

State of the State

Montana Air National Guard



Colonel Mark "Griz" Meyer
Commander

Recommendation

Recommendation: Realign Great Falls International Airport Air Guard Station, MT. Distribute the 120th Fighter Wing's F-16s to the 187th Fighter Wing, Dannelly Field Air Guard Station, AL (three aircraft); the 132d Fighter Wing, Des Moines International Airport Air Guard Station, IA (three aircraft); and retire (nine aircraft). The wing's expeditionary combat support (ECS) elements remain in place.

Justification: Great Falls (117) ranked low in military value.

"Although Des Moines was somewhat lower in military value ranking than Great Falls, the realignment to Des Moines creates a more effective unit of 18 aircraft."

Selection Criteria

Data call (MCI Questions) does not reflect accurate military value of the 120 FW

- **Military value -**
 - Current and future mission capabilities and operational readiness
 - Land, facilities and airspace
 - Ability to accommodate contingency mobilization, surge and FTF requirements
- **Other considerations**
 - Economic impact
 - Ability of infrastructure to support forces, missions and personnel

Locations and Personnel



120th Fighter Wing	924
Great Falls, MT	
Full-time Manning	329
State	32
219 th RHF	
Detachment 1	18
March ARB, CA	
RED HORSE Flight	124
Malmstrom AFB	
State Headquarters	30
Helena, MT	

Base Infrastructure

- **Military Construction**
 - Front Gate Summer 2004 \$1,400,000
 - *Construct Load Crew Training Facility FY 03 \$2,000,100
 - Add/Alter ARM/DISARM Pads FY 01 \$ 923,522
 - *Upgraded Base Infrastructure FY 00 \$1,332,571
 - Warehouse Addition FY 98 \$1,225,600
 - Composite Support Facility FY 97 \$6,048,200
 - *Munitions Maintenance Compound FY 95 \$3,720,600

Operational Readiness Inspections

EXCELLENT OVERALL!

• Initial Response:	EXCELLENT
• Employment:	EXCELLENT
• Ability to Survive and Operate:	EXCELLENT
• Mission Support:	SATISFACTORY
• Individual Ratings:	27 ORI
• Outstanding	28.5%
• Excellent	53.5%
• Sat	18%
• Marg	0%
• Unsat	0%

Unit Compliance Inspection

Dec 2003

Complies:	339 - 76%
Complies with Comments:	108 - 21%
Does Not Comply:	16 - 3%

- Security Forces Squadrons "One of the best inspected"
- Communications Flight Programs - "best seen in past 4 years"
- "Overall the Mission Support Group was the best seen in 2 years"
- 120th FW Maintenance Group "is an outstanding team"
- Aircrew training program "the most effective use of limited resources"
- Aircrew Life Support "unprecedented attention to detail"

Awards

Seven Air Force Outstanding Unit Awards:	2002, 2004
Security Force Squadron of the Year	2004
Two Maintenance Effectiveness Award:	2004
UCI Top 10 percent	2003
Four ANG Communications Flight of the Year:	2002
Nine ANG Military Personnel Flight of the Year:	2002
Excellent Rating Operational Readiness Inspection:	1997
ANG Environmental Pollution Prevention Award:	1995
ANG Civil Engineering Squadron:	1995
Outstanding Personnel Office of the Year:	1993
Supply Effectiveness Award:	1992
Eight ANG Outstanding Flying Unit Awards:	1988
Hughes Trophy:	1986

Air Defense "AEF" Rotations

Coronet Nighthawk Drug Interdiction

6 A/C, 75+ personnel packages on a 2 week rotation for 6 weeks

From 1990-1999 Unit participated in 9 "AEF" rotations

- > Oct - Nov 1990, Howard AFB, Panama
- > Jun - Jul 1991, Howard AFB, Panama
- > Mar - Apr 1992, Louis Martin, Puerto Rico
- > Dec - Jan 1993 - 1994, Howard AFB, Panama
- > Feb - Mar 1995, Roosevelt Roads NAS, Puerto Rico
- > Dec - Jan 1996 - 1997, Howard AFB, Panama
- > Oct - Nov 1997, Howard AFB, Panama
- > Feb - March 1998, Howard AFB, Panama
- > Oct - November 1999, Curacao, Dutch Antilles

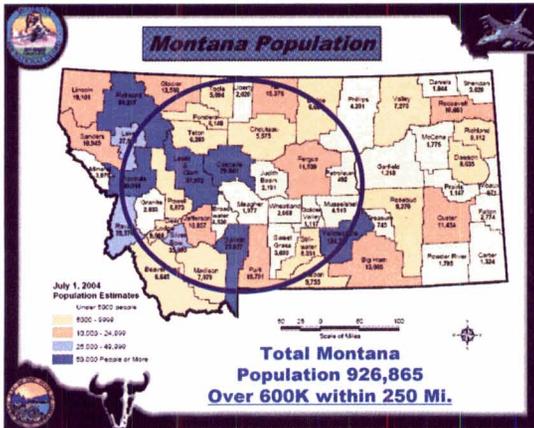
Post 9-11 120th Events

GP and Air Defense Commitments

- Unit Mobilization for Operation NOBLE EAGLE (450+ personnel)
- 5 Month's Home Station Alert (VPOTUS, Olympics, Special Asset)
- 1 Jan 2002 - Unit declares IOC in F-16C Block 30B1
- Mar 2002 - Stood up the first-ever Alert Detachment at Nellis AFB
- 1 Jun-15 Aug 2002 - 90 day AEF rotation for ONE Alert at Travis AFB
- Sep-Oct 2002 - 45 day AEF rotation to PSAB enforcing SNFZ over Iraq
- Feb-May 2003 - 90 day AEF Maintenance rotation to Buckley ANGB
- June 2003 - Unit's 1st Air Warrior/Live PGM drop to Nellis AFB
- 1 Sep - Present - 2 X 90 day AEF rotations to March AFB for ONE Alert

2004 Balad Deployment Rocky Mountain Coalition

- 12 Block 30 F-16 C's
- 220 Personnel
- 1000+ Sorties
- 3800+ Hours
- 61 Weapons Expended



Rural Community Environment

- **Housing availability**
 - Bias against small community
 - Within commuting distance/time
- **Consider Malmstrom base housing**
- **Low cost of living in Montana**
- **Crime Rates: FBI UCR (2002) = 4529 vice 6226.9**

Economic impact

- **Personnel reductions of 189 fulltime employees**
 - Non-BRAC reductions - 82
 - BRAC reductions - 107
- **Recommendation estimated economic Impact is - .35 percent based on the total number of jobs in the area.**
- **Because Technician jobs are some of the highest paying in this area, Our estimate of the impact is -2.0 percent based on the total dollar value of those jobs.**

Future Mission Concept

for the
Montana Air National Guard

U.S. AIR FORCE

Colonel Mark Meyer
Commander

The Concept

Integrate the Montana ANG with a fighter wing at Malmstrom Air Force Base or Great Falls IAP as an Associate or Blended Total Force Fighter Wing, sharing airspace, personnel, and equipment.

120 FW Transformation Military Value

How are WE Relevant Today & in the Future??

- **Airspace Training Opportunities**
- **Lack of Encroachment**
 - Airspace
 - Airfield
- **Currently possess the most capable multi-role fighter in the inventory**
- **The Workforce**
- **Infrastructure**
 - Great Falls IAP
 - Malmstrom AFB

Training Requirements

"Our installations, ranges and airspace are critical national assets that allow the AF to test new equipment, develop new tactics and train our forces to be combat-ready."

Gen Robert H. Fogelson, AF Vice Chief of Staff, Aug 02 AF Policy Letter Digest

Airspace MCI Legacy System Oriented

- Quality and size of airspace
 - Credit for a few small airspaces
 - State of the art sensors
- Supersonic ops. only addressed low Altitude
- Range Requirements
 - For legacy weapons system
 - Training requirements reduced
 - From 570 sorties per year (75% hit rate)
 - To 128 sorties per year
- Restrictions in special use airspace
- Declining need for Low Level operations

Montana Airspace

Map showing Montana Airspace with labels for Cutbank ATCAA, Shelby ATCAA, Reservoir ATCAA, Hays MOA, and dimensions 280 NM x 90 NM.

Hays MOA

Detailed map of Hays MOA showing dimensions of 50 NM and 120 NM.

Where are We??

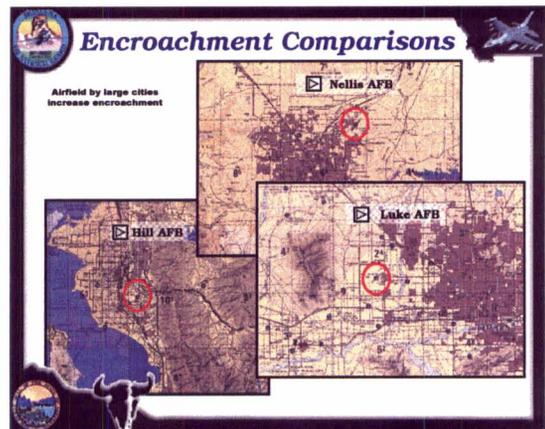
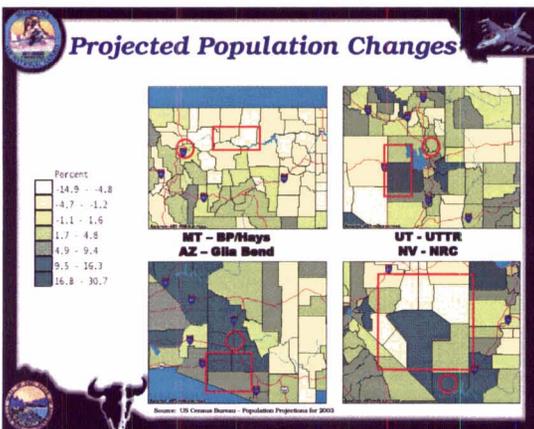
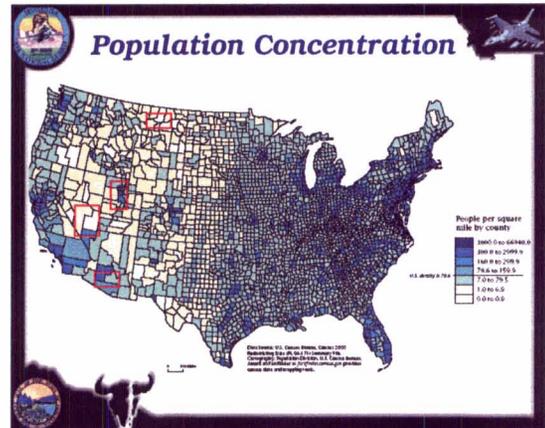
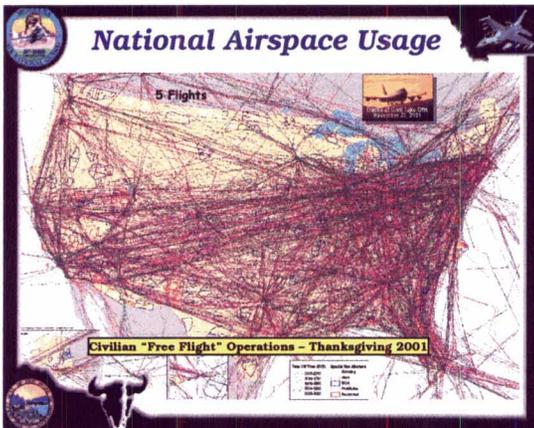
Map of the United States with a red circle highlighting the location of the Mountain Home Range Complex in the western US.

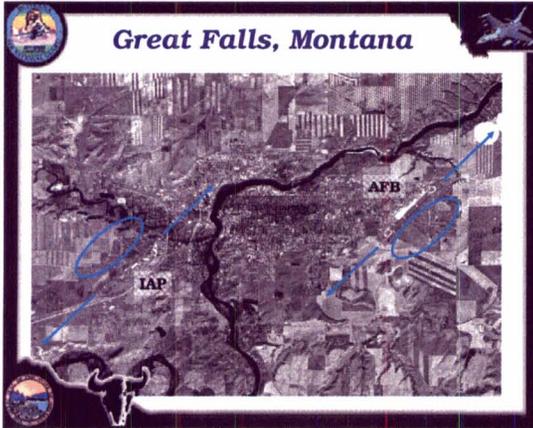
Airspace Comparisons

- Mountain Home Range Complex
- Nellis Range Complex
- South Utah Test and Training Range
- Cold Lake, Canada (Maple Flag)
- State of Florida
- Crypt

Encroachment

- **Definition**
 - **Undermined and lower mission performance due to:**
 - Imposed Restrictions
 - Competing interests
 - **Hampers developing technology**
 - Long look sensors
 - Noise issues
 - **Affects readiness in the long run**
- **Current Issues - nationwide**
 - **Competing for space**
 - Noise Issues
 - Land Development
 - **Airfield Ops – Current and Future Upgrades Affected**
 - **Airspace Access**
 - FAA Free Flight Initiative





120 FW
Ready, Reliable, & Relevant

F-16 Fighting Falcon

F/A-22 Raptor

F-35 Joint Strike Fighter

- > F16 C+ Capabilities
- > Recent 120 FW AEF Tasking
 - Homeland Defense (ONE)
 - Defensive Counter Air (OSW)
 - Close Air Support (OIF)

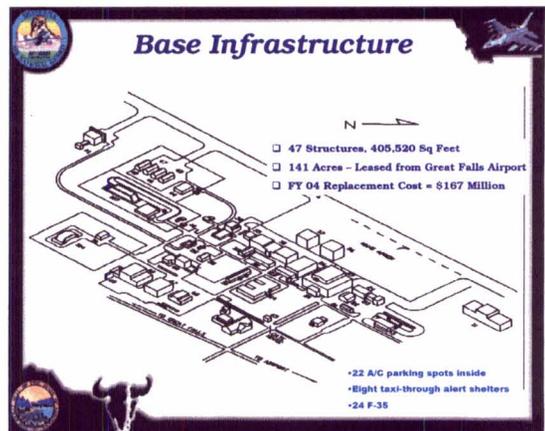
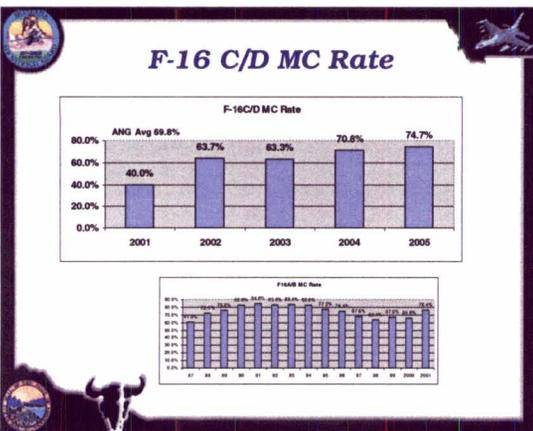
Highly Experienced Workforce

ANG support is paramount to planned utilization rates of the F-22 and F-35

120 FW
F-16 flying hours
> 84,500

Mx Experience
> 5,800 Years
> 17 CC + 18 Yrs
> Avg CC 13.3 Yrs

Pilot F16 Experience
> 55,000 Hours
> 13 pilots over 2000 hrs.
> Average 2802 hrs.



Airport Upgrades at GTF

- Completed Projects
 - \$5 Million Ramp Upgrade @ Terminal/GA Ramp
 - Storm Water Capture Project
 - Part 150 Noise Study (Aug/Sep 04)
 - Involves City/County Planning Board
 - ID Areas of Noise Impact
 - Develop Mitigation Processes
 - Planning Board to Zone as Non-Residential
 - Plans for Future Upgrades w/o Encroachment Issues
- Upcoming Funded Projects
 - CAT 3 ILS Upgrade
 - NE Ramp/Taxiway Upgrades
- Out Year Projects
 - Parallel Runway on West Side
 - Allow Simultaneous Operations
 - 10,000' Runway

Airport Infrastructure Not Adequately Addressed

- Airport ramp space 1,411,301 Sq ft
 - MOU in existence
- Fuel capacity 200,375 gal
 - Approximately 1/3 is aviation gas and 2/3 jet fuel
- Zero Cost to DoD

Runway & Ramp Space at GFA

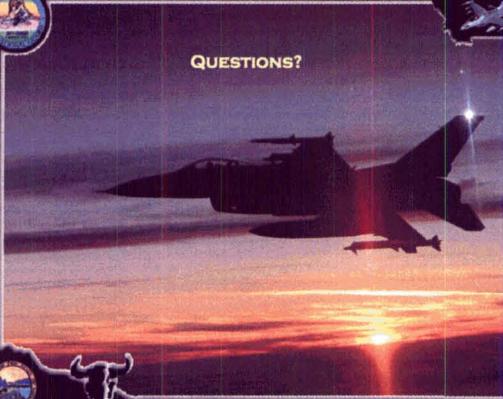


- 2.5 Million feet of ramp space
- 2 Million gal. of fuel storage (active/inactive)
- 3 Bay Hanger

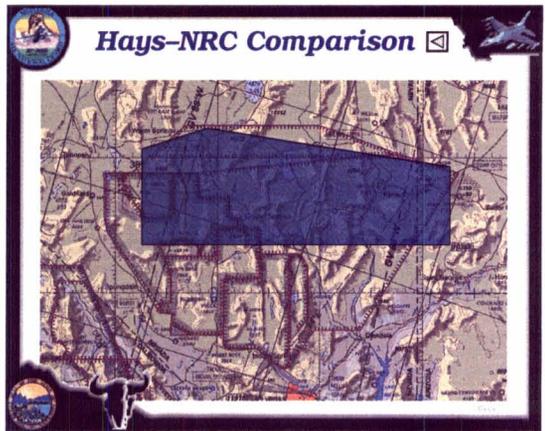
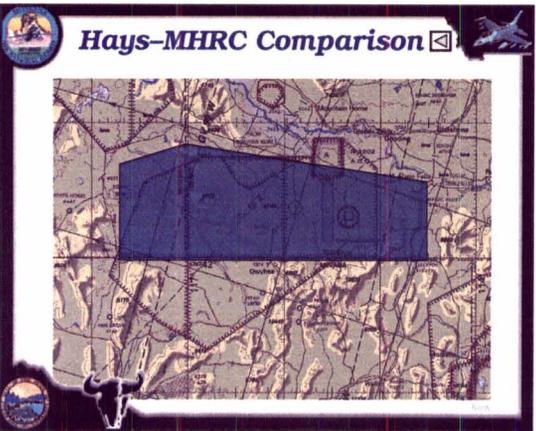
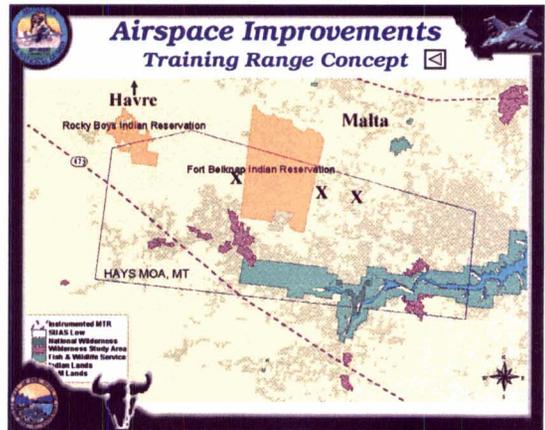
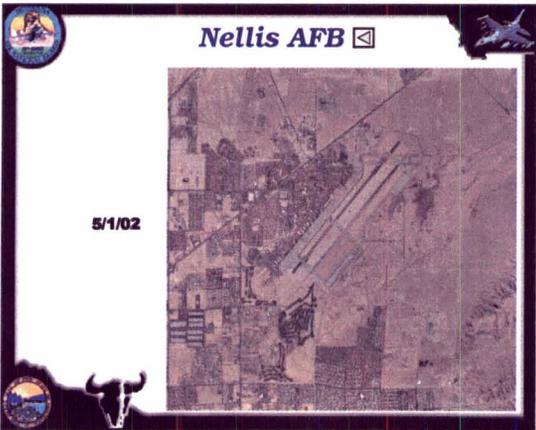
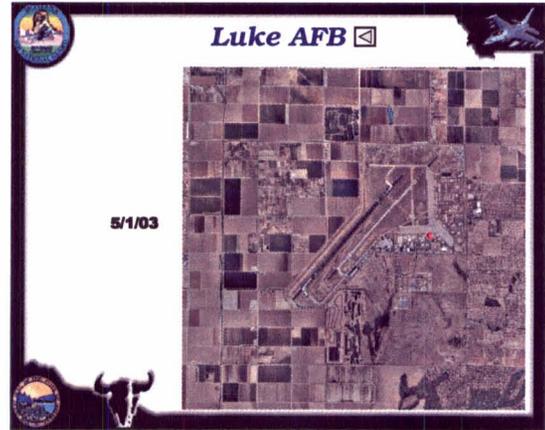
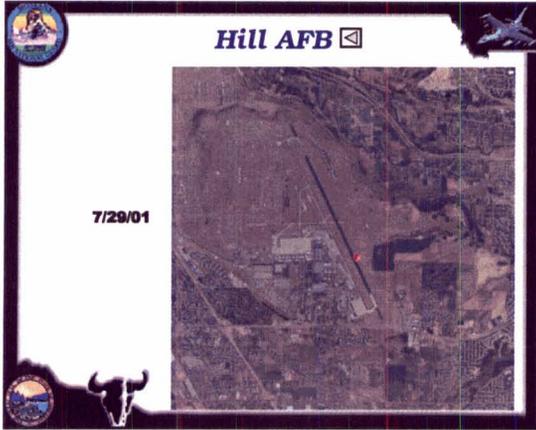
Summary

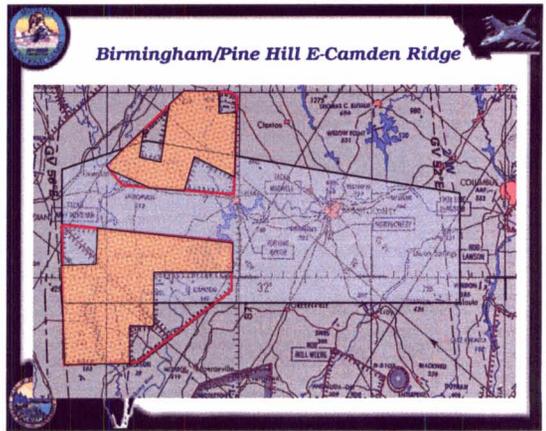
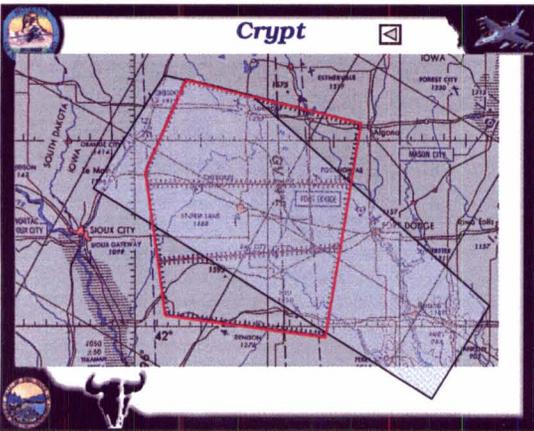
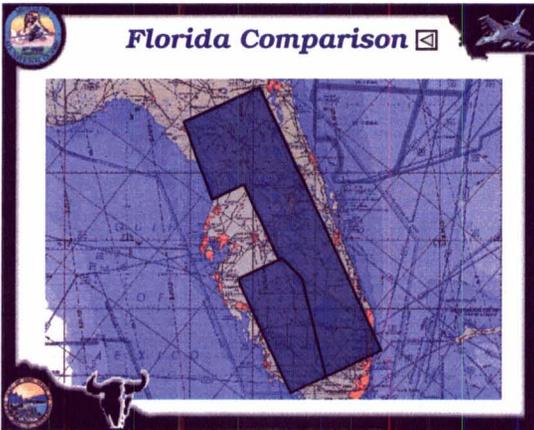
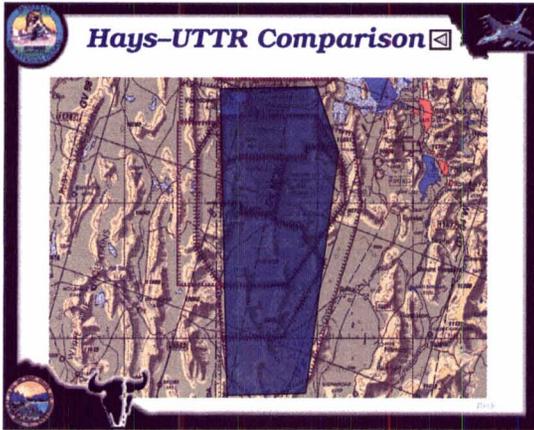
- OUTSTANDING Training Capability now and into the Future
 - Vast Overland Airspace
 - Minimal Airspace & Installation Encroachment
- Infrastructure that is right sized "Room for Expansion"
 - Existing Infrastructure GFA and GTF
 - Follow-on Aircraft Bed-down with Little Modification to Facilities
 - Malmstrom AFB has Unused Potential
- 120 FW Skill Sets = Military Value
 - Aircrew & Maintenance crew unparalleled experience
 - We are "Ready, Reliable, and Relevant" NOW!

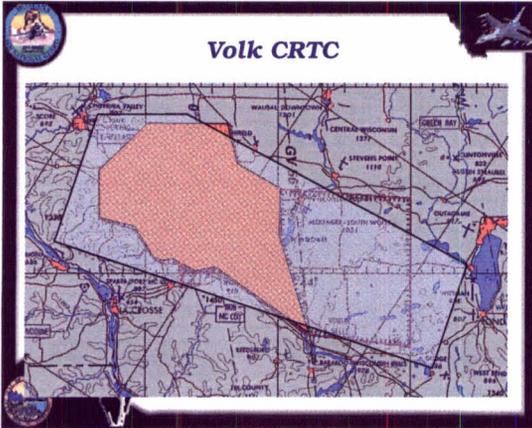
QUESTIONS?



Backup and Supporting Slides







Bombing Range

- Using current pilot manning
- Heavyweight bomb requirements not included
 - RAP requires 2 drops per year
- Old RAP requirements (1995)
 - 570 sorties per year (75% hit rate)
 - Mt Range savings
 - 332 flying hours; \$ 1.7 mil
 - Equivalent training savings - \$ 9 mil
- Current RAP requirements
 - 128 sorties per year
 - MT range savings
 - 75 flying hours; \$ 377k
 - Equivalent training savings - \$ 2 mil
- Historical reduction in actual bomb drops required

Fighter MCI

Executive Summary of comments attached:

1. These criteria failed to capture the true military value of the Montana Air National Guard's airfield and airspace. In a broader perspective, many of the criteria selected were simplistic in nature and fail to fully address the very real concerns that should be evaluated.
2. These criteria were framed so that Active Duty installations ranked as an aggregate better than Air National Guard facilities (there are no ANG facilities in the top 23, and only 2 ANG facilities (both former DoD facilities) in the top 47).

The bottom line of the following comments is that the real military value of an installation **should** be considered, and unfortunately, that can't be done solely on "objective" factors that are easily quantifiable. Decision makers must be relied upon to analyze the objective data from a "big picture" perspective, not to merely accept the answers of questions that may or may not truly reflect current or future potential.

1. Mission Compatibility Index Detail

1.1 Fighters

1.1.1 Effective Weights (Fighter MCI)

Bold rows indicate OSD military value selection criteria and associated effective weights. Shaded rows indicate Air Force military value attributes and associated effective weights. Rows with no enhancement indicate individual questions with the leading numeric indicating the question number. Question effective weights sum to the attribute above them and attribute effective weights sum to the criterion above them. The criteria (**bold**) sum to 100.

Name	Eff.%
1 - Current / Future Mission	46.00
1 - Operating Environment	11.50
1242 - ATC Restrictions to Operations	5.98
1271 - Prevailing Installation Weather Conditions	5.52
2 - Geo-locational Factors	34.50
1245 - Proximity to Airspace Supporting Mission (ASM)	22.08
1246 - Proximity to Low Level Routes Supporting Mission	7.25
1270 - Suitable Auxliary Airfields Within 50NM	5.18

2 - Condition of Infrastructure	41.50
3 - Key Mission Infrastructure	22.83
8 - Ramp Area and Serviceability	2.97
9 - Runway Dimension and Serviceability	2.28
1207 - Level of Mission Encroachment	2.28
1221 - Hangar Capability - Small Aircraft	3.88
1232 - Sufficient Explosives-sited Parking	3.65
1233 - Sufficient Munitions Storage	4.79
1235 - Installation Pavements Quality	2.97
4 - Operating Areas	18.68
1203 - Access to Adequate Supersonic Airspace	6.72
1266 - Range Complex (RC) Supports Mission	11.95
3 - Contingency, Mobilization, Future Forces	10.00
5 - Mobility/Surge	4.40
1214 - Fuel Dispensing Rate to Support Mobility and Surge	2.64
1241 - Ability to Support Large-Scale Mobility Deployment	1.76
6 - Growth Potential	5.60
213 - Attainment / Emission Budget Growth Allowance	1.68
1205.1 - Buildable Acres for Industrial Operations Growth	1.96
1205.2 - Buildable Acres for Air Operations Growth	1.96
4- Cost of Ops / Manpower	2.50
7 - Cost Factors	2.50
1250- Area Cost Factor	1.25
1269- Utilities cost rating (U3C)	.13

1402 - BAR Rate	.88
1403 - GS Locality Pay Rate	.25

1.1.2 Fighter MCI Question Detail

Mission	Fighter
Criterion	Current / Future Mission
Attribute	Operating Environment
Formula #	1242
Label	ATC Restrictions to Operations
Effective %	5.98
Question	<p>List the percentage of installation departures delayed by Air Traffic Control.</p> <p>If installation has no runway or no active runway, or no serviceable, suitable runway then score 0 pts. See section 1.9 "Shared" for details. Check the Delayed Departures Percentage. See OSD question 1242, column 5 for this data.</p> <p>If the percentage delayed 0, get 100 points.</p> <p>Otherwise, if the percentage delayed is > 3%, get 0 points.</p> <p>Otherwise, pro-rate the percentage delayed between 0 to 3% on a 100 to 0 point scale.</p> <p>Example:</p> <p>The departure percentage delayed is 1%. 1% is one third of the way between 0 and 3%, so the score is 66.67 points.</p>
Source	CAMS (Computerized Aircraft Maintenance System)! G081

To select "the percentage of installation departures delayed by Air Traffic Control" as the sole criteria to evaluate "ATC Restrictions to Operations" is incredibly simplistic and does nothing to measure the true costs of deconflicting intensive military operations (particularly fighter operations) with crowded civilian airfield zones. Additionally, while CAMS may be one source of information for this criteria, at best it would be an incomplete source, as the logging of any delays by the maintenance community is not uniform across aircraft types (Model Designation Series - MDS) or MAJCOM's.

An objective evaluation of ATC restrictions would be far more encompassing and complex. At a minimum, it should evaluate: 1) Noise mitigation procedures that adversely affect military operations (i.e., quiet hours, mandatory departures with tail winds, minimum range turns from takeoff impacting radar trail procedures, reductions in training events that can

be accomplished in the local area, restrictions on types of traffic pattern training events); 2) Hazardous Air Traffic Reports (HATR's) filed by near-misses between military and civilian aircraft; and 3) The number of agreements between military and civilian control agencies to mitigate conflicts.

A majority of existing AF bases (Luke, Hill, and Nellis AFBs, for example) operate in close proximity to large civilian airport complexes and only through constant vigilance of multiple controlling agencies and complicated departure/arrival procedures are the operations deconflicted. Any breakdown in control or a minor deviation from procedural guidance may literally cause a major aircraft accident involving military and civilian personnel.

ATC restrictions should be a real concern and criteria for evaluation, but to evaluate them by a simplistic criteria does nothing to address the issue. This criteria is so basic in nature that it likely fails to provide any discriminatory value to the evaluation, and it would be our estimation that the vast majority of installations scored very well using this criteria. In fact, we would have expected that this criteria would be one of the most evaluated and discriminatory, since it lies at the very heart of military capability. However, it appears that this issue was "glossed over" by this simplistic evaluation.

Mission	Fighter
Criterion	Current / Future Mission
Attribute	Operating Environment
Formula#	1271
Label	Prevailing Installation Weather Conditions
Effective%	5.52
Question	<p>Check the average number of days annually the prevailing weather is better than 3000/3 Nautical Miles (NM). If installation has no runway or no active runway, or no serviceable, suitable runway then score 0 pts. See section 1.9 "Shared" for details. If the average number of days ≥ 300, get 100 points. Otherwise, if the average number of days < 250, get 0 points. Otherwise, pro-rate the average number of days between 250 and 300 on a 0 to 100 scale.</p> <p>Example: The average number of days annually where the prevailing weather is better than 3000/3 NM is 275. 275 is halfway between 250 and 300, for a score of 50.</p>
Source	AFCCC Climatological tables

A lack of Visual Flight Rule (VFR) conditions require any local training operations to designate an alternate airport, impacting training by reducing the amount of training fuel available. However, all MDS's have training requirements that can be accomplished at home base (instrument approaches, for example), and operations are only significantly impacted when weather deteriorates to the point approaching designated pilot minimums (700' ceiling/2 Statute Mile visibility) for basic qualifications in the F-16, for example).

Additionally, while a day may be categorized as VFR for an airfield due to a lack of static meteorological conditions, a significant portion of a training cycle could be severely impacted by recurring, but temporary, conditions. For example, when fighter training operations were in place at MacDill AFB, FL, afternoon operations from May through September were significantly impacted by the thunderstorms that rose daily from the mid-peninsula and migrated to the coast. Other AF bases in the Southeast face this daily challenge as well. However, since the majority of the 24 hour calendar clock is not impacted, that particular day could still be classified as VFR (better than 3000/3).

Finally, an additional criteria that should be examined is not just the effect of weather on the flying operations, but the effect of weather on ground operations. AF bases in the Southwest (Luke, Nellis, and Davis Monthan) routinely put restrictions on training sortie production in the summer as the ramp temperatures rise. Ground personnel working on aircraft and aircrew stepping to aircraft are limited in their exposure to the temperatures, which often prevents "on-the-spot" corrections to aircraft experiencing minor maintenance difficulties, resulting in the loss of a training sortie. A case can likely be made that similar conditions are encountered in CENTCOM operations, but rarely do we expose our personnel and operations during training to conditions that cannot be avoided in combat.

Question If installation has no runway or no active runway, or no serviceable, suitable runway then score 0 pts. See section 1.9 "Shared" for details. All airspace over 150 Nautical Miles (NM) away will be ignored. See OSD # 1245. column 2. (N/A means more than 250 NM.) Data is in OSD #s 1266, 1245 and 1274 must be matched via column I in each question.

Calculate each of the subcategories scores listed below, and weight as listed.

- 15% Airspace Volume (AV)
- 15% Operating Hours (OH)
- 10% Scoreable Range (SR)
- 11.25% Air to Ground Weapons Delivery (AGWD)
- .75% Low Angle Strafe (LA)
- 3% Live Ordnance (LO)
- 5% IMC Weapon Release (1W)
- 5% Electronic Combat (EC)
- 10% Laser Use Auth. (LU)
- 10% Lights Out Capable (LC)
- 5% Flare Auth. (FA)
- 5% Chaff Auth. (CA)

Each of the subcategories use the following general pattern for calculating them: Check the corresponding subcategory in formula #1266. If it would get 0 points for that subcategory, get 0 points here also.

Otherwise, Compute a raw total for the subcategory for the base according to this formula:

For each airspace:

If the distance to the airspace is > 150 miles, get 0 points.

Otherwise, if the distance to the airspace = 150 miles, get 10 points. Otherwise, if the distance to the airspace = 50 miles, get 100 points. Otherwise, pro-rate the distance to the airspace from 50 miles to 150 miles on a 100 to 10 point scale.

Once you have a base raw subcategory total, find the highest, and the lowest, non-zero raw total for the subcategory across all bases. If the raw total = 0, that subcategory score = 0.

Mission	Fighter
Criterion	Current / Future Mission
Attribute	Geo-locational Factors
Formula#	1245
Label	Proximity to Airspace Supporting Mission (ASM)
Effective %	22.08

Else, if the raw total the highest raw total, the subcategory score = 100. Else, if the raw total = the lowest, non-zero raw total, the subcategory score= 10.

Else, pro-rate the raw total between the lowest non-zero raw total and the highest raw total on a 10 to 100 scale.

Once each score for each subcategory is known, multiply them by their respective weighting percentage and total the results for the overall score. The overall mechanism is very similar to that of formula #1266.

Source FLIP AP-IA; IFR Supp; Falcon View or other certified flight planning software

The criteria selected in this question, and repeated for double jeopardy/credit in formula 1266 are "legacy systems oriented" and do not address either the training requirements for future tactical aircraft, nor the training requirements for current aircraft equipped with state-of-the-art sensors and weaponry.

Execution of current air-to-air tactics, avionics and weaponry require "deep look" and "high volume" airspace, both of which are at a premium in the CONUS over both land and water. Military Operating Areas (MOA's) and other Special Use Airspaces (SUA's) such as Restricted and Warning Areas, were carved out of national airspace before on-board radar systems were capable of significant search/track ranges and the proliferation of commercial air traffic. As a result, most SUA's outside of the major range complexes (UTTR, Barry Goldwater, and Nellis) are "postage stamp" size, rarely allowing more than a 50 NM radar look at the initial setup.

The formula as outlined in this criteria address neither the quality of the volume of a single contiguous airspace, nor the encroachment that any airspace may suffer from either civilian air traffic or other governmental agency use (the Department of Energy in the Nellis Complex, for example). In fact, the formula as applied actually penalized single SUA holders, regardless of the size of the SUA and rewarded holders of multiple, if separate, SUA's. Points were simply awarded for the number of SUA's within a given radius, regardless of their size. Having one large SUA yielded 100 points, while having 5 SUA's within the radius yielded 500 points. Volume points were minor in value, although only that feature can ensure that complex training scenario's can be presented.

The formula does not address any restrictions within the SUA's that negatively impact the true utility of the SUA, such as noise-sensitive areas, irregular SUA altitude floors, or lack of uniformity in horizontal borders when SUA's vertically stacked.

The formula does an equally poor assessment of current air-to-ground training criteria, much less that of future aircraft and weapons systems. Fully 30 per cent of this criteria's score is awarded for an air-to-ground gunnery range, regardless of the size of the range, the type of weaponry that can be expended, or of the target array's composition. An additional 15% is awarded to features that are typically today only associated with a gunnery range, such as laser capability and electronic capability, although technology exists to expand those capabilities to other SUA's.

Current F-16 "dumb" bomb training requirements have significantly decreased in recent years, going from a 800 range sortie requirement for an ANG wing in 1998 to 124 range sortie requirement today. This requirement is projected to diminish even further as electronic scoring evaluation becomes more prevalent and allows aircrew to "attack" the diverse cultural targets sets in an SUA instead of the "bombing circle" in use at conventional ranges. Further, this reduction is in line with the weapons expended in current expeditionary warfare, where the only ballistic weapon expended in recent history has been the airborne gun systems (20 MM or 30 MM). However, even those have been from a "high angle" attack, which present gunnery ranges are very limited in scoring, and can be evaluated in any SUA by using the electronic scoring of the Bullet At Target Range (BATR) inherent in all modern gun systems.

To award a "yes/no" score for an gunnery range further fails to address the type of training allowed. By definition, a gunnery range must be surrounded by a Restricted Area, and to add on a Laser capability is relatively easy to do. However, very few ranges in the CONUS allow live drop of a precision guided munition (either GPS or laser guided) due to the extremely large ballistic footprint required to ensure that the munition remains over restricted property from release to any potential impact point. The criteria as outlined fails to make that distinction and in fact encourages laser usage where it may not be appropriate (as evidenced by last year's incident in New Jersey).

Finally, current wartime employment procedures require aircrew to quite literally "dig out" the target from an incredibly complex urban setting, or from a very entrenched and camouflaged natural environment. Current gunnery ranges (particularly those not associated with a large complex) have very simplistic targets that do nothing to train aircrew beyond the basic employment skills necessary. In fact, the majority of aircrew training comes from either "dry" weapons employment with electronic scoring, or in a simulator.

Warning Areas off our both coasts provide relatively large airspaces, but they are in heavy use by the numerous military installations in place near the coasts as well as any pre-deployment spinups by carrier groups. Additionally, they compete with commercial traffic flying from the major metropolitan areas on the coastal plains (New York to Miami, for example).

Over water areas suffer from two inherent limitations, one affecting air-to-air training and the other air-to-ground. One of major development issues affecting all airborne radars is the ability of the system to distinguish main beam clutter/ground return from airborne targets, particularly as they approach a beam aspect. As the main beam clutter problem becomes more severe, the radar set begins to become less efficient as it loses the ability to distinguish a real target "hit" above the ambient "noise". Air-to-air training over water is an extremely optimum environment for radars as the noise from main beam clutter from the water is strong, but very predictable. Radar contact ranges against similar radar cross section targets are significantly reduced from those obtained over water. Unfortunately, if the majority of peacetime training is conducted over water, tactics will be developed dependent on unrealistic radar contact ranges, and when the tactics are employed in combat

(generally overland for Air Force fighters), they could become irrelevant and subject our forces to unexpected losses.

The air-to-ground limitation of over-water airspaces is fairly evident since it simply does not exist. Air Force bombers and fighters have extremely limited capability to attack the robust defensive systems of a carrier group, and even less capability with our munitions stockpile to damage a major vessel - which is why the Navy trains and equips their carrier battle groups to that endgame. AF assets attack ground targets, and future fighter/ISR systems will need access to an everchanging target array to ensure their capabilities are challenged. Current ranges, such as the Nellis complex, are difficult to obtain for routine scheduling and lack the ability to significantly change the "picture."

An overland MOA with a robust road system, but with minimal population (such as exists in Montana's Hays MOA) would allow a mobile target array to be arranged literally on a daily basis, providing a fresh look for ISR assets to "fix", and for the endgame "kill force" to engage. Smaller MOA's would also have this capability, but to a much lesser capability, and without ATCAA support, the larger ISR platforms such as Rivet Joint and AWACS would be unable to orbit or deconflict from the other packages. The 120th Fighter Wing "Future Concept" briefing has been in existence for over 3 years and is submitted for public record with this testimony and describes in more detail this concept.

Question Check the distance to all Airspace for Special Use (IR/VR routes) within 150NM radius of the installation.

If installation has no runway or active runway, or no serviceable, suitable runway then score 0 pts. See section 1.9 “Shared” for details.

For a list of routes, see OSD Question 1246. The type of route can be found in column 1.

Entry point distances are found in column 2. Exit point distances are found in column 3.

For distances, N/A means 0 points.

IR Entry points, IR Exit points, VR Entry points and VR Exit points are each worth 25% of the score.

$$(.25 * \text{“IR Entry”}) + (.25 * \text{“IR Exit”}) + (.25 * \text{“yR Entry”}) + (.25 * \text{“yR Exit”})$$

Entry and Exit Point:

Within each of the above four categories, award each route points as follows:

If the distance = N/A, get 0 points.

Otherwise, the distance is <= 50 Nautical Miles (NM), get 100 points.

Otherwise, if the distance is = 150 NM, get 10 points.

Otherwise, pro-rate the distance between 50 NM and 150 NM on a 100 to 10 point scale.

Total the number of points received above for each base for each of the above four categories.

Get the highest base score in each of the above four categories. Get the lowest, non-zero score in each of the above four categories.

If the installation’s score for one of the above categories = 0, it remains 0. Otherwise, if the installation’s score for one of the above categories = the highest score in its respective category, get 100 points.

Otherwise, if the installation’s score for one of the above categories the lowest non-zero score in its respective category, get 10 points. Otherwise, pro-rate the installation’s score between the lowest non-zero

Mission	Fighter
Criterion	Current / Future Mission
Attribute	Geo-Iocational Factors
Formula#	1246
Label	Proximity to Low Level Routes Supporting Mission
Effective %	7.25

and highest score in its respective category on a 10 to 100 point scale.

Example:

Two JR routes and I VR route.

IR Route Alpha has an entry point 35 miles away and an exit point 100 miles away.

IR Route Bravo has an entry point 150 miles away and an exit point 160 miles away.

Alpha's entry point is within 50 miles, so its IR Entry amount is 100 points. The exit point 100 miles distant is 50 percent of the way between 50 and 150 miles, so its IR Exit point amount is 55 points.

Bravo's entry point is 150 miles away, so its JR Entry amount is 10 points. The exit point is 160 miles away, so its amount is 0 points.

The IR Entry total for these two routes is $100 + 10$ for 110 points. The total JR Exit total for these two routes is $55 + 0$ for 55 points.

The highest IR Entry total for any base is 165 and the lowest non-zero IR Entry total for any base is 30.

The highest IR Exit total for any base is 105 and the lowest non-zero JR Exit total for any base is 5.

So, this base's JR Entry score is 100, because 165 is equal to the highest score of any base.

Pro-rating the IR Exit total of 55 between 5 and 105 on a 10 to 100 point scale gives this base an IR Exit score of 55.

VR Route Charlie has an entry point 40 miles away and an exit point 45 miles away.

Both the entry and exit point are within 50 miles, so both the VR Entry and VR Exit category amounts get 100 points.

As there is only one VR route, that makes the VR route totals the same, 100 points each.

The highest VR Entry total for any base is 300 and the lowest non-zero

VR Entry total for any base is 50 points.

Ditto for the VR Exit totals.

So, this base's VR Entry score of 100 is pro-rated between 50 and 300 on

a 10 to 100 scale. Since 100 is 20% of the way from 50 to 300, the VR

Entry score is 28 points.

Ditto for the VR Exit totals.

By applying the 25% weighting to each of the four category scores, in JR Entry, IR Exit, VR Entry and VR Exit order, we get the overall score:

$(.25 * 100) + (.25 * 55) + (.25 * 28) + (.25 * 28)$, for an overall score of 52.75 points.

Source FLIP AP-IB; IFR Supp; Falcon View or other certified flight planning software

IR and VR routes have limited utility in training for modern employment tactics. They were designed to allow aircrew to practice visual or radar aided low level navigation (LATN) enroute to the small SUA's associated with legacy gunnery ranges. They are typically very limited in horizontal and vertical aspects and do not allow any air opposition driven engagements. Very few have fixed radar emitters associated with them to allow surface threat driven engagements. Large SUA's (such as Hill, Nellis, or Goldwater) have few associated IR/VR routes since their range complexes allow LATN on a much broader scope and scale.

LATN skills were critically important to defeat the Cold War Soviet threat poised to overrun Central Europe. Typical European weather with low ceilings and limited visibility and a robust Soviet anti-air missile system drove attacks into the low altitude regime. Internal navigation and delivery systems were primitive in comparison to today's systems and to make a precise weapons delivery to split second timing was a skill that required extensive repetition and practice.

Today, LATN as a tactical requirement is rapidly becoming obsolete as threats and on-board navigation and weapon delivery systems drive employment into the medium and high altitude arena's. The robust electronic defense systems of our Air Force have made the highest threat to our attacking aircraft the simplest available to an opposing force: small arms, anti-aircraft artillery, and shoulder fired Surface-to-Air Missiles. It is not uncommon for theater combat commanders to designate a hard "floor" altitude to minimize these threats, keeping our aircraft literally out of range vertically from them.

IR and VR routes suffer from the same ground and air encroachment features that SUA's and installations have been subjected to. In fact, the HATR potential is even higher since the vast majority of potential conflicts will come from the VFR light aircraft, who typically cross the IR/VR routes at slow speeds and at a perpendicular angle, making them extremely difficult to paint on radar.

LATN without an endgame scenario in a SUA is of very limited tactical value and while fun, is an incredibly wasteful expenditure of limited resources. Delineating entry and exit point radii to 50 NM ensures that over a very short period of time aircrew would be able to literally fly the route "blindfold", taking any utility out of the training. There are plenty of other criteria that determine the ability of a unit to train for current and future missions that this one.

It is our opinion that this criteria is legacy oriented with marginal value to today's training, and even less utility to future training requirements.

Mission	Fighter
Criterion	Current / Future Mission
Attribute	Geo-locational Factors
Formula#	1270
Label	Suitable Auxiliary Airfields Within 50NM
Effective%	5.18
Question	<p>Identify runways within 50 NM of the installation that are 8,000ft x 150ft or greater and are suitable for use as an auxiliary runway.</p> <p>If installation has no runway or no active runway, or no serviceable, suitable runway then score 0 pts. See section 1.9 "Shared" for details.</p> <p>For each airfield listed in OSD Question 1270, if it is > 50 nautical miles (NM) away, it is not qualified to be counted. See OSD Question 1270, column 2 for this data. (N/A equals not qualified.)</p> <p>If the count > 3, get 100 points.</p> <p>Otherwise, if the count = 2, get 75 points.</p> <p>Otherwise, if the count = 1, get 50 points.</p> <p>Otherwise, get 0 points.</p> <p>Example:</p> <p>There are three airfields listed, Alpha, Bravo and Charlie, at distances away of 20, 40, and 200 NM away respectively. Alpha and Bravo are both within the 50 NM limit, so they are qualified. Charlie is 200 NM away, which is > 50 NM, so it is not qualified. The number of qualified airfields for auxiliary use is 2, which results in a score of 75 points.</p>
Source	FLIP and Falcon View (or any other certified flight planning software)

While a discussion about alternate airfields available is always lively during any Emergency Procedural training, the actual occurrences of emergencies that shut a runway down for an extended period of time that cause a mass-divert are extremely limited. Further, the 50 NM criteria seems arbitrary and geared more toward the fuel-restricted aircraft of the past.

Designation of alternate airfields for weather conditions within a 50 NM radius is of little value except during temporary conditions (such as thunderstorms) since the likelihood of any weather system other than a very fast moving front are likely to affect any locations within a 50 NM radius.

This criteria is highly skewed toward locales likely to be congested and in danger of airspace and airfield encroachment (i.e., both coasts and the Southeast/Mid west), neither of which should be a reason to encourage future missions. Any so-called advantages to having multiple alternate airfields would be rapidly overshadowed by the encroachment and congestion issues addressed above.

Question If installation has no runway or no active runway, or no serviceable, suitable runway then score 0 pts. See section 1.9 "Shared" for details.

Total the square yardage of every serviceable ramp at the installation. See OSD Question 8, column 9 to determine serviceability.

(N/A means not serviceable.) See OSD Question 8, column 2 for the square yardage of that ramp.

If the total square yards of serviceable ramp is $\geq 241,000$, get 100 points.

Otherwise, if the total square yards of serviceable ramp is $> 198,000$, get 75 points.

Otherwise, if the total square yards of serviceable ramp is $\geq 66,000$, get 25 points.

Otherwise, get 0 points.

Example:

The installation has three ramps, Alpha, Bravo and Charlie. Alpha and Bravo are both fully serviceable and active; Charlie is not serviceable because of major sinkholes that have developed. Alpha has 50,000 square yards, Bravo has 20,000 square yards, and Charlie has

200,000 square yards, for a total of 70,000 serviceable square yards of ramps. This number is between 66,000 and 198,000, **50** it falls into the 25 _____ point range.

Source FLIP; AFCESA Pavement Evaluation/Condition Report/Survey; Existing Record Drawings or Physical Verification; Base Real Property Records

Mission	Fighter
Criterion	Condition of Infrastructure
Attribute	Key Mission Infrastructure
Formula#	8
Label	Ramp Area and Serviceability
Effective %	2.97

This criteria, along with several other of the "Key Mission Infrastructure" and "Contingency, Mobilization, Future Forces" formulas is weighted heavily against any installation lacking the capacity to host and deploy a major air offensive from its location. Only Active duty AF bases, or ANG wings now the sole incumbents on former active bases, are going to be able to "compete." Traditional ANG units on joint use/civil airfields will be put at a severe disadvantage.

For example, the 120 FW has a large ramp by ANG standards. So large, in fact, that we have been instructed by the Guard Bureau to reclassify 15, 485 sq yards of ramp as "taxiway" to better align our ramp space with our authorized PAA square yardage. Right

now the 120 FW has 49,200 sq yards of "official" ramp space, giving it a total of 64,210 sq yards. However, that area is still under any qualifying points under this criteria, even though the ANG/CE standard (developed with AF guidance) to host a 24 PAA F-15 unit is only 23,665 sq yards, and generic 36 PAA future aircraft requirements are 58,350 sq yards.

Perhaps more importantly, the criteria was limited to the holdings "owned" by the unit. The majority of ANG units have been on joint use/civil airfields their entire existence and have developed close working relationships with airport authorities. The requirement to have large ramp holdings for a typical fighter unit is generally limited to the irregularly scheduled deployments for either a training exercise or for an AEF rotation. Most ANG fighter wings have had little difficulty coordinating additional ramp space with either the airport authority, or other users of the airport. As an example, to support an 819th Red Horse deployment, the 120th Fighter Wing was able to procure sufficient ramp space to hold 3 C-5's at one time (public record submitted with Major General Mosley's testimony (17 June at Portland).

Question Check the dimension of all serviceable runways that support the installation. See section 1.9 “Shared” for details.

Calculate a score for each runway at the installation as follows:

If the runway is not serviceable, get 0 points. See OSD Question 9, column 15 for this data. (N/A means no.)

Otherwise, if the runway is < 150’ wide, get 0 points. See OSD Question 9, column 8 for this data. (N/A means no.)

Otherwise, if the runway is < 8000’ long, get 0 points. See OSD Question 9, column 7 for this data. (N/A means no.)

Otherwise, get 100 points.

The overall score is the highest score received by any one runway.

Example:

An installation has two runways, Alpha and Bravo. Alpha is 12,000’ long, 160’ wide, and full of huge holes because it has partially been demolished, so it is not serviceable. Bravo is 8,300’ long and 152’ wide, plus it is fully serviceable. Runway Alpha scores 0 points because it isn’t serviceable. Runway Bravo meets all the specified criteria so it gets 100 points. Runway Bravo has the highest score for any runway at the installation, so its score of 100 is used for the installation’s score.

Source FLIP; AFCESA Pavement Evaluation/Condition Report/Survey; Existing _____
Record Drawing or Physical Verification; Base Real Property Records

Mission	Fighter
Criterion	Condition of Infrastructure
Attribute	Key Mission Infrastructure
Formula#	9
Label	Runway Dimension and Serviceability
Effective %	2.28

Multiple runways are advantageous to support very intensive flying operations, such as those occurring at Nellis or Luke AFB. Quite rightly, this criteria only addresses the length and width of the runway, giving the installation full credit as long as it has one runway.

Question Characterize the level of encroachment for the area in which the installation is located.

There are four categories of acres for this purpose: 65-69, 70-74, 75-79, and 80+. See OSD Question 1208, column 1 for this data.

For each category, compute a category total as follows:

If the total acres in that category 0, get 0 points. See OSD question 1208, column 5. (N/A means 0.)

Otherwise, compute the ratio of residential acres to the respective total acres. See OSD question 1208, columns 4 for residential acres. (N/A means 0.)

Subtract the 65-69 category total from 1, then multiply the result by 0.13.

Subtract the 70-74 category total from 1, then multiply the result by 0.19.

Subtract the 75-79 category total from 1, then multiply the result by 0.28.

Subtract the 80+ category total from 1, then multiply the result by 0.4.

Add the above 4 amounts together and multiply the result by 100 for the raw total.

Add these points to the raw total as follows:

If the installation purchased "Restrictive Easements" on undeveloped or developed land, add 7 points. See OSD Question 1209, columns 2 and 3 for this data, where a Yes in either qualifies for the 7 points. (N/A means no.)

If the installation confirms "Land Use Controls that Correlate w/ AICUZJLUS Recommendation.", add 5 points. See OSD Question 1209, column 5 for this data, where a Yes qualifies for the 5 points. (N/A means no.)

If the installation is in a state that has Mandatory Coordination of Development Proposals or there is a Local Joint Land Use Coordinating Board, add 1 point. See OSD Question 1209, columns 6 or 8 for this data, where a Yes in either qualifies for the 1 point.

The above process can compute a score from 0 to 113.

Mission	Fighter
Criterion	Condition of Infrastructure
Attribute	Key Mission Infrastructure
Formula#	1207
Label	Level of Mission Encroachment
Effective %	2.28

If the computed score is > 100, it is dropped to 100.

Example:

60-65 Residential acres: 50

60-65 Total acres: 100

70-74 Residential acres: 50
 70-74 Total acres: 100
 75-79 Residential acres: 50
 75-79 Total acres: 100
 80+ Residential acres: 50
 80+ Total acres: 100
 Restrictive Easements Yes (column 2) and No (column 3)
 Land Use Controls ... = N/A
 Mandatory Coordination ... No and No.
 $((1 - (50/100)) * 0.13)$
 $+ ((1 - (50/100)) * 0.19)$
 $+ ((1 - (50/100)) * 0.28)$
 $+ ((1 - (50/100)) * 0.4)$
 +7
 +0
 + 0 for a score of 7.5 points.

Source	1207: AFI 32-7063, AFH 32-7084, AICUZ Report, Base Comprehensive
	Plan F Series maps or D Series as noted in AFI 32-7062 Atch7, local
	governmental zoning or land use planning authorities; 1208: AFI 32-7063,
	AICUZ Report, MAJCOM Approved Noise Study; 1209: State
	legislation, local referendums to purchase lands, zoning ordinance, noise
	exposure maps, noise control plans, documentation of state purchases of
	land

This question, while valid, is incredibly narrow in its scope as it only identifies areas immediately around an airfield that are encroached by the noise of operations. It fails to address the myriad of other encroachment issues that are involved with the takeoff, departure, recovery, traffic patterns, and landing of modern jet aircraft. These other areas of concern may literally take place up to 10 miles away from an airfield. It is not uncommon on many bases to have ground references to make turns over to avoid noise sensitive areas miles away from the base on either departure or on arrival (for a near perfect example of this type of noise encroachment, reference Nellis AFB departure and recovery operations).

If the centers of the noise areas are measured off of the central flightline, installations with large property holdings will come out far ahead, even if they are making "more" noise since the noise levels will remain on government land, even if that is residential government, on-base housing. Smaller installations, such as the typical ANG unit, will have their noise,

and that of civil air traffic, spill off the installation toward residential areas that were scored in this criteria.

Missing from this discussion on encroachment are any factors associated with other air operations that might result from Air Traffic Controls procedures from nearby bases. Again, this criteria fails to provide any real discrimination in an analysis that should be conducted, and due to the large size of AF installations, may actually show an inverse relationship where the busiest airfields are rewarded with a higher score.

Question Check to see if the installation has Aircraft Hangar Facilities that will accommodate F-15 sized aircraft: state the number of F-15-sized acft (61 ft long x 45ft wingspan x 19ft high) that can fit in the installation's maintenance hangars without modification.

If the installation has no runway or no active runway, or no serviceable, suitable runway then score 0 pts. See section 1.9 "Shared" for details.

Otherwise, sum the number of aircraft the hangars can hold. See OSD Question 1221, column 2 for this data. (N/A equals 0.)

If the sum is ≥ 24 aircraft, get 100 points.

If the sum ≤ 6 aircraft, get 25 points.

If the sum is < 6 aircraft, get 0 points.

Otherwise, pro-rate the number of aircraft between 6 and 24 on a 25 to 100 point scale.

Example:

1) There are 7 hangars at the installation, with the following capacities: 0, 0, 1, 2, 2, 0, and 0, for a sum of 5 aircraft. That is less than 6 aircraft, so the score is 0.

2) There are 7 hangars at the installation, with the following capacities: 1, 2, 3, 2, 2, 3, and 2, for a sum of 15 aircraft. 15 is halfway between 6 and 24, for a score of 50.

15

Mission	Fighter
Criterion	Condition of Infrastructure
Attribute	Key Mission Infrastructure
Formula#	1221
Label	Hangar Capability - Small Aircraft
Effective %	3.88

Source	Real Property Records, Record Drawings, UFC 3-260-0 1
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This criteria is arbitrary at best, with little basis for rationale. Exactly what is the military value and importance of "x" amount of hangars? Is it important to have a one aircraft to one hangar ratio to allow every aircraft cover under very inclement weather conditions? Or is there an optimum aircraft/hangar ratio that facilitates scheduled and unscheduled maintenance for the possessed aircraft? What is that ratio and what is it determined by? Historical Fully Mission Capable (FMC) rates? Scheduled flying hours per scheduled aircraft phase rate?

Regardless of their capability to build additional hangars or shelters ANG installations were prohibited by ANG Civil Engineering regulations to their PAA authorized square footage, with only minimal allowances made for prevailing weather conditions. For example, the 120th Fighter Wing had 4 alert shelters constructed when they sat "home station" alert as a Northern Tier base. These 4 shelters were in excess of authorized square footage and were literally scheduled by ANG direction for demolition on Sept 11, 2001. However, within hours of the airplanes impacting the Twin Towers, 4 aircraft were fully loaded with air-to-air weapons and on alert.

ANG units were literally held accountable by ANG regulations to have only minimal hangar space, and then punished by this criteria for their compliance. Essentially, the criteria as stated rewards existing Active AF bases, particularly those with a history of large aircraft without explaining what the importance of this asset is. A better definition would state a requirement that to support the maintenance efforts of X number of aircraft a base would have to have X/Y number of shelters/hangars. Still, the criteria fails to address the utility and capabilities of the hangars (i.e., are they environmentally controlled?).

Mission	Fighter
Criterion	Condition of Infrastructure
Attribute	Key Mission Infrastructure
Formula#	1232
Label	Sufficient Explosives-sited Parking
Effective %	3.65
Question	<p>List the number of explosives-sited parking spots by MDS (Mission Design Series).</p> <p>If installation has no runway or no active runway, or no serviceable, suitable runway then score 0 pts. See section 1 .9 Shared” for details.</p> <p>Total the number of explosives sited parking spots. See OSD Question 1232, column 2 for this data. (N/A equals 0.)</p> <p>If the total > 47, get 100 points.</p> <p>Otherwise, if the total > 24, get 66 points.</p> <p>Otherwise, if the total > 12, get 33 points.</p> <p>Otherwise, get 0 points.</p> <p>Example:</p> <p>The installation has two listings for explosive sited parking spots, with 5 and 20 respectively, which totals to 25.</p> <p>25 is between 24 and 47, so the score is 66 points.</p>
Source	AFMAN 9 1-201, Explosives Safety Standards; Installation Explosives Site Plan

The ability of any installation to site parking spots for explosives handling is not necessarily a factor of importance since it depends heavily upon what the mission requirements are of the home base. For example, if there are no opportunities locally to drop live modern PGM heavyweight munitions (and there are very few), units will have to deploy to a TDY location that does allow drop opportunities. Therefore, it makes little difference if the unit has the capability to load full scale munitions on home station, or not.

The question should not have addressed the capacity to load, or not, but rather if there are loading restrictions that interfere with assigned mission accomplishment. For instance, if a unit is assigned Air Sovereignty Alert due to its proximity to national assets but is unable to either store the munitions, or to load them without significant waivers, then that is a factor for consideration.

Typically this question will be to the advantage of Active Air Force bases and to the disadvantage of ANG units sharing a civil field.

Mission	Fighter
Criterion	Condition of Infrastructure
Attribute	Key Mission Infrastructure
Formula#	1233
Label	Sufficient Munitions Storage
Effective %	4.79
Question	<p>List maximum explosive capacity for the installations hazard classification Class 1.1 munitions storage areas, in pounds. Maximum assumes F-i 17 18 PAA (GBU-27) and F/A-22 24 PAA (GBU-32 & AIM 120). If installation has no runway or no active runway, or no serviceable, suitable runway then score 0 pts. See section 1 .9 "Shared" for details. Otherwise, total the capacity. See OSD question 1233, column I for this data. (N/A means 0.) If the total > 45312, get 100 points. Otherwise, if the total > 38520, get 75 points. Otherwise, if the total > 19260, get 25 points. Otherwise, get 0 points. Example: There are two storage areas, with a capacity of 10,000 each, for a total of 20,000. 20,000 is between 19,260 and 38,250, so the score is 25 points.</p>
Source	AFMAN 91-201, Explosives Safety Standards; Installation Explosives Site Plan

See discussion in the previous question.

Question Identify if the installation pavement for the primary runway can support fighter aircraft operations.

If installation has no runway or no active runway, or no serviceable, suitable runway then score 0 pts. See section 1.9 ‘Shared’ for details.

Compute the runway pavement suitability score and the apron pavement suitability score. Each of these is worth 50% of the overall score.

Runway Pavement Suitability:

Find the highest PCN among all the runways. See OSD Question 1235, column 3 for this data. (N/A means 0.) Compute a score for every runway with that PCN and use the highest scoring runway.

Score the runway for runway pavement suitability as follows:

If the PCN is N/A or 0, get 0 points.

Otherwise, if the F-15E ACN divided by the PCN = 0, get 0 points. See OSD Question 1235, column 6 for the F-15E ACN. (N/A means 0.) Otherwise, if the F-15E ACN divided by the PCN <= 1.0, then get 100 points.

Otherwise, if the F-16 ACN divided by the PCN = 0, get 0 points. See OSD Question 1235, column 9 for the F-16 ACN. (N/A means 0.) Otherwise, if the F-16 ACN divided by the PCN <= 1.0, then get 75 points.

Otherwise, if the F-16 ACN divided by the PCN < 1.1, then get 50 points.

Otherwise, get 0 points.

Apron pavement suitability:

Score each apron for pavement quality and choose the highest scoring apron.

Get the F-15E ACN. See OSD Question 1239, column 9 for this data. (N/A means 0.)

Get the F-16 ACN. See OSD Question 1239, column 8 for this data. (N/A means 0.)

Mission	Fighter
Criterion	Condition of Infrastructure
Attribute	Key Mission Infrastructure
Formula#	1235
Label	Installation Pavements Quality
Effective %	2.97

Sum the apron pavement square yardage (see OSD Question 1239, column 2) where the F-15E ACN divided by the PCN > 0 and < 1.0 . Sum the apron pavement square yardage where the F-16 ACN divided by the PCN > 0 and ≤ 1.0 .

If the PCN is O or N/A, get 0 points. See OSD Question 1239, column 4 for this data.

Otherwise, if the F-15E square yardage $\geq 241,000$, get 100 points. Otherwise, if the F-16 square yardage $\geq 198,000$, get 75 points. Otherwise, if the F-16 square yardage $\geq 66,000$, get 50 points. Otherwise, get 0 points.

Example:

There are 2 runways on the base, but one has the highest runway pavement PCN value, which is 60. The ACN for an F-15E on that runway is 37, for an F-16 it is 18. 37 divided by 60 is < 1.0 , so the base gets 100 pts for runway pavement suitability.

There are 2 apron pavements on the base. Apron Alpha has a PCN of 50 and 100,000 square yards of surface. Apron Bravo has a PCN of 30 and 150,000 square yards. The ACNs for F-15Es and F-16s on both aprons are 37 and 18, respectively.

Apron Alpha's ACN/PCN ratio for F-15Es is $37/50$, which is less than 1.0. This counts as 100,000 square yards for the F-15E. Apron Bravo's ACN/PCN ratio for F-15Es is $37/30$, which is not less than 1.0, so its square yards aren't counted towards F-15E square yardage. This gives us a total of 100,000 F-15E square yards, which is less than the 241,000 F-15E square yards needed for a runway pavement suitability score of 100 points.

Apron Alpha's ACN/PCN ratio for F-16s is $18/50$, which is less than 1.0. This counts as 100,000 square yards for the F-16. Apron Bravo's ACN/PCN ratio for F-16s is $18/30$, which is also less than 1.0, so its square yards are also counted towards F-16 square yardage. This gives us a total of 250,000 F-16 square yards, which is more than the 198,000 F-16 square yards needed for an apron pavement suitability score of 75 points.

50% of the Runway pavement suitability score of 100 equals 50. 50% of the apron pavement score of 75 equals 37.5. 50 plus 37.5 equals a score of 87.5

Source AFCESA Pavement Evaluation Report and Base General Plan; Existing Record Drawings or Physical Verification; Base Real Property Records;

_____ FLIP; ASSR

No comment here.

Question Identify special use airspace that is suitable for supersonic training. If installation has no runway or active runway, or no serviceable, suitable runway then score 0 pts. See section 1.9 "Shared" for details. Otherwise, score each special use airspace suitable for supersonic training according to the following formula and return the single highest score.

% of Score Category

50 Operating Hours

50 Size

For Operating Hours:

A supersonic special use airspace gets 100 points if it is available for use 24 hours a day and 0 points if it is unavailable for use. (N/A means unavailable for use.) For operating hours between those two boundaries, pro-rate the score linearly. See OSD question 1276, column 2 for this data.

For Size:

If the supersonic special use airspace is at least 150 nautical miles (NM) by 80 NM in size, and has an altitude block > 30,000, get 100 points.

See OSD question 1276, column 7 for this data. (N/A means no.)

Otherwise, if it is at least 100 NM by 60NM and has an altitude block >= 30,000', get 80 points. See OSD question 1276, column 6 for this data.

(N/A means no.)

Otherwise, if it is at least 100 NM by 50 NM and has an altitude block >= 30,000', get 60 points. See OSD question 1276, column 5 for this data.

(N/A means no.)

Otherwise, if it is at least 80 NM by 40 NM and has an altitude block > 30,000', get 40 points. See OSD question 1276, column 4 for this data.

(N/A means no.)

Otherwise, if it has an airspace volume >= 2,100 NM squared and an

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Mission	Fighter
Criterion	Condition of Infrastructure
Attribute	Operating Areas
Formula#	1203
Label	Access to Adequate Supersonic Airspace
Effective %	6.72

altitude block > 20,000', get 20 points. See OSD question 1276, column 3 for this data.
(N/A means no.)

Otherwise, get 0 points.

Example:

A supersonic special use airspace is listed under OSD question 1276. It has an airspace of 105 NM by 61 NM in size, with an altitude block of 32,000'. That airspace is available for use 18 hours a day.

(80 points for 100 NM by 60 NM, 30,000' altitude block airspace * 50%)

+ (75 points for 18 hours of use / (difference between 24 hours and 0 hours)) * 50%),

This equates to 40 size points + 37.5 operating hours points 77.5 points for this special use airspace. The overall score is the highest score received by any one special use airspace at the installation.

Source	DoD #1203; Digital Aeronautical Flight Information Files (DAFIF), 30 Sep 04; FAA ATCAA Database
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Special Use Airspace is defined as Warning, Restricted, Prohibited Areas, and Military Operating Areas. Air Traffic Control Assigned Airspaces (ATCAA) are not by definition Special Use and are only agreements between the regional FAA centers and users defining operations in the ATCAA (FL180 and above).

I do not have specific information on this formula's calculations as it pertains to the 120 FW, and if our non-supersonic MOA (50 X 120 NM) was rated, or even considered, even though the ATCAA portion above FL300 (90 X 290 NM) the MOA and beyond is fully supersonic. Supersonic cruise of future fighters will be conducted at altitudes much higher than those conducted by current fighters, and operations in the medium altitude blocks (low 20's-mid 30's) will be further curtailed.

Unfortunately, although the question seems to address availability (24 hours per day?) it does not address encroachment issues from civil air traffic, especially as "FAA free flight" operations become more common place.

Question If installation has no runway or no active runway, or no serviceable, suitable runway then score 0 pts. See section 1 .9 "Shared" for details.

All airspace over 150 Nautical Miles (NM) away will be ignored. See OSD # 1245, column 2. (N/A means more than 250 NM.) Data is in OSD #s 1266, 1245 and 1274 must be matched via column 1 in each question.

Calculate each of the subcategories scores listed below, and weight as listed.

15% Airspace Volume (AV)

15% Operating Hours (OH)

10% Scoreable Range (SR)

11.25% Air to Ground Weapons Delivery (AGWD)

.75% Low Angle Strafe (LA)

3% Live Ordnance (LO)

5% IMC Weapon Release (1W)

10% Electronic Combat (EC)

10% Laser Use Auth. (LU)

10% Lights Out Capable (LC)

5% Flare Auth. (FA)

5% Chaff Auth. (CA)

Each of the subcategories use the following general pattern for calculating them:

Compute a raw total for the base by following the instructions for the respective subcategory total.

Find the highest, and the lowest, non-zero raw total for the subcategory across all bases.

If the raw total 0, that subcategory score = 0.

Else, if the raw total = the highest raw total, the subcategory score = 100. Else, if the raw total = the lowest, non-zero raw total, the subcategory score 10.

Else, pro-rate the raw total between the lowest non-zero score and the highest score on a 10 to 100 scale.

Once each score for each subcategory is known, multiply them by their respective weighting percentage and total the results for the overall score.

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Mission	Fighter
Criterion	Condition of Infrastructure
Attribute	Operating Areas
Formula#	1266
Label	Range Complex (RC) Supports Mission
Effective%	11.95

AV Raw Total:

Get AV for the pts. Sec OSD # 1277, column 1. (N/A means 0.)

OH Raw Total:

Sum the pts for each airspace:

If the OH < I or N/A, get 0 pts. See OSD # 1266, column 2.

Else, if the OH = 1 or IMTMT or INTMT, get 10 pts.

Else, if the OH 24 or NOTAM, get 100 pts.

Else, pro-rate the OH between 0 and 24 on a 10 to 100 point scale.

SR Raw Total:

Sum the pts for each airspace:

If the SR = Yes, get 100 pts. See OSD # 1266, column.3.

Else, get 0 pts.

AGWD Raw Total:

Sum the pts for each airspace:

If the AGWD Yes, get 100 pts. See OSD # 1266 column 4.

Else, get 0 pts.

LA Raw Total:

Sum the pts for each airspace:

If the LA = Yes, get 100 pts. See OSD # 1266 column 5.

Else, get 0 pts.

LO Raw Total:

Sum the pts for each airspace:

If LO Yes, get 100 pts. See OSD # 1274, column 5.

Else, get 0 pts.

1W Raw Total:

Sum the pts for each airspace:

If 1W = Yes, get 100 pts. See OSD # 1266, column 6.

Else, get 0 pts.

EC Raw Total:

Sum the pts for each airspace:

If EC = Yes, get 100 pts. See OSD # 1266, column.7.

Else, get 0 pts.

LU Raw Total:

Sum the pts for each airspace:

If LU = Yes, get 100 pts. See OSD # 1266, column 8.

Else, get 0 pts.

LC Raw Total

Sum the pts for each airspace:

If LC Yes, get 100 pts. Sec OSD # 1266, column 9.

Else, get 0 pts.

FA Raw Total

Sum the pts for each airspace:

If FA = Yes, get 100 pts. See OSD # 1274, column 3.

Mission	Fighter
Criterion	Contingency, Mobilization, Future Forces
Attribute	Mobility/Surge
Formula#	1214
Label	Fuel Dispensing Rate to Support Mobility and Surge
Effective %	2.64
Question	<p>Check the installation's sustained jet fuel dispensing rate capability. Sum the JP5 and JP8 figures for jet fuel dispensing. See OSD Question 1214, column 4, for both JP5 and JP8. (N/A equals 0.)</p> <p>If the sum is $\geq 2,500,000$ gallons, get 100 points. If the sum is $= 0$ gallons, get 0 points.</p> <p>Otherwise, pro-rate the sum of gallons between 0 and 2,500,000 on a 0 to 100 point scale.</p> <p>Example: JP5 can handle 500,000 gallons. JP8 can handle 750,000 gallons, for a total of 1,250,000 gallons. 1,250,000 is halfway between 0 and 2,500,000 gallons, for a score of 50.</p>
Source	Base Support Plan as required by AFI 10-404, Attachment 20

This formula, and the following (1241) are totally biased against any ANG facility. No facility other than a large active AF base (with either extensive fighter operations (Luke or Nellis), or with a heavy airlift/tanker mission) have anywhere near the capacity to hold and dispense these fuel quantities. Further it fails to address any off-base capability that an ANG unit may have. For example, while the 120th Fighter Wing has only 125,000 gallon holding capacity, our supplier is the refinery in Great Falls that can surge to any short-term demands with minimal lead time.

The bigger question to ask is, "Why is this important?" AEF commitments meet up in theater from a variety of different bases - they do not meet at a CONUS base and make a mission launch from there. Even if overseas basing becomes limited, there can never be the requirement to launch that type of contingent against any conceivable enemy state given the massive tanker requirements to keep the fleet airborne there and back.

Mission	Fighter
Criterion	Contingency, Mobilization, Future Forces
Attribute	Mobility/Surge
Formula#	1241
Label	Ability to Support Large-Scale Mobility Deployment
Effective %	1.76
Question	<p>State installation's parking MOG for C-17 equivalents using surveyed/approved transient parking ramps.</p> <p>If installation has no runway or no active runway, or no serviceable, suitable runway then score 0 pts. See section 1.9 "Shared" for details.</p> <p>Otherwise, total the number of C-17 equivalents the installation transient ramp can hold. See OSD question 1241, column 1 for this data. (N/A equals 0.)</p> <p>If the total > 6, get 100 points.</p> <p>Otherwise, if the total > 4, get 75 points.</p> <p>Otherwise, if the total >= 2, get 25 points.</p> <p>Otherwise, get 0 points.</p> <p>Example:</p> <p>The installation transient ramp can hold 5 C-17 equivalents. 5 is between 4 and 6, so the score is 75 points.</p>
Source	ASR (Airfield Suitability Report)

See above question's comments, and those of Formula 8, Ramp Area and Serviceability.

Question Check the attainment designation classifications of the installations NAAQS (National Ambient Air Quality Standard) for the following applicable criteria: Attainment, Nonattainment, Nonattainment (Deferred), Maintenance, and Unclassifiable. Identify the amount of the SIP emissions budget for non-attainment and maintenance criteria pollutants, if any, allocated to the installation.

Use the following formula to compute this score:

Multiply the Attainment / Emission Budget Growth Allowance MinA by the Attainment / Emission Budget Growth Allowance *B* for the base score. Add the SIP Score to the base score. If the base score is now over 100, reduce it to 100.

SIP Score:

Sum the Installation SIP Growth Allowance (Tons/Year) for the following constituents: '001. VOC' and '002. Nox'.

See OSIX c¹/₂w &cc 22A, cc*, csc Sc ? SYi Allowance (Tons/Year). See OSD Question 221, column 1 for the constituent.

If the total is > 0, then SIP Score 20, otherwise it is 0.

Attainment / Emission Budget Growth Allowance MinA and *B*:

Perform the following calculation for each of the specified criteria pollutants and pick the lowest value from them all.

The criteria pollutants are '002. PM10', '004. SO2', '005. CO', '007. O3 (8hr)*'. See OSD Question 213, column 1 for this data.

Attainment / Emission Budget Growth Allowance MinA:

If the NAAQS Designation is Attainment, Unclassifiable, Nonattainment (Deferred), Unclassifiable/Attainment, Unclassifiable/Attainment (EAC), Nonattainment-deferred (EAC), Attainment (EAC) or N/A, get 100. See OSD Question 213, column 2 for this data.

Otherwise, if the NAAQS Designation is Maintenance, get 77.778.

Mission	Fighter
Criterion	Contingency, Mobilization, Future Forces
Attribute	Growth Potential
Formula#	213
Label	Attainment / Emission Budget Growth Allowance
Effective %	1.68

Otherwise, if the NAAQS Classification is Marginal, Subpart 1, Moderate, Primary, or Secondary, get 66.667. See OSD Question 213, column 3 for this data.

Otherwise, if the NAAQS Classification is Serious, get 43.5.

Mission	Fighter
Criterion	Contingency, Mobilization, Future Forces
Attribute	Growth Potential
Formula#	1205.1
Label	Buildable Acres for Industrial Operations Growth
Effective %	1.96
Question	<p>Identify the number of "buildable," unconstrained, development acres available for industrial operations. Sum the number of suitable acres at the installation. See OSD Question 1205, column 3 for the data. (N/A means 0.) If the number of acres is ≥ 150, get 100 points. If < 5 acres, get 0 points. Otherwise, pro-rate the number of acres between 5 and 150 on a 0 to 100 point scale.</p> <p>Example: There are three separate tracts of land that are suitable, comprised of 10, 22.5, and 45 acres respectively, for a total of 77.5 acres. 72.5 is halfway between 5 and 150 acres, so the score is 50.</p>
Source	AFI 32-7062, AICUZ Study Base Comprehensive Plan component plans such as Cultural Resource Management Plans, Natural Resource Management Plans and special studies, Base comprehensive plan maps

Entire current ANG bases are contained on less than 150 acres (including the 120 FW on our very large (by ANG standards) of 147 acres). There is indeed efficiency in bedding down future fighter forces in economical units (generally identified as 24 or 36 PAA). However, to insist upon essentially unlimited growth potential of all AF/ANG installations effectively makes the current community basing concept of the ANG (with all of the commensurate support entailed with a "hometown" force) obsolete.

There needs to be a serious debate between "supersizing" and "community basing" and Title 10 and Title 32 duties/resources. This is an argument that NGAUS, the AGAUS, and the Governors need to engage in.

Mission	Fighter
Criterion	Contingency, Mobilization, Future Forces
Attribute	Growth Potential
Formula#	1205.2
Label	Buildable Acres for Air Operations Growth
Effective%	1.96
Question	<p>Buildable acres for air operations growth. If installation has no runway or no active runway, or no serviceable, suitable runway then score 0 pts. See section 1 .9 “Shared” for details. Sum the number of suitable acres at the installation. See OSD Question 1205, column 5 for the data. (N/A means 0.) If the number of acres is > 150, get 100 points. If < 5 acres, get 0 points. Otherwise, pro-rate the number of acres between 5 and 150 on a 0 to 100 point scale. Example: There are three separate tracts of land that are suitable, comprised of 10, 22.5, and 45 acres respectively, for a total of 77.5 acres. 72.5 is halfway between 5 and 150 acres, so the score is 50.</p>
Source	AFT 32-7062, AICUZ Study Base Comprehensive Plan component plans such as Cultural Resource Management Plans, Natural Resource Management Plans and special studies, Base comprehensive plan maps

See comments above.

Mission	Fighter
Criterion	Cost of Ops / Manpower
Attribute	Cost Factors
Formula#	1250
Label	Area Cost Factor
Effective%	1.25
Question	<p>Evaluate the Area Cost Factor for each installation. Find the lowest area cost factor listed for that installation. See OSD question 1250, column 2 for this data. If the area cost factor < 0.78, get 100 points. Otherwise, if the area cost factor > 1.42, get 0 points. Otherwise, pro-rate the area cost factor between 0.78 and 1.42, on a 100 to 0 point scale. Example: The lowest area cost factor for the base is 1.3. 1.3 is 81.25% of the way between 0.78 and 1.42, so the score is 18.75 points.</p>
Source	DoD Facilities Pricing Guide, Table B, March 2004

This formula, and the following 3, may or may not have any relevance to this discussion. These costs are certainly not the most expensive costs of equipping and training our Total Air Force, even when the long term factors of retirements might be considered.

It may be more expensive (marginally so) to base a certain type of aircraft/mission in one locale than another but make better sense IF the non-quantifiable costs of real training capacity outweigh the minor dollar differences.

Mission	Fighter
Criterion	Cost of Ops / Manpower
Attribute	Cost Factors
Formula#	1269

Label	Utilities cost rating (U3C)
Effective %	0.13
Question	<p>Check the Utilities Costs and Climatic Consideration (U3C) Rating for the installation. If the U3C rating is $\leq .59$, get 100 points. Otherwise, if the U3C rating is > 2.29, get 0 points. Otherwise, pro-rate the U3C rating between .59 and 2.29 on a 100 to 0 scale. Example: The U3C rating is 1.6. 1.6 is 59.41% of the way between .59 and 2.29, so the score is 40.59.</p>
Source	ASHRAE Standards; DoD 5126.46-M-2, Defense Utility Energy Reporting System; UFC 3-400-02, DOE Website: Buildings Energy Databook: Table 7.4 Typical Commercial Buildings

Mission	Fighter
Criterion	Cost of Ops / Manpower
Attribute	Cost Factors
Formula#	1402
Label	BAH Rate
Effective %	0.88
Question	<p>Check the 2004 monthly BAH rate for an 0-3 with dependents. See OSD question 1402, column 1 for this data. If the BAH rate < 746, get 100 points. Otherwise, if the BAR rate ≥ 2013, get 0 points. Otherwise, pro-rate the BAH rate between 746 and 2013 on a 100 to 0 scale. Example: The BAH rate is 974. 974 is 18% between 746 and 2013, which results in a score of 82.00.</p>

Source	www.dtic.mil/perdiem/bah.html
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Mission	Fighter
Criterion	Cost of Ops / Manpower
Attribute	Cost Factors
Formula#	1403
Label	GS Locality Pay Rate
Effective %	0.25
Question	<p>Check the 2004 locality pay rate for the GS pay schedule. See OSD question 1403, column 1 for this data. (N/A equals 0.)</p> <p>If the pay rate < 10.90, get 100 points.</p> <p>Otherwise, if the pay rate >= 20.37, get 0 points.</p> <p>Otherwise, pro-rate the pay rate between 10.90 and 20.37 on a 100 to 0 scale.</p> <p>Example:</p> <p>The pay rate is 14.31, which is 36.01% of the way between 10.90 and 20.37, which results in a score of 63.99.</p>
Source	Office of Personnel Management Web page