angeles Regional Hearing held by the BRAC Commission on July 14, 2005. The Ventura County challenge alleged significant military value and cost analysis errors, mostly based on an assumption that all or most of the Sea Range personnel and all of the equipment except instrumentation will be moved from the shore installations of the Sea Range to China Lake.

China Lake Defense Alliance Position

The creation of an Integrated Weapons and Armaments RDAT&E Center consolidates human, laboratory and range RDAT&E assets instead of scattering them in enclaves around the country. Consolidation will save money, but more importantly, will efficiently focus the Navy's weapons technological resources at a site with the assets best able to produce advanced weapon systems for the future. Naval aviation weapon systems are one beneficiary of this recommended consolidation because, with the complementary recommendation to focus sensors, electronic warfare and electronics RDAT&E, a closely knit, co-located team will be established to support the fully integrated air combat platforms of the future – the EA-18G, Joint Strike Fighter and versatile uninhabited air vehicles with their weapons, sensors, electronic warfare and other avionics integrated by a close-knit team.

China Lake has the staff, laboratories and ranges to cover most of the needs of an integrated RDAT&E center, but the installation lacks a sea range. The Point Mugu Sea Range, the world's best offshore range, is a vital DOD asset for joint testing of weapons and platforms at sea and must be preserved. Personnel and equipment must be located on shore at Point Mugu and San Nicolas Island to support test needs for air and sea platforms as well as space launches at nearby Vandenberg Air Force Base. The issue is what can move to China Lake to realize greater efficiencies and improved coordination and what must stay at Point Mugu-San Nicolas Island.

The Navy and China Lake-Point Mugu technical managers have the best understanding of Sea Range needs, and they can and will sort out the work requirements during the BRAC implementation phase. They can make transfer decisions that will maintain the Sea Range's operational capability with an efficient division of labor and equipment

between China Lake and Point Mugu. We agree with the Navy official's answer to a General Accountability Office question reported in their July 2005 report on BRAC, "If the recommendation is approved, the Navy will decide the best way to manage the range, including the appropriate number of employees to retain at Point Mugu, during implementation."

Responses to Ventura County Allegations

The Ventura County witnesses made many allegations at the Los Angeles Regional Hearing concerning the percentage of people who will be willing to move, alleged cost errors, and a reference to transformation. Most of these allegations are without merit and don't need to be answered here. A detailed response to each allegation and assertion is contained in another paper submitted to the BRAC Commission Staff on July 28, 2005. Of course the assertion that people won't move is irrelevant since we agree that those personnel needed to operate the ranges should stay where they are.

Assertions. The range cannot function with all of its personnel located at China Lake. The test and evaluation function at the Sea Range covers a variety of missions beyond simply testing weapons with a variety of customers. It makes no sense to base the large patrol aircraft needed to support range operations at China Lake nor to merge the test squadron with the squadron at China Lake at an inland location far from the range.

Responses.

- It is correct that range operating personnel should not be moved from the range. At the present time there are 550 - 600 civil servants and military personnel at Point Mugu assigned to T&E operations, T&E support functions, or T&E management functions. We have made a cursory review of a possible personnel breakout between Point Mugu-San Nicolas Island and China Lake, and the split might be on the order of half at each location. However, it makes sense for the location assignments to made after careful review and discussions between the technical managers at Point Mugu and China Lake. The decisions can best be made by the technical leadership most familiar with range operations in the context of the overall organization. These decisions should be the first order of business in the implementation phase after BRAC decisions are final.

- Although the Radar Reflectivity Laboratory is not part of the range organization at Point Mugu, we state for the record that we believe this facility should stay at Point Mugu for as long as it can meet the Navy and joint service needs. We don't advocate rebuilding facilities when it makes economic sense to leave them where they are and there aren't long-term military value benefits.

- We take no issue with the statement that the Sea Range has many customers other than weapons and armaments testing. For that matter, China Lake has customers in areas other than weapons and armaments and electronic warfare. Creation of an Integrated Weapons and Armaments RDAT&E Center doesn't preclude Point Mugu Sea

Range personnel from supporting all of the customers they presently serve. The issue is who and what needs to remain at Point Mugu to do the job.

• The several P-3S and C-130S aircraft perform a variety of missions – range safety, surveillance and clearance, target launches, telemetry, command destruct, photometrics, and logistics. While siting these aircraft at China Lake with the high performance test aircraft will provide cost savings by consolidating maintenance operations, it might make more sense to keep the large aircraft closer to their operating area. That decision, like locating T&E personnel, should be made by the China Lake-Point Mugu technical managers at the start of the implementation phase.

• VX-30 and VX-31 were established to support the missions of the two installations when China Lake and Point Mugu were realigned into the Naval Air Warfare Center Weapons Division. In the early years the F-14 was still operational and the test load at Point Mugu was larger than it is today. The VX-30 squadron is much smaller today, and if the two C-130 and three P-3 aircraft are excepted, there are only 6 F/A-18 aircraft of the oldest F/A-18A variety left in the squadron. VX-30 and VX-31 form a small test wing with a staff commanded by a Navy Captain. The administrative burden of an air wing staff is unneeded and costly. The more modern F/A-18 aircraft are stationed at China Lake in larger numbers with a heavier test and evaluation workload. Most tests on the Sea Range can be accomplished from China Lake based aircraft without refueling, but for longer endurance operations, refueling can be accomplished at the Point Mugu airfield from Air National Guard assets or by airborne tankers furnished by the Air National Guard. Merging VX-30 and VX-31 will save money and consolidate assets while eliminating the unnecessary air wing staff. If the decision is made to leave the P-3 and C-130 aircraft at Point Mugu, a detachment can remain there. If the Navy decides a wing organization is needed, the squadron at China Lake can be assigned to the larger test wing headquartered at Patuxent River.

• It is important that issues regarding Sea Range personnel and support not cause distraction from the primary purpose of creating the Naval Integrated Weapons and Armaments RDAT&E Center to consolidate and focus the Navy's scattered weapons and armaments assets.

In summary, range personnel and equipment are and should be based on T&E needs. A BRAC decision to form an Integrated Weapons and Armaments RDAT&E Center will not change the basic needs to support the Sea Range or any other functional element of the center. Decisions and assignments will be made by the Office of the Chief of Naval Operations (N4) in consultation with the Naval Air Systems Command and the management of the Naval Air Warfare Center Weapons Division. The analyses and final recommendations should be made by the China Lake and Point Mugu technical managers best qualified to make good decisions.

The Future Role of Electronic Warfare
And
The Need for Integrated Development

Historically, EW has been centered towards self-protection equipment (platform centric) such as radar warning, expendables and/or jammers. Stand Off Jammers (SOJ) such as the EA6B and the retired EF-111 were developed to mask the strike force for increased protection against hostile missile guided radars. As such, EW equipment was developed for a specific function with very little to no integration of other avionics on-board. And in many events, interfered with own platform systems. This is no longer the case. Information Operations (IO) has been defined as a much broader field that encompasses traditional EW but also includes computer and network attacks, deception, denial, and collection of hostile force information. As well as protection of friendly force communications and tactical information that traditional EW could not execute alone. A System of Systems (SoS) concept or NetCentric Warfare where platform weapons sensors are not only highly integrated which provide sensor fusion and a more accurate, unambiguous situational awareness of the battle space but are also required to transmit and receive information among the multiple off-board sensors such as satellites, UAVs, Early Warning A/C like the E-2C, ground sensors, etc.

Modern military aircraft such as the EA-18G and Joint Strike Fighter (JSF) are much more capable and complex than prior generations and a great deal of internal communication and interaction take place constantly within a modern avionics system. This high functional integration makes it extremely difficult to develop and test individual functions since performance is situational and depends upon inputs from many other on and off-board sensors.

The primary EW platform for the future of Naval Aviation is the EA-18G. By 2009, the EA-18G will be as capable as the EA-6B ICAP III with future NetCentric capability enhancements planned out to 2015 when the EA-6B is to retire. For example, one of those enhancements is the integration of the Advanced Electronically Scanned Array (AESA) radar currently in development on the F/A-18 E/F at the Advanced Weapons Laboratory (AWL) in China Lake, CA, the primary integration facility for the E-18G and F/A-18 aircraft. The next phase of development planned for AESA on the EA-18G is the EW Upgrade that will not only continue to operate as an air-to-ground and air-to-air radar but also act as an additional radar warning receiver and jammer providing additional situational awareness and electronic attack capability to the battle space thus more of a major cog in NetCentric Operations.

The EA-18G, JSF, Maritime Multi-mission Aircraft and other modern platforms will become more costly and difficult to develop and evaluate because the traditional piece-meal development approach and integration of the individual sub-systems onto a platform conceal causes of early failures. Capturing the entire set of parameters that contribute to an event on a modern aircraft is extremely difficult and requires closely coordinated development and integration efforts identifying problems early. Communication protocols between individual sub-systems for correlation and coordinated display and

techniques must be an integral part of early development. Threat warning algorithms and jammer technique development are no longer isolated to a given sub-system but must be developed to perform synergistically with other on and off-board sensors. Behavior is observable at platform level but much less so in the form of individual functions, such as EW, therefore research, development, test and evaluation must respond with appropriate instrumentation and facilities to capture and analyze them.

The need for a co-located, integrated development and test capability is evident to modern platform testing. Acquisition authority, system developers and testers combined within a tightly formed group and working closely together can only facilitate early successes and help to eliminate costly schedule slippages.

Additionally, requirements of these modern platforms in NetCentric Warfare necessitate linking live and virtual facilities for realistic development and testing. Specifically when long-range precision weapons, controlled and autonomous UAVs and individual platform sensors and off-board fused sensor products are required to operate in a networked or system of systems environment. The synergy of cooperating using linked Hardware-in-the-Loop and Open-Air facilities are powerful from several perspectives. It provides the capability needed for developmental testing by realizing in real-time system performance, such as EW, and the quick turn-around during technique development and optimization using actual threat systems, for instance at ECR linked with an ECSEL. It offers an appropriate environment for developmental and operational testing, tactics development, specific mission rehearsal, quick reaction capability, and for operational experimentation with new platforms, systems, tactics and procedures. There are many possible and useful levels of laboratory and range integration and cooperation but even simple connectivity would allow an EW system developer early insight to critical parameters during initial test and integration.

As the Navy continues to drive towards System of Systems operations that require effects-based results, so should we strive to provide the integrated development and test capability that is, by nature, effects-based oriented.

July 29, 2005

China Lake Defense Alliance Summary Comments to the Commission Staff on BRAC Recommendations Affecting China Lake

We expect this to be the last commentary to you. We are most grateful for your patience and willingness to allow us to bring our thoughts forward. We know that your workload in reviewing and analyzing piles of data and hundreds of comments before making recommendations to the Commission are enormous. We appreciate your commitment to developing the best possible product.

After plowing through the issues and allegations on the Naval Integrated Weapons and Armaments RDAT&E Center and the consolidated Sensors, Electronic Warfare and Electronics RDAT&E Center, we think there can be a danger that the main thrusts of the recommendations can get lost in the details. At least, we were concerned that we might allow ourselves to get so caught up in the minutia that we would lose the big picture that the Technical Joint Cross Service group was painting. Hence, this paper.

To us, the best outcome of the BRAC assessments would have been recommendations for full joint service use of the existing service RDT&E centers, particularly in aviation where the services develop joint requirements and develop joint systems. In the arena of most interest to us, the recommendations to create integrated aircraft and weapon RDAT&E centers in each service was the next best outcome in our opinion. At least at the service level, the assets would coalesce into capable, competent centers able to tackle the problems of applying advanced technology to the military problems of a difficult future. These centers would contribute to the transformation of our military capability for the new century. The Joint Cross Service Group's concerns about nurturing competition of ideas would be served by maintaining centers in each service.

This coalescing of capability is particularly needed in the Navy, which has scattered its weapon RDT&E capability at many facilities despite a long-term reduction in funds for research and technology and development of fewer new systems. One of the pillars of transformation is application of advance technology to meet new threats. Creating the integrated centers focuses resources, but more than that, it focuses the limited funding and supply of brainpower on the problems at hand.

Most people don't want to move, and most organizations don't want to lose people. Everybody is creative in finding reasons why something they see as unpleasant can't or shouldn't be done. During the Commission review phase of BRAC, we're sure that you've heard a hundred reasons why the recommendations shouldn't be accepted, or that the data calls weren't properly formulated or properly interpreted, or why their product is essential to the war effort, and so on. We suggest stepping back and asking the question for each major recommendation, "Does this make sense?" Not each nit, not each difficulty in implementing. Does forming integrated RDAT&E centers make sense? If it does make sense, in our case is China Lake the place to form the integrated weapons and armaments center?

We think the answers to these questions for weapons and armaments are yes. If the answers are yes, the BRAC Commission should approve the recommendation and let the Navy fight out the details, and respond to the naysayers during implementation. There is no doubt that the implementation phase will have plenty of roadblocks and controversy, but the big decision will have been made to create one integrated center, and the outcome will be an improved capability.

We believe that the Technical Joint Cross Service Group also had a vision for improved integration of the next generation combat aircraft by recommending the relocation of the Point Mugu electronic warfare capability to China Lake. China Lake's record speaks for itself in identifying key problems and creating effective, affordable solutions. This move brings problems that all realignments bring in dealing with a loss of intellectual capital. We strongly believe that the existing electronic warfare capability at China Lake shouldn't be overlooked, but we don't want to give the impression that Point Mugu's team isn't needed for the near term, particularly while the EA-6B remains our main electronic warfare asset.

We think that we should focus first on the long-term goals of BRAC, and if we do, the electronic warfare realignment not only makes sense, but plays an important part in supporting our future air warfare capability – transformation, if you will. We are certain that there are many mechanisms to support the present needs – maintaining personnel at Point Mugu during an extended transition, offering rehired annuitant positions, contracting, etc. while the team is building up in China Lake. The new team would be made up of Point Mugu personnel who move, China Lake electronic warfare experts who have been working in other areas after the work moved from the Lake to Point Mugu, and new hires at the journeyman and entry levels. Remember that China Lake has a superior recruitment record than Point Mugu for reasons discussed in earlier papers, also important for maintaining future capability.

The point is, at the end, if the recommendations hold, a full-spectrum, integrated RDAT&E center will be established at China Lake that is competent in all aspects of weapons and weapons technology, and fully capable of all aspects of aircraft weapon system integration including weapons, sensors, electronic warfare and mission avionics. The integration team will be operating at the very peak of software development competency, Level 5, as rated by the independent Software Engineering Institute at Carnegie Mellon Institute.

While it's important to examine every allegation and every assertion, the key is to decide what ultimately makes the most sense for the future. We believe that the recommendations of the Secretary of Defense for weapons and armaments and electronic warfare make the most sense for the future. Don't let issues such as Sea Range personnel stationing or near-term support of the EA-6B obscure the vision of a truly integrated Weapons and Armaments and Electronic Warfare RDAT&E Center to support the joint forces of the future.