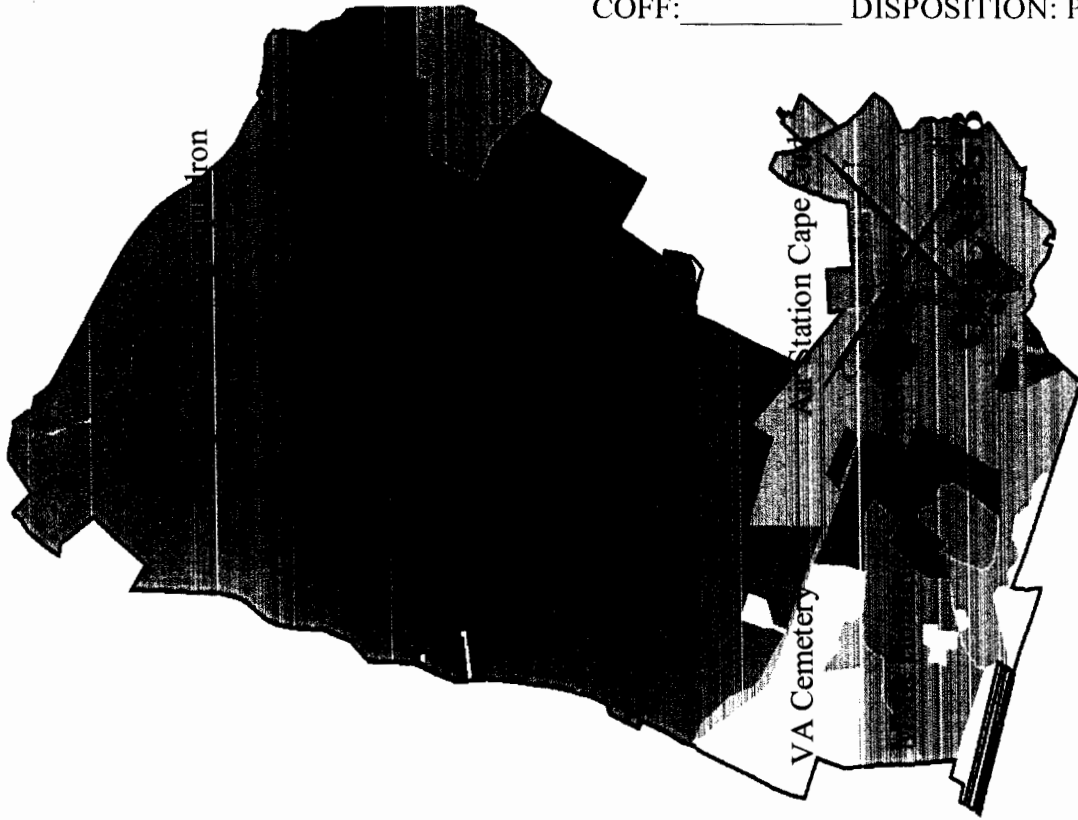


Otis Air National Guard Base

BRAC Commission Hearing
6 July 2005
Boston, MA



Executive Summary

- **31 May Brief – SUBSTANTIAL DEVIATIONS in Otis overall rating**
- **VALIDATE those deviations**
 - **Actual Military Value & MCI Score**
 - **Actual Cost Savings**
 - **Impact to Homeland Defense**

Agenda

DCN: 11549

Executive Summary

—→ **Military Value**

Cost Savings

Homeland Defense Mission

Recommendations to the BRAC Commission

1

Incorrect data was used to calculate Otis ANGB's MCI score

2

Flawed methodology was used for evaluating training ranges

3

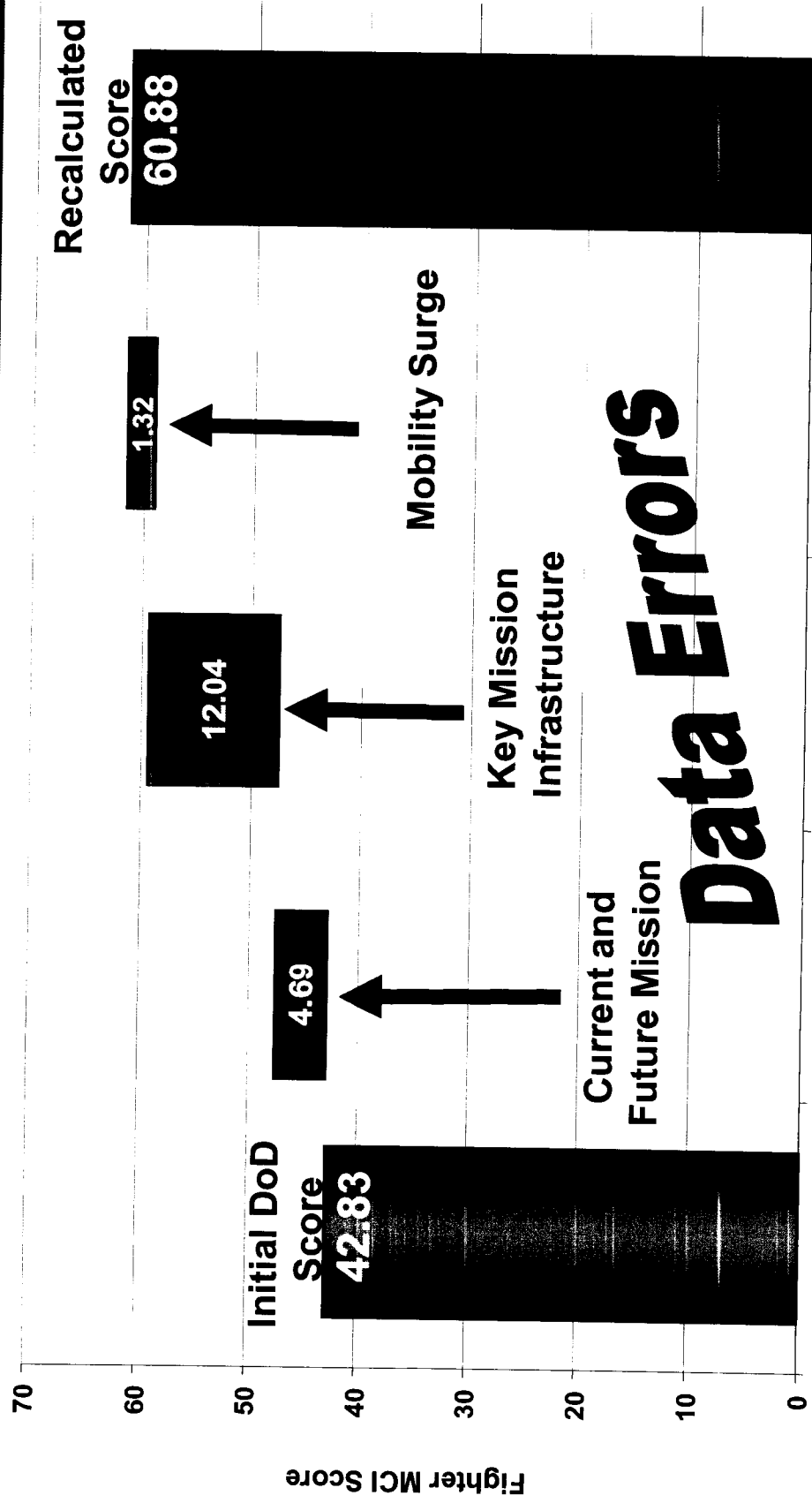
Emphasis on training ignored strategic military value and homeland defense

Military Value – Correcting Inaccurate Data

DCN:

1

Actual Otis ANGB Fighter MCI Score



Military Value – Nine Examples of Incorrect Data

DCN:

1

Inaccurate Data

Current and Future Mission

Key Mission Infrastructure

Mobility Surge

Proximity to Airspace
Supporting Mission

Auxiliary Airfields

Prevailing Weather
Conditions

Range Complex
Supporting Mission

Access to
Supersonic Airspace

Explosive Sited
Parking

Hangar Capability

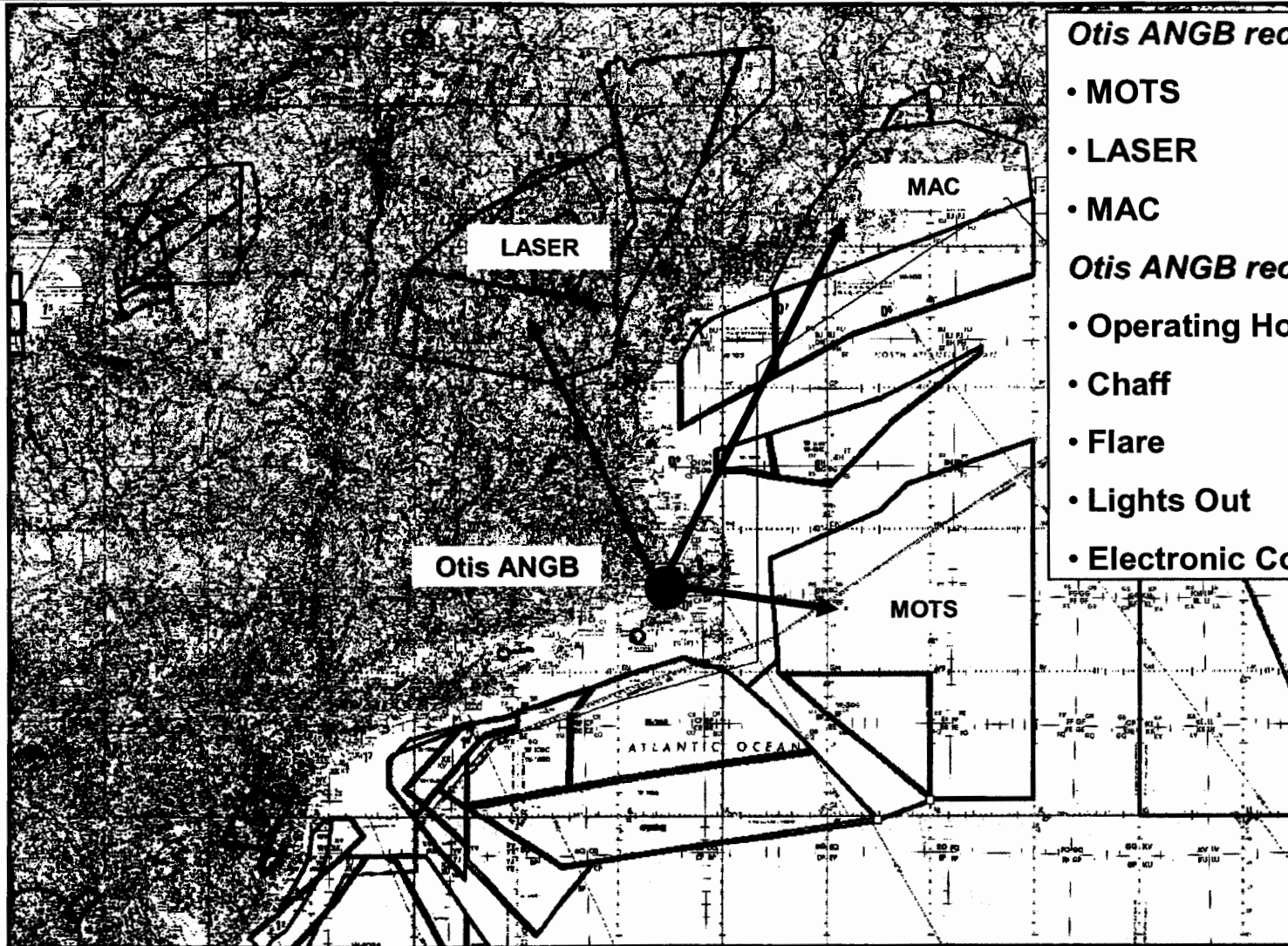
Munitions Storage

Large Scale
Deployment

Military Value – Airspace Credit

1

Proximity to Airspace Supporting Mission



Otis ANGB received no credit for:

- MOTS
- LASER
- MAC

Otis ANGB received improper credit for:

- Operating Hours
- Chaff
- Flare
- Lights Out
- Electronic Combat

Military Value – Infrastructure Credit and Surge

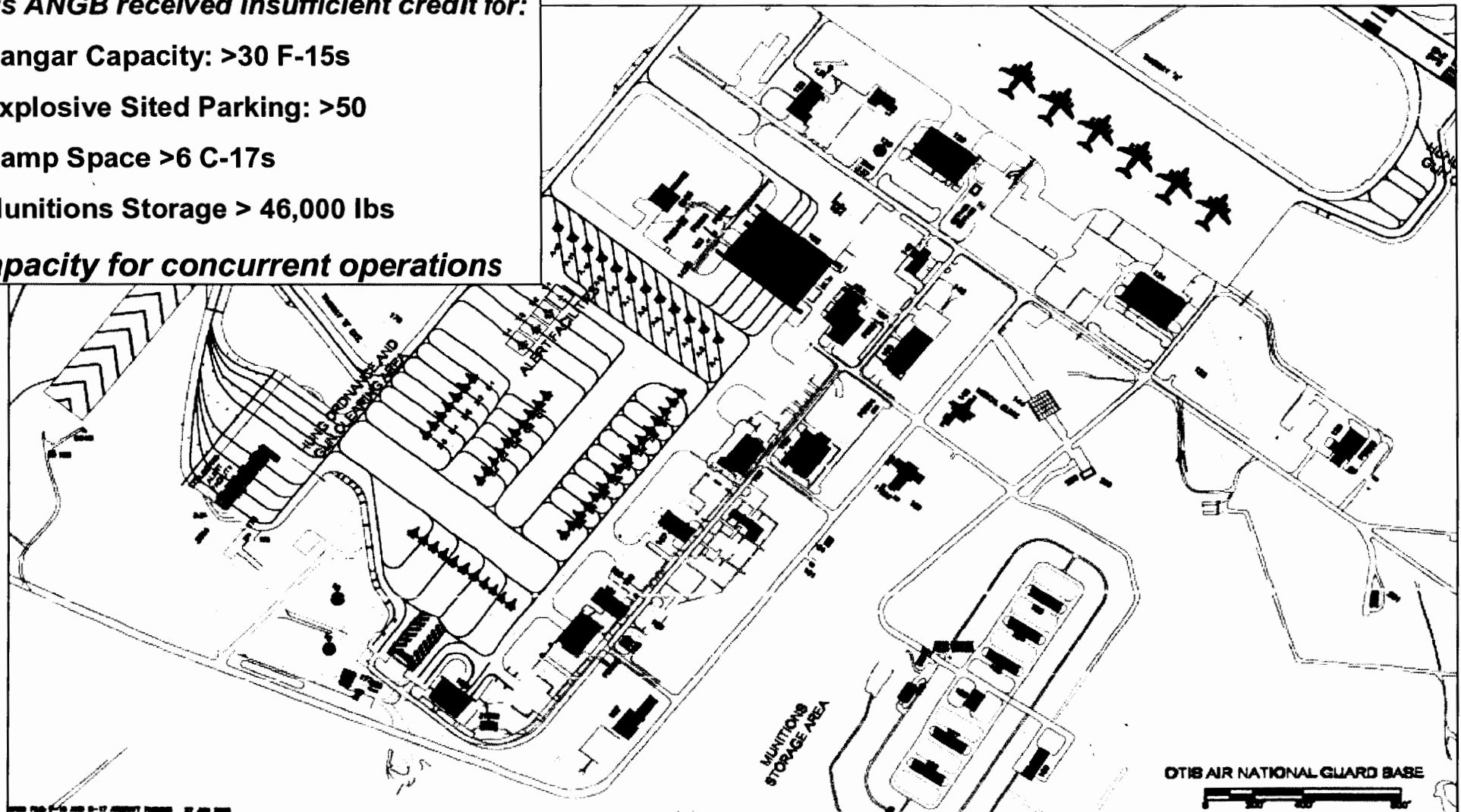
1

Infrastructure Capacity and Large Scale Deployment

Otis ANGB received insufficient credit for:

- Hangar Capacity: >30 F-15s
- Explosive Sited Parking: >50
- Ramp Space >6 C-17s
- Munitions Storage > 46,000 lbs

Capacity for concurrent operations

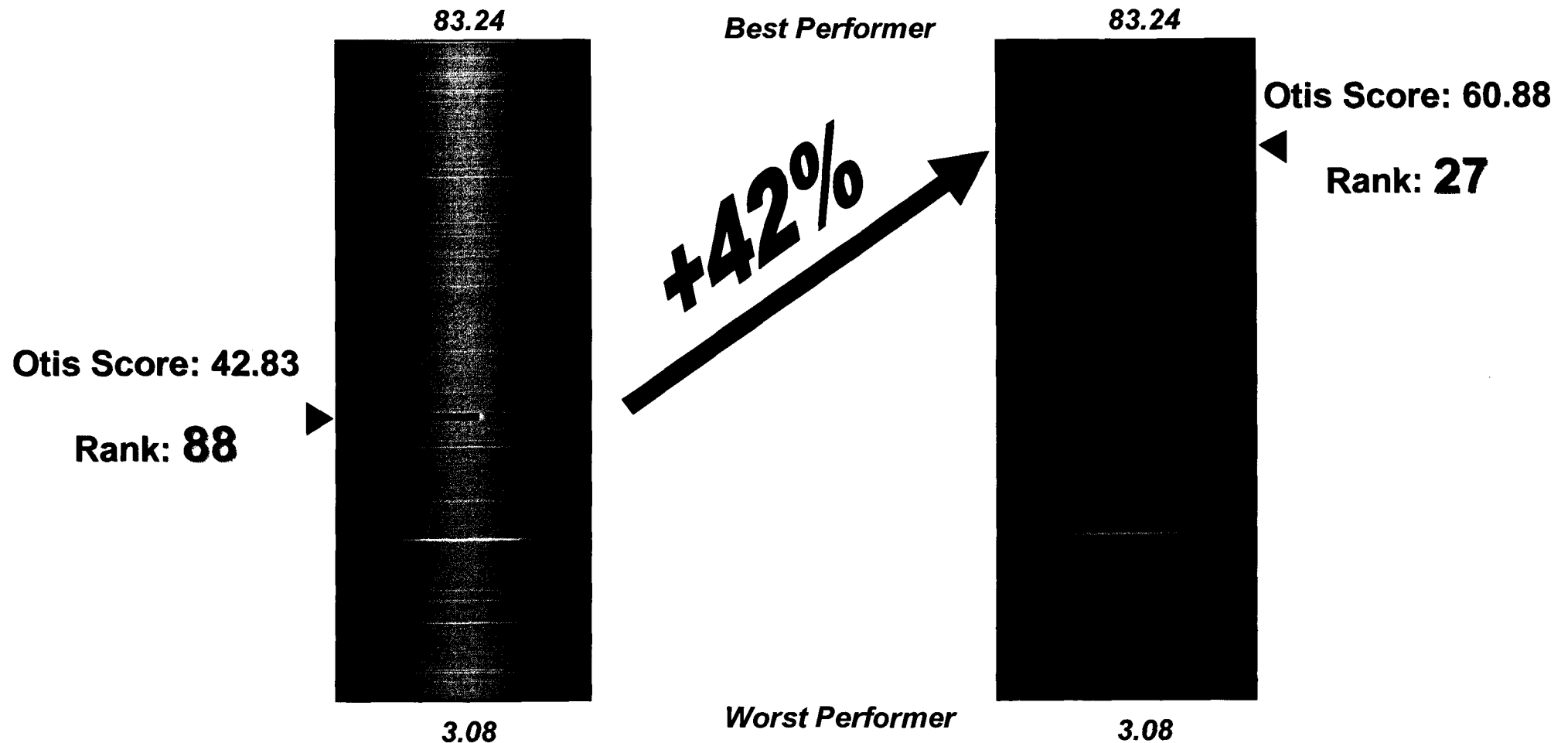


Military Value – Correct Otis Ranking is 27

1 Fighter MCI Scores and Rankings

Initial DoD Fighter MCI Score

Recalculated Fighter MCI Score



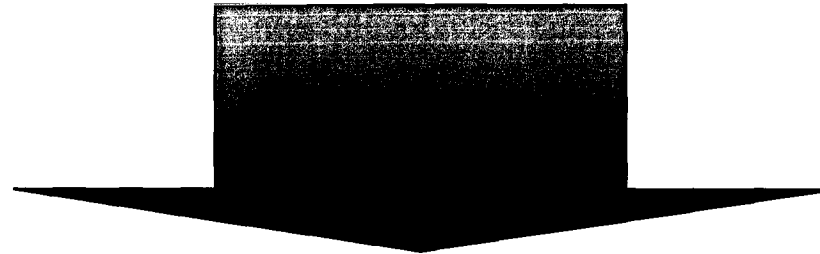
Military Value – Range Value Misrepresented by BRAC Scoring

2

Flawed DoD Methodology

Fighter MCI misrepresented value of training ranges

1. Size
2. Availability
3. Proximity



1

Bases with access to a few large, high-quality ranges scored lower than those with access to many small ranges

2

Airspace saturation and accessibility was not considered in the MCI

3

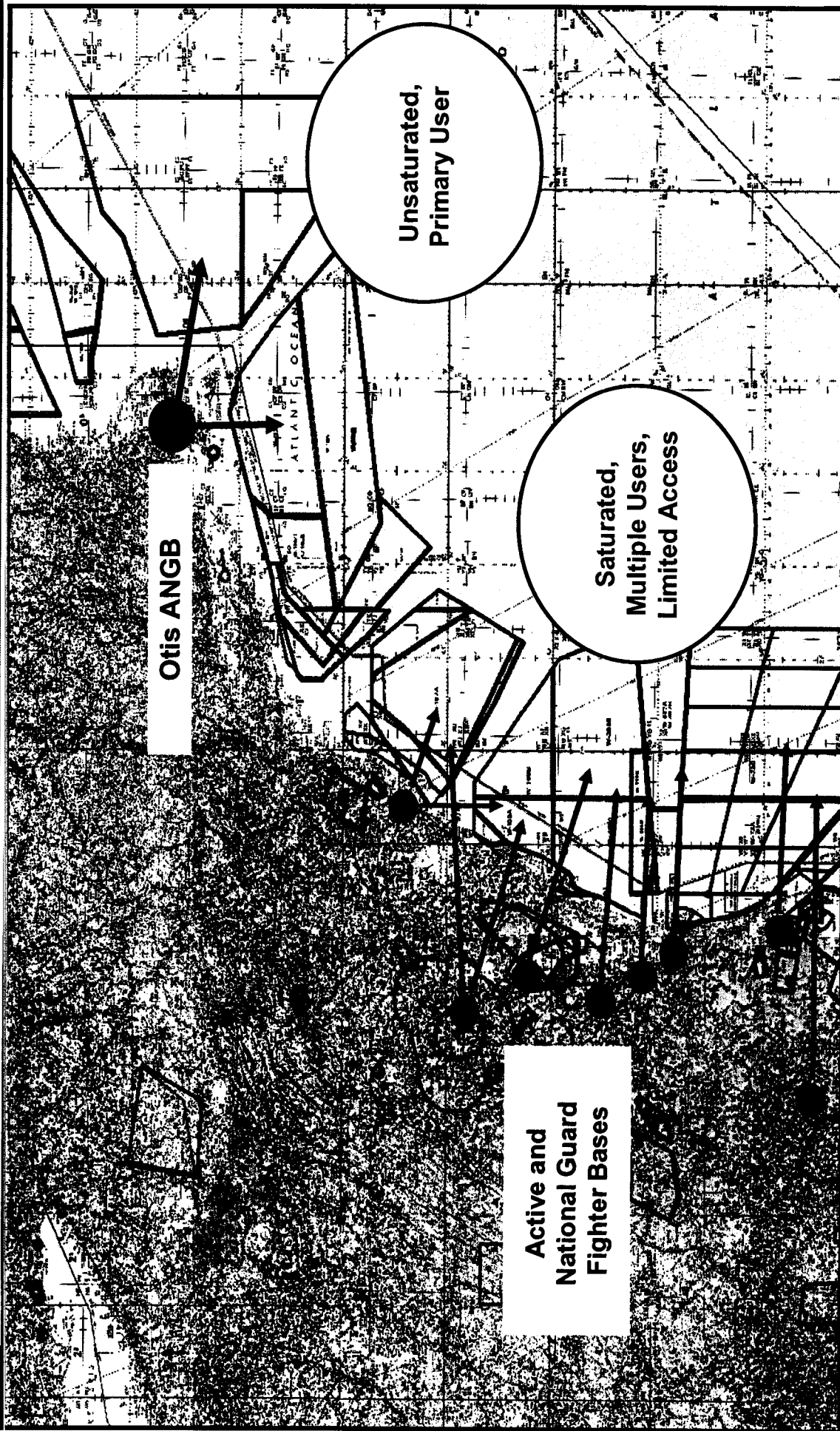
Non-proximity attributes skewed the final proximity score

Military Value – Flawed Methodology for Range Evaluation

DCN:

2

Range Comparison



Military Value – AF Selection Criteria Ignored Homeland Defense

3

BRAC Selection Criteria

Criteria	Weight	Major Sub-Criteria
Current and Future Mission	46.0%	<ul style="list-style-type: none"> • ATC Restrictions • Prevailing Weather • Proximity to Airspace • Proximity to Low Level Routes
Condition of Infrastructure	41.5%	<ul style="list-style-type: none"> • Munitions Storage • Hangar Capability • Explosive-Sited Parking • Range Complex
Contingency, Mobilization, Future Forces	10.0%	<ul style="list-style-type: none"> • Fuel Dispensing Rate • Attainment / Emission Budget • Buildable Acres
Cost of Ops / Manpower	2.5%	<ul style="list-style-type: none"> • Area Cost Factor • BAH Rate • GS Locality Pay Rate

***Homeland
Defense Not
Considered***

Military Value – AF Selection Criteria Ignored Homeland Defense

3 Homeland Defense Deficiencies

“The strategic objectives of the 2005 National Defense Strategy include defending the US homeland from direct attack”

-Executive Summary, AF Analysis and Recommendations BRAC 2005

Factors Not Considered:

- Current Air Sovereignty Alert Mission**
- Strategic Location**
- Surge Capability in response to increased NORAD Threat Levels**
- Base Security**
- Future and Asymmetric Threats**

Military Value – Summary

- **MCI SCORE – Corrected value - Otis ranks 27th**
- **FLAWED METHODOLOGY – Misrepresented true value of ranges**
- **HOMELAND DEFENSE – Current Mission not considered in MCI**

Agenda

DCN: 11549

Executive Summary

Military Value

→ **Cost Savings**

Homeland Defense

Recommendations to the BRAC Commission

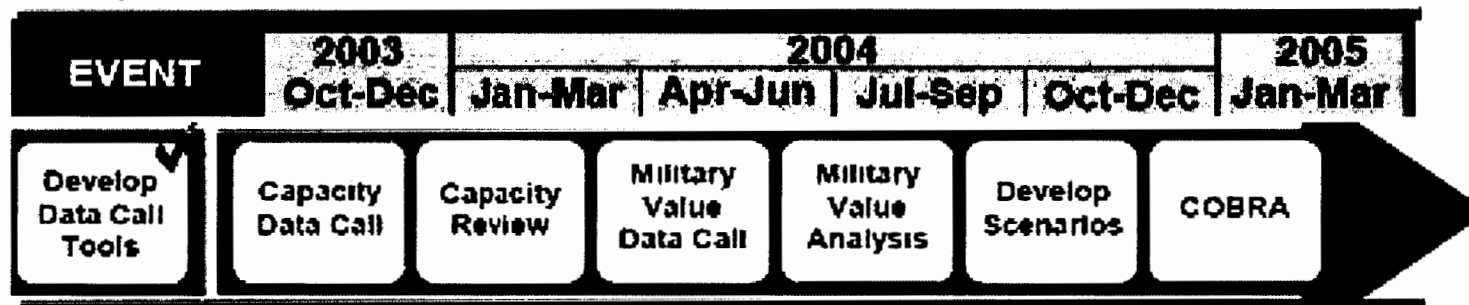
Cost Savings – DoD's Analysis is Flawed

Flaws in DoD Methodology

- The COBRA analysis was not comparative



Proposed BRAC 05 Timeline



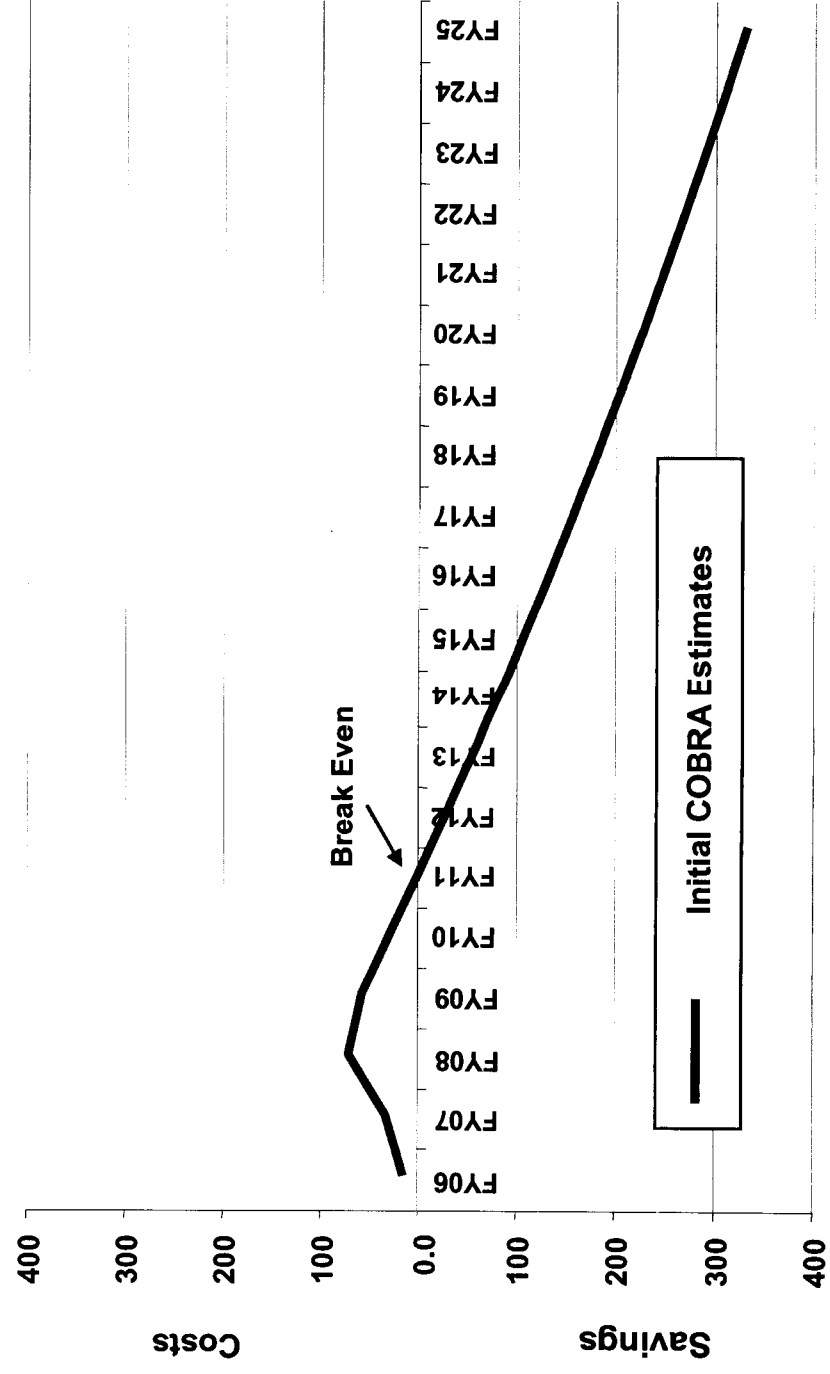
Source: BCEG Minutes

- Money saved through personnel and overhead, not by eliminating inefficient bases
 - Proposed cost savings are not specific to Otis ANGB

Cost Savings – DoD Estimate (Scenario 142c3) \$336 Million Over 20 Years

DCN:

COBRA Data	
Initial COBRA Estimates (Cumulative \$ Million)	DoD COBRA Errors:



Costs

- One Time
- Recurring

Cost Savings – Inaccurate Data Inflates Projected Savings

Adjusted Costs

One-Time

- DoD failed to accurately calculate conversion costs
- COBRA model placed training costs for Atlantic City F-15 conversion at \$4.8 million
- Historical data puts one-time training costs at \$78M



***Additional \$73.2 million
in one-time costs***

Cost Savings – Inaccurate Data Inflates Projected Savings

DCN:

Adjusted Costs

Recurring

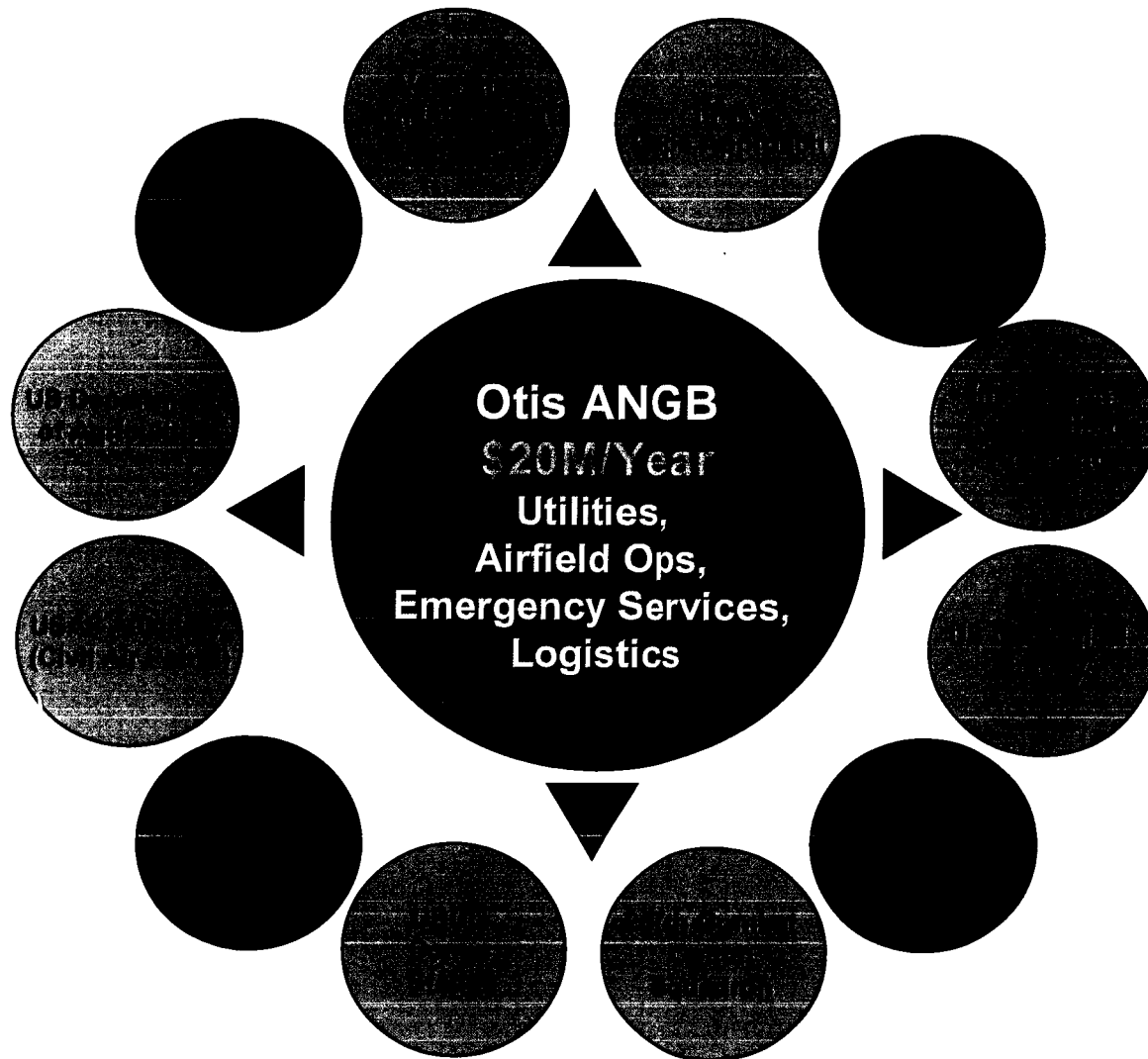
- DoD ignored leave behind costs for Federal MMR tenants, despite requirements under Statute 2913(e)
- Closing Otis ANGB will require a significant yearly leave behind cost for USCG, ARNG, and other tenants



***Additional \$20 million per
year in recurring costs***

Cost Savings – Impact on Tenants Not Considered

Selected Otis ANGB Tenants*

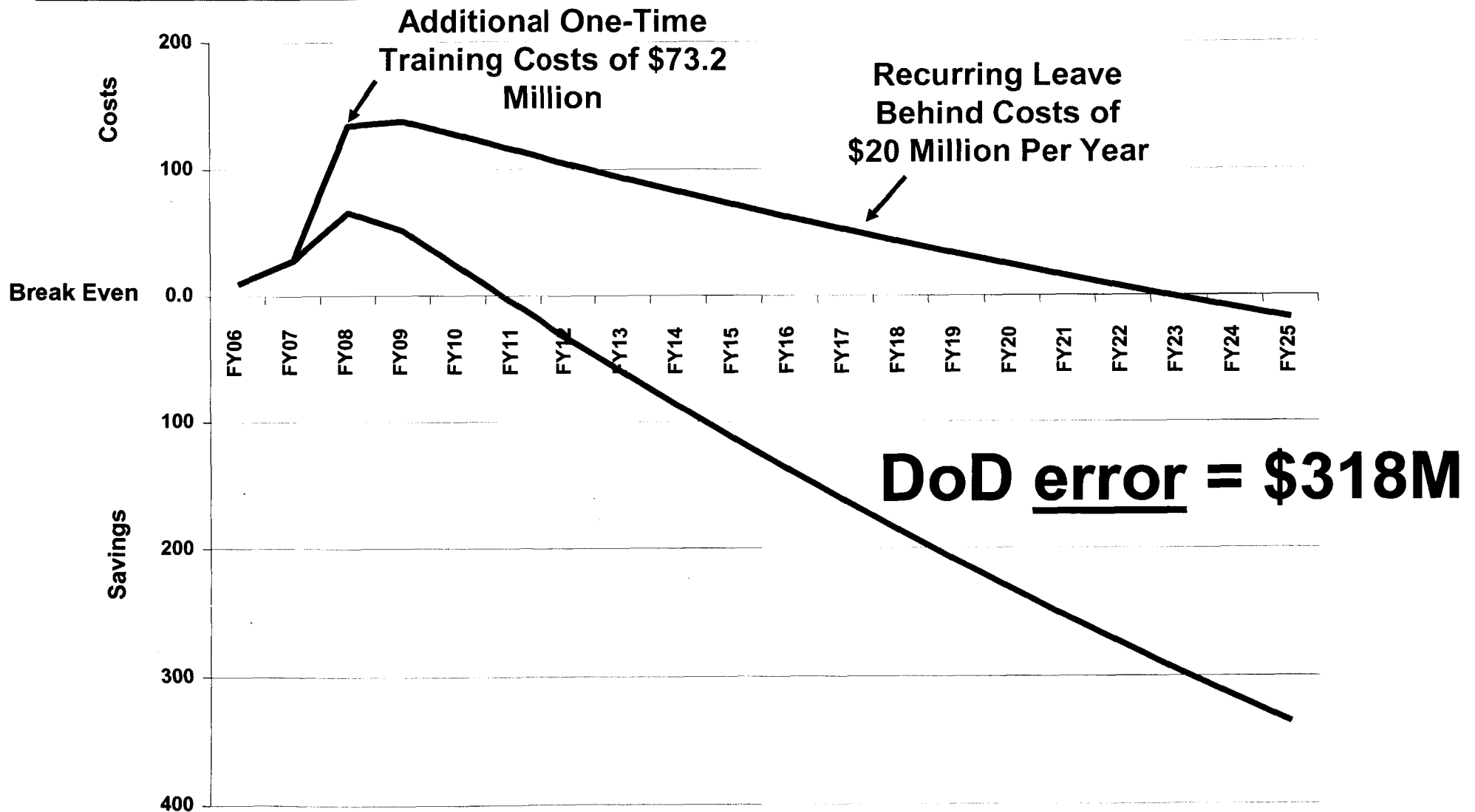


No consideration was given to the support requirements for the tenants that are left behind, violating BRAC Statute 2913(e)

*Total tenants = 28 +

Cost Savings – Recalculated Savings (Scenario 142c3) \$18.1 Million Over 20 Years

BRAC Estimates versus Adjusted Cost Savings (Cumulative \$Million)



Source: Analysis of DoD COBRA model and documents

Agenda

DCN: 11549

Executive Summary

Military Value

Cost Savings

→ **Homeland Defense**

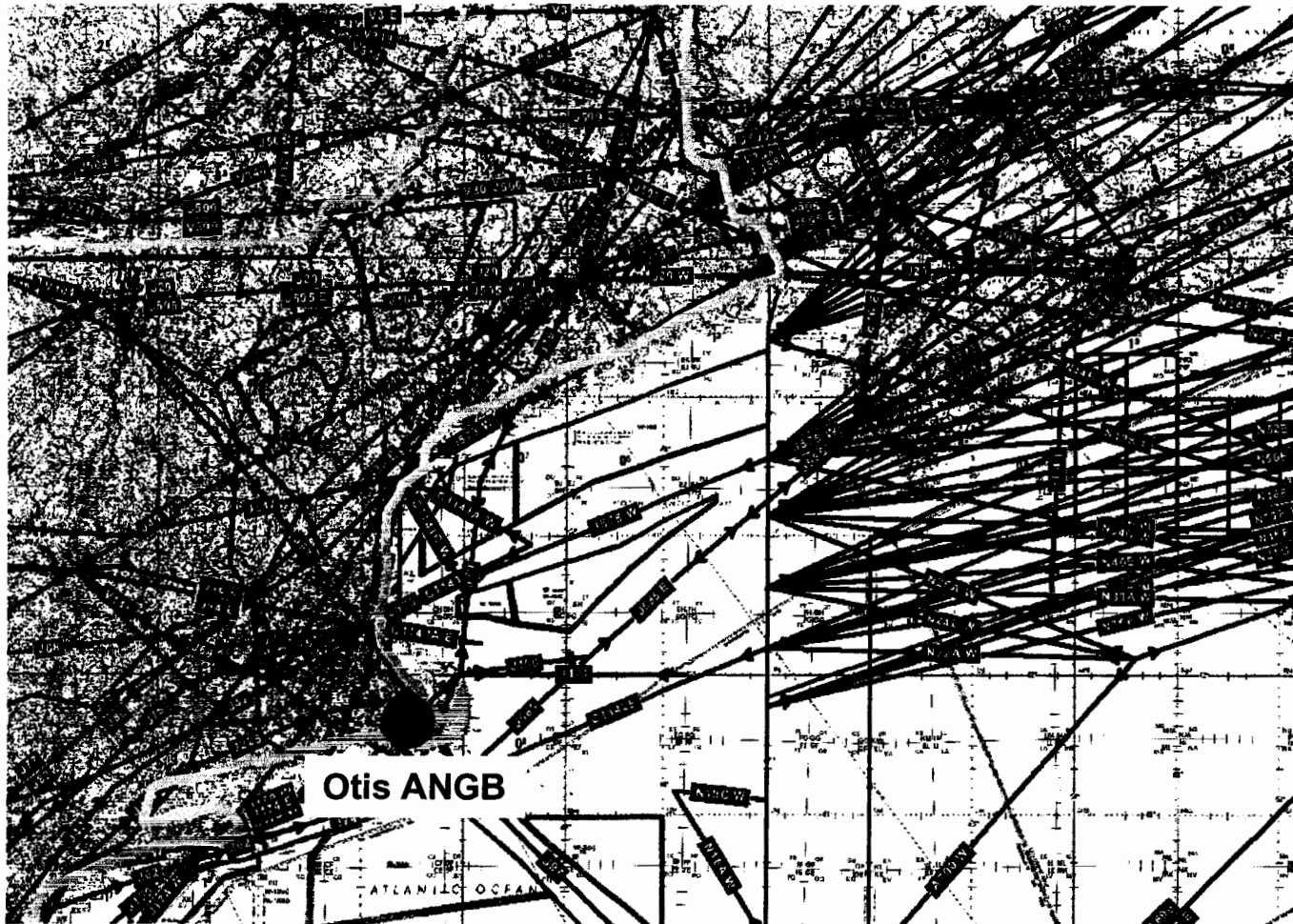
Recommendations to the BRAC Commission

“The US Government has no more important mission than protecting the homeland from future terrorist attacks”

-President George W. Bush

Homeland Defense – Strategic Location of Otis ANGB

International Air Routes



Analysis

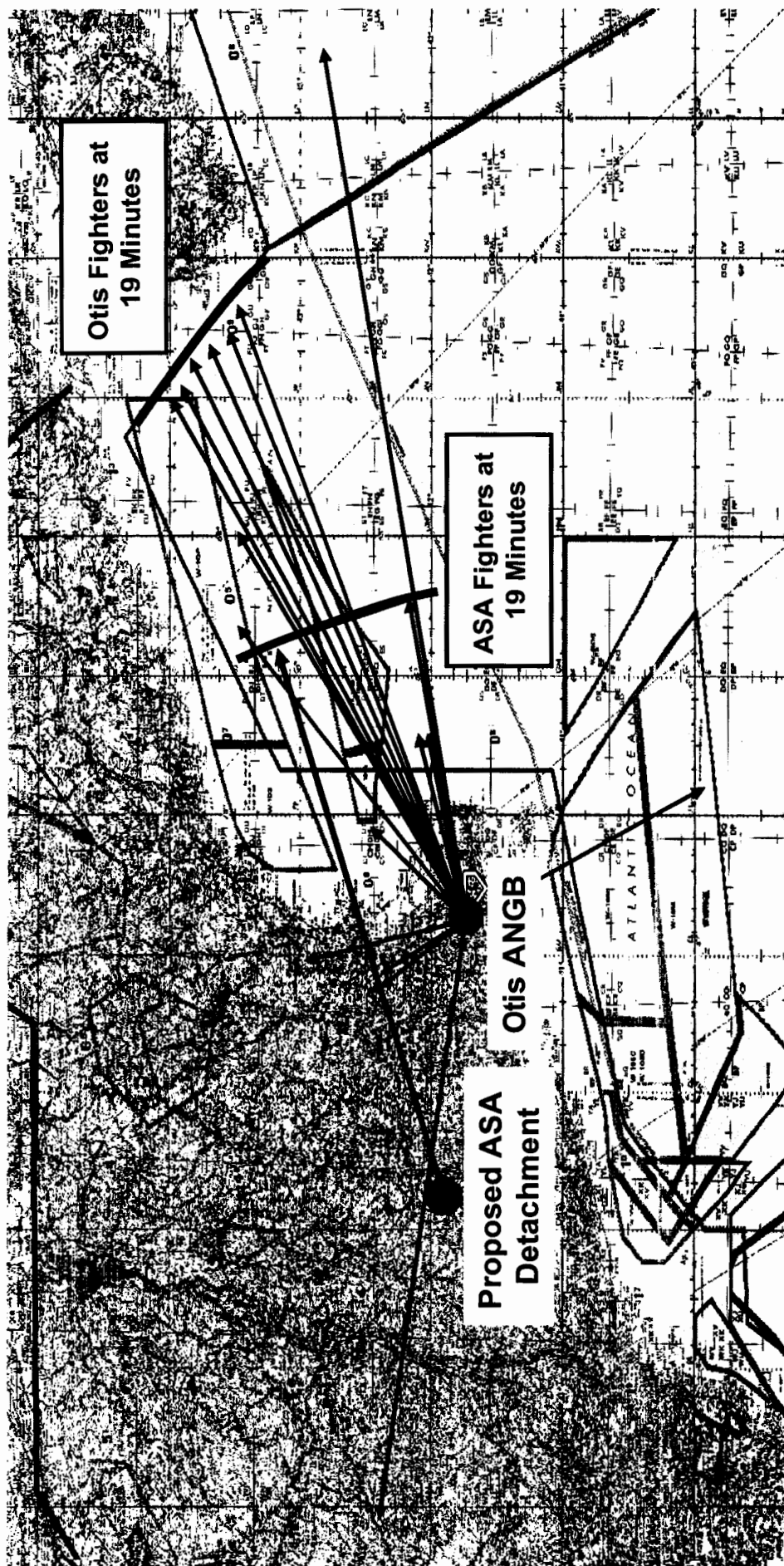
- Monthly Average:
16,000 International
Flights
- Monthly Average:
442 Flights of Interest
(FOI)
- FOI Triggers:
 - Point of origin
 - Carrier
 - Watch List

LOCATION LOCATION LOCATION

Homeland Defense – Otis ANGB is Optimally Positioned

DCN

Historical Otis ANGB Intercepts (Nov. 2002 – Jun. 2005)



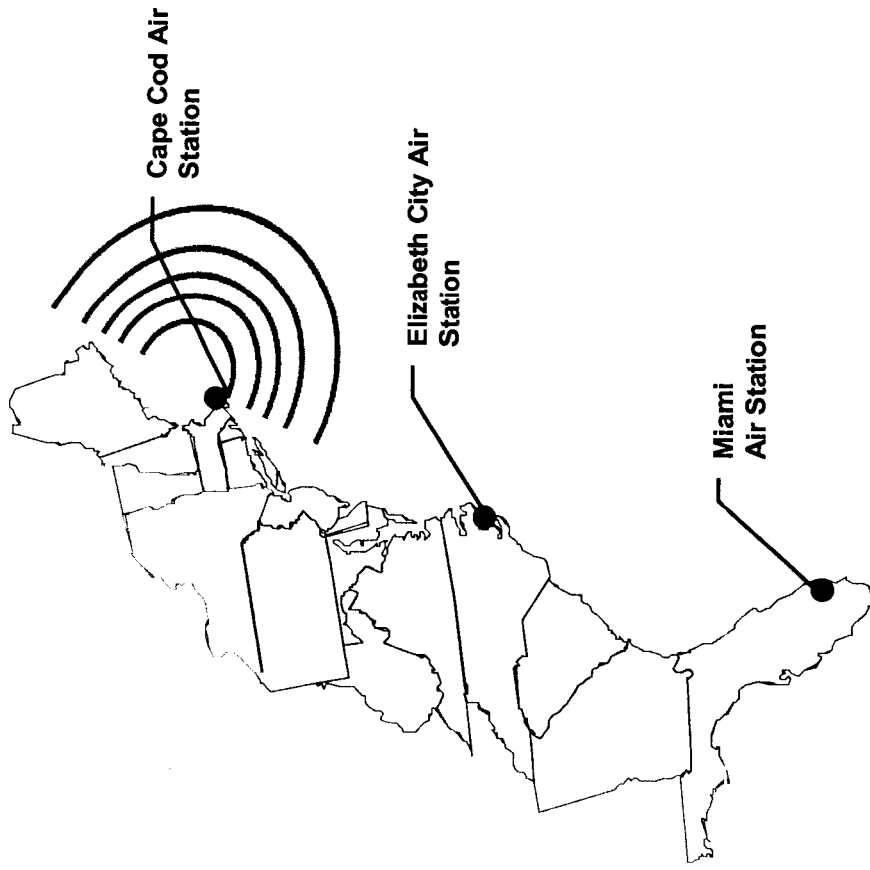
Assumptions: Max climb to 35K, .95M to 15NM feet wet, then cruise at 1.2M (approx 190NM)

LOCATION LOCATION LOCATION

Homeland Defense – USCG Homeland Defense Missions will be Impacted

DCN:

Impact of BRAC Recommendations: USCG Homeland Defense Capabilities



“Plus, there will be an opportunity cost if the Coast Guard is forced to move from the central location of its busy northeast U.S. operating area. This operation will increase mission response times beyond accepted standards.”

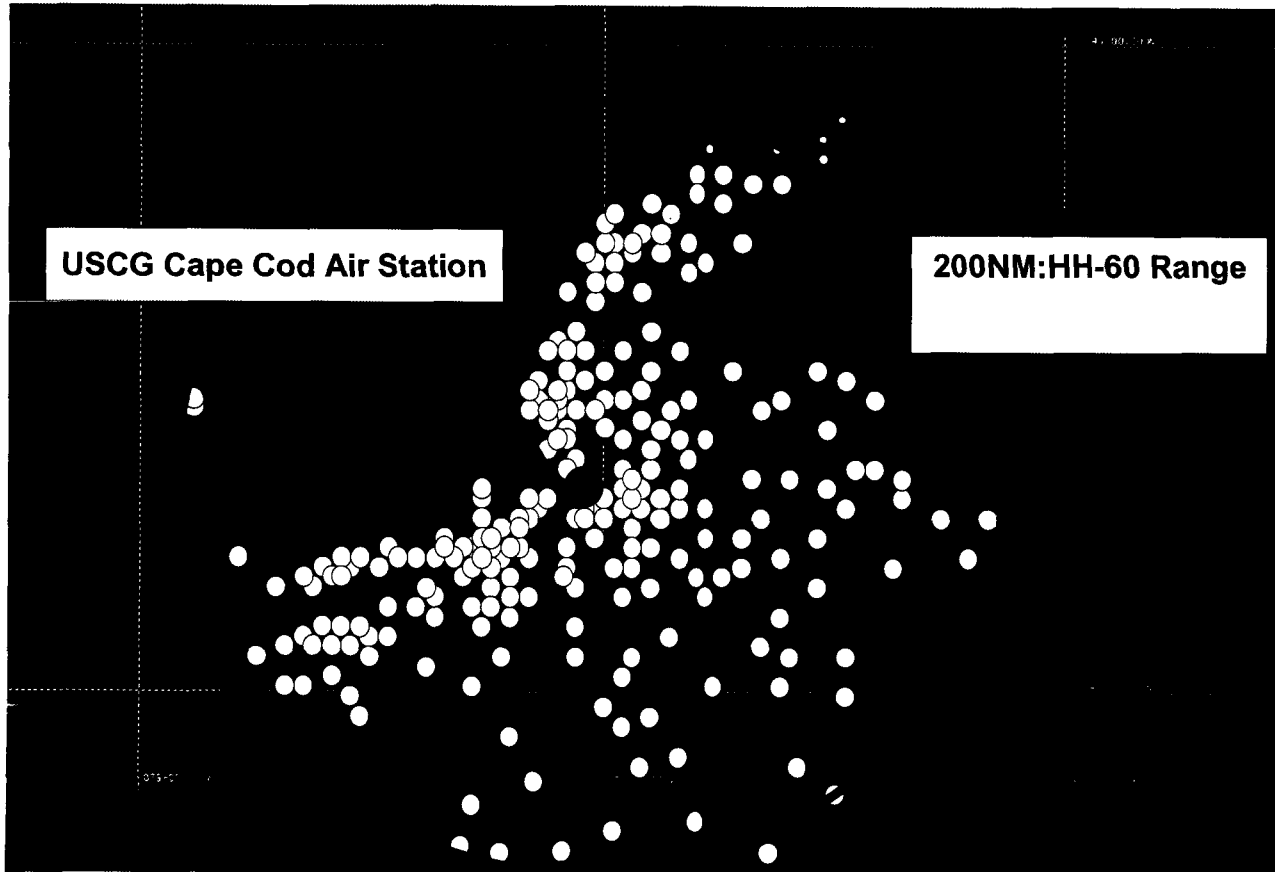
30 June 2005 – RADM Sullivan

Senior Military Advisor to the Secretary of DHS

Homeland Defense – USCG Air Station Cape Cod is Optimally Positioned

Location of US Coast Guard Search and Rescue Missions

USCG Search and Rescue Missions May 2003 to May 2005



Key Statistics

- 520 plus SAR missions
- 213 Lives Saved in 3 years
- 53 MEDIVACs from MA Islands last year

LOCATION LOCATION LOCATION

Agenda

DCN: 11549

Executive Summary

Military Value

Cost Savings

Homeland Defense

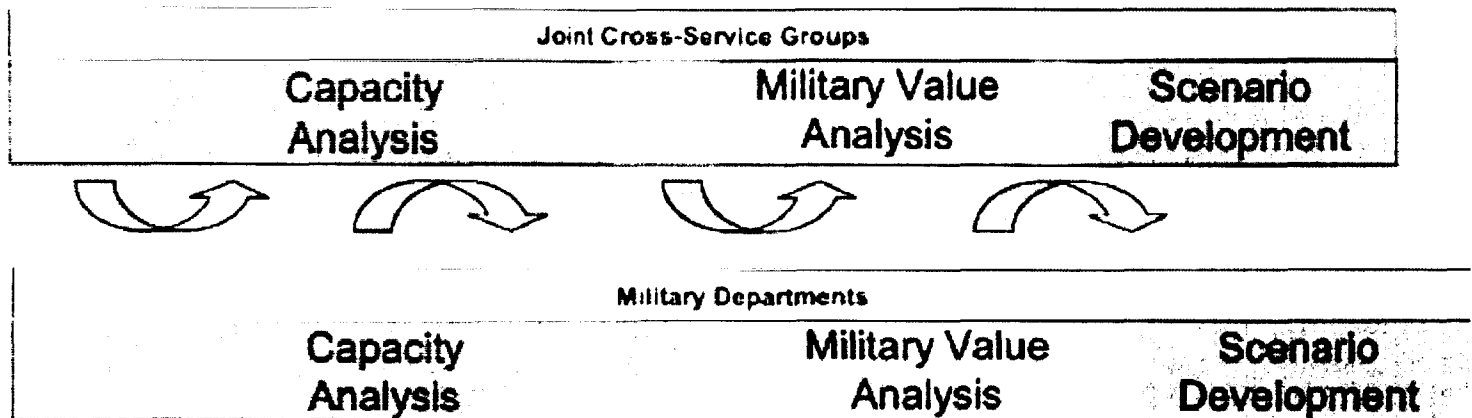
→ **Recommendations to the BRAC Commission**

Findings – Lost Opportunities



Air Force BRAC 2005 Process

How we got here



Source: BCEG Minutes

• SUBSTANTIAL DEVIATIONS in DoD's BRAC Process

- Incorrect Military Value Score - Otis ANGB ranks 27th in Fighter MCI**
- Incorrect COBRA data - Cost savings \$18M not \$336M**
- Ignored BRAC law – No consideration for “leave behind” costs**
- Homeland Defense - Ignored in MCI and under-valued overall**

• ANALYSIS – Facts do not support DoD's recommendation

Supporting Documents

Recalculated Otis ANGB Military Capability Index Score

OTIS REVISED MCI SCORING DATA 30 June 2005

The purpose of this document is to outline all revised Mission Capability Index (MCI) Military Value attributes and provide quantitative justification. Otis has determined at least 9 of the 23 attributes of MCI score were incorrectly calculated due to erroneous/missing data and programming errors. This results in a new score of **60.88**. The attributes highlighted in red are the incorrect attributes. Yellow highlights indicate there are additional scoring increases that could not be accounted for due to limited information released by OSD. The Tab number references the question asked by OSD, Otis' analysis, and corrected response.

Mission Compatibility Index - Effective Weights (Fighter MCI)					
TAB	Name	Eff. %	DoD	Recalculated	
1	Current / Future Mission	46.00			
	Operating Airspace	15.00			
	1242 ATC Restrictions to Operations	5.98	5.98	5.98	
Tab 1	1271 Prevailing Installation Weather Conditions	5.52	0	1.61	
	Occasional Airspace	5.00			
Tab 2	1245 Proximity to Airspace Supporting Mission (ASM)	22.08	3.83	5.63	
	1246 Proximity to Low Level Routes Supporting Mission	7.25	0.54	0.54	
Tab 3	1270 Suitable Auxiliary Airfields Within 50NM	5.18	2.59	3.89	
2	Condition of Infrastructure	41.50			
	Key Mission Infrastructure	22.83			
	8 Ramp Area and Serviceability	2.97	2.97	2.97	
	9 Runway Dimension and Serviceability	2.28	2.28	2.28	
	1207 Level of Mission Encroachment	2.28	1.75	1.75	
Tab 4	1221 Hangar Capability - Small Aircraft	3.88	2.43	3.88	
Tab 5	1232 Sufficient Explosives-sited Parking	3.65	1.21	3.65	
Tab 6	1233 Sufficient Munitions Storage	4.79	0	4.79	
	1235 Installation Pavements Quality	2.97	2.97	2.97	
	Operating Airspace	15.68			
Tab 7	1203 Access to Adequate Supersonic Airspace	6.72	2.69	6.05	
Tab 8	1266 Range Complex (RC) Supports Mission	11.95	6.95	6.95	
3	Contingency, Mobilization, Future Forces	10.00			
	Mobility	4.46			
	1214 Fuel Dispensing Rate to Support Mobility and Surge	2.64	0.71	0.71	
Tab 9	1241 Ability to Support Large-Scale Mobility Deployment	1.76	0.44	1.76	
	Growth Potential	5.50			
	213 Attainment / Emission Budget Growth Allowance	1.68	1.01	1.01	
	1205.1 Buildable Acres for Industrial Operations Growth	1.96	1.96	1.96	
	1205.2 Buildable Acres for Air Operations Growth	1.96	1.47	1.47	
4	Cost of Ops / Manpower	2.50			
	Cost	2.50			
	1250 Area Cost Factor	1.25	0.59	0.59	
	1269 Utilities cost rating (U3C)	0.13	0.04	0.04	
	1402 BAH Rate	0.88	0.18	0.18	
	1403 GS Locality Pay Rate	0.25	0.25	0.25	
	TOTAL	100.00	42.83	60.88	

Scores were recalculated using the algorithms described in *Department of the Air Force Analysis and Recommendations BRAC 2005 (Volume V, Part 2 of 2)*. Seven of nine attributes were accurately recalculated using missing data. In one case, attribute/equation 1266 (Tab 8), the algorithm described did not replicate the posted scores and therefore could not be accurately used to assess our true value using missing data. In another case, attribute 1203 (Tab 7), the listed score is incorrect when using the posted algorithm and actual OSD data. Otis' recalculated MCI score was **60.88** without any additional credit for attribute 1266. This MCI ranks Otis #27 out of 154 bases for Fighter Missions (see scores at right).

Microsoft Excel was used to recalculate six of the nine attribute scores. Formula 1266 was replicated using a combination of ArcGIS and Excel. All files are included on the CD.

Each tab will show the question and formula provided by OSD, followed by the recalculated score. The tab will also include auditable background information used for the recalculation.

Data used in scoring questions 1271, 1245, 1270, 1203, and 1266 was provided at the HAF level.

FIGHTER MCI (EXCEPT A-10S)		
1	Seymour Johnson AFB	83.24
2	Langley AFB	82.84
3	Eglin AFB	81.40
4	Hurlburt Field	77.43
5	MacDill AFB	75.60
6	Tyndall AFB	73.63
7	Shaw AFB	72.20
8	Edwards AFB	71.62
9	Moody AFB	70.80
10	Holloman AFB	69.82
11	Eielson AFB	69.09
12	Luke AFB	69.06
13	Nellis AFB	68.73
14	Hill AFB	68.02
15	Dover AFB	66.69
16	Kirtland AFB	66.44
17	Pope AFB	65.86
18	Patrick AFB	64.96
19	Charleston AFB	64.94
20	March ARB	64.84
21	Andrews AFB	64.83
22	Davis-Monthan AFB	63.83
23	Mountain Home AFB	63.01
24	Jacksonville IAP AGS	61.80
25	Barksdale AFB	61.49
26	Altus AFB	61.43
27	Otis AFB	60.88
28	Little Rock AFB	60.78
29	McChord AFB	60.73
30	Fairchild AFB	60.32
31	Maxwell AFB	59.61
32	Homestead ARS	59.17
33	Robins AFB	59.13
34	Indian Springs AFS	59.11
35	Dyess AFB	58.96
36	Tinker AFB	58.47
37	Elmendorf AFB	58.35
38	Whiteman AFB	58.18
39	Beale AFB	58.10
40	Ellsworth AFB	58.06
41	Savannah IAP AGS	57.80
42	McGuire AFB	57.02
43	Minot AFB	56.64
44	McConnell AFB	56.47
45	Travis AFB	56.42
46	Sheppard AFB	56.26
47	Grand Forks AFB	55.88
48	Lackland AFB	55.79
49	McEntire AGS	55.74
50	Richmond IAP AGS	55.34

Tab 1

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).</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>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

Data for this question came from HAF (AFWA) according to *USAF Questionnaire Definitions*

<u>QUESTION</u>	<u>TITLE</u>
1271	Air Operations - Prevailing Weather
	<u>TEXT</u>
	For installations with an active runway, how many days each year, averaged over 30 years, was the prevailing weather better than 3000'/3NM?
	<u>AMPLIFICATION</u>
	(HAF: AF/XO to list bases of interest; AFWA to answer) Record each installation entry in days/year. Answer should be weather data for the installation averaged over 30 years (CY1973 - 2003).

Using data attained from AFCCC, Asheville NC, historical data over the past 30 years results in 72.5% of the days (or 264.6 days a year) meeting the criteria. This equates to an additional 1.6 more points in the MCI. The data sheets are on the next page.

GLOBAL CLIMATOLOGY BRANCH

PERCENTAGE FREQUENCY OF OCCURRENCE OF CEILING VERSUS VISIBILITY

AFCCC, ASHEVILLE NC

FROM HOURLY OBSERVATIONS

STATION NUMBER: 725060 STATION NAME: Ols ANG8 MA PERIOD OF RECORD: JAN 1973 - NOV 2004

UTC TO LST: -5

MONTH: ANN HOURS: ALL

CEILING		VISIBILITY IN MILES															
IN	GE	GE	GE	GE	GE	GE	GE	GE	GE	GE	GE	GE	GE	GE	GE	GE	GE
FEET	7	6	5	4	3 1/2	2 1/2	2	1 1/2	1 1/4	1	3/4	5/8	1/2	3/8	1/4	0	

NO CEIL | 42.9 43.7 44.5 45.1 45.6 45.7 46.0 46.0 46.1 46.1 46.1 46.1 46.2 46.2 46.2 46.2

GE 20000 | 49.8 50.8 51.7 52.4 53.1 53.2 53.4 53.5 53.6 53.6 53.7 53.7 53.7 53.7 53.7 53.7 53.8

GE 18000 | 50.0 51.0 51.9 52.6 53.3 53.4 53.7 53.8 53.8 53.9 53.9 53.9 53.9 53.9 53.9 54.0 54.0

GE 16000 | 50.0 51.1 52.0 52.7 53.4 53.5 53.7 53.8 53.9 53.9 53.9 53.9 54.0 54.0 54.0 54.0 54.1

GE 14000 | 51.3 52.4 53.3 54.1 54.8 54.9 55.2 55.3 55.3 55.3 55.4 55.4 55.4 55.4 55.4 55.5 55.5

GE 12000 | 52.9 54.0 55.0 55.7 56.5 56.6 56.9 57.0 57.0 57.1 57.1 57.1 57.2 57.2 57.2 57.2 57.2

GE 10000 | 55.4 56.6 57.7 58.6 59.4 59.5 59.8 59.9 60.0 60.0 60.1 60.1 60.1 60.1 60.1 60.1 60.2

GE 9000 | 56.0 57.2 58.3 59.1 59.9 60.1 60.4 60.5 60.6 60.6 60.6 60.7 60.7 60.7 60.7 60.7 60.8

GE 8000 | 58.1 59.3 60.5 61.4 62.3 62.4 62.7 62.9 62.9 63.0 63.0 63.0 63.1 63.1 63.1 63.1 63.1

GE 7000 | 59.1 60.4 61.6 62.5 63.4 63.5 63.9 64.0 64.0 64.1 64.1 64.1 64.2 64.2 64.2 64.2 64.3

GE 6000 | 60.3 61.6 62.8 63.7 64.6 64.8 65.2 65.3 65.3 65.4 65.4 65.4 65.5 65.5 65.5 65.5 65.6

GE 5000 | 62.0 63.4 64.7 65.7 66.6 66.8 67.1 67.3 67.3 67.4 67.5 67.5 67.5 67.5 67.5 67.5 67.6

GE 4500 | 62.9 64.4 65.7 66.7 67.6 67.8 68.2 68.3 68.4 68.4 68.5 68.5 68.5 68.5 68.5 68.6 68.6

GE 4000 | 64.3 65.8 67.2 68.2 69.2 69.4 69.8 70.0 70.0 70.1 70.1 70.1 70.1 70.2 70.2 70.2 70.2

GE 3500 | 65.4 66.9 68.4 69.4 70.4 70.6 71.0 71.2 71.2 71.3 71.3 71.3 71.4 71.4 71.4 71.4 71.4

GE 3000 | 67.3 68.8 70.4 71.5 72.5 72.8 73.2 73.4 73.4 73.5 73.5 73.5 73.6 73.6 73.6 73.6 73.7

GE 2500 | 68.7 70.3 71.9 73.1 74.2 74.4 74.9 75.1 75.1 75.2 75.2 75.2 75.3 75.3 75.3 75.3 75.4

GE 2000 | 70.3 72.0 73.7 75.0 76.2 76.4 76.9 77.1 77.2 77.3 77.3 77.3 77.4 77.4 77.4 77.4 77.5

GE 1800 | 70.6 72.4 74.1 75.4 76.6 76.8 77.3 77.6 77.6 77.7 77.7 77.7 77.8 77.8 77.8 77.8 77.9

GE 1500 | 71.7 73.5 75.4 76.7 78.0 78.3 78.8 79.0 79.1 79.2 79.3 79.3 79.3 79.3 79.3 79.3 79.4

GE 1200 | 72.8 74.7 76.7 78.1 79.5 79.9 80.4 80.7 80.8 80.9 80.9 80.9 81.0 81.0 81.0 81.0 81.1

264.6 days
GE 3000/3

Tab 2

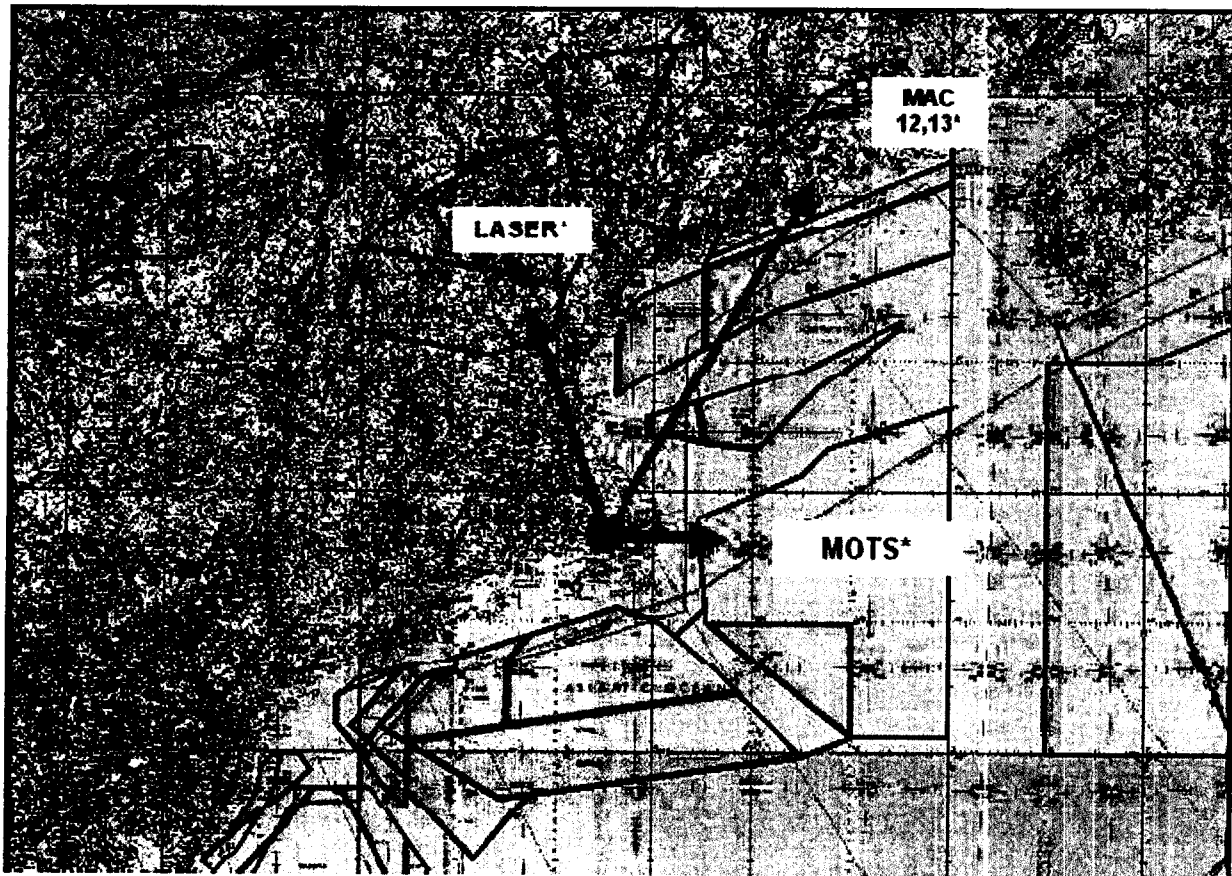
Mission	Fighter
Criterion	Current / Future Mission
Attribute	Geo-locational Factors
Formula #	1245
Label	Proximity to Airspace Supporting Mission (ASM)
Effective %	22.08
Question	<p>If installation has no runway or no active runway, or no serviceable, suitable runway then score 0 pts. See section 1.9 "Shared" for details.</p> <p>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.</p> <p>Calculate each of the subcategories scores listed below, and weight as listed.</p> <ul style="list-style-type: none"> 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 (IW) 5% Electronic Combat (EC) 10% Laser Use Auth. (LU) 10% Lights Out Capable (LC) 5% Flare Auth. (FA) 5% Chaff Auth. (CA) <p>Each of the subcategories use the following general pattern for calculating them:</p> <p>Check the corresponding subcategory in formula #1266. If it would get 0 points for that subcategory, get 0 points here also.</p> <p>Otherwise, Compute a raw total for the subcategory for the base according to this formula:</p> <p>For each airspace:</p> <ul style="list-style-type: none"> 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. <p>Once you have a base raw subcategory total, find the highest, and the lowest, non-zero raw total for the subcategory across all bases.</p> <p>If the raw total = 0, that subcategory score = 0.</p>

	<p>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.</p> <p>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.</p>
Source	FLIP AP-1A; IFR Supp; Falcon View or other certified flight planning software

The range data used in the calculations did not include 3 key airspaces within 150NM of Otis; MOT A,B,C, MAC 12,13, and LASER N,S,E,W. In addition, numerous attributes were listed incorrectly in the OSD datafiles. The following spreadsheet highlights the missing and erroneous data, which was corrected and used to rescore the question.

Section 2 Army Operations, Question 1274 Airspace Attributes - Ranges (2 of 2)													
From Question 1268													
From Question 1245													
1 Airspace Designator (Text)	2 Airspace Volume: at least 2,100NM cubed; altitude block >=20,000'	3 Flare (Yes/No)	4 Chaff (Yes/No)	5 Live Ordnance (Yes/No)	6 Operating Hours (#)	7 Scoreable range complex array (Yes/No)	8 Air to Ground Weapons Delivery (Yes/No)	9 Low Angle Strafe Authorized (Yes/No)	10 IMC weapons release (Yes/No)	11 Electronic Combat (Yes/No)	12 Laser Use Authorized (Yes/No)	13 Lights-Out Capable (Yes/No)	14 Distance to Airspace/Route (NM)
Org													
27 R4101	No	N/A	N/A	No	12	No	No	No	No	No	N/A	No	2
27 R4105A	No	N/A	N/A	No	16	No	No	No	No	No	No	No	24
27 R4105B	No	N/A	N/A	No	16	No	No	No	No	No	No	No	24
27 W105A	Yes	Yes	Yes	No	24	No	No	No	No	No	No	Yes	33
27 W104A	No	Yes	Yes	No	24	No	No	No	No	No	No	Yes	50
27 W104B	No	Yes	Yes	No	24	No	No	No	No	No	No	Yes	62
27 W506	Yes	Yes	Yes	No	24	No	No	No	No	No	No	Yes	62
27 W103	No	Yes	Yes	No	24	No	No	No	No	No	No	Yes	64
27 W102A	No	N/A	N/A	No	14	No	No	No	No	N/A	No	N/A	70
27 R4102B	No	N/A	N/A	No	14	No	No	No	No	N/A	No	N/A	70
27 W106B	No	Yes	Yes	No	24	No	No	No	No	No	No	Yes	87
27 W102H	Yes	Yes	Yes	No	24	No	No	No	No	No	No	N/A	97
27 W102L	No	Yes	Yes	No	24	No	No	No	No	No	No	Yes	97
27 W108A	No	Yes	Yes	No	24	No	No	No	No	No	No	Yes	113
27 W105B	No	Yes	Yes	No	24	No	No	No	No	No	No	Yes	123
27 YANKEE 1 MOA	No	Yes	No	No	12	No	No	No	No	No	No	Yes	128
27 YANKEE 2 MOA	No	Yes	No	No	12	No	No	No	No	No	No	Yes	128
27 W106C	No	Yes	Yes	No	24	No	No	No	No	No	No	Yes	130
27 W106D	No	Yes	Yes	No	24	No	No	No	No	No	No	Yes	143
27 Laser N,S,E,W	Yes	Yes	No	No	14	No	No	No	No	No	No	Yes	85
27 MOT A,B,C	Yes	Yes	Yes	No	24	No	No	No	No	Yes	No	Yes	45
27 MAC 12,13	Yes	Yes	Yes	No	14	No	No	No	No	No	No	Yes	96

When these errors/omissions are factored into the algorithm, Otis earns an additional 1.3 points for these airspaces. It is important to note these three airspaces were scored in their bulk form. Following the pattern of other similar type airspaces, these could have actually been scored as NINE separate airspaces. Doing such would have GREATLY increased the score based on the methodology used in the algorithms. This is explained in detail in our MCI Methodology point paper. The following map depicts the missing airspaces. The FAA Memorandum of Agreement is included immediately after.




- LETTER OF AGREEMENT ON FILE
IN BASE OPS IN LOA BINDER
- ACCURATE, SINCE IN EFFECT LAST REVIEW 14 APR 04

FEDERAL AVIATION ADMINISTRATION
BOSTON AIR ROUTE TRAFFIC CONTROL CENTER

TO: ALL HOLDERS OF THE BOSTON ARTCC/NE ADS/552ND ACW/101ST ACS/102ND ACS/
103RD ACS/ 174TH FW/103RD FW/305TH AMW LETTER OF AGREEMENT DATED
MAY 22, 1997.

1. **PURPOSE:** To transmit a new effective date for the new Boston ARTCC, NE ADS, 552nd ACW, 101st ACS, 102nd ACS, 103rd ACS, 174th FW, 103rd FW, and the 305th AMW Letter of Agreement dated May 22, 1997.
2. **EFFECTIVE DATE:** August 15, 1997.
3. **CANCELLATION:** Boston ARTCC, Northeast Air Defense Sector, 9th Air Force, 28th Air Division, and 380th Bomb Wing Letter of Agreement dated December 10, 1990.
4. **PRINCIPAL CHANGES:**
 - a. To change the effective date on the proposed agreement from May 22, 1997 to August 15, 1997.
 - b. Telephone number changes to Appendix A for AWACS scheduling.
 - c. Signature for the 305th Air Mobility Wing has been replaced by the 305th Operations Group Commander.


Heather Ackerman
Acting Air Traffic Manager
Boston ARTCC

Attachment

DISTRIBUTION: #1, NE ADS, 552 ACW, 101 ACS, 102 ACS, 103 ACS, 174 FW, 103 FW, 305 AMW, ANE-900/901/902, ANE-530, AEA-530, Montreal ACC, Toronto ACC, Moncton ACC, New York ARTCC, Cleveland ARTCC, 104 FW, 158 FW, 102 FW, 157 ARW, 101 ARW, 107 ARW, 171 ARW, 152 ACG INITIATED BY: ZBW-530

✓

Boston Air Route Traffic Control Center (ARTCC), Northeast Air Defense Sector (NE ADS), 552nd Air Control Wing (ACW), 101st Air Control Squadron (ACS), 102nd ACS, 103rd ACS, 174th Fighter Wing (FW), 103rd FW, and 305th Air Mobility Wing (AMW)

LETTER OF AGREEMENT

EFFECTIVE: May 22, 1997

SUBJECT: Procedures for the Scheduling and Control of Military Aircraft within Boston Center Special Use Airspace (SUA) and Air Traffic Control Assigned Airspace (ATCAA)

- 1. PURPOSE:** To define airspace areas, and the responsibilities associated with scheduling, coordination and control procedures for Military and Contract Aircraft, Military Schedulers, Military Radar Units (MRU), and Boston Center. These procedures are supplementary to those contained in the current issues of FAAH 7110.65 and FAAH 7610.4.
- 2. CANCELLATION:** Boston ARTCC, Northeast Air Defense Sector, 9th Air Force, 28th Air Division, and 380th Bomb Wing Letter of Agreement dated December 10, 1990.
- 3. SCOPE:** This agreement applies to the operation of Military and Contract Aircraft within the Boston Center SUA/ATCAA areas as defined in Attachment No. 1 through Attachment No. 12, and E3 orbit airspace as defined in Attachment No. 15 through Attachment 18.

4. RESPONSIBILITIES:

a. Commanders of Military Scheduling Units, MRUs, and the Manager of Boston Center shall ensure that all personnel involved with the scheduling, coordination and control procedures of Military and Contract Aircraft are familiar with the contents of this Letter of Agreement (LOA).

b. MARSAs apply:

- (1) between participating aircraft entering, operating within, or exiting SUA/ATCAA, until standard ATC separation is established.
- (2) for participating aircraft operating under MRU control or under autonomous operations.
- (3) between aircraft operating within abutting SUA/ATCAA, when such airspace is simultaneously in use, under MRU control, or under autonomous operations.

5. SCHEDULING PROCEDURES:

a. No SUA/ATCAA may be used without prior coordination with the scheduling unit.

b. Military Schedulers shall:

- (1) only schedule that airspace necessary to comply with the requirements of their scheduled mission.

- (2) ensure that all flying units using the SUA/ATCAA are properly briefed on the procedures contained in this LOA.
 - (3) schedule SUA/ATCAA as defined in Attachment No. 1 through Attachment No. 12, determine priority of use, and de-conflict all airspace from other military operations.
 - (4) advise aircrews when there is adjacent SUA/ATCAA activity, whether it is autonomous or MRU control, and ensure they are familiar with the MARSA procedures contained in paragraph 4.b.(3) of this agreement.
 - (5) advise the Boston Center Mission Coordinator (MC) of any revisions, additions, or cancellations of any scheduled airspace.
- c. The 552nd ACW (AWACS) shall confirm SUA/ATCAA airspace with the appropriate scheduling agency and coordinate with Boston Center for E3 orbit airspace as depicted in Attachment No. 15 through Attachment No. 18.
- d. The NE ADS, Sector Air Operations Center (SAOC) and Airspace Scheduling Office (DOOS) shall schedule all airspace as necessary for its Air Defense assets.
- e. Boston Center shall:
- (1) advise schedulers when adjacent SUA/ATCAA is scheduled and if the military airspace will be autonomous or under MRU control.
 - (2) NOT be responsible for determining which military aircraft are authorized to utilize SUA/ATCAA.
 - (3) advise the 552nd ACW as soon as possible when the E3 cannot be accommodated in an approved orbit to preclude the launching of the aircraft needlessly.

Note: Normal ETE from Tinker AFB to orbit airspace is 3 hours.

6. SUA/ATCAA PROCEDURES:

- a. The MRU (Ground units only) or scheduling unit shall request:
- (1) MOAs from the Boston Center MC prior to scheduled use according to the following parameters:
 - (a) CONDOR - 2 1/2 hours.
 - (b) FALCON, YANKEE - 1 hour if used within the charted days and times, otherwise 2 1/2 hours.

(2) ATCAAs from the Boston Center MC at least 1 hour prior to scheduled use. Extensions shall be made as soon as possible but not less than 10 minutes before the original expiration time.

Note: SCOTY B ATCAA needs to be coordinated with the 305th AMW before it can be scheduled with Boston Center (Attachment No. 14).

b. The 174th FW shall:

- (1) submit a monthly schedule for the SYRACUSE 1 MOA to Boston Center,
- (2) resolve all conflicts with IR801 prior to scheduling the SYRACUSE 1 MOA.

c. The 103rd FW may schedule the YANKEE 2 MOA for VFR operations at 5,000 feet MSL and below.

d. Military aircrews:

- (1) with the exception of Warning Areas and paragraph 6.d.(2) shall:
 - (a) file an IFR flight plan 30 minutes prior to proposed departure time.
 - (b) ensure the IFR flight plan contains an entry fix, name of SUA/ATCAA with the delay, and an exit fix (Attachment No. 13).
 - (c) request and receive an ATC clearance to enter/exit SUA/ATCAA.

* Note: An "as filed" departure clearance does not constitute a clearance to delay in SUA/ATCAA.

(2) DO NOT require an IFR flight plan or an entry/exit clearance for the DRUM and SYRACUSE MOAs or the YANKEE 2 MOA 5,000 feet MSL and below.

(3) shall be aware that NO IFR protection is provided in the:

- (a) SYRACUSE 1 MOA beyond the days and times in the published schedule.
- (b) YANKEE 2 MOA beyond the times scheduled by the 103rd FW.

(4) scheduled to operate in YANKEE 2 MOA for VFR operations at 5,000 feet MSL and below, shall contact Bangor AFSS on 255.4 MHZ prior to entry and provide an entry and exit time.

(5) when advised by ATC to remain clear of the Laconia Airspace, shall not fly in the Southeast corner of YANKEE 2 MOA, as depicted in Attachment No. 4, below 6,000 feet MSL.

(6) shall be aware that the FALCON MOA and the AKS I ATCAA encompass R-5201 (Attachment No. 2 and Attachment No. 3). The dimension, times and altitudes of R-5201 are published.

e. Boston Center shall:

- (1) sterilize the SYRACUSE I MOA according to the monthly schedule submitted by the 174th FW.
- (2) sterilize the YANKEE 2 MOA 5,000 feet MSL and below when scheduled by the 103rd FW.
- (3) with the exception of paragraph 6.e.(1) and 6.e.(2), activate the SUA/ATCAA only upon the issuance of an ATC clearance to the first aircraft or formation flight to enter/delay in the SUA/ATCAA.
- (4) activate Warning Areas on the scheduled time.

7. AUTONOMOUS PROCEDURES: In this agreement Autonomous Operations and Fighter Control are synonymous, and describe missions where aircrews are responsible for airspace integrity.

a. Autonomous operations are authorized in SUA/ATCAA.

b. Aircrews shall:

- (1) monitor Boston Center assigned frequency while operating within SUA/ATCAA or 243.0 MHZ if cleared off Boston Center frequency.
- (2) notify Boston Center 5 minutes prior to exiting SUA/ATCAA. Formation flights shall advise at this time if their intention is to breakup and return as separate elements.
- (3) cancel the SUA/ATCAA with the Boston Center Sector Controller by the last aircraft exiting the airspace. Exception: Warning Areas and paragraph 6.d.(2).

c. Boston Center shall:

- (1) clear aircraft into the SUA/ATCAA for the duration of the delay.
- (2) after receiving a 5 minute notification from the aircrew, issue ATC clearance instructions to the aircrew.
- (3) for traversals amend the altitude block when necessary via direct air to ground communications with the user until the traversal aircraft is clear of SUA/ATCAA.

Note: If required, ensure the appropriate altitude adjustment factor is applied, in accordance with paragraph 9.c. of this agreement.

8. MRU PROCEDURES:

a. The MRU:

- (1) shall closely monitor its use and advise the Boston Center MC of delays and periods of non-use. Such periods of 30 minutes or more shall be released to Boston Center for ATC use.
- (2) may coordinate for Mode 3 Codes prior to activation of the airspace.
- (3) may conduct radar correlation checks with Boston Center to verify their equipment performance.
- (4) shall notify Boston Center 5 minutes prior to the aircraft exiting SUA/ATCAA and provide the Boston Center Sector Controller with the following information:
 - Aircraft identification/flight lead
 - Flight breakup
 - Special handling requirements
 - Requested altitude
- (5) shall after receiving clearance instructions from ATC, issue the clearance verbatim to the exiting aircraft.
- (6) shall cancel the SUA/ATCAA with the Boston Center MC after the last aircraft has exited the airspace.
- (7) shall immediately notify Boston Center when radio contact is lost/not established with aircraft under their control and provide Boston Center with the following information:
 - Call sign, number/type aircraft, and beacon code.
 - Position, altitude, and heading.
 - Flight conditions if known.
 - ETA at recovery base.
- (8) shall immediately notify Boston Center when there is a loss of MRU radar control capability and:
 - (a) direct aircraft to remain within the approved SUA/ATCAA. Tanker aircraft operating in an SUA/ATCAA where a published anchor track exists shall maintain that air refueling pattern at last assigned altitude.
 - (b) inform Boston Center of the situation and estimate when control will be restored, and advise of aircrew intentions (return to base or remain autonomous).

b. Boston Center shall:

- (1) clear aircraft into the SUA/ATCAA for the duration of the delay.
- (2) at the time of hand-off issue an appropriate ATC clearance for aircraft exiting SUA/ATCAA.

Note: When a clearance is issued to the MRU, and that clearance takes the aircraft into another Sector's airspace, the Sector issuing the clearance is responsible for the coordination.

c. The MRU and the Boston Center Sector Controller shall:

- (1) effect a radar hand-off:
 - (a) only after the elimination of any potential conflict with other aircraft under their control.
 - (b) prior to the aircraft entering the receiving controllers airspace.
 - (c) by bearing/distance in relation to common reference points listed in Attachment No. 14.
- (2) NOT change the aircraft's flight path/altitude until the aircraft is established in airspace under their control.

d. Boston Center, for traversals, shall:

- (1) coordinate with the MRU for approval at least 5 minutes prior to the traversal aircraft entering SUA/ATCAA.
- (2) obtain a release of altitudes/flight levels as appropriate throughout the entire SUA/ATCAA for separation purposes.
- (3) provide a point-out of the traversal aircraft to the MRU.

Note: If required, ensure the appropriate altitude adjustment factor is applied, in accordance with paragraph 9.c. of this agreement.

e. Visiting MRUs may operate under the terms of this agreement provided:

- (1) they have coordinated with the appropriate scheduling unit.
- (2) the scheduling unit has briefed the visiting MRU on the procedures contained in this agreement and provided a copy to them.
- (3) the commander of each visiting MRU returns a completed copy of Appendix B to Boston Center.

9. AERIAL COMBAT TACTICS (ACT):

a. ACT operations conducted in the following combined MOA/ATCAA combinations shall operate on station altimeter setting derived as indicated below:

- FALCON/AKS 1 through 5 use GSS Altimeter.
- YANKEE 1/LASER use LEB Altimeter.
- CONDOR/SCOTY use AUG Altimeter.
- MOT Areas use FMH Altimeter (If above FL180 only use 29.92).

b. If aircraft are autonomous control, the MRU, or Boston Center shall ensure that aircraft:

- (1) conducting ACT in a combined MOA/ATCAA are issued the appropriate altimeter setting.
- (2) transitioning from a combined high/low operation to a high only operation at and above FL180 reset their altimeter to 29.92.

c. Boston Center shall apply the appropriate altitude adjustment factor to determine the lowest usable flight level to provide vertical separation from ATCAA airspace.

10. AERIAL REFUELING (AR):

a. Anchor aerial refueling, in an SUA/ATCAA, with an MRU.

(1) Military schedulers shall:

- (a) advise aircrews when there is adjacent SUA/ATCAA activity, whether it is autonomous or MRU control.
- (b) ensure aircrews are familiar with the MARSA procedures contained in paragraph 4.b.(3) of this agreement.

(2) Aircrews shall ensure their IFR flight plan contains the computer code name of the SUA/ATCAA (see Attachment No. 13), with the anticipated delay.

b. Anchor aerial refueling, in an SUA/ATCAA, without an MRU (Autonomous).

(1) Military schedulers shall:

- (a) advise aircrews when there is adjacent SUA/ATCAA activity, whether it is autonomous or MRU control.
- (b) ensure aircrews are familiar with the MARSA procedures contained in paragraph 4.b.(3) of this agreement.

(2) Aircrews shall ensure their IFR flight plan contains the computer code name of the SUA/ATCAA (see Attachment No. 13), with the anticipated delay.

(3) The Tanker Commander upon entering SUA/ATCAA accepts responsibility for the SUA/ATCAA activity regardless of the number of Tankers or Receivers.

c. Aerial refueling on a published AR Anchor NOT using the associated SUA/ATCAA.

(1) Military schedulers shall:

(a) ensure that aircrews are informed of abutting non-associated SUA/ATCAA activity, that is separated but adjacent to the AR Anchor lateral protected airspace.

(b) ensure that visiting aircrews are familiar with aerial refueling procedures contained in this agreement.

(2) Aircrews shall:

(a) ensure the IFR flight plan contains an entry fix (a delay if needed), name of AR Track, and an exit fix.

(b) as soon as possible advise Boston Center of end of AR request.

(3) Boston Center shall clear aerial refueling aircraft on to and off of the AR Track.

11. E3 MRU OPERATIONS: The E-3 orbit patterns are depicted in Attachment No. 15 through Attachment No. 18. A single flight level between FL270 - FL310 is required. Other orbits which are acceptable to the Center may be negotiated for individual missions and exercises. E-3 orbit patterns within the Center's airspace are not considered blocked or sterilized airspace. Standard ATC separation procedures apply.

a. AWACS shall:

(1) correlate their radar while en route in accordance with FAAH 7610.4, paragraph 13-9-e.

(2) retain aircraft under its jurisdiction at least 5 NM inside the perimeter of the SUA/ATCAA.

(3) remain within the defined lateral and vertical confines of the assigned orbit area.

(4) request through the Boston Center Sector Controller prior to changing the orbit flight track, circle/figure eight's, etc.



b. The Center shall assign different frequencies to the E-3 flight deck crew (front of the aircraft) and the MRU (rear of the aircraft). Frequencies for the MRU shall be specified during the advance coordination for the mission assigned.

- (1) Augusta Orbit - 377.15 UHF/No VHF assigned.
- (2) Plattsburgh, Watertown Orbit - 354.1 UHF/133.625 VHF.
- (3) W105, Nantucket Orbits - 380.15 UHF/No VHF assigned.

12. MISCELLANEOUS PROCEDURES:

a. Interceptors may be scrambled to assist aircraft experiencing in-flight emergencies. These interceptors shall be afforded the same priority normally associated with an active air defense mission.

b. Boston Center shall forward all Communications Instructions for Reporting Vital Intelligence Sightings (CIRVIS) reports received from any source as quickly as possible to the NE ADS SAOC Mission Crew Commander (MCC) using the following telephone numbers:

- (1) 587-6802/6803/6811/6812 DSN
- (2) (315) 334-6802/6803/6811/6812
- (3) Via Land-Line: IA 9269 or 9270, then dial 602 or 603

c. Electronic Counter Measures (ECM) Advisories.

(1) Annual authorizations for ECM/Chaff drops are coordinated between FAA HQ Spectrum Engineering Division (ASM-500) and the Air Combat Command (ACC). ECM/Chaff drops shall be in compliance with annual authorization requirements. Aircrews shall issue ECM/Chaff advisories to ATC prior to conducting approved ECM, or dispensing of approved Chaff.

(2) If Boston Center or terminal radar systems are adversely effected by ECM/Chaff, Boston Center shall request suspension of ECM/Chaff to the aircraft using the terms Stop Buzzer, Stop Stream, or Stop Burst. If unable to contact the aircraft ATC shall contact the NE ADS Data Quality Monitor (DQM), specifying the band and channel affected if known, and when feasible the expected duration of suspension.

d. Aircrews conducting counter-narcotic training in accordance with exemption No. 5305 shall:

- (1) operate only in ATCAA Areas depicted in Attachment No. 3, 5, 7, 8, and 10, at FL180 or above.
- (2) operate with required lights on while en route to/from the ATCAA.

(3) operate mode C transponders on the assigned code at all times within the ATCAA.

(4) advise Boston Center Sector Controller of intention to operate in the ATCAA without lights under exemption No. 5305.

13. AIR SOVEREIGNTY TESTS (AST) NE ADS:

a. NE ADS exercise branch shall:

(1) coordinate all ASTs with Boston Center at least five days in advance.

(2) request SUA/ATCAA for ASTs with the Boston Center MC at least two hours in advance.

(3) coordinate the hand-off procedures of the target aircraft with the appropriate Boston Center Sector 15 to 30 minutes prior to target initial point (IP).

b. Boston Center shall:

(1) assign the appropriate beacon code to the target aircraft.

(2) NOT pass any information on target aircraft (NOPAR) to HUNTRESS Control.

(3) release target aircraft to ZOOM Control frequency prior to target IP.

Note: If coordination is NOT accomplished in accordance with 13.a.(3), Boston Center shall terminate radar service on the target aircraft prior to the IP and instruct the aircraft to contact ZOOM Control.

14. ATTACHMENTS:

- | | |
|--------------------|--|
| No. 1 thru No. 12 | - SUA/ATCAA Maps with Coordinates |
| No. 13 | - Computer Fixes |
| No. 14 | - Common Reference Points |
| | - SUA/ATCAA Scheduling Agencies |
| No. 15 thru No. 18 | - E-3 Orbit Airspace |
| Appendix A | - E-3 Advanced Coordination Check-List |
| Appendix B | - Visiting MRU Signature Page |

SIGNATURE PAGE

Boston Center is the originator of this Letter of Agreement. Each command or facility shall have an original signature page to be retained on file. Boston Center shall retain each individual signature page, from each command or facility, and maintain them on file at Boston Center.

SIGNATURE ON FILE

Heather Ackerman
Acting Air Traffic Manager
Boston ARTCC

SIGNATURE ON FILE

John K. Scott, Col USAF
Commander
Northeast Air Defense Sector

SIGNATURE ON FILE

James W. Morehouse, Col USAF
Commander
552nd Air Control Wing

SIGNATURE ON FILE

Robert A. Johnson, Lt Col ANG
Commander
101st Air Control Squadron

SIGNATURE ON FILE

Wayne R. Mrozinski, Lt Col ANG
Commander
102nd Air Control Squadron

SIGNATURE ON FILE

David C. Clarke, Lt Col ANG
Commander
103rd Air Control Squadron

SIGNATURE ON FILE

Robert A. Knauff, Lt Col ANG
Commander
174th Fighter Wing

SIGNATURE ON FILE

James M. Skiff, Col ANG
Commander
103rd Fighter Wing

SIGNATURE ON FILE

Pual E. Schutt, Col USAF
Commander
305th Operations Group

BOSTON ARTCC/NEADS/552ND ACW/
101ST ACS/102ND ACS/ 103RD ACS/
174TH FW/103RD FW/305TH AMW

MAY 22, 1997

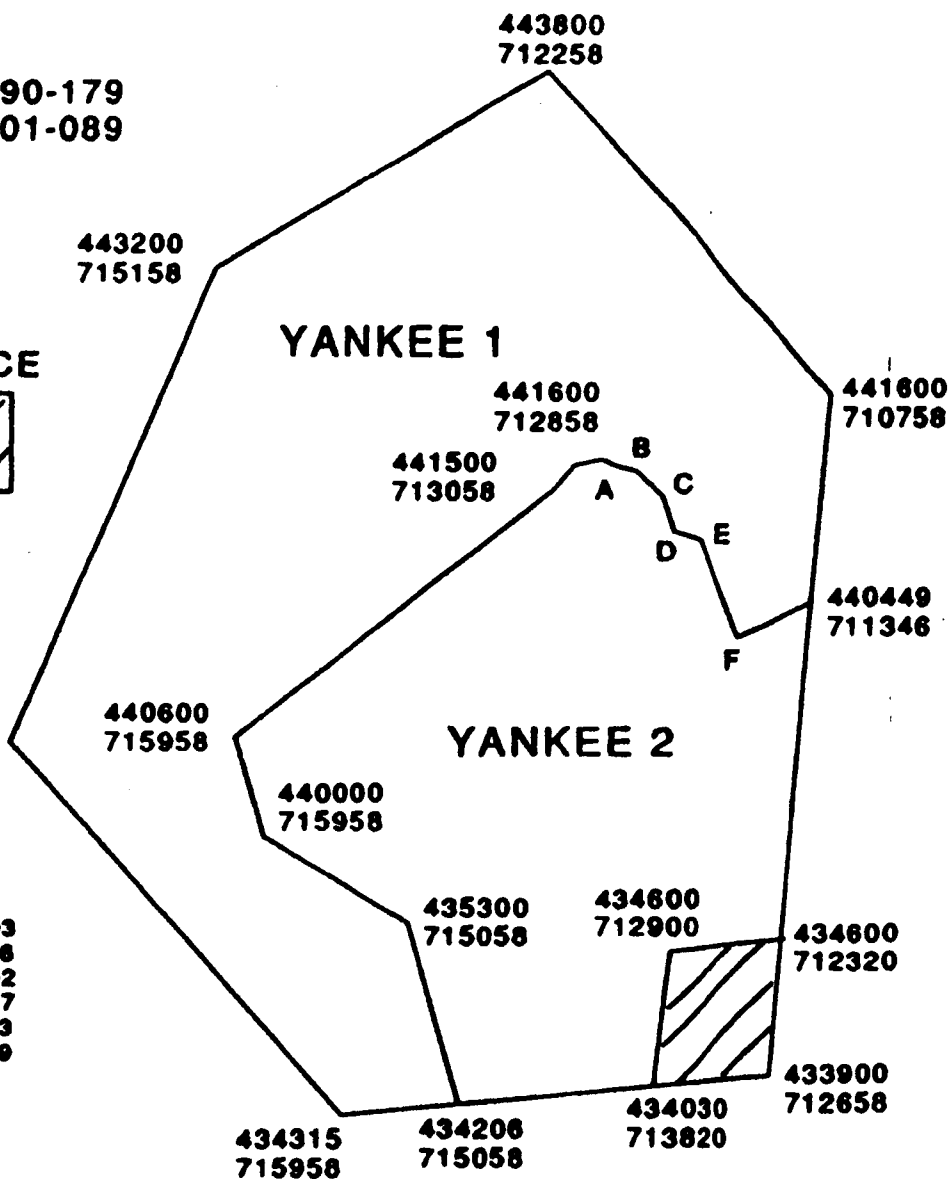
ATTACHMENT NO. 4

LACONIA AIRSPACE
BELOW 060



YANKEE 1 - 090-179
YANKEE 2 - 001-089

- A. 441555/712703
- B. 441255/712408
- C. 441212/712402
- D. 441053/712337
- E. 441005/712223
- F. 440500/712029

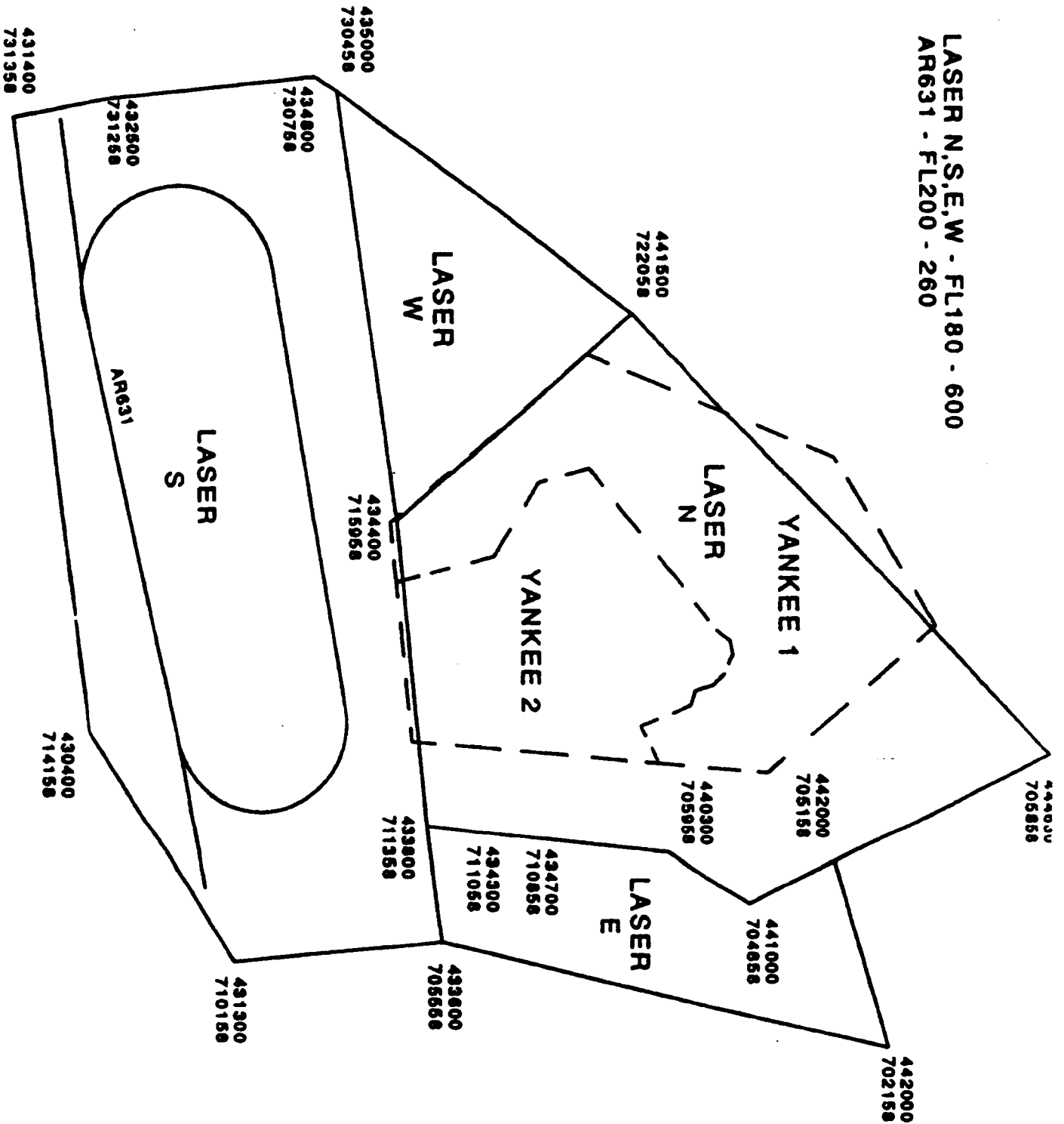


MAY 22, 1997

BOSTON ARTCC/NEADS/552ND ACW/
101ST ACS/102ND ACS/103RD ACS/
174TH FW/103RD FW/305TH AMW

ATTACHMENT NO. 5

LASER N,S,E,W - FL180 - 600
AR631 - FL200 - 260



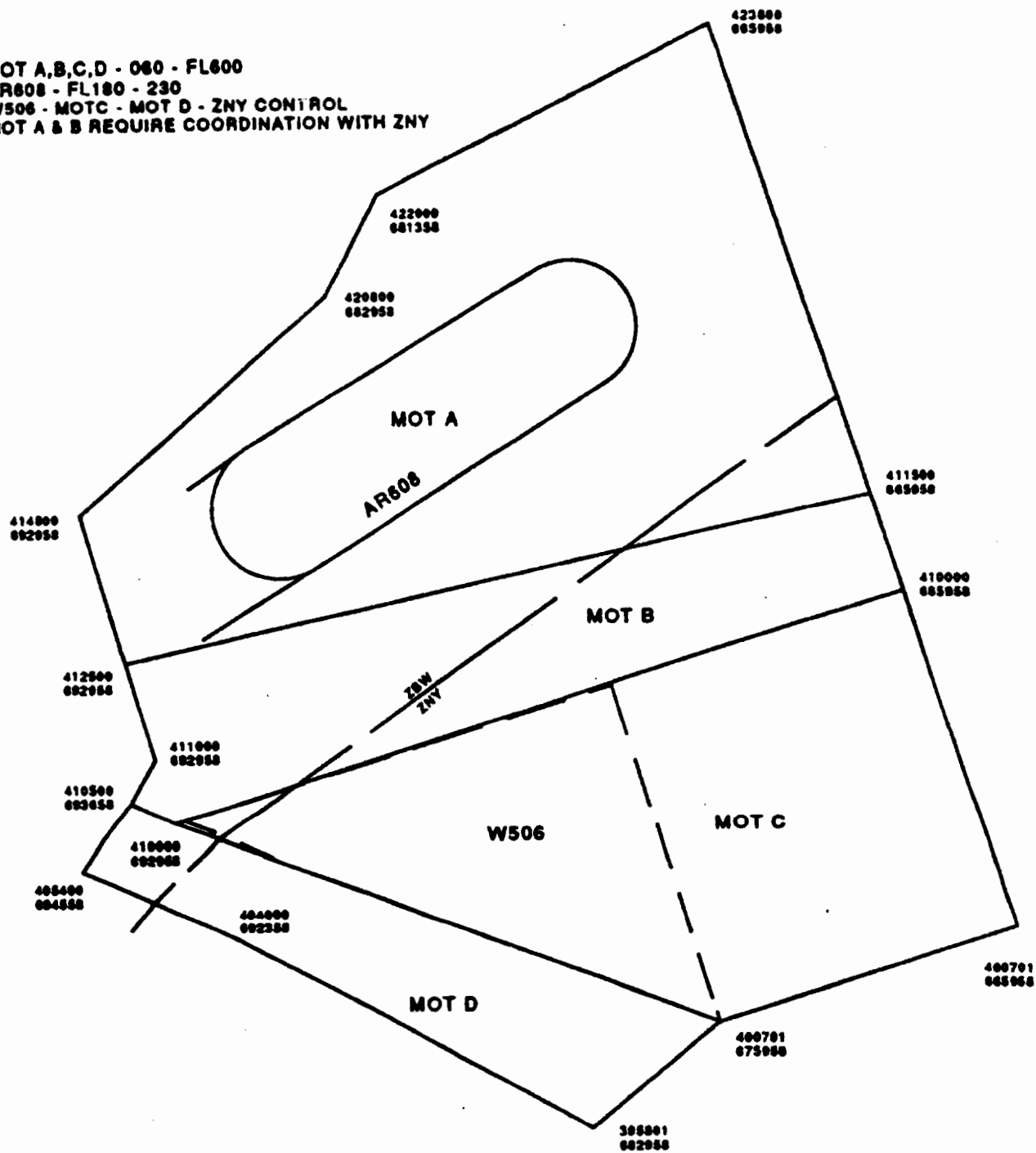
BOSTON ARTCC/NEADS/552ND ACW/
101ST ACS/102ND ACS/103RD ACS/
174TH FW/103RD FW/305TH AMW

MAY 22, 1997

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ATTACHMENT NO. 8

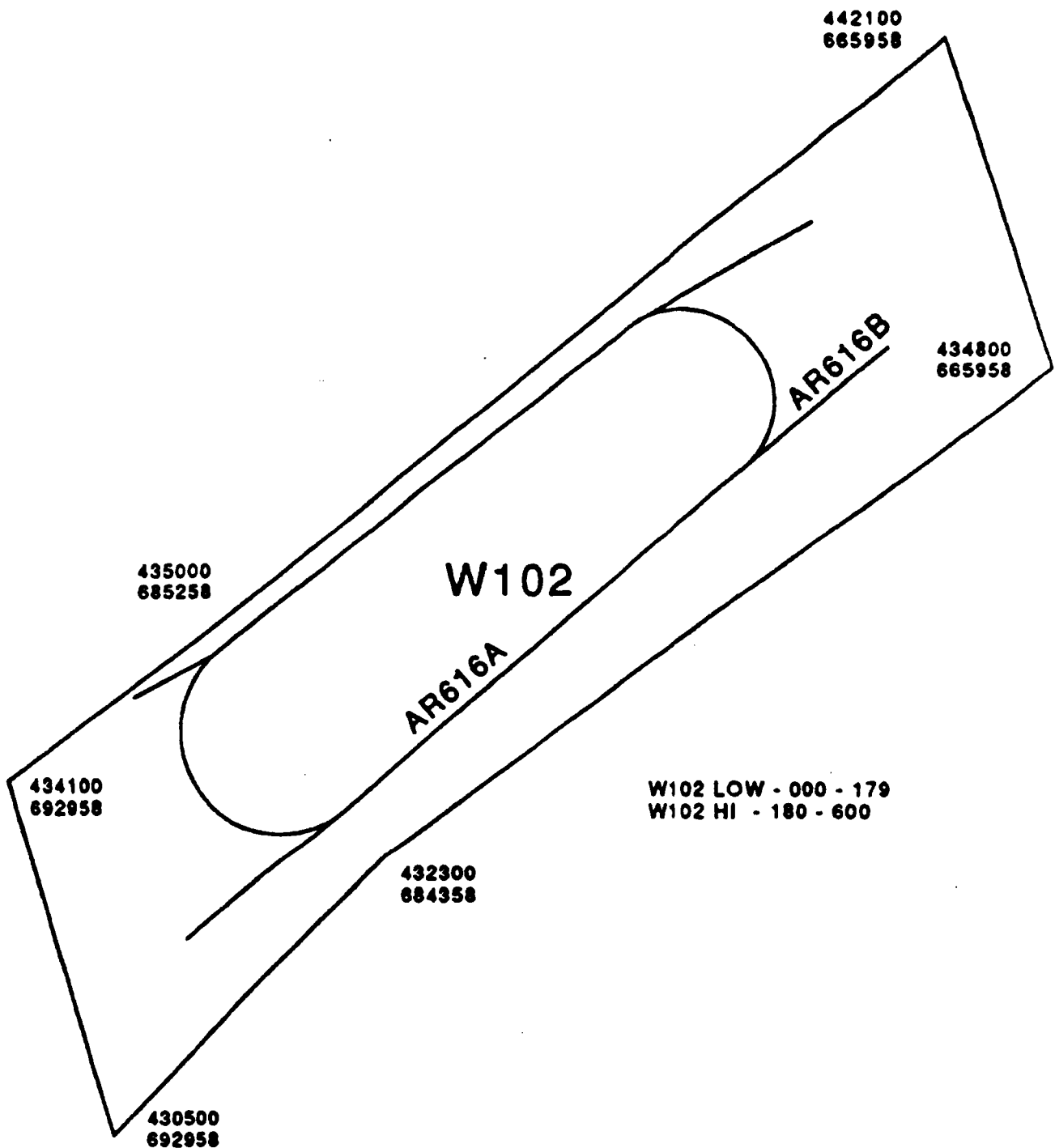
MOT A,B,C,D - 060 - FL600
 AR608 - FL180 - 230
 W506 - MOTC - MOT D - ZNY CONTROL
 MOT A & B REQUIRE COORDINATION WITH ZNY



BOSTON ARTCC/NEADS/552ND ACW/
 101ST ACS/102ND ACS/103RD ACS/
 174TH FW/103RD FW/305TH AMW

MAY 22, 1997

ATTACHMENT NO. 9

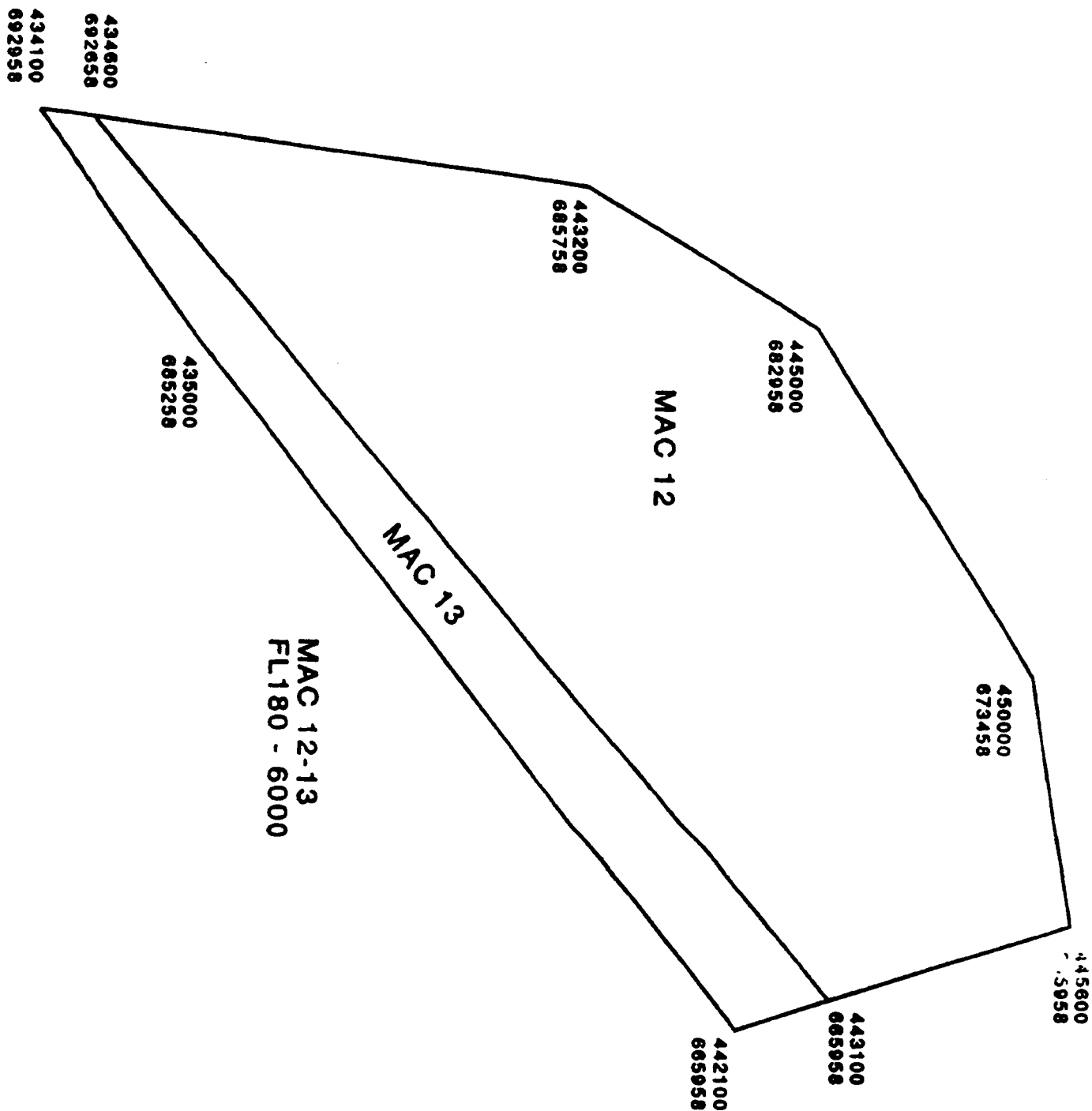


BOSTON ARTCC/NEADS/552ND ACW/
101ST ACS/102ND ACS/103RD ACS/
174TH FW/103RD FW/305TH AMW

MAY 22, 1997

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ATTACHMENT NO. 10

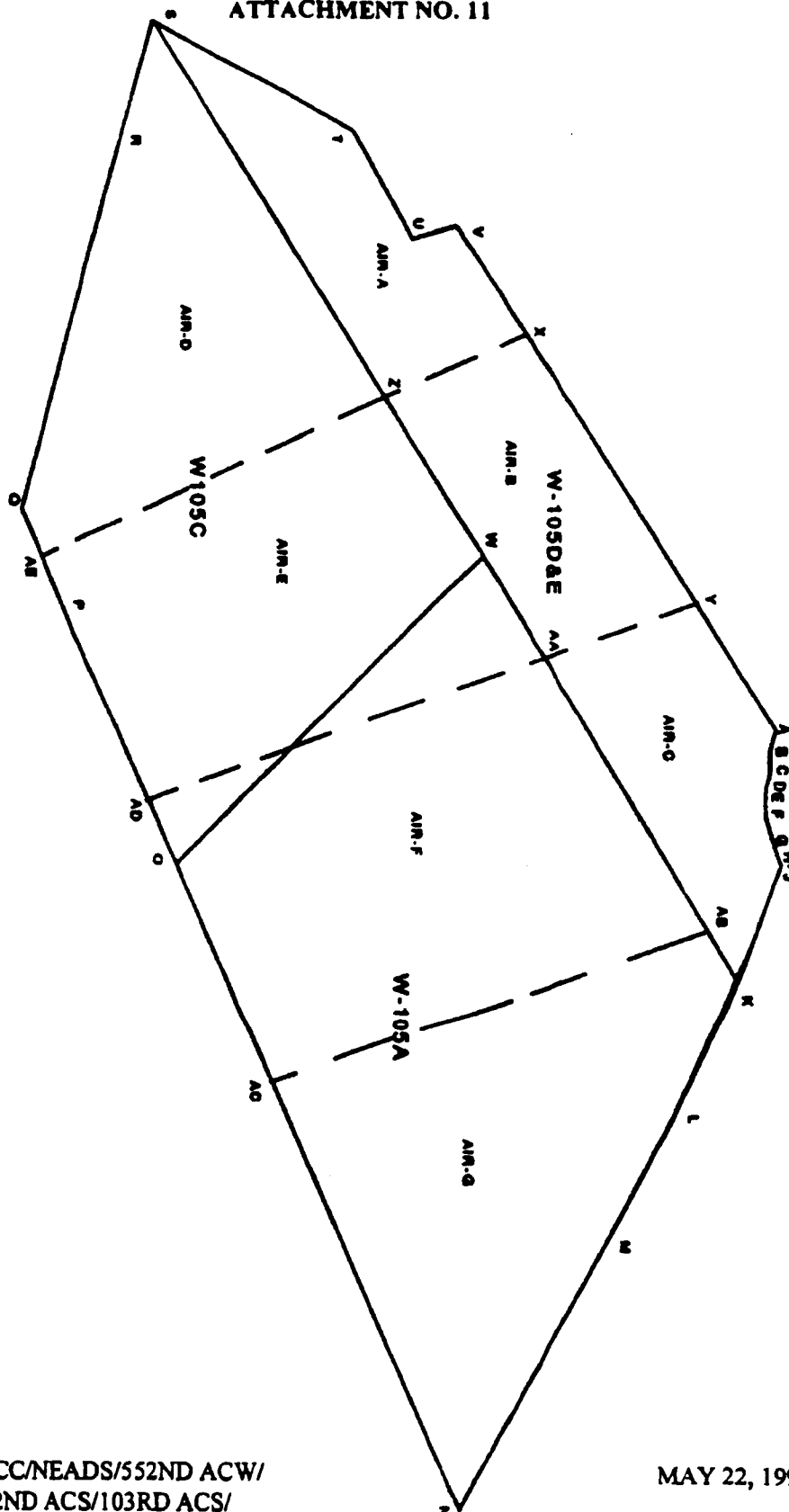


BOSTON ARTCC/NEADS/552ND ACW/
101ST ACS/102ND ACS/103RD ACS/
174TH FW/103RD FW/305TH AMW

MAY 22, 1997

ATTACHMENT NO. 11

W-105



**BOSTON ARTCC/NEADS/552ND ACW/
101ST ACS/102ND ACS/103RD ACS/
174TH FW/103RD FW/305TH AMW**

MAY 22, 1997

**ATTACHMENT NO. 12
W105 LAT/LONGS AND ALTITUDES**

W105A	SFC to FL500
W105B	SFC to but not including FL180
W105C	SFC to FL500
W105D	SFC to but not including 15,000 feet MSL
W105E	15,000 feet MSL to FL500

Sub Operation Areas A/B/C/D/E/F/G SFC to FL500

<u>Point</u>	<u>Latitude/Longitude</u>	<u>Point</u>	<u>Latitude/Longitude</u>
A	41 06 52/70 22 51	R	40 04 20/72 29 58
B	41 05 26/70 19 47	S	40 11 55/72 46 53
C	41 04 35/70 16 00	T	40 34 00/72 19 58
D	41 03 43/70 14 10	U	40 38 00/71 59 58
E	41 03 21/70 13 01	V	40 44 00/71 59 58
F	41 02 32/70 09 24	W	40 36 00/71 05 00
G	41 02 29/70 05 12	X	40 52 15/71 26 00
H	41 02 34/70 01 26	Y	41 02 25/70 42 00
I	41 02 38/70 00 15	Z	40 30 00/71 26 00
J	41 02 30/70 00 00	AA	40 40 00/70 42 00
K	40 53 00/69 43 00	AB	40 49 45/69 58 00
L	40 39 50/69 23 28	AC	39 49 06/69 58 00
M	40 26 46/69 06 23	AD	39 44 15/70 42 00
N	39 58 00/68 29 50	AE	39 39 33/71 26 00
O	39 46 00/70 29 00		
P	39 40 45/71 14 58		
Q	39 38 42/71 33 46		

ATTACHMENT NO. 13 **SUA/ATCAA COMPUTER FIXES**

All aircrews shall file the delay in the SUA/ATCAA in which the operation is conducted. If the operation is conducted in more than one SUA/ATCAA, then the delay shall be filed in the SUA/ATCAA in which they exit. The SUA/ATCAAs listed in Boston Centers data base are stored as follows:

MOAs

FALCON	=	FALCN	SYRACUSE 1	=	SYR1
SYRACUSE 2	=	SYR2	SYRACUSE 3	=	SYR3
SYRACUSE 4	=	SYR4	DRUM 1	=	DRUM1
DRUM 2	=	DRUM2	CONDOR	=	CONDR
YANKEE	=	YANKE			

ATCAAs

MAC 12	=	MAC12	MAC 13	=	MAC13
LASER	=	LASER	LASER North	=	LASRN
LASER West	=	LASRW	LASER South	=	LASRS
LASER East	=	LASRE	AKS	=	AKS
AKS 1	=	AKS1	AKS 2	=	AKS2
AKS 3	=	AKS3	AKS 4	=	AKS4
AKS 5	=	AKS5	MOT Area	=	MOT
MOT A	=	MOTA	MOT B	=	MOTB
MOT C	=	MOTC	MOT D	=	MOTD
SCOTY	=	SCOTY	SCOTY A	=	SCTYA
SCOTY B	=	SCTYB	SCOTY C	=	SCTYC

RESTRICTED AREAS

R5201	=	R5201	R5206	=	R5206
R5203	=	R5203			

WARNING AREAS

W102 H&L	=	W102	W103	=	W103
W104 A/B/C	=	W104	W105 A	=	W105A
W105 C	=	W105C	W105 C	=	W105C
W105 D	=	W105D	W105 E	=	W105E
W106 A/B/C	=	W106	W107	=	W107
W108	=	W108	W386 A	=	W386A
W386 B	=	W386B	W506	=	W506

SUB OPERATION AREAS WITHIN WARNING AREA W105

AIR OP A = AIRA	AIR OP B = AIRB	AIR OP C = AIRC	AIR OP D = AIRD
AIR OP E = AIRE	AIR OP F = AIRF	AIR OP G = AIRG	

BOSTON ARTCC/NEADS/552ND ACW/
 101ST ACS/102ND ACS/103RD ACS/
 174TH FW/103RD FW/305TH AMW

MAY 22, 1997

✓

**ATTACHMENT NO. 14
COMMON REFERENCE POINTS**

<u>FIX</u>	<u>LAT/LONG</u>	<u>FIX</u>	<u>LAT/LONG</u>
ACK	41°16'55"/070°01'36"	ALB	42°44'50"/073°48'11"
ART	43°57'07"/076°03'53"	BDL	41°56'27"/072°41'19"
BGR	44°50'31"/068°52'26"	BML	44°38'01"/071°11'10"
BOS	42°21'27"/070°59'22"	BTV	44°23'50"/073°10'58"
CON	43°13'11"/071°34'32"	ENE	43°25'32"/070°36'49"
FMH	41°39'35"/070°30'50"	GFL	43°20'30"/073°36'43"
GSS	43°13'55"/075°24'41"	HTO	40°55'08"/072°19'00"
LFV	42°01'02"/070°02'14"	MLT	45°35'12"/068°30'56"
MSS	44°54'52"/074°43'22"	MVY	41°23'46"/070°36'46"
NHZ	43°54'09"/069°56'43"	PLB	44°41'06"/073°31'22"
PSM	43°05'04"/070°49'55"	PVD	41°43'28"/071°25'47"
SLK	44°23'04"/074°12'16"	SYR	43°09'38"/076°12'16"

SUA/ATCAA SCHEDULING AGENCIES

<u>SCHEDULER & LOCATION</u>	<u>AIRSPACE</u>	<u>NUMBER</u>	<u>CONTROLLING AGENCY</u>
NE ADS @ Rome, NY	AKS 1/2/3/4/5(AR609) LASER E/W/N/S(AR631) MAC 12/13 MOT A/B(AR608) FALCON 1/3 W102 H(AR616A&B) CONDOR 1/2	DSN 587-6784	Boston ARTCC
305th AMW Mcguire AFB, NJ	SCOTY B(AR204/205/212)	DSN 440-6487 440-6488	Boston ARTCC
103rd FW @ Bradley Field, CT (Closed every other Monday)	YANKEE 1/2	DSN 636-8356 636-8357	Boston ARTCC
174 FW @ Syracuse, NY	SYR 1/2/3/4 DRUM 1/2	DSN 587-9214 587-9217	Wheeler Sack Approach Control
FACSFAC VACAPES @ Oceana, Virginia Beach, VA	W105 A/B/C/D/E SUB OP AREA A/B/ C/D/E/F/G	DSN 433-1218	Boston ARTCC

BOSTON ARTCC/NEADS/552ND ACW/
101ST ACS/102ND ACS/103RD ACS/
174TH FW/103RD FW/305TH AMW

MAY 22, 1997.

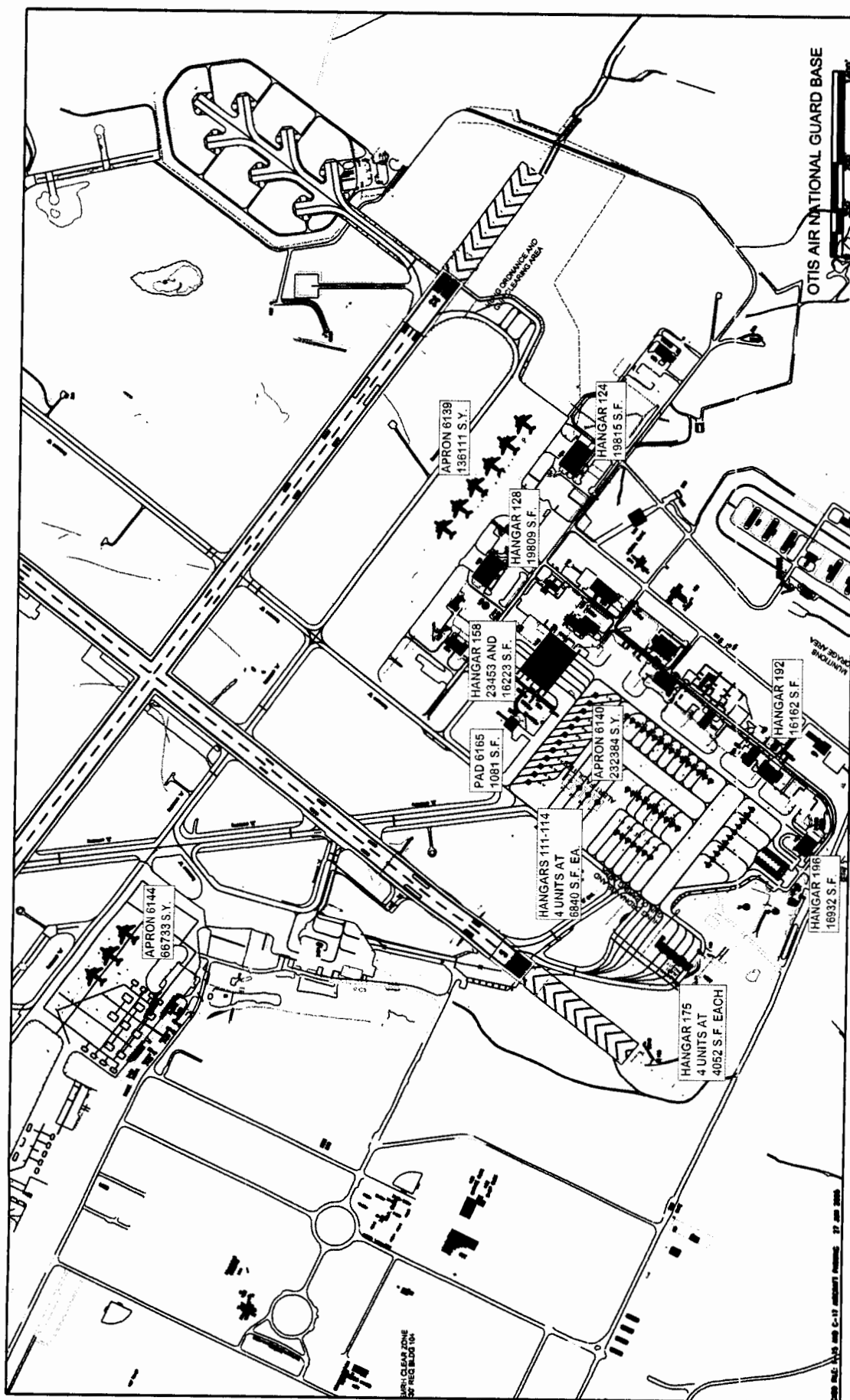
Tab 3

In the Otis score for this formula, credit was only given for one auxiliary airfield, Logan International. Quonset State Airport (Org 157, KOQU) located in Rhode Island, was NOT included as a viable auxiliary airfield. OSD data shows the runway was a viable alternate runway within 50 miles. Quonset shows Otis as an auxiliary airfield in the OSD data (i.e. within 50 NM).

Tab 4

Mission	Fighter
Criterion	Condition of Infrastructure
Attribute	Key Mission Infrastructure
Formula #	1221
Label	Hangar Capability - Small Aircraft
Effective %	3.88
Question	<p>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 (61ft long x 45ft wingspan x 19ft high) that can fit in the installation's maintenance hangars without modification.</p> <p>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.</p> <p>Otherwise, sum the number of aircraft the hangars can hold. See OSD Question 1221, column 2 for this data. (N/A equals 0.)</p> <p>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.</p> <p>Example:</p> <p>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.</p> <p>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.</p>
Source	Real Property Records, Record Drawings, UFC 3-260-01

Otis was given credit for only 15 Hangar spaces. Upon further review, Otis did not take full credit for their potential hangar spaces. Total hangar capacity for small aircraft is proved to be 31. The following map with official real property record (SAF MIL7115 Report) listed quantities show these locations. The map is to scale.



Tab 5

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. Otherwise, if the total ≥ 24, get 66 points. Otherwise, if the total ≥ 12, get 33 points. Otherwise, get 0 points.</p> <p>Example: The installation has two listings for explosive sited parking spots, with 5 and 20 respectively, which totals to 25. 25 is between 24 and 47, so the score is 66 points.</p>
Source	AFMAN 91-201, Explosives Safety Standards; Installation Explosives Site Plan

Otis entered 18 explosive loaded sites based on current assigned aircraft and existing explosives site plan. The question did not ask what is the installations capability/capacity for explosive sited parking. Otis has 102 explosives loaded aircraft spots with no waivers or exceptions. This leads to an additional 2.44 points on the MCI score. Map from Tab 4 depicts in excess of 50 of the 102 loadable spots.

Tab 6

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 installation's hazard classification Class 1.1 munitions storage areas, in pounds. Maximum assumes F-117 18 PAA (GBU-27) and F/A-22 24 PAA (GBU-32 & AIM 120).</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 capacity. See OSD question 1233, column 1 for this data. (N/A means 0.)</p> <p>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.</p> <p>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

This answer to this question is munitions specific. A different answer will apply based on MDS and weapon system. The original answer was based on the approved site plan, which was based on a normal, realistic amount of explosive storage that was not MDS specific. It was not approved based on MDS capacity at the time. The following documentation shows how different munitions will change the final answer. The munitions storage area located at Otis is capable and approved to store HC 1.1 AIM Series Missiles totaling 31,104 lbs of NEW in each of the 40' X 80' Earth Covered Igloo's for a total capacity of 62,208 lbs. This leads to an additional 4.79 points in the MCI. The second two letters break down the maximum storage capacity based on Aim Series designation.



DEPARTMENT OF THE AIR FORCE
102D FIGHTER WING (ACC)
MASSACHUSETTS AIR NATIONAL GUARD
OTIS AIR NATIONAL GUARD BASE MASSACHUSETTS

17 June 2005

MEMORANDUM FOR RECORD

FROM 102ND Fighter Wing Safety Office
158 Reilly St., Box 15
Otis ANGB, MA. 02542-1330

SUBJECT: Sufficient Munitions Storage, Otis ANGB

1. The maximum explosive capacity hazard classification 1.1 by missile system, in pounds, without waivers.
2. AFMAN 91-201, par. 3.34, Explosive Safety Standards gives detailed guidance in the proper storage of AIM Series Missiles and adding the total hazard classification 1.1, in pounds. Testing has been completed and proven that detonation of warheads in All Up Round Containers (AURC's) will not propagate to any adjacent container either vertically or horizontally. Therefore, Maximum Credible Event (MCE) would be one AURC of four missiles when calculating Inhabited Building Distance / Quantity Distance (IBD / QD). The 40' X 80' Earth Covered Igloo's were built for the purpose to store AIM Series Missiles Hazard Class 1.1 to their physical capacity and at the same time comply with all site planning requirements.
3. The 102nd Fighter Wing is capable and is approved to store HC 1.1 AIM Series Missiles totaling 31,104 lbs in each of the 40' X 80' Earth Covered Igloo's.

//signed//
JOHN V. NOLAND, SMS, MA ANG
Ground/Explosive Safety Manager



DEPARTMENT OF THE AIR FORCE
102D FIGHTER WING (ACC)
MASSACHUSETTS AIR NATIONAL GUARD
OTIS AIR NATIONAL GUARD BASE MASSACHUSETTS

17 June 2005

MEMORANDUM FOR RECORD

FROM 102ND Fighter Wing Safety Office
158 Reilly St., Box 15
Otis ANGB, MA. 02542-1330

SUBJECT: AIM Series Missile break down

1. AIM-7 with WAU-17 warhead (36 lbs)

- 144 lbs per container
- 216 AURC's in each igloo stacking them 6 high
- 31,104 lbs in each igloo
- AURC demes ions
 - 15' long X 3'.75' wide X 1'.7 high

2. AIM-7 with WAU-10 warhead (26 lbs)

- 104 lbs per container
- Same AURC used as above
- 22,464 lbs in each igloo

3. AIM-9X Missile, warhead (7.9 lbs)

- 31.6 lbs per container
- 200 AURC's in each igloo stacking them 5 high
- 6,320 lbs in each igloo
- AURC dimensions
 - 11'.5 long X 3'.5 wide X 1'.9 high

//signed//

JOHN V. NOLAND, SMS, MA ANG
Ground/Explosive Safety Manager



DEPARTMENT OF THE AIR FORCE
102D FIGHTER WING (ACC)
MASSACHUSETTS AIR NATIONAL GUARD
OTIS AIR NATIONAL GUARD BASE MASSACHUSETTS

30 June 2005

MEMORANDUM FOR RECORD

FROM 102ND Fighter Wing Safety Office
158 Reilly St., Box 15
Otis ANGB, MA. 02542-1330

SUBJECT: Sufficient Munitions Storage for HC/D 1.2.1 AIM-120 Missile System

1. The maximum explosive capacity hazard classification 1.2.1 AIM-120 Missile System that can be stored at Otis Air National Guard Base, without waivers is 27,000 lbs.

2. The 102nd Fighter Wing is capable of storing the munitions specific assets in the following approved munitions storage facilities:

A. 2 each 40' X 80' Earth Covered Igloo's for a total Net Explosive Weight (NEW) of 12,000 lbs.

B. 5 each Above Ground Unbarricaded, ADC-Multicubicle Magazines (30 cells) Type II ADC, Drawing #AD 33-13-20R2 for a total NEW of 15,000 lbs.

(1) The procedure will be to physically pull the AIM-120 out of its ALL UP Round Container (AURC), which will turn the munitions item to HC/D 1.1.

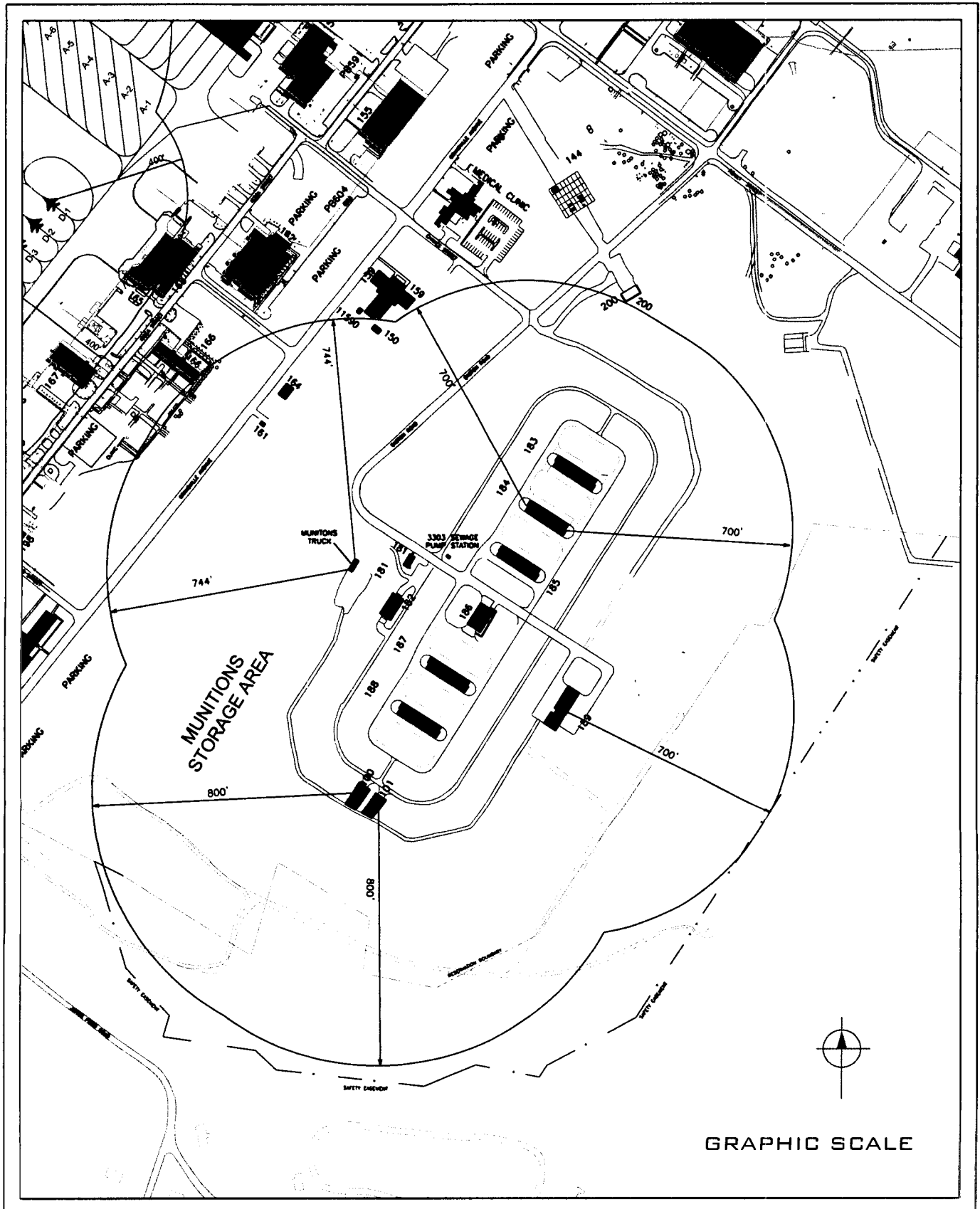
(2) AIM-120's will be placed on storage stands inside each cell not to exceed 100 lbs.

a) 1 Above Ground Multicubicle Magazines with 30 cells is capable of storing 3,000 lbs.

b) 5 Magazines for a total of 15,000 lbs.

//signed//

JOHN V. NOLAND, SMS, MA ANG
Ground/Explosive Safety Manager



OTIS AIR NATIONAL GUARD BASE
EXPLOSIVE SAFETY MAP

Tab 7

Mission	Fighter						
Criterion	Condition of Infrastructure						
Attribute	Operating Areas						
Formula #	1203						
Label	Access to Adequate Supersonic Airspace						
Effective %	6.72						
Question	<p>Identify special use airspace that is suitable for supersonic training.</p> <p>If installation has no runway or active runway, or no serviceable, suitable runway then score 0 pts. See section 1.9 "Shared" for details.</p> <p>Otherwise, score each special use airspace suitable for supersonic training according to the following formula and return the single highest score.</p> <table> <tr> <td>% of Score</td><td>Category</td></tr> <tr> <td>50</td><td>Operating Hours</td></tr> <tr> <td>50</td><td>Size</td></tr> </table> <p>For Operating Hours:</p> <p>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.</p> <p>For Size:</p> <p>If the supersonic special use airspace is at least 150 nautical miles (NM) by 80 NM in size, and has an altitude block $\geq 30,000$, get 100 points. See OSD question 1276, column 7 for this data. (N/A means no.)</p> <p>Otherwise, if it is at least 100 NM by 60NM and has an altitude block $\geq 30,000'$, get 80 points. See OSD question 1276, column 6 for this data. (N/A means no.)</p> <p>Otherwise, if it is at least 100 NM by 50 NM and has an altitude block $\geq 30,000'$, get 60 points. See OSD question 1276, column 5 for this data. (N/A means no.)</p> <p>Otherwise, if it is at least 80 NM by 40 NM and has an altitude block $\geq 30,000'$, get 40 points. See OSD question 1276, column 4 for this data. (N/A means no.)</p> <p>Otherwise, if it has an airspace volume $\geq 2,100$ NM squared and an</p>	% of Score	Category	50	Operating Hours	50	Size
% of Score	Category						
50	Operating Hours						
50	Size						

	<p>altitude block $\geq 20,000'$, get 20 points. See OSD question 1276, column 3 for this data. (N/A means no.)</p> <p>Otherwise, get 0 points.</p> <p>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.</p> <p>(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%),</p> <p>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.</p>
Source	DoD #1203; Digital Aeronautical Flight Information Files (DAFIF), 30 Sep 04; FAA ATCAA Database

Using the referenced algorithm and stated data files, the score listed for Otis is incorrect. The formula uses data from OSD Question 1276:

Section 1 Air/Space Operations, Question 1276 Airspace Attributes - Supersonic									
Org	1 Airspace Designat or (Text)	2 Operatin g Hours (Hr)	3 Airspace Volume $\geq 2,100$ M squared and 20,000' altitude block (Yes/No)	4 At least 80NM x 40NM and altitude block $\geq 30,000'$ (Yes/No)	5 At least 100NM x 50NM and altitude block $\geq 30,000'$ (Yes/No)	6 At least 100NM x 60NM and altitude block $\geq 30,000'$ (Yes/No)	7 At least 150NM x 80NM and altitude block $\geq 30,000'$ (Yes/No)	8 Not used. (Yes/No)	
27	W105	24	Yes	Yes	Yes	Yes	No	N/A	
27	W106	24	No	No	No	No	No	N/A	

The file lists W105 with a max block of 100NMx60NM which translates into 80 points. The operating hours translates into 100 points. The formula results in 90 points out of a hundred for this algorithm. When weighted, this results in 6.048 points, an increase of 3.358 over the posted score.

Tab 8

Mission	Fighter
Criterion	Condition of Infrastructure
Attribute	Operating Areas
Formula #	1266
Label	Range Complex (RC) Supports Mission
Effective %	11.95
Question	<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>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.</p> <p>Calculate each of the subcategories scores listed below, and weight as listed.</p> <ul style="list-style-type: none"> 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 (IW) 10% Electronic Combat (EC) 10% Laser Use Auth. (LU) 10% Lights Out Capable (LC) 5% Flare Auth. (FA) 5% Chaff Auth. (CA) <p>Each of the subcategories use the following general pattern for calculating them:</p> <p>Compute a raw total for the base by following the instructions for the respective subcategory total.</p> <p>Find the highest, and the lowest, non-zero raw total for the subcategory across all bases.</p> <p>If the raw total = 0, that subcategory score = 0.</p> <p>Else, if the raw total = the highest raw total, the subcategory score = 100.</p> <p>Else, if the raw total = the lowest, non-zero raw total, the subcategory score = 10.</p> <p>Else, pro-rate the raw total between the lowest non-zero score and the highest score on a 10 to 100 scale.</p> <p>Once each score for each subcategory is known, multiply them by their respective weighting percentage and total the results for the overall score.</p>

AV Raw Total:

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

OH Raw Total:

Sum the pts for each airspace:

If the OH < 1 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.

IW Raw Total:

Sum the pts for each airspace:

If IW = 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

	<p>Sum the pts for each airspace: If LC = Yes, get 100 pts. See OSD # 1266, column 9. Else, get 0 pts.</p> <p>FA Raw Total Sum the pts for each airspace: If FA = Yes, get 100 pts. See OSD # 1274, column 3. Else, get 0 pts.</p> <p>CA Raw Total Sum the pts for each airspace: If CA = Yes, get 100 pts. See OSD # 1274, column 4. Else, get 0 pts.</p> <p>Example: AV = 20,000, get 20,000 pts; 10.</p> <p>There are two airspaces within 150 NM, and they both have these characteristics (which means their raw totals will be double the number of pts listed) followed by the lowest non-zero and highest raw totals across all bases and subcategory scores.</p> <p>OH = NOTAM, get 100 pts; 20,000 to 150,000 pts; 10. SR = Yes, get 100 pts; 200 to 500 pts; 10. AGWD = No, get 0 pts; 200 to 1000 pts; 10. LA = No, get 0 pts; 200 to 1000 pts; 0. LO = Yes, get 100 pts; 500 to 1000 pts; 10. IW = N/A, get 0 pts; 200 to 2000 pts; 0. EC = N/A, get 0 pts; 200 to 1000 pts; 0. LU = Yes, get 100 pts; 100 to 1000 pts; 20. LC = Yes, get 100 pts; 200 to 1000 pts; 10. FA = No, get 0 pts; 100 to 1000 pts; 0. CA = No, get 0 pts; 100 to 1000 pts; 0. Weighted, the overall score = 8.425 pts.</p>
Source	FLIP AP-1A; Falcon View or other certified flight planning software

We re-created this formula using ArcGIS and Excel using the stated algorithms. Although we could replicate the example with our program, we could not duplicate the scores posted for this question. Therefore, we could not calculate the exact increase to the posted score. The three additional airspaces drive our overall rank for airspace volume (AV) to number one. Adding the three additional airspaces and correcting faulty airspace attribute data could lead to an increase as high as 2 points. We did not receive full credit for this question and it is NOT reflected in our recalculated MCI.

Tab 9

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. Otherwise, if the total ≥ 4, get 75 points. Otherwise, if the total ≥ 2, get 25 points. 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)

Otis listed the ability to park three C-17s in the original data call. However, this was based on transient parking in a designated small area of the F-15 main ramp. It did not take into consideration the two other serviceable ramps at Otis.

Using all available serviceable ramps, Otis can park in excess of eight C-17s. The attached map (Diagram 1, Tab 4) shows the layout meeting all airfield-parking criteria. This leads to an additional 1.32 points in our MCI score.