

Fort Hood Clearinghouse questions

1. How has the base dealt with encroachment issues? Please confirm the following information. We understand the base has worked with the local community to better define potential encroachment areas. The base feels that a buffer zone is established along the southern boundary of the base with the cantonment area, highway 190 and the cities along the main route into the base. Along the western boundary the base has worked with major landowners and established an easement to restrict the type of construction along the base boundary.
2. Has the base been able to work around habitat issues that restricted use of over 37,000 acres? What type of habitat management changes has the base been able to implement to open up restricted training lands? What about working with the surrounding land owners to enhance habitat?

Ft. Hood, TX

Closed all SWSMUs
FCEQ approved GIRA goals -

Gary Byers - Dyess -

Post closure monitoring -

Chris Seegal - Sheppard -

RFR @ one site -

12 or 16 RFA units w/in next
year -

Fort Hood, Texas
ENVIRONMENTAL

The base was started 63 years ago as a WWII training camp for the Army's tank destroyer tactics and firing center. The size of the base increased with the addition of a remote deployment area currently known as North Fort Hood and West Fort Hood, which includes Robert Gray Army Airfield. The base includes 214,968 acres of land. Of this there is 136,094 acres of maneuver area and a live fire impact area of 63,000 acres. There are 447 miles of tank trails, 4916 active buildings and 458 miles of paved roads. There are 2 airfields. One of the airfields (Robert Gray Army Airfield) is a joint use airport with the City of Killeen. The base is bounded on the east by Lake Belton and the south by Killeen, Harker Heights and Copperas Cove.

The base has worked with the local community to better define potential encroachment areas. The base feels that a buffer zone is established along the southern boundary of the base with the cantonment area, highway 190 and the cities along the main route into the base. Along the western boundary the base has worked with major landowners and established an easement to restrict the type of construction along the base boundary. The base continues to allow cattle grazing. This continues a practice started when the base was established in 1943 and landowners were forced to give up family ranches and farms.

The base has worked with local landowners and Fish and Wildlife to enhance habitat in surrounding ranches. This combined with on-base habitat management (prescribed burning, fire breaks and brush control) have allowed an increasing populations for the two endangered birds in the area. This has allowed the base to gain 37,000 acres of unrestricted training land. This has opened up the maneuver and impact areas and allowed training to continue without restrictions. This is based upon a new Biological Opinion released in 2005. Although there would still be restricted areas during nesting season, the areas would only exist along the eastern boundary of the base near Lake Belton.

The base is not listed on the Superfund National Priorities List. Based upon a review of available information the base has completed investigations and cleanup required by the Resource Conservation and Recovery Act permit. Therefore there is no impact to the reuse of areas on the base from past waste disposal practices.

Based on the Recommendation Supporting Information Fort Hood does not have noise contours that extend off the installation's property.

Although there are UXO issues, the base has a restricted impact area and as ranges are renovated UXO is dealt with during the construction. There is no impact on the training ranges or the construction of new ranges. Although, the discovery of UXO during recent work on a range delayed construction and increased cost of the project.

Fort Hood does not have any water resource issues. The base has an excess of capacity in their potable water supply and small excess capacity in wastewater disposal. The base is working with the State to develop a solution to wastewater disposal at the North Fort Hood which may involve converting some land to wetlands. This would enhance the habitat in the area and form a buffer zone.

There does not appear to be any environmental restrictions or limitations that would impact use of the training areas.

Reserve Component

6/9/05

NO. of Ft. Hood - 2200 MAX Cap (Based upon both active Divisions occupying their full space)

Ft. Hood operates 2 ports of embarkation

125m TOWARD MODULARITY bringing in the 5 BCT

BIP - Barracks improvement program.

37000 acres of training released from Ecological restricts -

Allows grazing on acreage.

Sustainability partnership working w/ surrounding landowners & FWS & wildlife to create Habitats.

How is TRNG impacted? Opened up Man & impact area

Is grazing lease part of this? on a small part -

Currently 15, ~~4300~~⁵²⁸ in Barracks. includes MORD

7000 Barracks projects in the pipeline would build out Ft Hood to max Cap. over around 13K

going to a 1+1 layout -

15900^{m²} Air space they manage -

High MOA neg w/ FAA for this -

2 MOA now for upto 10000 FT.

Can drop up to 5K on Ranges.

6/9/05

114

Gen. Meltz

1st Corps

2003 Baseline -

Cap. for upto 5000 troops

Look at reserve component. Perishables in reg. non perishable in reserve -

Encroachment is a big deal at some facilities.

Believes Ft Hood in good position w/ E-W containment area restricts encroachment, Ranches NW in easement.

Have given 100 acres to Vet Admin for cementing

Working on providing 660 acres to TAMU

for a university -

Can use the ranger & have units in maneuver area -

Railheads @ Hood, Sill, Bliss, Riley & Carson -

all can move a Division out in a week Ports are the Bottleneck -

Joint training & interagency training, FBI, seals US touch & GO @ Robert Gray -

INFRASTRUCTURE - IN Great shape -

Environmental - done well

Parallel runway what be great for joint air-port

Range through-put can accommodate - 6 BCT's

\$300M in cost going on now (generally \$200M)

NTC
J2TC
WA
ACR
RCI

Fort Carson Clearinghouse questions

1. Information provided in the Installation Environmental Profile indicates there noise contours that extends off the installation's property. Of the 18,008 acres that extend off-base property, 7871 acres of incompatible land uses. Please describe the type of land use impacted and how densely populated the area is. Does the Fort Carson Compatible Use Buffer have any impact on this area? What areas surrounding the base are planned for this buffer zone?
2. Information provided in the Installation Environmental Profile indicates there are threatened and endangered species (TES) present. How many TES are present? How do the TES impact use of the on-base and Piñon Canyon Maneuver Site (PCMS)?

Ft Carson
Human Health EI not projected to meet.
GW releases under control -
100+ SWMUS little investigation
170

Military training in SWMUS
no Master plan - 74 complete.

Susan Chaki, FF CA unit leader.
303 692-3341

Susan.chaki@state.CO.us.

State order =

CA permit

Dept of Health

Ft. Bliss, TX

Rastner Range - closed range.
1 swmu an OBO pit - can be closed
although MMRP will still need to
be completed most likely not by 2008
when clean transfer to Texas Parks -

Oxidation Pond, 4-5 acre area -
closed to comm/IND Base wants to
close to residential.
May be other areas -

Water impacts -

Large number of City water supply wells -
well field - inactive status unknown -

David Dodge @ Ft Bliss 915-568-7979

Julie Jacobs @ NM ENV state, NM, US

Fort Bliss Clearinghouse questions

1. During a June site visit, it was learned that a planned location for new barracks included a closed oxidation pond. The 4 to 5 acre area was closed to commercial/industrial standards and the Army has now asked the State to allow closure to residential standards. Apparently the state requested additional documentation and possibly sampling. Has the state acted on the request? Is the property now suitable for construction of barracks and office space?
2. The data provided in the environmental impacts section of the recommendations indicates there are potential water supply issues at Fort Bliss. However, based upon the information obtained during the site visit, there appears to be adequate water supply to sustain an increase in troops at the base. The Fort Bliss drinking water supply is obtained from wells and the El Paso Water Utilities Public Service Board. The El Paso area relies upon both surface water and groundwater to supply potable water to residents. To augment the future water rights the City has purchased over 30,000 acres in and around El Paso and an additional 70,000 acres further east, which will apparently provide the El Paso area with the ability to obtain additional groundwater resources in the future. In addition the City has been working with the local community to reduce water use through conservation plans and the use of grey water for irrigation of golf courses and other types of large landscaped areas. We also learned that the El Paso Water Utilities Public Service Board plans to start construction this summer on a 27.5 MGD desalination plant that will be located on a leased portion of Fort Bliss. This plant will tap into a large groundwater source that is currently not usable without treatment. Please confirm that the above information is correct and provide a summary of the actions Fort Bliss will use to provide for an adequate water supply in the future.
3. The data provided in the environmental impacts section of the recommendations indicates there are potential air quality impacts if the recommendations are implemented. Based upon information provided as of 2003 El Paso was in non-attainment for ozone. However, based on the new 8 ozone hour standard the city is now considered to be in attainment. It appears the state is planning to petition EPA to show El Paso is in official attainment for carbon monoxide and the current non-attainment for carbon monoxide does not include Fort Bliss. El Paso is also listed as non-attainment for PM¹⁰ (a particulate based standard), however based upon information in the State Implementation Plan, Fort Bliss training exercises appear to be exempt. In addition we learned that Fort Bliss has made some changes to maneuvers to reduce dust generation within the city limits of El Paso. There is the potential that activities while moving to maneuver areas, could be limited to prevent the generation of large dust clouds that would impact the cities attempt to meet the

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PM¹⁰. Please confirm that the above information is correct and provide a summary of the actions Fort Bliss will use to ensure air impacts will be limited.

Fort Bliss, Texas
Environmental

Fort Bliss is located to the northeast of El Paso, Texas and extends into New Mexico. The main cantonment area and Biggs Army Airfield are located in a heavily developed area. The El Paso International Airport is located next to Biggs Army Airfield although they are not connected by taxiways. Although the main cantonment area is constrained by development, the maneuver area and ranges have access and limited encroachment issues. Based upon discussions with Fort Bliss there is limited habitat restrictions, primarily confined to one canyon on the west side of the range/maneuver area.

The base has a Resource Conservation and Recovery Act (RCRA) permit issued by the Texas Commission on Environmental Quality (TCEQ). According to TCEQ the base has completed investigations and closed all but one solid waste management unit, an open burn pit located at the closed Caster Range. Once the range is cleared it will be available for development. The removal project has not been funded at this time. TCEQ does not feel they can make a final determination on the impact to groundwater at the base until this unit is investigated and closed. One issue that may impact growth at the base involves a closed oxidation pond. The 4 to 5 acre area was closed to commercial/industrial standards. The base has now asked the State to allow closure to residential standards. The State is requesting additional documentation prior to the change. The base has indicated they plan to build dorms on the property. The base has completed investigations at the site and submitted the documentation to TCEQ for final approval.

The data provided in the environmental impacts section of the recommendations indicates there are potential water supply issues at Fort Bliss. However, based upon the information obtained during the site visit, there appears to be adequate water supply to sustain an increase in troops at the base. The Fort Bliss drinking water supply is obtained from wells and the El Paso Water Utilities Public Service Board. The El Paso area relies upon both surface water and groundwater to supply potable water to residents. The City has purchased over 30,000 acres in and around El Paso and an additional 70,000 acres further east. This will provide the El Paso area with the ability to obtain additional groundwater resources in the future. In addition the area has been working to reduce water use through conservation plans and the use of grey water for irrigation of golf course and other types of large landscaped areas. The El Paso Water Utilities Public Service Board plans to start construction this summer on a 27.5 MGD desalination plant that will be located on a leased portion of Fort Bliss. This plant will tap into a large groundwater source that is currently not usable without treatment.

Air Quality impacts. As of 2003 El Paso was in non-attainment for ozone. However, based on the new 8 ozone hour standard the city is now considered to be in attainment. The State is planning to petition EPA to show El Paso is in official attainment for carbon monoxide. The current non-attainment for carbon monoxide does not include Fort Bliss. El Paso is also listed as non-attainment for PM¹⁰ (a particulate based standard), however based upon information in the State Implementation Plan, Fort Bliss training exercises

are exempt. Fort Bliss has made some changes to maneuvers to reduce dust generation within the city limits of El Paso. There is the potential that activities while moving to maneuver areas could be limited to prevent the generation of large dust clouds that would impact the cities attempt to meet the PM¹⁰. In general there are no Air Conformity issues that would impact the additional training at Fort Bliss. There would be potential permitting issues with the addition of the new units and equipment to the area.

FT. BLISS

6/16/05

1. Water Resources, Ken Artubotta,
Only one endangered plant a cactus, isolated in one
NW corner of base - not a restriction to training
Have worked w/ FWS on other potential species.
they considered on Bliss -
2. Air Space - FT Bliss - unlimited, can activate
Blocks to any ht.
FT. Sill - is limited
3. Cultural Resources - less than 1% of land area
do PNV areas but have an agreement they
will keep training
4. Working w/ BLM to agree add 100k acres
between FT Bliss (MacGaughey Range in NM) & USMR land.
Do have some existing tracts that are restricted
to on-road use only. This was land that
was withdrawn from BLM & this is the way
the paper work was done -
5. Desalination Facilities
27.5 MGD started const. Aug 05 period Mar 07
6. El Paso Water Resources provide 10% of FT Bliss
supply provide all of the Base WW services
100 MGD Treatment Cap for surface water over 200 MGD
w/ GW capacity added in.

Meeting w/ Congressman Reyes & Mayor Cook

6/17/05

Water Resources - City has invested in land in & around El Paso (230,000 acres) & 70,000 acres further east around Del City, Van Horn & Valentine to capture water rights in various aquifers in West Texas. The last group would be 50 years in the future for projected use.

Air quality - As of 2003 El Paso was in non attainment - However based on the new ozone nat'l standard the city is now considered to be in attainment - (old standard was based upon 1 hr ozone standard).

Carbon Monoxide - TCEQ is planning to petition EPA in July 2005 to achieve official in attainment status.

PM¹⁰ non-attainment status city is listed however Fort Bliss is not included in limits, during training exercises.

* Check on State Implementation Plan (SIP) for 8-hour ozone standard, & PM¹⁰ & PM^{2.5} is there an issue with 2 different types of monitoring equipment?

Expected to ~~be~~ exceed VOC's ~~as~~ major source threshold when adding new units.

From: Moncada, Jesus D.
Sent: Monday, June 13, 2005 7:59 AM
To: Landreth, Keith; 'Olivier, Mary M Ms SWRO'; Cushing, Elza
Subject: RE: One little question, NAAQS attainment status for Fort Bliss (UNCLASSIFIED)

Keith,

One little question, one big answer... so here you go.

To answer Paul's question on the attainment/non-attainment status of Fort Bliss, El Paso County which includes Fort Bliss, Texas is non-attainment for the 1-hour ozone standard which is expected to be revoked 15 June 2005. El Paso County was designated attainment of the 8-hour ozone standard and to become effective 15 June 2005; furthermore, the county is also attainment of the PM-2.5 standard as well.

As for the other two NAAQS, El Paso City is non-attainment of PM-10 which does exclude Fort Bliss, Texas. There is language in the PM-10 SIP and rules that exclude Fort Bliss from PM-10 regulations during military training exercises. However, Fort Bliss, because of it's proximity to City of El Paso cannot create a nuisance situation where fugitive dust (PM) might obscure traffic, create a health or limit someone's use of their property because of our activities, in essence, citizens' complaints.

As for carbon monoxide (CO), the EPA has only designated the downtown area of El Paso as non-attainment for CO. This does not include Fort Bliss, TX; however, CO and ozone controls such as VIM (vehicle maintenance and inspection), Stage I and II controls, seasonal fuels (low RVP and oxygenated fuels) and others are designated for the entire county to include Fort Bliss, TX. Note, the US EPA published in the Federal Register in 2004 that El Paso City has demonstrated compliance with the CO NAAQS standard. The EPA has not changed the designation but acknowledged that the city is meeting the NAAQS standard.

If there is any a question or issue with NOx, we are in attainment because El Paso County has a waiver for any NOx contribution from Cd. Juarez, Chih., Mexico. I hope this clarifies things for the conformity SOW Paul is drafting.

If there are any questions, please contact me at the following information below and I'll be happy to discuss the matter or any questions.

Thanks, Jesse

Jesus D. Moncada
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From: Landreth, Keith
Sent: Friday, June 10, 2005 2:31 PM
To: 'Olivier, Mary M Ms SWRO'; Cushing, Elza
Cc: Moncada, Jesus D.
Subject: RE: One little question, NAAQS attainment status for Fort Bliss (UNCLASSIFIED)

Mary, here is what I have from Jesse, expect the full answer Monday.

Keith

Coming 15 June 2005 El Paso County will be the date for attainment for Ozone (8-hour) standard and the old 1-hour standard will be revoked. I have not received word about the new State Implementation Plan (SIP) for the new 8-hour ozone standard. Not sure if El Paso will be a maintenance area (means many of the non-attainment requirements apply) or truly attainment area.

Jesse

Jesse D. Moncada
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From: Olivier, Mary M Ms SWRO [mailto:Mary.Olivier@samhouston.ARMY.MIL]
Sent: Friday, June 10, 2005 11:42 AM
To: 'Keith Landreth, Bliss'; 'elza.cushing@us.army.mil'
Subject: FW: One little question, NAAQS attainment status for Fort Bliss (UNCLASSIFIED)

Can either of you answer the question below (guess they are all being careful to follow the lines of communication.....may be a little overkill).

Thanks,
Mary

Mary M. Olivier
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Installation Management Agency, Southwest Region
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(210)295-2244 (fax)

-----Original Message-----

From: Trembly, Lisa A Ms IMA
Sent: Friday, June 10, 2005 12:40 PM

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To: Olivier, Mary M Ms SWRO
Subject: FW: One little question, NAAQS attainment status for Fort Bliss (UNCLASSIFIED)

Classification: **UNCLASSIFIED**
Caveats: NONE

Please see Paul's question on Fort Bliss and please help me with a response.

From: Josephson, Paul A USAEC
Sent: Friday, June 10, 2005 12:16 PM
To: Trembly, Lisa A Ms IMA
Subject: One little question, NAAQS attainment status for Fort Bliss

Hi Lisa,

Do you know if Fort Bliss itself is in a non-attainment or maintenance area for, PM 10, Ozone, and Carbon Monoxide? The DoD database shows that Bliss is non-attainment areas for all three of these NAAQS. However, I had heard that Texas drew the limits of these non-attainment areas so that they excluded Fort Bliss. Do you know if this is true?

The reason that I ask, is that we have been charged with writing a SOW to do a Conformity analysis for Fort Bliss. To write this SOW, I need to know if Bliss is actually in any non-attainment or maintenance areas. Additionally, I need to know those NAAQS pollutants for which Fort Bliss is in non-attainment.

Paul

P.S. Will you and Wayne have time to discuss the solvents work that Wayne is doing?

Classification: **UNCLASSIFIED**
Caveats: NONE



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DEFENSE BASE CLOSURE AND REALIGNMENT COMMISSION

2521 SOUTH CLARK STREET
ARLINGTON, VA 22202
TELEPHONE: (703) 699-2950

Chairman: The Honorable Anthony J. Principi
Commissioners: The Honorable James H. Bilbray • The Honorable Philip E. Coyle III • Admirable Harold W. Gehman, Jr., USN (Ret.) • The Honorable James V. Hansen
General James T. Hill, USA (Ret.) • General Lloyd W. Newton, USAF (Ret.) • The Honorable Samuel K. Skinner • Brigadier General Sue Ellen Turner, USAF (Ret.)
Executive Director: Charles Battaglia

15 August, 2005

TO: Clearinghouse@wso.whs.mil

CC: Robert.Meyer.CTR@osd.mil, Nathaniel.Sillin@wso.whs.mil,
Robert.Dinsick@wso.whs.mil, Michael.Avenick@wso.whs.mil,
Aaron.Butler@wso.whs.mil

FROM: BRAC Commission

SUBJECT: Operational Army (IGPBS)

General

1. Given the following bases: Fort Hood, Fort Bliss, Fort Sill, Fort Carson, what is the amount of acreage (from the totals provided in the analysis), that is not maneuverable based on environmental issues, soil composition, or other factors? What are the largest contiguous maneuver boxes within these base locations? (Pls break out Ft Carson from PCMS.)

Response: *The separately attached table provides a detailed breakout of total installation acreage, mounted and dismounted space, largest contiguous space, and the constrained "non-maneuver" space which is a combination of duded impact areas, environmentally sensitive areas, and cantonment areas.*

Installation	Total Installation Acreage	Constrained / Non Maneuver Land	Mounted (Hvy) Acres	Dismounted (Lt) Only Acres	Total Maneuver Acres	Contiguous Mounted Acres
FORT BLISS	1,118,734	126,431	337,382	654,921	992,303	303,926
FORT CARSON	137,404	7,903	114,541	14,960	129,501	89,838
PINON CANYON	235,896	528	179,116	42,507	235,368	148,534
CARSON & PCMS	373,300	8,431	293,657	57,467	364,869	148,534
FORT HOOD	214,570	77,658	119,499	17,413	136,912	63,869
FORT SILL	93,829	47,425	39,979	6,425	46,404	14,505

Fort Bliss

Environmental

2. Water capacity. The data provided in the environmental impacts section of the recommendations indicate there are potential water supply issues at Fort Bliss. However, based upon the information obtained during the site visit, there appears to be adequate water supply to sustain an increase in troops at the base. The Fort Bliss drinking water supply is obtained from wells and the El Paso Water Utilities Public Service Board. The El Paso area relies upon both surface water and

groundwater to supply potable water to residents. To augment the future water rights the City has purchased over 30,000 acres in and around El Paso and an additional 70,000 acres further east, which will apparently provide the El Paso area with the ability to obtain additional groundwater resources in the future. In addition the City has been working with the local community to reduce water use through conservation plans and the use of grey water for irrigation of golf courses and other types of large landscaped areas. We also learned that the El Paso Water Utilities Public Service Board plans to start construction this summer on a 27.5 MGD desalination plant that will be located on a leased portion of Fort Bliss. This plant will tap into a large groundwater source that is currently not usable without treatment. Please confirm that the above information is correct and provide a summary of the actions Fort Bliss will use to provide for an adequate water supply in the future.

Response: *The activities planned by the City of El Paso and described above, clearly indicate that regional water supply issues are present. The Army can confirm that plans are progressing for the construction of a desalinization plant on the land leased to the City, on Fort Bliss. The plant is designed to produce 27.5 MGD of drinking water, with construction starting in 2005 and completion in 2007. The Army believes that with the construction of the desalination plant, implementation of the City's programs described above, and partnering/consultation between Fort Bliss and the city of El Paso, the region will have sufficient water supplies to meet future needs.*

3. Air Quality. The data provided in the environmental impacts section of the recommendations indicate there are potential air quality impacts if the recommendations are implemented. Based upon information provided as of 2003 El Paso was in non-attainment for ozone. However, based on the new 8 ozone hour standard the city is now considered to be in attainment. It appears the state is planning to petition EPA to show El Paso is in official attainment for carbon monoxide and the current non-attainment for carbon monoxide does not include Fort Bliss. El Paso is also listed as non-attainment for PM 10 (a particulate based standard), however based upon information in the State Implementation Plan, Fort Bliss training exercises appear to be exempt. In addition we learned that Fort Bliss has made some changes to maneuvers to reduce dust generation within the city limits of El Paso. There is the potential that activities while moving to maneuver areas, could be limited to prevent the generation of large dust clouds that would impact the cities attempt to meet the PM 10. Please confirm that the above information is correct and provide a summary of the actions Fort Bliss will use to ensure air impacts will be limited.

Response: *Air quality data for Fort Bliss was collected during the BRAC Data Call, and environmental analysts primarily considered particular data fields for questions #211 and #213 in their assessments. These particular data fields were meant to capture the attainment status for NAAQS criteria pollutants for only the installation. The data provided by Fort Bliss in these data fields included the attainment status for both Fort Bliss and El Paso accompanied by explanatory comments contained in another comment data field that was not typically considered in assessments. Since Fort Bliss reported a non-attainment status for carbon monoxide, ozone, and particulate matter in these particular data fields for question #213, the assessment and therefore the environmental impact section of the recommendation reflected this non-attainment status. This is an unusual circumstance where the Installation is in a different attainment status than the adjoining city. After reevaluating the Installation data, and considering the comments provided in the comment data field, and checking current attainment data on EPA's website for El Paso County ("partial" attainment status shown), the Army can confirm that Fort Bliss is in attainment for CO and PM10. As for ozone, the assessment reflects the FY03 baseline data and does not account for changes in attainment status since that date.*

Air impact mitigation measures would be considered in the implementation stage of BRAC recommendations. Across the Army, installations employ a variety of dust suppression measures that

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are used during maneuver training. We expect Fort Bliss will employ a variety of techniques to reduce dust production and ensure safety.

Operational

4. Is it correct that local AMD training strategy, not TC 25-1 dated April 04, identifies the requirement to maneuver Patriot BNs 4 times per year?

Response: *We are not familiar with local air and missile defense training documents. However, the documented TC 25-1 requirement for a Patriot battalion is three times per year and four times a year for Stinger and Avenger. Per information provided by the Army G3, Training Directorate, the current Army approved annual Combined Arms Training Strategy (CATS) requirements consist of one Bn FTX and two Battery FTXs per year.*

5. I am interested in the training strategies of the ADA BDEs in GE and ROK. They are not at Bliss. How do they train to their wartime tasks?

Response: *Their training strategies are based on Army Approved CATS, commander's guidance, WARPLANS, The Army Plan (TAP), National Military Strategy (NMS), and the units Mission Essential Task List (METL). Like the ADA units at Fort Bliss, they use a mix of live, constructive, and virtual training to maintain combat readiness. The Patriot system in particular has a robust set of training devices and most unit training is constructive.*

6. Describe the simulation required/used in a Patriot unit as part of the Army's training strategy of Live/Virtual/Constructive. How do they remain operationally ready to accomplish their wartime tasks using that strategy?

Response: *Most all Patriot crew and unit training is done in a constructive or virtual environment. There are no live-fire missile fire requirements. Instead, the Patriot system relies on a set of very robust training devices in garrison and in the field to maintain combat readiness. Presently, six Patriot-peculiar training devices are available for use by units. Page 1-5 of FM 3-01.86, the Air Defense Artillery (ADA) Patriot Brigade Gunnery Program, dated September 2004, provides a detailed description of each. Three of these are simulation capabilities associated with Patriot necessary for Initial Entry Training, unit training, and Joint training.*

The Patriot system has embedded training capabilities, such as the Patriot Troop Proficiency Trainers (TPT). The TPT allows the operator to sustain operational skills in garrison or in the field without external training devices. Patriot's embedded simulation allows a Battalion and its subordinate Batteries to train IAW FM 3-01.86.

Patriot Conduct of Fire Trainers (PCOFTs) are used to train Initial Entry soldiers prior to being assigned to a Patriot unit. They are also used extensively by Operational Patriot units for crew training to maintain basic level skills. The PCOFT is a fixed facility simulation designed to facilitate student/teacher interaction. It is the primary tool used in the ADA school to train new soldiers. One PCOFT can simulate up to four battalions.

The Flight Mission Simulator - Digital (FMS-D) is a digital real time virtual simulator of the Patriot radar set (RS) and missile. It injects simulated, threat representative air tracks into the tactical engagement control station (ECS) by

DCN, simulating the RS message formats and electronic interfaces. It allows Soldiers to operate on their tactical equipment while integrating with the Joint Command and Control nodes (such as Air Force CRC, Marine TAOC, and Navy AEGIS) to conduct rigorous Joint training and standardized air battle training.

While not in current Army ADA doctrinal manuals or recognized as an official Army training system or device, units at Fort Bliss have also procured a means to export the FMS-D capability using the Drive-Up System Training (DUST) facility (fixed site) and JNTC connectivity or other communication linkages to remote or home station sites. Fort Bliss is a JNTC site and the Drive-Up System Training Facility (DUST) is the primary user of that capability. The DUST also supports Combatant Commander exercises such as Roving Sands, Foal Eagle, and Juniper Cobra. This could potentially be exported to Fort Sill as well.

The On-Line Training Mode (OTM) is a software program that is individually written toward a specific tactical scenario or event to train crew members.

The Patriot Live Aircraft Trainer (LAT) is a version of the tactical Patriot software modified to track live targets and simulate their engagement.

The Missile-Round Trainer (MRT) duplicates the external features and handling characteristics of the Patriot guided missile canister.

With these training devices, Patriot units can use distributive, interactive, simulation capabilities while also training in the field environment to enable them to accomplish their wartime tasks.

7. What are the training requirements of an Avenger battery? How many platoons in a battery, batteries in a BN? What are their doctrinal maneuver acreage requirements?

Response: Like Patriot, the Avenger system has several training devices including the Avenger Troop Proficiency Trainer (TPT) that provides real time, free play, and interactive simulation. It is used in conjunction with tactical equipment at unit level to train and sustain crew engagement skill. The Captive Flight Trainer is an actual stinger missile without rocket motor and warhead. The guidance section provides realistic target engagement training for Avenger teams in the field. Doctrinal Avenger platoon maneuver acreage requirements, as listed in TC 25-1, are 5 km by 5 km or 25 km² for the key unit tasks of providing air defense for static and mobile assets and of a task force. The requirement for a battery is 6 km by 20 km or 120 km² for the task of providing air defense for divisional assets. However, current Army force structure changes will inactivate all the divisional ADA battalions and subordinate Avenger batteries prior to 2010. The composite AMD battalions are proposed to have one Avenger battery or its replacement with three platoons.

8. What is the projected composition of the ADA BDE that would go to Ft Sill?

Response: The Air Defense Artillery brigade that is recommended to move to Fort Sill in the Operational Army (IGPBS) recommendation is a Patriot brigade with two composite air and missile defense (AMD) battalions.

Fort Hood

Environmental

DN: 1988
Please confirm the following information. We understand the base has worked with the local community to better define potential encroachment areas. The base feels that a buffer zone is established along the southern boundary of the base with the cantonment area, highway 190 and the cities along the main route into the base. Along the western boundary the base has worked with major landowners and established an easement to restrict the type of construction along the base boundary. How has the base dealt with encroachment issues?

Response: *The TABS Office currently does not have the necessary data at its disposal since this site specific question was not part of the BRAC Data Call. The Army is in the process of soliciting information from Installation personnel and from Army Subject Matter Experts and will provide a more detailed response by 20th of August. At this time the Army can provide information that was collected through the FY03 BRAC Data Call. The relevant FY03 data for Fort Hood shows that Fort Hood is projected to experience "moderate encroachment" and in FY03 no Noise Zones extended offsite.*

10. Fort Hood has claimed that in 2005, 37,000 acres of additional maneuver acreage is now available resulting from a reassessment of species restrictions within this space. Please certify this fact for the Commission and identify its location, and type, either heavy maneuver acreage, light maneuver acreage, or not suitable for maneuvering units.

Response: *The Army used certified data provided by the garrison and senior mission commanders in its BRAC analysis. While we understand that this additional acreage was made available in March of 2005. We were not aware of it until after the BRAC recommendations were approved by the Secretary of Defense and forwarded to the BRAC Commission. As we understand it, the land is actually a part of the Fort Hood military installation and would not represent an increase in the total acreage of Fort Hood, only the available maneuver training land. This land is now available since it was recently redesignated from Core Habitat to Non-Core Habitat land. Theoretically, this would give Fort Hood approximately 174,000 of total available maneuver training land. However, we also understand that only approximately 5,000 acres of this land is actually heavy maneuver land and not contiguous with the primary battalion-size maneuver box. Using the same doctrinal methods we used to calculate capacity at all installations, Fort Hood would still have a significant shortage of available maneuver training capacity with five Brigade Combat Teams permanently stationed there.*

11. How has the base been able to work around habitat issues that restricted use of these acres? What type of habitat management changes has the base been able to implement to open up restricted training lands? Describe the work the base has done to work with local land owners to enhance habitat and increase training opportunities.

Response: *The TABS Office currently does not have the necessary data at its disposal since this site specific question was not part of the BRAC Data Call. The Army is in the process of soliciting information from Installation personnel and from Army Subject Matter Experts and will provide a more detailed response by 20th of August.*

Fort Carson

Environmental

Information provided in the Installation Environmental Profile indicates there noise contours that extends off the installation's property. Of the 18,008 acres that extend off-base property, 7871 acres of incompatible land uses. Please describe the type of land use impacted and how densely populated the area is. Does the Fort Carson Compatible Use Buffer have any impact on this area? What areas surrounding the base are planned for this buffer zone?

Response:: *The TABS Office currently does not have the necessary data at its disposal since this site specific question was not part of the BRAC Data Call. The Army is in the process of soliciting information from Installation personnel and from Army Subject Matter Experts and will provide a more detailed response by 20th of August. At this time the Army can confirm that the Installation Environmental Profile for Fort Carson does show that there are 7,692 acres of Noise Zone II contours and 179 acres of Noise Zone III contours that extend offsite over with areas with incompatible land uses.*

13. Information provided in the Installation Environmental Profile indicates there are threatened and endangered species (TES) present. How many TES are present? How do the TES impact use of the on-base maneuver space and Piñon Canyon Maneuver Site (PCMS)? How has the status of the TES changed over the last five years such that they are easier or harder to manage with respect to maneuver space?

Response: *The TABS Office currently does not have the necessary data at its disposal since this site specific question was not part of the BRAC Data Call. The Army is in the process of soliciting information from Installation personnel and from Army Subject Matter Experts and will provide a more detailed response by 20th of August. However, the Army can provide the information reflected in the Summary of Scenario Environmental Impacts (SSEI) for USA-0224R, to provide a partial response.*

The SSEI for USA-0224R notes that Fort Carson has three Threatened and Endangered Species: 1) Mexican Spotted Owl; 2) Greenback Cutthroat Trout; and, 3) Bald Eagle. These species restrict operations on less than 1% of installation's land. Specifically, the Spotted Owl habitat restricts use of off-road vehicles and placement of bivouacs within 200-meters of known winter roost trees. Approximately 38 trees are impacted for a total of 1,178 affected acres. These Spotted Owl restrictions are in effect from 15 November thru 28 February. The Greenback Cutthroat Trout affects approximately 15 acres that are not considered training areas.

Operational

14. What is the cost to move a full brigade combat team to Piñon Canyon Maneuver Site under the current MTOE configuration? What will be the costs to move a modularized BCT to Piñon Canyon?

Response: *The current cost to move a heavy brigade from Fort Carson to Pinon Canyon by rail is \$615,000. The cost to road march the wheeled vehicle is \$65,000 to and from Fort Carson for a total round trip cost of \$680,000 per brigade. The estimated cost for a new modular BCT is \$717,000.*

Fort Bragg

Environmental

15. During a commission visit to Fort Bragg, the garrison commander described encroachment issues related to the justification to move the 7th SFG to Eglin. Pls describe and certify these issues and provide graphics, if available to highlight the situation.

DCN: 11580

Response: The TABS Office currently does not have the necessary data at its disposal since this site specific question was not part of the BRAC Data Call. The Army is in the process of soliciting information from Installation personnel and from Army Subject Matter Experts and will provide a more detailed response by 20th of August. However, the Army can provide the information reflected in the Summary of Scenario Environmental Impacts (SSEI) for USA-0224R, to provide a partial response. However, at this time the Army can provide a partial response based on the information that is reflected in the Summary of Scenario Environmental Impacts (SSEI) for USA-0040.

In this SSEI in the row titled "Land Use Constraints/Sensitive Resource Areas", projected encroachment was highlighted as a "moderate" concern for Fort Bragg. This finding was based on a complex and comprehensive study conducted by the US Army Corps Construction Engineering Research Laboratory that ranked Army installations by projected encroachment rates. In addition, the Army noted that noise contours were extending offsite into areas that had incompatible land use.

Operational

16. What is the current number of paid parachute positions located at Fort Bragg? (include all conventional, Air Force, and Special Operations forces) What will be the number at Fort Bragg if all DoD BRAC recommendations are approved?

Eglin AFB

Environmental

17. Are there any known or anticipated environmental concerns (species, water) at Eglin AFB, which might prevent/hinder the move of the 7th SFG to that base?

Response: During recommendation development the Army requested that the Air Force provide a Summary of Scenario Environmental Impacts (SSEI) describing the potential environmental impacts of moving the 7th. SFG to Eglin AFB. The Air Force completed the SSEI and the Army included this SSEI in the supporting material for Recommendation USA-0040. Please see Attachment 1 to find the Air Force SSEI. Additional questions on potential environmental impacts should be directed to the Air Force.

Fort Sill

18. Are there any radar attenuation restrictions at Ft Sill that would not allow Patriot or Avenger units to adequately train to their wartime mission?

Response: There are no known restrictions that would prevent or hinder Patriot or Avenger training at Fort Sill. The only requirement is for a safety zone of approximately 100m for Patriot radar. This safety restriction applies at all locations is not expected to impact training at Fort Sill.

19. MLRS units train at Fort Sill. Their training and maneuver requirements are similar to that of Patriot and Avenger units. Please comment on how an MLRS training strategy at Sill might suggest an adequate training environment for an ADA Brigade consisting of Patriot and Avenger. Will an ADA BDE be able to conduct its tracking and acquisition training at Fort Sill? Will it be limited to simulation training to accomplish these tasks?

Response: *Training and maneuver land requirements for artillery units and air defense units, including Patriot are similar. In both cases, the dispersion of the units is a factor that is different from typical maneuver units like armor and infantry. Patriot and the Army's Multiple Launch Rocket System (MLRS) do not maneuver across the terrain and directly engage the enemy. Typically, MLRS moves behind the maneuver force and provides fire support. ADA is typically tasked with either supporting the maneuver force or providing air and missile defense for a fixed asset. The maneuver area requirement for an MLRS battalion is 30 km by 18 km or 540 km². This is comparable to a Patriot battery requirement of 10 km by 30 km or 300 km². Additionally, the artillery at Fort Sill also includes target acquisition units equipped with the Q36 and Q37 radars. The radar locates enemy artillery when it fires and provides coordinates for Army artillery units to provide counter-fire. While these radars are different from Patriot radar, they both cue the weapons systems and aid in target acquisition. Again, though not exactly the same, the tactics, techniques and procedures of artillery and air defense units are similar. While the vast space of Fort Bliss would be ideal for any type of unit, the same is not true for Fort Sill. Fort Sill has five major impact areas that are not cleared for ground maneuver. The land covered by these restricted areas is approximately half of the 94,000 acres of the Fort Sill military installation. The remaining 46,000 acres of maneuver training land is not compatible with large armor or infantry unit requirements. However, it is very compatible for the movement and positioning of artillery and air defense units around the restricted areas and supports doctrinal distance requirements. The installation stretches over 44 kilometers from east to west and averages 10 kilometers wide from north to south. This would allow artillery and air defense units to disperse across a wide area. ADA battalions will be able to train in both a live and constructive environment at Fort Sill and not have to rely exclusively on simulation to train there.*

It is important to note that most of the Army's installations do not meet maximum doctrinal maneuver requirements for certain units. For example, the requirement for an armored cavalry squadron is 60 km by 90 km or 5400 km². Fort Hood, one of the Army's premier maneuver installations, fits inside a box of 38 km by 40 km or approximately 375,000 acres. The actual installation is only 215,000 acres with less than 140,000 heavy maneuver acres.

The size of the training areas and the number of units assigned there must be considered in combination. Too many units vying for the same land would force them to rely more on simulation and potentially degrade combat readiness. Currently, there are five Artillery brigades at Fort Sill. The Operational Army (IGPBS) recommendation moves one brigade headquarters and an MLRS battalion to Fort Bliss. Recent Army decisions will inactive two other Artillery brigades along with two MLRS battalions at Fort Sill. The Army's proposed end state for Fort Sill is a consolidated Net Fires Center and School, one ADA brigade, and two Fires brigades. Fort Sill has sufficient capacity to meet the requirements of these units.

Regards,

R. Gary Dinsick
Army Team Leader

	Ft Bliss DCN: 11580	Ft Bragg	Ft Cambell	Ft Campbell	Ft Hood	Ft Riley	Ft Sill	AFB
Air Quality	Area is in non-attainment for Ozone and PM 2.5, based upon current data the area is in attainment	No impact area is in attainment for all criteria pollutants	Area is in non-attainment for Ozone, no restriction to current operations	Area is currently exceeding threshold levels although they do not restrict operations	No impact area is in attainment for all criteria pollutants	No impact area is in attainment for all criteria pollutants, no restrictions to current operations	No impact area is in attainment for all criteria pollutants, no restrictions to current operations	Increase in operations could require a significant air permit revision
Cultural, Archeological, Tribal Resources	407 historic properties, 2 native American tribes assert an interest in archeological sites. 11.2k acres affected, but no restrictions to training/operations	3016 cultural/archeological resources reported. 56 restrict training requiring no disturbance. 362 historical properties	1 archeological site and 2537 historic properties. 5 native American tribes assert an interest in archeological sites and burial sites.	699 arch/cultural resources listed with restrictions to mechanized vehicle traffic affecting < 1% of Pinon canyon. 40 historic properties. 13 native American tribes	No programmatic agreement for historic property in place. It has sites with high archeological potential identified which restrict construction and operations.	232 arch/cultural resources listed and impact operations. 295 historic properties. 5 native American tribes assert an interest.	337 arch/cultural resources listed and impact operations. 365 historic properties. 8 native American tribes assert an interest	1930 arch/cultural resource listed, but no impact to operations is reported. One native American tribe has asserted an interest
Noise	No noise contours off installation, minimal encroachment	482 acres of Noise Zone 2 extend off base	16,818 acres of Noise Zone 2 and 5,605 acres of Zone 3 extend off the range and 11,765 acres of Zone 2 and 2,168 acres Zone 3 off main base. Operations are currently restricted.	15,686 acres of Noise Zone 2 and 2,322 acres of Zone 3 extend off base, currently working on a permanent easement along the southern boundary.	No noise contours off installation, has published noise abatement procedures for the training ranges	81 acres of Noise Zone 2 and 14 acres of Zone 3 extend off base. Live firing restricted on Sundays. Potential impact if a brigade size unit is added.	1551 acres of Noise Zone 2 extend off base.	Unknown
Threatened & Endangered Species/Critical Habitat	Federally listed species include Sneeds Pincushion Cactus and Bald Eagle these impact less than 1% of land, no habitat restrictions	24 Federally listed species exist, 17 requiring training restrictions affecting the range areas (4% of base) Has a biological opinion covering 5 species	Federal listed species include Indiana Bat and Grey Bat, but no restrictions on operations reported. No critical habitat	Federally listed species include Bald eagle, Greenback Cutthroat Trout and Mexican Spotted Owl. 40k dismantled and 12k protected in Pinon Canyon	Federally listed species exist. Have completed habitat management changes that opened up over 37,000 acres	4 Federally listed species exist, with 5% of land for Bald Eagle and Topeka Shiner. Projects restricted during nesting season and training along streams restricted	1 Federally listed species, Black-Capped Vireo, which results in restriction on training land at high altitudes. Biological opinions in place that restrict ops.	11 Federally listed species and 2 critical habitats exist and impact ops. On 78 % of base. Wetlands restrict 13.5% of base.
Water Resources	Area has taken steps to address water resources issues. Coming online is a new desalination plant which will help with peak demand	Has experienced water controls and restriction in the past, has limited capacity to expand without upgrading.	Has an on base water treatment plant with large excess capacity, is located over the recharge area for a sole source aquifer	Can support additional troops although infrastructure may require upgrade.	Has excess capacity no current impacts to water resources.	Has excess capacity to current on base treatment systems.	Has excess capacity.	Modification of on base treatment works may be necessary. Use restrictions for water are in place
Land Use Constraints, Sensitive Resource Areas	Minimal encroachment, >10,000 build able acres	Moderately encroached by development.	Moderate encroachment,	Moderate encroachment, Army Compatible Use Buffer for over 82,000 acres	Minor encroachment, working to enhance buffers around the base.	Minimal encroachment, >2624 acres available	Moderate encroachment, aircraft operating are restricted by nearby habitat	Ops. Restricted by electromagnetic radiation, sensitive areas do not restrict ops.

SUMMARY OF CUMULATIVE ENVIRONMENTAL IMPACTS (SCEI) [TABS FINAL]

SCEI #5

TITLE: SCEI FOR FT BLISS

GENERAL DESCRIPTION: This cumulative assessment is based on the following scenarios:

E&T-0061v3	Net Fires Center (Fort Sill)	Loss
HSA-0133v2	Joint Mob Sites	Gain
USA-0221v4	Operational Army (IGPBS)	Gain
USA-0225v3	RC Transformation in TX	Gain

ANALYST: _____

LAST UPDATE: 5/09/2005

Env Resource Area	<i>Gaining</i> Installation Assessment Inst Name: Ft Bliss	Analyst Comments (& data source(s) that drive assessment)
Air Quality	Impact Expected. Currently in serious Non-Attainment for O3, and marginal NonAttainment for PM, & CO. Added operations may exceed major source thresholds for several pollutants. A New Source Review and Air Conformity analysis will be required.	#213 - Non-attainment for O3, PM10, & CO. #211 -major source threshold projected to be exceeded for VOC (based on 1/2 Ft Hood emissions – Ft Hood has similar units) #220 -no permits. #218/ISR - No mission impact indicated.
Cultural/Archeological/ Tribal Resources	11K acres include cultural resources, but no restrictions to training, operations, or construction reported. 407 historic properties listed. 2 Native American tribes assert an interest in archeological sites. Tribal negotiations may be required to expand use near listed areas. Potential impacts may occur since resources must be evaluated on a case-by-case basis, thereby causing increased delays and costs.	#230,232 - 11.2K acres affected, but no restrictions to tng/opns reported; #231 - No Native peoples sites; #233, 40% surveyed; #235- 408 historic props; #236 - No prog agreement; #234 - 2 tribes in formal consultation. ISR2 - no adverse impact to mission.
Dr ed g- ing	No Impact	#226-228 – No restrictions
Land Use Constraints/Sensitive Resource Areas	No impact.	#30 – >10,000 buildable acres available without using housing /training land, 1070 acres req'd (based on approx size of 5 heavy bdes). #201, 254, 256 - no restr. CERL Study – minimal encroachment projected
Mar ine Ma mm als/ Mar ine	No Impact	#248-253 – No restrictions
Noise	Operations are not currently restricted due to noise considerations, however adding 4+ bde-sized units represents greater than 50% increase in noise generating operations, and may result in significant impacts and further restrictions. Further evaluation required.	#239 - No noise contours off-installation. CERL - minimal encroachment, so noise impact may be mitigated.

<p>Threatened & Endangered Species/Critical Habitat</p>	<p>Federally listed species include Sneeds Pincushion Cactus and Bald Eagle, but these impact less than 1% of training land.</p> <p>Threatened / Endangered species exist but do not currently impact operations. Additional operations may impact TES possibly leading to restrictions on operations.</p>	<p>#259 lists Sneeds Pincushion Cactus, Bald Eagle, but impacts <1% of training land. #260-262,264 - No habitat restrictions #263 - 1 candidate species, impacts <1% land; ISR2 shows no impact.</p>
<p>W a s t e M</p>	<p>No impact.</p>	<p>#269 Has RCRA Subpart X Permit</p>
<p>Water Resources</p>	<p>Significant impact due to increased water demand from increase in approx 20,000 duty population (>50K total population increase including family members). Will require upgrade of water and wastewater infrastructure and will likely require purchase of potable water resources.</p>	<p>#276,278,293 - No previous restrictions #824/825 indicates adequate water avail IREM - water infr can support 12.5K more people before upgrade needed. Approx 20K duty personnel are added (proposal doubles current installation population). #279 - Doesn't discharge to imp waterwy. #282 - No industrial ww plant #291 - Has 1 potable water production plant on-installation #297,822 - 4 dom ww treatment plants on installation and 1 off-installation (public owned) plant.</p>
<p>W e t l a n d s</p>	<p>No impact.</p>	<p>#251, 257 - No jurisdictional wetlands.</p>

SUBJECT: SUMMARY OF SCENARIO ENVIRONMENTAL IMPACTS (CONTINUED);

SCEI #5

IMPACTS OF COSTS

Env Resource Area	Gaining Installation Inst Name: Ft Bliss
Environmental Restoration*	None.
Waste Management	None.
Environmental Compliance	<p><u>Ft. Bliss:</u> Re-alignment NEPA (EIS) - \$1M. Air Conformity Analysis - \$25K-\$75K New Source Review - \$100K-\$500K Develop Programmatic Agreement (PA) -\$10K Mitigation of archeological site by data recovery iaw PA - \$25K-\$500K per site depending on complexity Mitigation of historic buildings/structures by HABS/HAER recordation iaw PA - \$25K-\$500K per site depending on complexity Evaluation to determine if archeological/tribal site(s) are significant \$15K-\$40K per site. Evaluation to determine if historic buildings/structures are significant - \$1000-\$2000 per building depending on size and location. -Conduct Tribal govt to govt consultations - \$2K-\$10K per meeting. ESA Consultation (BA Prep) \$10K-\$100K Endangered Species Management (includes monitoring) \$20K-\$2M -Noise analysis and monitoring -\$5K-\$75K</p>
COBRA Costs:	<p><u>Ft. Bliss:</u> Air Conformity Analysis - \$50K New Source Review - \$100K NEPA (EIS) - \$1M Noise analysis -\$20K</p>

SUMMARY OF CUMULATIVE ENVIRONMENTAL IMPACTS

[TABS FINAL]

SCEI# 6

TITLE: SCEI ON FT BRAGG

GENERAL DESCRIPTION: This cumulative assessment is based on the following scenarios:

HSA-0133v2	Joint Mob Sites	Gain
USA-0040v4	Fort Bragg, NC	Loss
USAF-0122v3	Realign Pope	Gain

ANALYST: _____

LAST UPDATE: 5/09/05

Env Resource Area	<i>Gaining Installation Assessment</i> Inst Name: Ft Bragg	Analyst Comments (& data source(s) that drive assessment)
Air Quality	No Impact. Ft Bragg is in Attainment for all criteria pollutants.	#213 – In attainment for all criteria pollutants #211 -No permit or major source thresholds reported - additional scenario emissions unknown. #220 -Major Operating permit. #218/ISR - No mission impact indicated.
Cultural/Archeological/Tribal Resources	3016 cult/arch resources reported, 56 which restrict training requiring no disturbance of these sites. 362 historic properties listed. 8 Native American tribes assert an interest in archeological sites. A potential impact may occur as a result of increased time delays and negotiated restrictions. Cultural / archeological / tribal resources currently restrict operations. Additional operations may impact these resources and result in further restrictions on training or operations.	#230,232 - 3016 cult/arch resources reported, 56 with restrictions to training (no disturbance of site) #231 - No Native peoples/sacred sites #233, 63% surveyed; #235- 362 historic props; #236 - Has programmatic agreement; #234 - 8 tribes in contact / no formal consultation. ISR2 - no adverse impact to mission.
Dr ed g- ing	No impact.	#226-228 --No restr
Land Use Constraints/ Sensitive Resource Areas	No impact.	Buildable Acres – 187 acres required; with >2870 acres available without using housing /training land. #201, 254, 256 - no restr. CERL - moderate encroachment projected
Mar ine Ma mm als/ Mar	No impact.	#248, #249, #250, #252, #253 - No restrictions
Noise	482 acres of Noise Zone 2 extend outside installation boundary, which is moderately encroached by development. Increased noise may result in operational restrictions on the installation. Further evaluation required.	#239 - 482 Noise Zone 2 acres extend off-installation.

<p>Threatened & Endangered Species/Critical Habitat</p>	<p>24 Federally listed species exist, 17 with training restrictions affecting the range areas. Together they restrict <4% of installation acreage.</p> <p>Additional operations may further impact threatened / endangered species leading to additional restrictions on training or operations.</p>	<p>#259 lists 24 different Federally listed species, 17 with training restrictions that affect the range areas (but together this restricts <4% of total installation acreage)</p> <p>#261- Has biological opinion covering 5 species</p> <p>#260,263,264 - No critical habitat or candidate species</p> <p>#262 - BO restrictions impede development</p>
<p>Waste Management</p>	<p>No impact.</p>	<p>#269 No RCRA Subpart X Permit; none required.</p>
<p>Water Resources</p>	<p>Ft Bragg experienced water controls and restrictions in 2002. Increased water demand may lead to further controls and restrictions.</p>	<p>#276,278 - Not over recharge zone; Not subject to McCarren Amend</p> <p>#293 - 180 days of 2002 experienced water controls/ restrictions - post conservation policy</p> <p>#824/825 indicates adequate water avail</p> <p>IREM - water infr can support 264 more people before upgrade needed, with 1802 permanent duty personnel added.</p> <p>#279 - Doesn't discharge to imp waterway.</p> <p>#822 - Dom ww treatment plant</p>
<p>Wetlands</p>	<p>No impact.</p>	<p>#251 - No survey date</p> <p>#257 - 7.6% of the installation and 7.4% of the range is restricted due to jurisdictional wetlands.</p>

SUBJECT: SUMMARY OF CUMULATIVE ENVIRONMENTAL IMPACTS (CONTINUED)
SCEI #6

IMPACTS OF COSTS

Env Resource Area	Gaining Installation Inst Name: Ft Bragg
Environmental Restoration*	None
Waste Management	None
Environmental Compliance	<ul style="list-style-type: none"> - Re-alignment NEPA - Environmental Assessment (EA) at gaining base - \$400K (based on >1000 pers moving to Ft Bragg) -Conduct Tribal govt to govt consultation - \$50 - \$2K per meeting - Evaluation to determine if archeological/tribal site(s) are significant \$15K-\$40K per site. -Mitigation of archeological site by data recovery iaw PA - \$25K-\$500K per site depending on complexity - Evaluation to determine if historic buildings/structures are significant - \$1000-\$2000 per building depending on size and location. - Mitigation of historic buildings/structures by HABS/HAER recordation iaw PA - \$25K-\$500K per site depending on complexity -Noise Analysis and Monitoring - \$5K - \$75K -Endangered Species Management (includes monitoring) - \$20K-\$2M -ESA Consultation (BA Prep) \$10K-\$100K
COBRA Costs:	NEPA (EA) - \$400K Noise Analysis - \$20K *

*Eglin AFB

Ref: Air Force SSEI "USA0040", COBRA costs are as follows:

FY07 Hazardous Waste Program \$100K

FY06 NEPA cost: \$400K

FY07 Air Permit Revision: \$50K

SUMMARY OF CUMULATIVE ENVIRONMENTAL IMPACTS
SCEI# 35

[TABS FINAL]
TITLE: SCEI ON FT CAMPBELL

GENERAL DESCRIPTION: This cumulative assessment is based on the following scenarios:

USA-0121R	Fort Gillem, GA	Gain
USA-0221v4	Operational Army (IGPBS)	Loss
USA-0238v2	RC Transformation in TN	Gain

ANALYST: _____

LAST UPDATE: 5/09/05

Env Resource Area	<i>Gaining Installation Assessment</i> Inst Name: Ft. Campbell	Analyst Comments (& data source(s) that drive assessment)
Air Quality	<p>Impact Expected. Ft. Campbell is in marginal non-attainment for Ozone.</p> <p>Added operations will require New Source Review permitting, Air Conformity Analysis and modifications to existing Title V permit.</p>	<p>#213 – In marginal non-attainment for Ozone (8-hour)</p> <p>#211 –No permit or Major Source thresholds projected to be exceeded based on 1% increase at Ft Campbell.</p> <p>#220 – Holds 1 Major Operating Permit (SIC code 9700)</p> <p>#222 – No Emissions Credit Trading program available</p> <p>#218 – No restrictions to operations reported due to air quality requirements</p>
Cultural/Archeological/Tribal Resources	<p>1 archeological site and 2537 historic properties identified. 5 Native American tribes have asserted an interest in archeological sites and burial sites.</p> <p>Potential impact may occur as a result of increased time delays and negotiated restrictions.</p> <p>Cultural / archeological / tribal resources currently restrict operations. Additional operations may impact these resources and result in further restrictions on training or operations.</p>	<p>#230 – 1 archeological resources on installation; restrictions reported- State SHPO considers potentially eligible as a Historic District, requires consultation with SHPO prior to work.</p> <p>#231 – Native People sites identified</p> <p>#233- 90% surveyed</p> <p>#235 –2537 historic properties identified covering 2601 acres</p> <p>#229 –Limitations to fee-simple ownership reported</p> <p>#236 – Programmatic Agreement with SHPO</p> <p>#234 – 5 tribes assert interest in archeological sites and burial sites; in formal consultation</p> <p>#232 – Areas with high archaeological potential identified.</p>
Dredging	No impact	#226-228 –N/A.

<p>Land Use Constraints/Sensitive Resource Areas</p>	<p>No impact</p>	<p>#30 – 3825 buildable acres reported, approximately 9 acres needed (based on 20% of a large admin building) #201 – 2 restrictions reported-Surface area danger zone for training on stinger missiles/0001-2400 daily and Noise restrictions 0001-2400 daily #256 – 1 Sensitive Resource Area identified but cause no restrictions CERL Study – moderate encroachment projected</p>
<p>Marine Mammals/Marine Resources</p>	<p>No impact</p>	<p>#248, #249, #250, #252, #253 - No restrictions</p>
<p>Noise</p>	<p>Operations are currently restricted due to noise considerations. Additional noise-generating activities may be restricted. Further evaluation required</p>	<p>#239 – Installation has 16818 acres of Noise Zone 2, and 5605 acres of Noise Zone 3 that extend off the range, and 11765 acres of Noise Zone 2, and 2168 acres of Noise Zone 3 that extend off the installation. Installation is moderately encroached by development. #202 – Installation has published noise abatement procedures “Fort Campbell Installation Environmental Noise Management Plan, Cam Reg 95-1, FLIPS, JLUS, ICUS Pamphlet” #201 –Noise restrictions 0001-2400 daily</p>
<p>Threatened& Endangered Species/Critical Habitat</p>	<p>TES listed include Indiana Bat and Grey Bat, but no restrictions to operations are reported. Additional operations may impact threatened / endangered species possibly leading to restrictions on training or operations</p>	<p>#259 – TES listed include Indiana Bat and Grey Bat. No restrictions reported. #260 – No critical habitat identified #261 – No Biological Opinion #262 – No restrictions reported #263, #264 – No candidate species/habitat reported #201- No restrictions reported</p>
<p>Waste Management</p>	<p>No impact</p>	<p>#269 – No RCRA Subpart X permit. #265- No TSD facility -Withdrawal of the Part B application for the hazardous waste OBOD Unit at 101ST Airborne Division (Air Assault) AND Fort Campbell, Clarksville, TN (EPA ID. NUMBER: TN 5210020140, TDEC letter dated 28 June, 2002 TN Rule 1200-1-11-.05(07) 40 CFR 262.34(a) #272 –Has permitted solid waste disposal facility, 12.6% filled</p>

<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Water Resources</p>	<p>Installation is located over the recharge zone of a sole-source aquifer, which may result in future regulatory limitations on training activities.</p> <p>Water quality is impaired by pollutant loadings. Significant mitigation measures to limit releases may be required to reduce impacts to water quality and achieve US EPA water quality standards. Water quality issues currently restrict operations. Increases in personnel may further restrict operations and / or require implementation of enhanced mitigation measures.</p>	<p>#276 – Installation is located over a sole-source aquifer #278 – McCarren Amendment does not apply #293 – No Potable water restrictions #291 – Installation uses one On Military Installation Govt Privatized Plant for potable water IREM indicates remaining capacity for potable water to support 17,447 personnel #279 –Installation discharges to 3 impaired waterways, installation further contributes to impairment– all 3 are sources of potable water #297 – Installation uses 1 On Military Installation Privatized Plant for sewage treatment #282 – No Industrial Gov’t owned wastewater treatment system Final Stat Packages- Scenario increases current population by approximately 0.2% ISR2 – WQM issues adversely affect mission</p>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Wetlands</p>	<p>No impact</p>	<p>#251- Wetlands survey complete 02/02 #257 – Wetlands restrict 0.0006% of range and restrict operations on 0.01% of installation -If wetlands are destoried for a MCA project, mitigations will be required.</p>

SUMMARY OF CUMULATIVE ENVIRONMENTAL IMPACTS (SCEI) [TABS FINAL]

SCEI #31

TITLE: SCEI ON FORT CARSON

GENERAL DESCRIPTION: This cumulative assessment is based on the following scenarios:

USA-0224Rv3 Fort Hood, TX
MED-0054R Convert Inpatient Services to Clinics

Gain
Gain

ANALYST: _____

DATE: UPDATED 5/06/05

Env Resource Area	<i>Gaining</i> Installation Assessment Inst Name: Ft Carson	Analyst Comments (& data source(s) that drive assessment)
Air Quality	Impact expected. The receiving installation is in Maintenance for CO, and in Attainment for all other NAAQS. Addition of operations at the receiving installation will require New Source Review permitting and modifications to existing Title V permit. A more detailed emission analysis will be required to determine regulatory impact. Air quality issues currently restrict operations, and additional operations with air emissions may also be restricted.	#213 - Maintenance for CO #211 - No permit limits reported, Major Source thresholds currently exceeded for VOC, NOx, CO, and PM10. #220 - Major & Synthetic Minor operating permits. #218 - Colorado Air Quality Control Commission regulation restricts certain types of smoke/obscurant training ISR2 - AQM adversely impacts mission.
Cultural/Archeological/ Tribal Resources	669 arch/cultural resources listed, with restrictions to mechanized vehicle traffic affecting less than 1% of Pinon Canyon. 40 historic properties listed. 13 Native tribes assert an interest in archeological sites. A potential impact may occur as a result of increased time delays and negotiated restrictions due interest from Native American tribes. Additional operations may impact cultural, archeological, or historic resources, which may lead to further restrictions.	#230, 231,232 - 669 cult/arch/Native People's sites, but no restrictions at Ft Carson reported (<1% of Pinon Canyon is restricted from mech vehicle traffic) #233, 57% surveyed; #234 - 13 tribes assert interest in sacred sites; #235- 40 historic props; #236 - Has programmatic agreement; ISR2 - no adverse impact to mission.
Dredging	No Impact.	#226, 227, 228 - N/A
Land Use Constraints/Sensitive Resource Areas	No Impact	Buildable Acres - 1247 buildable acres available; 214 req'd (based on 1 Hvy Bde), #201, 254, #256- no restr. CERL Study - moderate encroachment projected
Marine Mammals/Marine Resources	No Impact.	#248, 249, 250, 252, 253 - N/A
Noise	15,686 acres of Noise Zone 2 and 2322 acres of Zone 3 extend off-installation, which is moderately encroached by development. Further evaluation required.	#239 - 15,686 acres of Noise Zone 2 and 2322 acres of Zone 3 extend off-installation.

**SUBJECT: SUMMARY OF SCENARIO ENVIRONMENTAL IMPACTS (CONTINUED);
SCEI #31**

IMPACTS OF COSTS

Env Resource Area	Gaining Installations Inst Name: Fort Carson
Environmental Restoration*	None
Waste Management	None
Environmental Compliance	<ul style="list-style-type: none"> -Re-alignment NEPA at gaining base-(EIS) - \$1M -New Source Review permitting -\$100K-\$500K -Evaluation to determine if archeological/tribal site(s) are significant \$15K-\$40K per site. -Evaluation to determine if historic buildings/structures are significant - \$1K-\$2K per building depending on size and location. -Conduct Tribal govt to govt consultation - \$2K-\$10K per meeting. -Mitigation of archeological site by data recovery IAW PA - \$25K-\$500K per site depending on complexity -Mitigation of historic buildings/structures by HABS/HAER recordation IAW PA - \$25K-\$500K per site depending on complexity -Noise analysis and monitoring -\$5K-\$75K -Install Best Mgt Practices to protect impaired waterways and reduce non-point source runoff from training areas and ranges - \$100K - \$3M. -Endangered Species Planning level survey -\$20K-\$100K/2-6 months -Endangered Species Management (includes monitoring) \$20K-\$2M
COBRA Costs:	<ul style="list-style-type: none"> NEPA (EIS) - \$1M New Source Review -\$100K Noise analysis -\$20K

SUMMARY OF CUMULATIVE ENVIRONMENTAL IMPACTS (SCEI)

[TABS FINAL]

SCEI #29

TITLE: SCEI FOR FT RILEY

GENERAL DESCRIPTION: This cumulative assessment is based on the following scenarios:

HSA-0031v2 Consolidate CPOs
USA-0221v4 Operational Army (IGPBS)

Gain
Gain

ANALYST: _____

LAST UPDATED: 5/09/05

Env Resource Area	<i>Gaining</i> Installation Assessment Inst Name: Ft Riley	Analyst Comments (& data source(s) that drive assessment)
Air Quality	The receiving installation is in attainment for all NAAQS.	#213 – Attainment for all criteria pollutants #211 –No permit thresholds reported #220 –Has a Major Operating/Title V Permit #218 - No restrictions
Cultural/Archeological/Tribal Resources	232 Archeological/tribal/burial/sacred sites identified, some of which restrict training with a limitation on vehicle traffic and tactical digging. 295 historic properties. Five Native American tribes have asserted interest. Potential impact may occur as a result of increased time delays and negotiated restrictions. Cultural / archeological / tribal resources currently restrict operations. Additional operations may impact these resources and result in further restrictions on training or operations.	#230-232 – Arch sites, Native People sites & high potential sites reported with restrictions on tactical digging and vehicle use in training/cantonment areas #233 - 28% surveyed; #235- 295 historic properties #236 – Has prog agreement; #234 - 5 tribes assert interest, 2 in formal consultation. ISR2 - no adverse impact to mission.
Dr ed g- ing	No Impact	#226-228 – No restrictions
Land Use Constraints/Sensitive Resource Areas	No impact.	#30 - Buildable Acres - >2624 acres available without using housing /training land, 428 required (based on approximate equivalent of 2 Heavy Brigades) #201, 254, 256 - no restr/coordination required CERL Study – minimal encroachment projected
Mar ine Ma mm als/ Mar i...	No Impact	#248-253 – No restrictions

Noise	<p>Potential impact. Operations are currently restricted due to noise considerations. Adding 1 brigade-sized unit increases noise generating activities, so future operations may be restricted as well. Further evaluation required.</p>	<p>#201-Live firing by active component unit is restricted (per installation command generated policy) between 0001 and 1200 hours on Sundays. Applies only to Active Component units, not to NG or RC units. #239 – 81 Noise Zone 2 acres and 14 Noise Zone 3 acres extend off-installation, which is minimally encroached by development.</p>
Threatened & Endangered Species/Critical Habitat	<p>4 Federally listed species on installation, with some restrictions to 5% of land for Bald Eagle and Topeka Shiner (fish). Restrictions include limitations on public works projects during winter eagle roosting, and training controls next to Topeka Shiner streams, with tank trail maintenance and stream crossings limited during Topeka Shiner spawning season.</p> <p>Additional operations may further impact threatened / endangered species leading to additional restrictions on training or operations.</p>	<p>#259 lists 4 species with restrictions for two species – for the Bald Eagle, 2% land restricted; for Topeka Shiner, 3% of land restricted (trng controlled next to Topeka Shiner streams) #261- BO restricts tank trail maintenance and stream crossings during Topeka Shiner spawning season #260-262-264 - No critical habitat or candidate species restrictions</p>
Waste	<p>No impact.</p>	<p>#269 Has RCRA Subpart X Permit</p>
Water Resources	<p>No impact.</p>	<p>#276- Not over a recharge zone #278, 293 - No previous restrictions IREM - water infr can support 42K additional personnel #279 - Doesn't discharge to imp waterwy. #282 - 1 industrial ww plant #291 – Has 2 potable water production plants on-installation #297,822 – 4 domestic ww treatment plants on installation</p>
Wetlands	<p>No impact.</p>	<p>#257 - No wetlands restrictions reported.</p>

SUBJECT: SUMMARY OF SCENARIO ENVIRONMENTAL IMPACTS (CONTINUED);

SCEI #29

IMPACTS OF COSTS

Env Resource Area	Gaining Installation Inst Name: Ft Riley
Environmental Restoration*	None
Waste Management	None
Environmental Compliance	<ul style="list-style-type: none"> -Realignment NEPA -\$1M (EIS) -Mitigation of archeological site by data recovery IAW PA - \$25K-\$500K per site depending on complexity -Evaluation to determine if historic buildings/structures are significant - \$1000-\$2000 per building depending on size and location. -Evaluation to determine if archaeological/tribal site(s) are significant \$15K-\$40K per site. -Conduct Tribal govt to govt consultations - \$2K-\$10K per meeting. -Noise analysis and monitoring -\$5K-\$75K -Endangered Species Management (includes monitoring) \$20K-\$2M - ESA Consultation (Biological Assessment Prep) - \$10K to \$100K/2 - 12 months -Endangered Species planning level survey -\$20K-\$100K/2-6 months
COBRA Costs:	<ul style="list-style-type: none"> Realignment NEPA -\$1M (EIS) Noise analysis -\$20K

SUMMARY OF CUMULATIVE ENVIRONMENTAL IMPACTS (SCEI) [TABS FINAL]

SCEI #26

TITLE: SCEI FOR FT SILL

GENERAL DESCRIPTION: This cumulative assessment is based on the following scenarios:

E&T-0061v3	Net Fires Center (Fort Sill)	Gain	
HSA-0018v5	Consolidate DFAS 24 Central and Field Operating Sites into 3 Sites	Loss	Loss
HSA-0135v2	Regional Correctional Facilities	Loss	
USA-0168v3_2	USAR C2 Proposal - SOUTHWEST	Gain	
USA-0221v4	Operational Army (IGPBS)	Gain	
USA-0229v3	RC Transformation in OK	Gain	

ANALYST _____

LAST UPDATE: 5/09/2005

Env Resource Area	<i>Gaining Installation Assessment</i> Inst Name: Ft Sill	Analyst Comments (& data source(s) that drive assessment)
Air Quality	In attainment for all criteria pollutants. No impact.	#212 - No HAPS #213 - In attainment for all criteria pollutants #211 Added emissions for SO2 are close to, but under, the permit limit. #218/ISR No mission impacts
Cultural/Archeological/Tribal Resources	365 historic sites and 337 archeological sites are reported, which currently restrict future construction/training/testing. 8 Native American Tribes assert interest in archeological sites. Due to interest from Native American Tribes, a potential impact may occur as a result of increased time delays and negotiated restrictions. Since there is no Programmatic Agreement in place, potential impacts may occur, since resources must be evaluated on a case-by-case basis, thereby causing increased delays and costs. Cultural/archeological/tribal resources currently restrict operations. Additional operations may impact these resources, which may lead to increased delays and costs.	#230 - 337 total arch sites, some restrict constr & operations/training/testing #232 - High potential for Archeological sites #231 - Native People's sites present #233 - 60% surveyed #234 - 8 Native tribes assert interest & in formal consultation (Apache Tribe of Oklahoma, Comanche Nation, Cheyenne-Arapahoe Tribes, Ft. Sill Apache Tribes, Kiowa Tribe, Caddo Indian Nation of Oklahoma, Delaware Tribe of Western Oklahoma, Wichita and Affiliated Tribes #235 -365 historic resources listed #236 - No programmatic agreement ISR - Arch site restrictions impact mission
Dredging	No Impacts	#226, 227, 228 - N/A
Land Use Constraints/Sensitive Resource Areas	No Impacts. Aircraft training around Ft Sill are restricted by nearby sensitive habitat. Aircraft overflight limited to daytime only and altitude must remain above 2000 over the Wichita Mountain Wildlife Refuge.	#30- Buildable Acres -approximately 320 acres req'd (based on moving ADA School plus a Fires Bde) >800 non-training acres available. #254, #256-Sensitive Resource Areas restrictions reported CERL Study - Moderate Encroachment
Marine M	No Impact	#248, 249, 250, 252, 253 - N/A

Noise	1551 acres of Noise Zone II extend outside of installation boundary. Increased noise may result in operational restrictions on the installation. Further evaluation is required.	#239 - 1551 acres of Noise Zone II extend off installation, which is moderately encroached by development
Threatened & Endangered Species/Critical Habitat	Installation has 1 TES (Black-Capped Vireo) which results in restrictions on training land at high altitudes. 1 candidate species present with minimal current impact on operations. Additional operations may further impact threatened / endangered species leading to additional restrictions on training or operations.	#259 - Black-capped Vireo. Some restrictions on high altitude training (orienteeing) #261- Biological opinions for Vireo in place that restrict installation operations and range operation. 262 - No critical habitat #263 - 1 candidate species (Prairie Dog) no restriction for this species. #264 - No proposed critical habitat restrictions ISR2 shows no impact.
Waste Management	No Impact	#269 - Ft Sill does not have a RCRA Subpart X permit, but not an issue since ADA school is likely not performing waste munitions management and if it is, it is occurring on an active range.
Water Resources	Water quality impaired by pollutant loadings. Current operations may contribute to impaired water quality. Significant mitigation measures to limit releases may be required to reduce impacts to water quality and achieve USEPA Water Quality Standards.	#276 - Not over recharge zone #278 - McCarren Amendment does not apply #293 - 14 days of water controls/restr reported in FY02 IREM indicates water infrastructure has ample surplus #279 Discharges to 2 impaired waterways, but does not impair the waterway which is not a source of potable water. ISR - No impact to mission
Wetlands	No Impact	#251 - Survey completed in 04/95 #257 - 1.25% wetland restricted acres

SUBJECT: SUMMARY OF SCENARIO ENVIRONMENTAL IMPACTS (CONTINUED);

SCEI #26

IMPACTS OF COSTS

Env Resource Area	Gaining Installation Inst Name: <u> Ft Sill </u>
Environmental Restoration*	None.
Waste Management	None.
Environmental Compliance	<ul style="list-style-type: none"> -Conduct Tribal govt to govt consultations - \$2K-\$10K per meeting. -Evaluation to determine if archeological/tribal site(s) are significant - \$15,000K - \$40,000K depending on size, complexity, and location -Evaluation to determine if historic building is significant - \$1K-\$2K per building depending on size, complexity and location -Develop Programmatic Agreement - \$10K -Endangered Species Management (including monitoring) \$20K - \$2M. - ESA Consultation (Biological Assessment Prep) - \$10K to \$100K/2 - 12 months -Realignment NEPA at gaining installation - \$400K (EA) -Install BMPs to protect impaired waterways and reduce non-point source runoff from tanning areas. -Noise analysis - \$5K-\$75K
COBRA Costs:	Realignment NEPA at gaining installation (EA) - \$400K Noise analysis - \$20K

Summary of Cumulative Environmental Impacts - Criterion 8

Installation:Eglin AFB, FL

Date: 4/25/2005

General Description:This cumulative assessment is based on the following scenarios:

Scenario ID #	Description	Environmental Costs (\$K)	
		FY06	FY07
USA-0040	Relocate the 7th SFG, Ft Bragg, NC to Eglin AFB, FL	65	17
TECH-0042CR	Consolidate Air and Space C4ISR RDAT&E at NAWC China Lake, CA (close Wpns Div Pt Mugu, Ca)	48	50
H&SA-047R	Consolidate MDC and at Redstone Arsenal, AL	4	1
E&T-0052	JSF initial Flight Training to Eglin AFB, FL	696	179
E&T-0038A	Establish 3 JFCOM Joint Range Coordination Center at Eglin AFB, FL, Ft Bliss, TX, North Island, CA	1	0
DoN-0084A	Close NAS JRB Willow Grove, PA	11	3
Non-BRAC	Realign Eglin AFB, FL	-	-
Total Costs		824	250

Note: The above reflect revised costs based on the integration of multiple scenarios at one base. These costs should be used for each recommendation above, under COBRA Screen Five, "Env Non-Milcon Required"

<u>General Environmental Impacts</u>	
Environmental Resource Area	Eglin AFB
Air Quality	A significant air permit revision may be needed.
Cultural/ Archeological/ Tribal Resources	The base has 1,930 archaeological sites, and a high potential for archaeological sites, but they do not constrain operations. An Indian tribe has been in formal consultation within the past two years regarding the archaeological sites. Historic properties and districts exist but do not constrain operations. Additional operations could impact these sites, which would impact operations.
Dredging	No impact

Land Use Constraints/ Sensitive Resource Areas	Operations are already restricted by electromagnetic radiation and/or emissions. Additional operations may further impact constraining factors and therefore further restrict operations. Sensitive resource areas exist, but do not constrain operations. Additional operations may impact these areas and therefore restrict operations. Military Munitions Response Program sites exist on the installation and may represent a safety hazard for future development. The base uses safety waivers and exemptions to accomplish the mission. Additional operations may compound the need for safety waivers.
Marine Mammals/ Marine Resources/ Marine Sanctuaries	No impact
Noise	Noise contours will need to be reevaluated due to the change in mission.
Threatened& Endangered Species/ Critical Habitat	11 T&E species and 2 critical habitats exist and impact operations on 78% of the installation. Operations/testing/training have been delayed or diverted to meet mission requirements. Additional operations may further impact T&E species and/or critical habitats. Endangered Species Act Consultation is required for all T&E species.
Waste Management	The installation is not operating at the maximum permitted capacity for its RCRA Subpart X permitted facility. Modification of the hazardous waste program may be necessary.
Water Resources	The state requires a permit for withdrawal of groundwater. Potable water controls/restrictions were implemented on 1,825 days from FY99 through FY03. Modification of on-installation treatment works may be necessary.
Wetlands	Wetlands restrict 13.53% of the base, and operations are restricted by their CWA Section 404 permit. Additional operations may impact wetlands and the permit, which may further restrict operations.

<u>Impacts of Costs</u>	
	Eglin AFB
Environmental Restoration	DERA money spent through FY03 (\$K): 72200 Estimated CTC (\$K): 35142 DO NOT ENTER IN COBRA
Waste Management	FY07 Hazardous Waste Program \$100K
Environmental Compliance	FY06 NEPA cost: \$776K FY07 Significant Air Permit Revision \$100K

Former NAS Cecil Field

ISSUE:

- Environmental issue raised by the State of Virginia in letter from Governor Warner dated August 22, 2005. The letter indicates that being on the National Priorities List will prevent the State of Florida from completing the environmental cleanup to transfer clean parcels back to the Navy.

BACKGROUND:

- Approximately 16,500 acres have been transferred to the Local Redevelopment Authority for Cecil Field.
- There were initially 40 sites identified for the facility. Ten Records of Decision covering 14 sites have been signed and no further action decisions covering 9 additional sites have also been completed.
- The Navy has spent \$53.8M to date on environmental restoration and has programmed a cost to complete of \$20.8M.

FINDINGS:

- The Navy has been the responsible party for the cleanup at Cecil Field and would continue to manage and fund the cleanup if the property was returned to the Navy. Since the contamination at the facility appears to be from past Navy use the Navy should not have an issue reoccupying the contaminated property.
- For the property that has been transferred from the Navy to the local community, the parcels were either clean or a decision that a remedy was in place and operating properly and successfully was made. The transfer back to the Navy may require the portions of the property that have been redeveloped by the Local Redevelopment Authority to close and complete environmental assessments to verify the property has not been further impacted by the current tenants.
- According to a Navy fact sheet, the Navy still owns approximately 22,400 acres.
- If the land use controls in place on some of the property are followed, the National Priorities Listing should not be an impediment to the Navy reoccupying the facility.

DCN: 11580



U.S. Environmental Protection Agency

National Environmental Policy Act (NEPA)

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The National Environmental Policy Act (NEPA) [42 U.S.C. 4321 et seq.] was signed into law on January 1, 1970. The Act establishes national environmental policy and goals for the protection, maintenance, and enhancement of the environment, and it provides a process for implementing these goals within the federal agencies. The Act also establishes the Council on Environmental Quality (CEQ). The complete text of the law is available for review at [NEPANet](#).

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Program Areas

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NEPA Requirements

Title I of NEPA contains a Declaration of National Environmental Policy which requires the federal government to use all practicable means to create and maintain conditions under which man and nature can exist in productive harmony. Section 102 requires federal agencies to incorporate environmental considerations in their planning and decision-making through a systematic interdisciplinary approach.

Specifically, all federal agencies are to prepare detailed statements assessing the environmental impact of and alternatives to major federal actions significantly affecting the environment. These statements are commonly referred to as environmental impact statements (EISs). Section 102 also requires federal agencies to lend appropriate support to initiatives and programs designed to anticipate and prevent a decline in the quality of mankind's world environment.

Title II of NEPA establishes the Council on Environmental Quality (CEQ).

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Oversight Of NEPA

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The Council on Environmental Quality, which is headed by a fulltime Chair, oversees NEPA. A staff assists the Council. The duties and functions of the Council are listed in Title II, Section 204 of NEPA and include: gathering information on the conditions and trends in environmental quality; evaluating federal programs in light of the goals established in Title I of the Act; developing and promoting national policies to improve environmental quality; and conducting studies, surveys, research, and analyses relating to ecosystems and environmental quality.

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Implementation

In 1978, CEQ promulgated regulations [40 CFR Parts 1500-15081] implementing NEPA which are binding on all federal agencies. The regulations address the procedural provisions of NEPA and the administration of the NEPA process, including preparation of EISs. To date, the only change in the NEPA regulations occurred on May 27, 1986, when CEQ amended Section 1502.22 of its regulations to clarify how agencies are to carry out their environmental evaluations in situations where information is incomplete or unavailable.

CEQ has also issued guidance on various aspects of the regulations including: an information document on "Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act", Scoping Guidance, and Guidance Regarding NEPA Regulations. Additionally, most federal agencies have promulgated their own NEPA regulations and guidance which generally follow the CEQ procedures but are tailored for the specific mission and activities of the agency.

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The NEPA Process

The NEPA process consists of an evaluation of the environmental effects of a federal undertaking including its alternatives. There are three levels of analysis depending on whether or not an undertaking could significantly affect the environment. These three levels include: categorical exclusion determination; preparation of an environmental assessment/finding of no significant impact (EA/FONSI); and preparation of an environmental impact statement (EIS).

At the first level, an undertaking may be categorically excluded from a detailed environmental analysis if it meets certain criteria which a federal agency has previously determined as having no significant environmental impact. A number of agencies have developed lists of actions which are normally categorically excluded from environmental evaluation under their NEPA regulations.

At the second level of analysis, a federal agency prepares a written environmental assessment (EA) to determine whether or not a federal undertaking would significantly affect the environment. If the answer is no, the agency issues a finding of no significant impact (FONSI). The FONSI may address measures which an agency will take to reduce (mitigate) potentially significant impacts.

If the EA determines that the environmental consequences of a

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proposed federal undertaking may be significant, an EIS is prepared. An EIS is a more detailed evaluation of the proposed action and alternatives. The public, other federal agencies and outside parties may provide input into the preparation of an EIS and then comment on the draft EIS when it is completed.

If a federal agency anticipates that an undertaking may significantly impact the environment, or if a project is environmentally controversial, a federal agency may choose to prepare an EIS without having to first prepare an EA.

After a final EIS is prepared and at the time of its decision, a federal agency will prepare a public record of its decision addressing how the findings of the EIS, including consideration of alternatives, were incorporated into the agency's decision-making process.

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EA And EIS Components

An EA is described in Section 1508.9 of the Council's NEPA regulations. Generally, an EA includes brief discussions of the following: the need for the proposal; alternatives (when there is an unresolved conflict concerning alternative uses of available resources); the environmental impacts of the proposed action and alternatives; and a listing of agencies and persons consulted.

An EIS, which is described in Part 1502 of the regulations, should include discussions of the purpose of and need for the action, alternatives, the affected environment, the environmental consequences of the proposed action, lists of preparers, agencies, organizations and persons to whom the statement is sent, an index, and an appendix (if any).

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Federal Agency Roles

The role of a federal agency in the NEPA process depends on the agency's expertise and relationship to the proposed undertaking. The agency carrying out the federal action is responsible for complying with the requirements of NEPA. In some cases, there may be more than one federal agency involved in an undertaking. In this situation, a lead agency is designated to supervise preparation of the environmental analysis. Federal agencies, together with state, tribal or local agencies, may act as joint lead agencies.

A federal, state, tribal or local agency having special expertise with respect to an environmental issue or jurisdiction by law may be a cooperating agency in the NEPA process. A cooperating agency has the responsibility to assist the lead agency by participating in the NEPA process at the earliest possible time; by participating in the scoping process; in developing information and preparing environmental analyses including portions of the environmental impact statement concerning which the cooperating agency has special expertise; and in making available staff support at the lead agency's request to enhance the lead agency's interdisciplinary capabilities.

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Under Section 1504 of CEQ's NEPA regulations, federal agencies may refer to CEQ interagency disagreements concerning proposed federal actions that might cause unsatisfactory environmental effects. CEQ's role, when it accepts a referral, is generally to develop findings and recommendations, consistent with the policy goals of Section 101 of NEPA. The referral process consists of certain steps and is carried out within a specified time frame.

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EPA's Role

The Environmental Protection Agency, like other federal agencies, prepares and reviews NEPA documents. However, EPA has a unique responsibility in the NEPA review process. Under Section 309 of the Clean Air Act, EPA is required to review and publicly comment on the environmental impacts of major federal actions including actions which are the subject of EISs. If EPA determines that the action is environmentally unsatisfactory, it is required by Section 309 to refer the matter to CEQ.

Also, in accordance with a Memorandum of Agreement between EPA and CEQ, EPA carries out the operational duties associated with the administrative aspects of the EIS filing process. The Office of Federal Activities in EPA has been designated the official recipient in EPA of all EISs prepared by federal agencies.

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The Public's Role

The public has an important role in the NEPA process, particularly during scoping, in providing input on what issues should be addressed in an EIS and in commenting on the findings in an agency's NEPA documents. The public can participate in the NEPA process by attending NEPA-related hearings or public meetings and by submitting comments directly to the lead agency. The lead agency must take into consideration all comments received from the public and other parties on NEPA documents during the comment period.

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FFID:	FL417002247400	Media Affected:	Groundwater, surface water, sediment, and soil
Size:	30,895 acres	Funding to Date:	\$51.8 million
Mission:	Provide facilities, services, and material support for maintenance of Naval weapons and aircraft	Estimated Cost to Completion (Completion Year):	\$20.5 million (FY2017)
HRS Score:	31.99; placed on NPL in November 1989	Final RIP/RC Date for IRP Sites:	FY2008
IAG Status:	Federal facility agreement signed in November 1990	Final RIP/RC Date for MMRP Sites:	FY2009
Contaminants:	Waste fuel oil, solvents, heavy metals, halogenated aliphatics, phthalate esters, SVOCs, and lead	Five-Year Review Status:	The installation completed a 5-year review and the remedy remains protective.



Progress to Date

The Cecil Field Naval Air Station (NAS) supports the maintenance of Naval weapons and aircraft. In July 1993, the BRAC Commission recommended closure of this installation and relocation of its aircraft, personnel, and equipment to other stations. Operations that caused contamination include equipment maintenance, storage and disposal of fuel and oil, fire training, and training on target ranges. Investigations identified 30 CERCLA sites; ten major underground storage tank (UST) sites and 235 USTs; 250 BRAC grey sites; and one RCRA site. The installation was placed on the NPL in November 1989 and signed a federal facility agreement in November 1990. In FY94, the technical review committee was converted to a Restoration Advisory Board. A BRAC cleanup team was formed in FY94. In FY00, the installation completed a 5-year review.

The installation has identified 40 sites. Initially, the installation contained six CERCLA sites that required no further action (NFA). The installation has signed Records of Decision (RODs) for Sites 1, 2, 3, 5, 7, 8, 10, 11, 14, 16, 17, 36, 37, and 44. In addition, NFA were signed for Sites 32; 42, and the old golf course. The installation has also signed eight findings of suitability to transfer (FOSTs), equaling approximately 16,100 acres, and delisted approximately 16,500 acres from the NPL. The cleanup progress at Cecil Field NAS for FY99 through FY02 is detailed below.

In FY99, the installation completed three FOSTs. An air-sparging (AS) system was installed in the Site 3 source area and natural attenuation (NA) sampling was conducted. NA monitoring was also conducted at Sites 5, 8, 16, and 17 and the jet engine test cell (JETC). NFA decision documents for Sites 18 and 19 were completed. RODs for Sites 7 and 8 were signed. A groundwater design for Site 11 and a sewer design for Site 16 were submitted. An AS system was installed, and an investigation of the 103rd Street pipeline and removal of asbestos-containing material (ACM) from six buildings were conducted. Soil removal was conducted at Sites 6, 7, and 8 and seven BRAC grey sites. Sixteen petroleum tanks were removed.

In FY00, the installation completed three FOSTs, covering a total of 10,322 acres. Remedial actions (RAs) were conducted for Sites 10 and 11, North Fuel Farm soil, DT1, A Avenue, 31 grey sites, and 28 tanks. ACM was removed from 10 buildings. The remedial investigation/feasibility study (RI/FS) and the proposed plan for Site 36/37 were

completed. The installation also completed the ROD amendment for Site 5 and the 5-year review. Site 6 and 42 grey sites were determined to require NFA. The first 5-year review was completed.

In FY01, the installation completed RODs for Sites 36 and 37. RAs were implemented at Buildings 46 and 9, and 11 grey sites. A FOST covering 29 acres was completed. An RI/FS was completed at Site 45 and a remedial investigation was initiated at Sites 57 and 58.

In FY02, the installation implemented RA at Site 36/37. The RI/FS was completed for Sites 21 and 25. RODs for Sites 42 and 44 and the old golf course were completed. The parks and recreation Phase II, FOST (12 acres) was completed. The engineering evaluation/cost analysis for Sites 32 and 49 was completed. NFA was achieved for PSC 39, Sites 42 and 44, Tanks 428, 367, and 824 OW, and Building 610. The cost of completing environmental restoration at this installation changed significantly due to estimating criteria issues. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. One MMRP site was identified at this installation.

FY03 IRP Progress

Cecil Field completed the RI/FS for Site 57/58. The installation implemented RAs at Sites 21, 25, 32, 45 and 57/58 (without signed RODs) and JETC and Tank 271. The installation completed two FOSTs for 18.2 acres. The installation achieved the groundwater cleanup criteria at Sites 7 and 11 and Building 610 and regulators approved the NFA. The installation delisted 16,584 acres from the NPL. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

Regulatory issues delayed the completion of RODs for Sites 21, 25, 32, 45, and 57/58. Regulatory issues delayed the operating property and successfully (OP&S) determination for Sites 1-3, 5, 8, 16, and 17.

FY03 MMRP Progress

Site 15 was placed in the MMRP.

Plan of Action

Plan of action items for Cecil Field NAS are grouped below according to program category.

IRP

- Sign RODs and complete land use control remedial design for Sites 15, 21, 25, 32, 45, 57 and 58, and sign NFA ROD for Site 49 in FY04.
- Complete RA at Site 49 and implement RA at North Fuel Farm in FY04.
- Complete OP&S for Sites 1, 2, 3, 5, 8, 16, 17, 21, 25, 36, 37, 45, 57, and 58 in FY04.
- Transfer 558 acres in FY04 and remaining 184 acres in FY05.

MMRP

Begin an RA at Site 15 in FY04.

FFID:	FL417002247400	Funding to Date:	\$ 53.8 million
Size:	30,895 acres	Estimated Cost to Completion (Completion Year):	\$ 20.8 million(FY 2017)
Mission:	Provide facilities, services, and material support for maintenance of Naval weapons and aircraft	IRP/MMRP Sites Final RIP/RC:	FY 2008/FY 2009
HRS Score:	31.99; placed on NPL in November 1989	Five-Year Review Status:	Completed FY2000 - remedy remains protective
IAG Status:	Federal facility agreement signed in November 1990		
Contaminants:	Waste fuel oil, solvents, heavy metals, halogenated aliphatics, phthalate esters, SVOCs, lead		
Media Affected:	Groundwater, surface water, sediment, soil		



Progress To Date

The Cecil Field Naval Air Station (NAS) supports the maintenance of Naval weapons and aircraft. In July 1993, the BRAC Commission recommended closure of this installation and relocation of its aircraft, personnel, and equipment to other stations. BRAC 1995 redirected associated bombing ranges to NAS Jacksonville, reducing the BRAC footprint to 17,225 acres. Operations that caused contamination include equipment maintenance, storage and disposal of fuel and oil, fire training, and training on target ranges. Investigations have identified 31 CERCLA sites; 10 major underground storage tank (UST) sites; 235 USTs; 250 BRAC grey sites and one RCRA site. The installation was placed on the NPL in November 1989 and signed a federal facility agreement in November 1990. In FY94, the Technical Review Committee was converted to a Restoration Advisory Board. A BRAC cleanup team was formed in FY94. In FY00, the installation completed its first 5-year review.

The installation has identified 40 sites, 24 of which have been grouped into 12 operable units. The installation has signed 25 Records of Decision (RODs) and 10 findings of suitability to transfer (FOSTs), equaling 16,707 acres, and delisted approximately 16,584 acres from the NPL. To date, the installation has transferred 224 acres. The cleanup progress at Cecil Field NAS for FY00 through FY03 is detailed below.

In FY00, the installation completed three FOSTs, covering a total of 10,322 acres. Remedial actions (RAs) were conducted for Sites 10 and 11, North Fuel Farm soil, DT1, A Avenue, 31 grey sites, and 28 tanks. Asbestos-containing material was removed from 10 buildings. The installation completed the remedial investigation and feasibility study (RI/FS) the proposed plan for Site 36/37 were completed. The installation also completed the ROD amendment for Site 5. Site 6 and 42 grey sites were determined to require no further action (NFA). The first 5-year review was completed for Site 5.

In FY01, the installation completed RODs for Sites 36 and 37. RAs were implemented at Buildings 9 and 46, and 11 grey sites. A FOST covering 29 acres was completed. An RI/FS was completed at Site 45 and an RI was initiated at Sites 57 and 58.

In FY02, the installation implemented an RA at Site 36/37. The RI/FS was completed for Sites 21 and 25. RODs for Sites 42, 44 and the old golf course were completed. The parks and recreation Phase II, FOST (12 acres) was completed. The engineering evaluation and cost analysis for Sites 32 and 49 was completed. NFA was achieved for Potential Source of Contamination (PSC) 39, Sites 42 and 44, Tanks 428, 367 and 824 OW, and Building 610. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. One MMRP site was identified at this installation.

In FY03, Cecil Field NAS completed the RI/FS for Site 57/58. The installation implemented RAs at Sites 21, 25, 32, 45 and 57/58 (without signed RODs), the jet engine test cell (JETC) and Tank 271. The installation completed two FOSTs for 18.2 acres. The installation achieved the groundwater cleanup criteria at Sites 7 and 11 and Building 610, and regulators approved the NFA. The installation delisted 16,584 acres from the NPL. Additionally, Site 15 was placed in the MMRP.

FY04 IRP Progress

The installation signed RODs for Sites 25, 32 and 45 and completed land use control (LUC) remedial designs (RDs) for Site 45. Cecil Field NAS also completed operating properly and successfully (OP&S) at Sites 1, 2, 3, 8, 16 and 17. The installation also initiated the RA at North Fuel Farm and Day Tank 1 and completed RAs at Sites 49 and 58. It installed and began operating air sparging systems at Building 271 and JETC. Cecil Field NAS completed the preliminary assessment and site investigation for Site 59 and initiated the RI. The installation transferred 224 acres. Florida Department of Environmental Protection issued a Hazardous and Solid Waste Amendments Corrective Action Permit to the installation. The cost of completing environmental restoration at this installation changed significantly due to technical and estimating criteria issues.

Ecological issues delayed the ROD and LUC RD at Site 15. Regulatory issues delayed the ROD, LUC RD and OP&S for Site 21. Weather issues delayed the NFA ROD at Site 49. LUC issues delayed the RODs, LUC RDs and OP&S at Sites 5, 25, 36, 37, 57 and 58. LUC issues also delayed the OP&S at Site 45, LUC RD at Site 32, and the planned transfer of additional 334 acres.

FY04 MMRP Progress

Ecological concerns delayed the RA at Site 15.

Plan of Action

Plan of action items for Cecil Field Naval Air Station are grouped below according to program category.

IRP

- Issue second 5-year review in FY05.
- Sign RODs for Sites 21, 49, 57, and 58, and complete OP&S at Sites 5, 21, 25, 57 and 58 in FY05.
- Complete LUC RDs at Sites 1, 2, 3, 5, 8, 16, 17, 21, 25, 32, 57 and 58 in FY05.
- Sign RODs for Sites 15 and 59 in FY06.
- Transfer 337 acres in FY05 and remaining 182 acres in FY06

MMRP

- Begin the RA at Site 15 in FY06.

Jim / Gay

See Page 3 of 28 re/
airspace & Environmental
issues - Please print together
a Point Paper on each issue
Belle

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COPY



GOVERNOR'S OFFICE OF COMMONWEALTH PREPAREDNESS

P.O. BOX 1475

RICHMOND, VIRGINIA 23218

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WWW.COMMONWEALTHPREPAREDNESS.VIRGINIA.GOV

FAX

DATE: 8-22-05

TO: The Honorable Anthony Principi

FAX NUMBER: 703-699-2735

FROM: George Fireman

MESSAGE:



COMMONWEALTH of VIRGINIA

Office of the Governor

Mark R. Warner
Governor

August 22, 2005

The Honorable Anthony J. Principi
Chairman
Base Realignment and Closure Commission
2521 South Clark Street
Arlington, Virginia 22202

Dear Chairman Principi:

Thank you for the opportunity to be with you and the Defense Base Realignment and Closure Commission on Saturday. The Commonwealth of Virginia remains firm in its commitment to NAS Oceana and to meeting the needs of the United States Navy. The paramount and compelling factor in your decision, we believe, must be those interests. The Navy has been consistent in multiple testimonies in stating its strong belief that NAS Oceana not only best meets their needs for the foreseeable future, but also that only NAS Oceana meets those needs.

Attached you will find depositions taken under oath earlier today from Admiral Fred Metz USN (Ret) and Captain Phil Grandfield USN (Ret) which directly address some statements made by witnesses for the State of Florida concerning Naval aviation training and other issues. In summary these are:

Pilot training at NAS Oceana meets the Navy's needs – As noted in the depositions, no current military aviation facility possesses completely optimal training characteristics. Both the 800-foot approach limit and the night time flying hours restrictions at Fentress are, in fact, Navy restrictions that have been made with the full understanding of the entire training experience. The Navy has stated that these are acceptable deviations. One must also recognize that adjustments are necessary at Cecil, especially when departing Whitehouse, where a pilot makes a right versus left turn because of encroachment.

The Honorable Anthony J. Principi
August 22, 2005
Page Two

Quantitative data, not opinions, are critical to assessing the comparison of Oceana and Cecil. What quantitative data are there to support the argument that training at Oceana is in any way inferior or increases risk to aviators?

Air Encroachment is severe around former Cecil Field – The FAA data are compelling, and indicate that two of the top 10 heaviest air traffic route control activities across the nation are in Florida – Miami (ranked 7) and Jacksonville (ranked 8), with approximately 2.4 million flights each. In the airspace above Cecil, there is far more air congestion than the airspace above Oceana. At Oceana, Navy pilots remain in total Navy air traffic control, regardless of the training mission. At Cecil, Navy pilots would cross multiple FAA main air traffic routes to reach their training ranges. Florida argues that the FAA would give Navy pilots priority, but they can never guarantee it operationally, especially in bad weather, given the level of air traffic saturation.

What quantitative studies have been provided to the Commission on the impact on the Navy training missions of the documented overall air congestion and air saturation in the skies over former Cecil Field?

Environmental Impact Statement (EIS) Process and site remediation cannot be completed with the speed promised by Florida officials – The EIS process is regulated by federal law, mandating certain steps and processes. The introduction of military jets, especially with the level of activity contemplated, will require lengthy and major EIS activities.

Cecil Field remains listed on the National Priorities List as of August 22, 2005, as is shown on the following link www.epa.gov/region4/waste/npl/nplfln/cecnasfl.htm. Several operable units containing numerous specific cleanup sites remain on the National Priorities List as of this writing.

How can Florida promise that it can turn over the base free of environmental problems by the end of the year given the base's continued listing as a Superfund site?

Joint Training Opportunities are Greater at NAS Oceana – While there are numerous military installations in Florida, there is not the opportunity for full cross-service training within a single flying cycle. Oceana possesses significantly greater opportunity for cross-service and joint-training activities with other Navy, Air Force, Marine and Army activities within a single flying cycle. This is due to Oceana's proximity to key operational and command functions.

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The Honorable Anthony J. Principi
August 22, 2005
Page Three

Shouldn't the entire training experience, from "wheels up to wheels down," be part of the comparison between Oceana and the former Cecil Field?

Certified Data on Costs are not available for Cecil -- Beyond the sworn deposition, the estimated costs by Florida officials to re-establish operations at the former Cecil Field have almost doubled in the past 10 days. There is no guarantee that the costs will not continue to rise because of the absence of a detailed analysis by independent and knowledgeable officials. There are also no guarantees that timing commitments can be met. The BRAC Commission noted that it had run an independent COBRA analysis that places the costs in the \$400 million range, and this differs from the Navy's \$1.6 billion estimate significantly.

While it is reasonable to assume there will be wide variances in costs given the short timeframe for careful analysis, who bears the burden if Florida is wrong?

In summary, Mr. Chairman, assertions and promises aside, the wide variance of information, coupled with the absence of critical data, underscores that a decision to close or realign NAS Oceana to a specific site -- going directly against the recommendations of the Department of Defense and the Navy -- can not and should not be made within a limited time window as part of the BRAC process. The Navy should be provided the tools to continue its tangible progress towards long-term Master Jet Base planning and be given the opportunity to develop such a facility on its own timetable.

Thank you for the opportunity to submit these comments. I appreciate your taking the time to consider the Commonwealth's views on this issue.

Please feel free to contact me if you have any questions.

Sincerely,



Mark R. Warner

MRW/cmg

Cc: The BRAC Commission Members
The Honorable John Warner
The Honorable George Allen
The Honorable Thelma Drake
The Honorable Randy Forbes

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CERTIFIED ORIGINAL

SWORN STATEMENT OF
FRED METZ, REAR ADMIRAL, USN RETIRED

August 22, 2005

Virginia Beach, Virginia

DELIVER TO:
FOR DELIVERY TO THE BASE REALIGNMENT AND CLOSURE
COMMISSION, ARLINGTON, VIRGINIA

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2

1 REAR ADMIRAL METZ: My name is Fred Metz,
2 Rear Admiral, United States Navy, retired.

3 I was in the Navy for 34 years. I had
4 seven major commands. I was stationed on both the
5 East and West Coast, where I had both air and sea
6 commands. I have 1,000 carrier landings, over 300
7 combat missions in Vietnam.

8 Of the variety of tours that I had, I was
9 a landing signal officer for five tours. One of my
10 last jobs, I was a division head for all the aircraft
11 carriers in the Navy, all the air stations, and I was
12 the Department of Defense Navy representative for air
13 space.

14 I was concerned with the testimony given
15 by the Florida delegation to the Commission. Many of
16 the comments did not tell the complete position needed
17 to make a crucial decision for the base of the future
18 of Naval Aviation.

19 What is Florida offering the Navy?
20 Florida is offering the Navy land and a runway and
21 some buildings. To give that property to the Navy, a
22 very comprehensive EIS needs to be completed,
23 environmental impact statement, and I question the
24 timeline that's required for the BRAC process to
25 unfold for the EIS to be completed.

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1 We've heard a lot of promises. I am
2 concerned that the promises were not backed up with
3 actual facts, and there was a lot of speculation made
4 and a lot of promises.

5 I am also concerned that these promises
6 would not be able to be completed to make the timeline
7 that's required by the BRAC process.

8 One of the critical things the Governor
9 of Florida said was that he was going to give Cecil to
10 the Navy, but we need to remember what he was actually
11 giving is land and not the air space.

12 The actual air space around Cecil Field
13 that is controlled by the facility includes up to
14 3,000 feet within five miles. Cecil Field is a
15 tenant. The air space around Cecil Field that is
16 described is the limit of their control. If you want
17 to go anywhere else, you have to go to the FAA. You
18 cannot fly out of Cecil Field without permission. You
19 have to get clearances from the FAA to get in the
20 airway structure.

21 We heard a lot in the testimony on
22 Saturday about going to different areas and how it was
23 not encumbered. Nowhere did we ever hear any
24 testimony from the FAA, who controls that air space.

25 When I was doing air space matters in

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4

1 '91, one of the things that we recognized at that time
2 was the increased air traffic along the East Coast was
3 going to be detrimental to flying in certain areas.
4 Cecil Field was one of them.

5 In 1993 the Navy did a very comprehensive
6 air space study in the area of Cecil Field. And the
7 concerns that they had at that time was air space
8 encroachment around Cecil Field. There were many
9 consultations with the FAA, and the Navy presented a
10 lot of questions to the FAA as far as the future
11 ability for the Cecil Field area to grow and to be
12 accommodated also in the FAA structure.

13 Nowhere in any of the testimony did we
14 hear or was anything mentioned about FAA's approval of
15 the Navy returning to Cecil Field. We can buy the
16 land but we cannot control the air space. FAA must be
17 a major player in the decision to move to Cecil Field.

18 If the F-18s go to Cecil Field, they are
19 going to compete with commercial aircraft leaving from
20 Buffalo, Boston, New York. Thousands of airplanes a
21 day pass through the Cecil Field area. The Navy will
22 then be competing with those aircraft for airspace.

23 Another thing is, there is a proposal to
24 increase the number of P-3s to go to NAS Jacksonville,
25 which further complicates the air issues in this area.

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1 A comprehensive study needs to be done
2 regarding airspace issues. Many questions have to be
3 answered before a decision for the future of Naval
4 Aviation can be made.

5 Is the FAA safely able to accommodate 285
6 airplanes into the area? Are they willing to
7 accommodate and can they support the air requirements
8 of those aircraft?

9 Have The airspace areas required for the
10 F-18 Super Hornet been established, which have never
11 flown out of Cecil Field?

12 Have they established routes to go to the
13 target at Pinecastle, which hasn't been in existence
14 at Cecil Field for four years?

15 Have they cleared the commercial
16 approaches into Orlando Airport for the construction
17 of the new runway with a major target area for maximum
18 utilization at Pinecastle?

19 There are many questions that we did not
20 hear the answers to that must be addressed before any
21 decision can be made to go to Cecil Field.

22 There may be ground encroachment at NAS
23 Oceana, however the potential air encroachment at
24 Cecil Field presently and also anticipated in the
25 future has to be addressed before any decision can be

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1 made.

2 Living in the Hampton Roads area, I've
3 had the opportunity to use some of my past skills as
4 being a landing signal officer to be a guest lecturer
5 at the Landing Signal Officer School here at NAS
6 Oceana which trains LSOs from all over the country.

7 In this capacity I stay very current in
8 field carrier landing procedures; I visit Fentress and
9 I also go aboard ship. I'm very current in present
10 procedures for air crews to train and go aboard ship.

11 As was stated in other testimony, FCLP,
12 field care landing practice, and going aboard ship is
13 a very demanding process, but no place in the Navy --
14 and I've flown at every field in the Navy -- do we
15 have the optimum conditions that replicate the
16 conditions we encounter on the ship. The way we land
17 on the ship and the way we practice on the field at
18 night is not the same anywhere we train.

19 The pattern on the ship is a very
20 demanding pattern, but we have limitations at every
21 field. The field that the Navy is contemplating
22 building in North Carolina is going to have the
23 capability to come closest to replicating the carrier
24 landing pattern that we use aboard ship at night.

25 However, we have proven over the years

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7

1 since I started flying in 1960 that the way that we do
2 carrier landing practice now is acceptable, and our
3 safety record is amazing, and the ability for these
4 young aviators to safely land is tremendous.

5 Being a lecturer at the LSO school, I
6 continually am in contact with the amazing, young
7 pilots, the men and women, that fly the aircraft from
8 our carriers.

9 The Hampton Roads area offers the Navy
10 family so much. In addition to the excellent training
11 offered to the pilots, the family is offered excellent
12 educational opportunities, they are provided a safe
13 environment to raise their children, as well as
14 excellent health facilities.

15 People who come here, many will end up
16 staying here when they retire. We have one of the
17 largest military retirement communities in the nation,
18 which is confirmation of the attractive quality of
19 life the Hampton Roads area has to offer.

20 What the Chief of Naval Operations said
21 in one of his first statement is, we need to worry
22 about combat readiness and family readiness. This
23 area offers both. I can attest to the high morale of
24 the Officers, men and women, and their families that
25 have the opportunity to live in the Hampton Roads

1 area.

2 With regard to joining training, we have
3 many outstanding facilities in the area. Dam Neck
4 offers the squadrons battle group training. The Fleet
5 Intelligence Center offers air crews strike target
6 training. The proximity of the ship allows us to
7 continually integrate the squadrons and facilities.

8 But more importantly, as we have learned
9 over the last 10 years, there is not one service; it's
10 a joint service.

11 Here at Hampton Roads we have the ability
12 to train with every service; the Air Force at Langley,
13 the special warfare units are here in the Hampton
14 Roads area and continually train with these units. We
15 train with the Marine aircraft down at Cherry Point.
16 We train with the combat Marines at Camp Lejune where
17 we have the ability to do close air support. We also
18 go to Fort Bragg where we train with Special Forces
19 units. And we also train with the Air Force F-15s at
20 Seymour Johnson Air Force Base.

21 It's all integrated training. No longer
22 is it just one Navy; it's a joint business, and
23 there's nowhere else on the East Coast that affords us
24 this ability.

25 We have the Joint Training Center here in

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1 the Hampton Roads area where we are able to actually
2 interface with joint training worldwide.

3 When we deploy, we just don't go as a
4 ship, we go as the whole unit. And the joint training
5 that is afforded to us in the Hampton Roads area is
6 essential. Nowhere else can this be accomplished.

7 The biggest concern that I have regarding
8 the Cecil Field option is that the lack of certified
9 data would make any such decision speculative and
10 risky. The Navy has a mission, and the Chief of Naval
11 Operations and the Secretary of Defense know better
12 than anybody how to accomplish that mission.

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Aug. 22. 2005 1:25PM TAYLOE ASSOCIATES

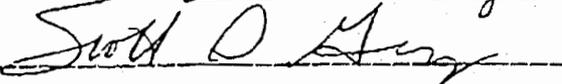
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10

1 COMMONWEALTH OF VIRGINIA AT LARGE, to wit:

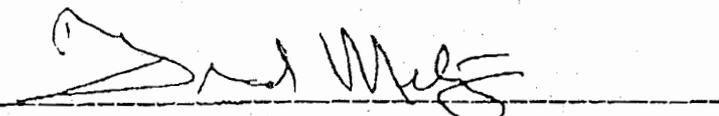
2 I, Scott D. Gregg, RPR, a Notary Public for the
3 Commonwealth of Virginia at Large, of qualification in
4 the Circuit Court of the City of Norfolk whose
5 commission expires July 31, 2008, do hereby certify
6 that the within person, FRED METZ, REAR ADMIRAL, USN
7 RETIRED, appeared before me at Virginia Beach,
8 Virginia, as hereinbefore set forth; and after being
9 first duly sworn by me, thereupon made the above
10 statement; that his statement was recorded in
11 stenotype by me and reduced to typescript under my
12 direction; and that the foregoing transcript
13 constitutes a true, accurate, and complete transcript.

14 I further certify that I am not related to
15 nor otherwise associated with any party to this
16 proceeding, nor otherwise interested in the event
17 thereof. Given under my hand and notarial seal at
18 Norfolk, Virginia this 22nd day of August, 2005.

19 

20 Scott D. Gregg, RPR

21 Notary Public

22 

23 Fred Metz, Rear Admiral, USN Retired

24

25

DCN: 11580

with name

DCN: 11580
Fred Metz, Rear Adm., USN Ret.

Multi-Page™

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Given - strike

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CERTIFIED ORIGINAL

SWORN STATEMENT OF
PHIL GRANDFIELD, CAPTAIN, USN RETIRED

August 22, 2005

Virginia Beach, Virginia

DELIVER TO:

FOR DELIVERY TO THE BASE REALIGNMENT AND CLOSURE
COMMISSION, ARLINGTON, VIRGINIA

1 CAPTAIN GRANDFIELD: My name is Phil
2 Grandfield, former naval aviator and retired Navy
3 captain. I have about 4,000 hours of experience
4 flying F-14s, F-4s, and F-18s. I also have ten years
5 of experience as a landing signals officer where my
6 primary responsibility was training naval aviators to
7 fly aboard the ship and prepare to fly aboard the
8 ship.

9 The decision to support the question
10 about what is best for the Navy and the future of
11 naval aviation should be the primary focus of the
12 decision on NAS Oceana or the former NAS Cecil Field.
13 Foremost, the decision must support quality of
14 training for F-18 fleet training squadrons and the
15 fleet squadrons.

16 Despite the interviews with NAS Oceana
17 pilots by BRAC commissioners and the articles and the
18 press quoting disgruntled pilots, NAS Oceana's
19 location with easy access with over-water and
20 air-to-ground range has provided quality training to
21 TACAIR pilots for decades.

22 Despite comments to the contrary, NAS
23 Oceana's resources continue to provide high-quality
24 training. There's never been any official Navy
25 statement referencing degraded training capabilities

1 before or during the BRAC process, nor is there any
2 difference in measured readiness levels of NAS Oceana
3 squadrons and those based elsewhere.

4 As stated before, each field has its own
5 pluses and minuses. The flight restrictions imposed
6 by the FAA upon operations at Cecil Field have been a
7 negative impact for years and will likely get worse as
8 air traffic through Florida increases. The expanded
9 traffic flow into Orlando will likely adversely affect
10 the use of the Pinecastle bombing range in the future.

11 On the contrary, NAS Oceana's location
12 allows much improved synergy to train in accordance
13 with the DOD Training Transformation Guidelines,
14 particularly when compared to Cecil Field.

15 Fighter squadrons at NAS Oceana need to
16 train with Navy E-2 squadrons, surface ships, Special
17 Forces, Marine Corps units at Camp Lejune, and at MCAS
18 Cherry Point, as well as active duty Air Force
19 squadrons at Langley Air Force Base.

20 This synergy and training extends to
21 enlisted training as part of the Navy's Revolution In
22 Training and Sea Enterprise concept as well as joint
23 level training for air crews.

24 More and more training resources are
25 being collocated in the Hampton Roads area to include

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4

1 enlisted and maintenance training.

2 The System of Systems for training
3 systems extends into Homeland security with combined
4 area resources for force protection.

5 This consolidation of training assets in
6 the fleet concentration center will improve readiness
7 if NAS Oceana stays here in this area as well.

8 To emphasize my previous comments with
9 reference to field carrier landing practice
10 differences between OLF Whitehouse and OLF Fentress.

11 I reject the implications that aviators
12 are at any greater risk when flying aboard an aircraft
13 carrier if their field carrier landing practice
14 training was conducted at OLF Fentress, vice OLF
15 Whitehouse. The pattern differences that exist are
16 considered acceptable deviations in training and have
17 served us well in the past.

18 Cecil Commerce Field is only a guess as
19 to who gets hurt if we guess wrong. The Cecil
20 proposal is immensely speculative and if adopted could
21 easily impair and degrade the Navy's readiness and
22 mission capabilities in the future.

23 We cannot create tomorrow's Navy by
24 relying on the opinions of yesterday's naval
25 leadership. The current Navy leadership and the

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1 Secretary of Defense have made their decisions crystal
2 clear: NAS Oceana must not be closed and remains the
3 best choice for naval aviation training on the East
4 Coast.

5 The Navy trains its people for demanding
6 skills, piloting aircraft, operating nuclear
7 propulsion on submarines, surface ships, and on and on
8 as I referred to in the System of Systems.

9 There is an exemplary record of success
10 to show how this long-established training syllabus
11 has worked here at NAS Oceana. There's absolutely no
12 credible evidence that pilots trained at NAS Oceana
13 are any less qualified and competent and capable of
14 those trained anywhere else.

15 NAS Oceana served us well for decades
16 with the resources that still exist today.

17 It's wrong to rely on the biased opinions
18 of a few disgruntled aviators and disregard and ignore
19 the informed, honest, and comprehensive statements of
20 the Chief of Naval Operations.

21 Only he has knowledge from every level of
22 command and every unity in his organization concerning
23 the quality of training and morale of his people. And
24 the CNO has stated that he prefers to remain at NAS
25 Oceana.

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1 The Navy is an increasingly complex and
2 interdependent organization and is moving away from
3 stovepipes formed of military organizations into the
4 System of Systems that I have described.

5 Moving a key element such as NAS Oceana
6 will have far-reaching, adverse consequences to the
7 Navy's revolution training as it collocates in Hampton
8 Roads.

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Aug. 22, 2005 11:25AM

TAYLOE ASSOCIATES

NO. 1110 P. 1

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COMMONWEALTH OF VIRGINIA AT LARGE, to wit:

I, Scott D. Gregg, RPR, a Notary Public for the Commonwealth of Virginia at Large, of qualification in the Circuit Court of the City of Norfolk whose commission expires July 31, 2008, do hereby certify that the within person, CAPTAIN PHIL GRANDFIELD, RETIRED, appeared before me at Virginia Beach, Virginia, as hereinbefore set forth; and after being first duly sworn by me, thereupon made the above statement; that his statement was recorded in stenotype by me and reduced to typescript under my direction; and that the foregoing transcript constitutes a true, accurate, and complete transcript.

I further certify that I am not related to nor otherwise associated with any party to this proceeding, nor otherwise interested in the event thereof. Given under my hand and notarial seal at Norfolk, Virginia this 22nd day of August, 2005.

Scott D. Gregg

Scott D. Gregg, RPR
Notary Public

Phil Grandfield

Phil Grandfield, Captain, USN Retired

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PHN Grandfield, Capt., USN Ret.

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biased (1) 5:17	conducted (1) 4:14	event (1) 7:16	6:7	
bombing (1) 3:10	consequences (1) 6:6	evidence (1) 5:12	hand (1) 7:17	
BRAC (2) 2:17	considered (1) 4:16	exemplary (1) 5:9	hereby (1) 7:6	
	consolidation (1) 4:5	exist (2) 4:15 5:16	hereinbefore (1) 7:8	
		expanded (1) 3:8		
		experience (2) 2:3		
		2:5		
		expires (1) 7:5		

military DCN: 11580 yesterday's

Multi-Page™

Phil Grandfield, Capt., USN Ret.

<p>military (1) 6:3</p> <p>minuses (1) 3:5</p> <p>mission (1) 4:22</p> <p>morale (1) 5:23</p> <p>Moving (1) 6:5</p> <p>moving (1) 6:2</p> <p>must (2) 2:13 5:2</p> <hr/> <p style="text-align: center;">-N-</p> <p>name (1) 2:1</p> <p>NAS (15) 2:12</p> <p>2:12 2:16 2:18</p> <p>2:22 3:2 3:11</p> <p>3:15 4:7 5:2</p> <p>5:11 5:12 5:15</p> <p>5:24 6:5</p> <p>Naval (1) 5:20</p> <p>naval (5) 2:2</p> <p>2:6 2:11 4:24</p> <p>5:3</p> <p>Navy (8) 2:2</p> <p>2:10 2:24 3:16</p> <p>4:23 4:25 5:5</p> <p>6:1</p> <p>Navy's (3) 3:21</p> <p>4:21 6:7</p> <p>need (1) 3:15</p> <p>negative (1) 3:7</p> <p>never (1) 2:24</p> <p>nor (3) 3:1 7:15</p> <p>7:16</p> <p>Norfolk (2) 7:5</p> <p>7:18</p> <p>notarial (1) 7:17</p> <p>Notary (2) 7:2</p> <p>7:21</p> <p>nuclear (1) 5:6</p> <hr/> <p style="text-align: center;">-O-</p> <p>Oceana (11) 2:12</p> <p>2:16 3:2 3:15</p> <p>4:7 5:2 5:11</p> <p>5:12 5:15 5:25</p> <p>6:5</p> <p>Oceana's (3) 2:18</p> <p>2:23 3:11</p> <p>officer (1) 2:5</p> <p>official (1) 2:24</p> <p>OLF (4) 4:10 4:10</p> <p>4:14 4:14</p> <p>operating (1) 5:6</p> <p>Operations (1) 5:20</p> <p>operations (1) 3:6</p> <p>opinions (2) 4:24</p> <p>5:17</p> <p>organization (2)</p> <p>5:22 6:2</p> <p>organizations (1)</p> <p>6:3</p> <p>Orlando (1) 3:9</p> <p>otherwise (2) 7:15</p> <p>7:16</p> <p>over-water (1) 2:19</p> <p>own (1) 3:4</p>	<p style="text-align: center;">-P-</p> <p>part (1) 3:21</p> <p>particularly (1) 3:14</p> <p>party (1) 7:15</p> <p>past (1) 4:17</p> <p>pattern (1) 4:15</p> <p>people (2) 5:5</p> <p>5:23</p> <p>person (1) 7:6</p> <p>PHIL (2) 1:9</p> <p>7:6</p> <p>Phil (2) 2:1 7:24</p> <p>piloting (1) 5:6</p> <p>pilots (4) 2:17</p> <p>2:18 2:21 5:12</p> <p>Pinncastle (1) 3:10</p> <p>pluses (1) 3:5</p> <p>Point (1) 3:18</p> <p>practice (2) 4:9</p> <p>4:13</p> <p>prefers (1) 5:24</p> <p>prepare (1) 2:7</p> <p>press (1) 2:18</p> <p>previous (1) 4:8</p> <p>primary (2) 2:6</p> <p>2:11</p> <p>proceeding (1) 7:16</p> <p>process (1) 3:1</p> <p>proposal (1) 4:20</p> <p>propulsion (1) 5:7</p> <p>protection (1) 4:4</p> <p>provide (1) 2:23</p> <p>provided (1) 2:20</p> <p>Public (2) 7:2</p> <p>7:21</p> <hr/> <p style="text-align: center;">-Q-</p> <p>qualification (1)</p> <p>7:4</p> <p>qualified (1) 5:13</p> <p>quality (3) 2:13</p> <p>2:20 5:23</p> <p>quoting (1) 2:18</p> <hr/> <p style="text-align: center;">-R-</p> <p>range (2) 2:20</p> <p>3:10</p> <p>readiness (3) 3:2</p> <p>4:6 4:21</p> <p>REALIGNMENT (1)</p> <p>1:15</p> <p>record (1) 5:9</p> <p>recorded (1) 7:10</p> <p>reduced (1) 7:11</p> <p>reference (1) 4:9</p> <p>referencing (1) 2:25</p> <p>referred (1) 5:8</p> <p>reject (1) 4:11</p> <p>related (1) 7:14</p> <p>rely (1) 5:17</p>	<p>relying (1) 4:24</p> <p>remain (1) 5:24</p> <p>remains (1) 5:2</p> <p>resources (4) 2:23</p> <p>3:24 4:4 5:16</p> <p>responsibility (1)</p> <p>2:6</p> <p>restrictions (1) 3:5</p> <p>RETIRED (2) 1:9</p> <p>7:7</p> <p>Retired (1) 7:24</p> <p>retired (1) 2:2</p> <p>Revolution (1) 3:21</p> <p>revolution (1) 6:7</p> <p>risk (1) 4:12</p> <p>Roads (2) 3:25</p> <p>6:8</p> <p>RPR (2) 7:2 7:20</p> <hr/> <p style="text-align: center;">-S-</p> <p>Scott (2) 7:2 7:20</p> <p>Sea (1) 3:22</p> <p>seal (1) 7:17</p> <p>Secretary (1) 5:1</p> <p>security (1) 4:3</p> <p>served (2) 4:17</p> <p>5:15</p> <p>set (1) 7:8</p> <p>ship (2) 2:7 2:8</p> <p>ships (2) 3:16 5:7</p> <p>show (1) 5:10</p> <p>signals (1) 2:5</p> <p>skills (1) 5:6</p> <p>Special (1) 3:16</p> <p>speculative (1) 4:20</p> <p>squadrons (6) 2:14</p> <p>2:15 3:3 3:15</p> <p>3:16 3:19</p> <p>STATEMENT (1)</p> <p>1:8</p> <p>statement (3) 2:25</p> <p>7:10 7:10</p> <p>statements (1) 5:19</p> <p>stays (1) 4:7</p> <p>stenotype (1) 7:11</p> <p>still (1) 5:16</p> <p>stovepipes (1) 6:3</p> <p>submarines (1) 5:7</p> <p>success (1) 5:9</p> <p>such (1) 6:5</p> <p>support (2) 2:9</p> <p>2:13</p> <p>surface (2) 3:16</p> <p>5:7</p> <p>SWORN (1) 1:8</p> <p>sworn (1) 7:9</p> <p>syllabus (1) 5:10</p> <p>synergy (2) 3:12</p> <p>3:20</p> <p>System (3) 4:2</p> <p>5:8 6:4</p> <p>Systems (3) 4:2</p>	<p>5:8 6:4</p> <p>systems (1) 4:3</p> <hr/> <p style="text-align: center;">-T-</p> <p>TACAIR (1) 2:21</p> <p>ten (1) 2:4</p> <p>thereof (1) 7:17</p> <p>thereupon (1) 7:9</p> <p>through (1) 3:8</p> <p>today (1) 5:16</p> <p>tomorrow's (1) 4:23</p> <p>traffic (2) 3:8</p> <p>3:9</p> <p>train (2) 3:12 3:16</p> <p>trained (2) 5:12</p> <p>5:14</p> <p>Training (2) 3:13</p> <p>3:22</p> <p>training (19) 2:6</p> <p>2:14 2:14 2:20</p> <p>2:24 2:25 3:20</p> <p>3:21 3:23 3:24</p> <p>4:1 4:2 4:5</p> <p>4:14 4:16 5:3</p> <p>5:10 5:23 6:7</p> <p>trains (1) 5:5</p> <p>transcript (2) 7:12</p> <p>7:13</p> <p>Transformation (1)</p> <p>3:13</p> <p>true (1) 7:13</p> <p>typescript (1) 7:11</p> <hr/> <p style="text-align: center;">-U-</p> <p>under (2) 7:11</p> <p>7:17</p> <p>units (1) 3:17</p> <p>unity (1) 5:22</p> <p>USN (2) 1:9 7:24</p> <hr/> <p style="text-align: center;">-V-</p> <p>vice (1) 4:14</p> <p>VIRGINIA (2) 1:16</p> <p>7:1</p> <p>Virginia (6) 1:11</p> <p>1:11 7:3 7:7</p> <p>7:8 7:18</p> <hr/> <p style="text-align: center;">-W-</p> <p>Whitehouse (2) 4:10</p> <p>4:15</p> <p>wit (1) 7:1</p> <p>within (1) 7:6</p> <p>worked (1) 5:11</p> <p>worse (1) 3:7</p> <p>wrong (2) 4:19</p> <p>5:17</p> <hr/> <p style="text-align: center;">-Y-</p> <p>years (2) 2:4</p> <p>3:7</p> <p>yesterday's (1) 4:24</p>
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DCN: 11580



STATE OF FLORIDA
Department of Military Affairs
Office of the Adjutant General

St. Francis Barracks, P.O. Box 1008
St. Augustine, Florida 32085-1008

August 22, 2005

Jan
Comments?
Bob

The Honorable Anthony J. Principi
Chairman
BRAC Commission
2521 South Clark Street, Suite 600
Arlington, Virginia 22202

COPY

Dear Chairman Principi:

This letter relates to the Commission hearing on August 20th regarding Oceana Naval Air Station, VA and Cecil Field, Jacksonville, FL. I was very surprised to learn of testimony suggesting air space around Cecil Field and access to the Atlantic-Offshore Warning Areas and other training sites was significantly restricted by commercial air traffic. As you know, the Florida Air National Guard's 125th Fighter Wing is home based in Jacksonville less than 20 miles from Cecil Field. Florida Guard F-15 Eagles have flown the same corridors and access routes available to Cecil Field for more than a decade. Our experience is that Jacksonville represents a near ideal training location for military aviation. The city is close to many large training areas and enjoys few restrictions with easy access to instrumented ranges, live air-to-air and air-to-ground ranges, and numerous ground threat emitters.

The primary airspace utilized by the 125th Fighter Wing is Warning Area (W) 157 and W158. W157, located 60 miles east of Jacksonville, provides up to 100 mile plus intercepts, live chaff and flares, live air to air gunnery, and supersonic flight from surface to 50,000 feet. The range is instrumented to provide both real time range monitoring and playback for mission debriefing. W158 is similar to W157, minus the instrumented range, and is located 60 miles southeast of Jacksonville. Together, these ranges encompass over 200 miles north to south and 110 miles east to west. Both airspaces support night operations, including "lights out" training with night vision goggles. The flow to and from these airspaces is simple and efficient.

In addition to the W157 and W158 complex, there are several other airspaces inside 200 miles available for use from northeast Florida. Air to Air training missions can be accomplished at Live Oak military operating area (MOA), Carrabelle MOA, W470, W151, and Moody MOA. Air to ground training is available at Palatka MOA, Avon Park MOA, and Townsend ranges (R3007 and R3005). These ranges provide maximum flexibility for fighter training. Also, Cecil Field has been used as a temporary fighter training station by various European countries because of its robust fighter training opportunities.

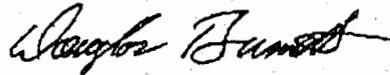
DCN: 11580

-2-

In summary, Cecil Field offers outstanding access to a wide array of fighter ranges and is not encumbered by commercial aircraft requirements. Coordination with the FAA is absolutely superb. Simply put, the military air space available in northeast Florida is exceptional.

"I certify that the information contained in this submission to the BRAC Commission is accurate and complete to the best of my knowledge and belief as required by Section 2905 of the Defense Base Closure and Realignment Act of 1990."

Sincerely,



DOUGLAS BURNETT
Major General
The Florida National Guard
The Adjutant General

Copy Furnished:
Mr. Fetzer, Senior Analyst Navy Team



NAS Oceana



CAPT Tom Keeley, USN *Commanding Officer*



Encroachment Issues

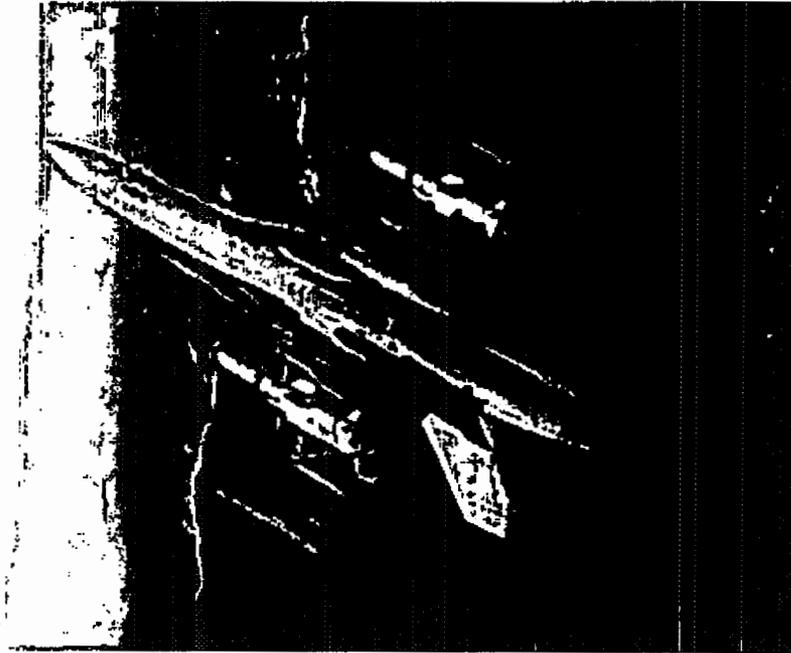
24 May 2005

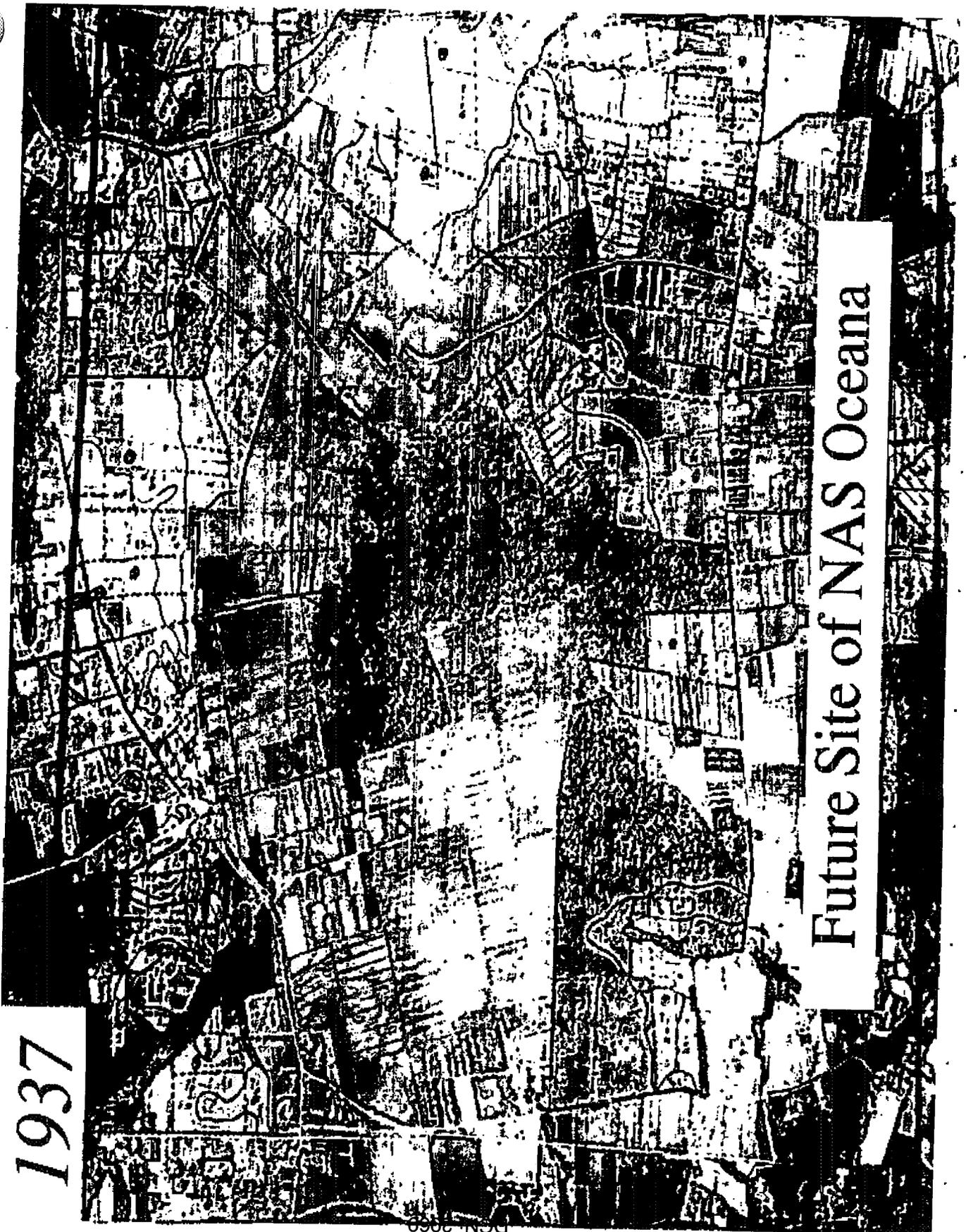


Topics



- **History**
- **Mission & Statistics**
- **Land Use Issues**
- **Questions**





Future Site of NAS Oceana

1937

00001000

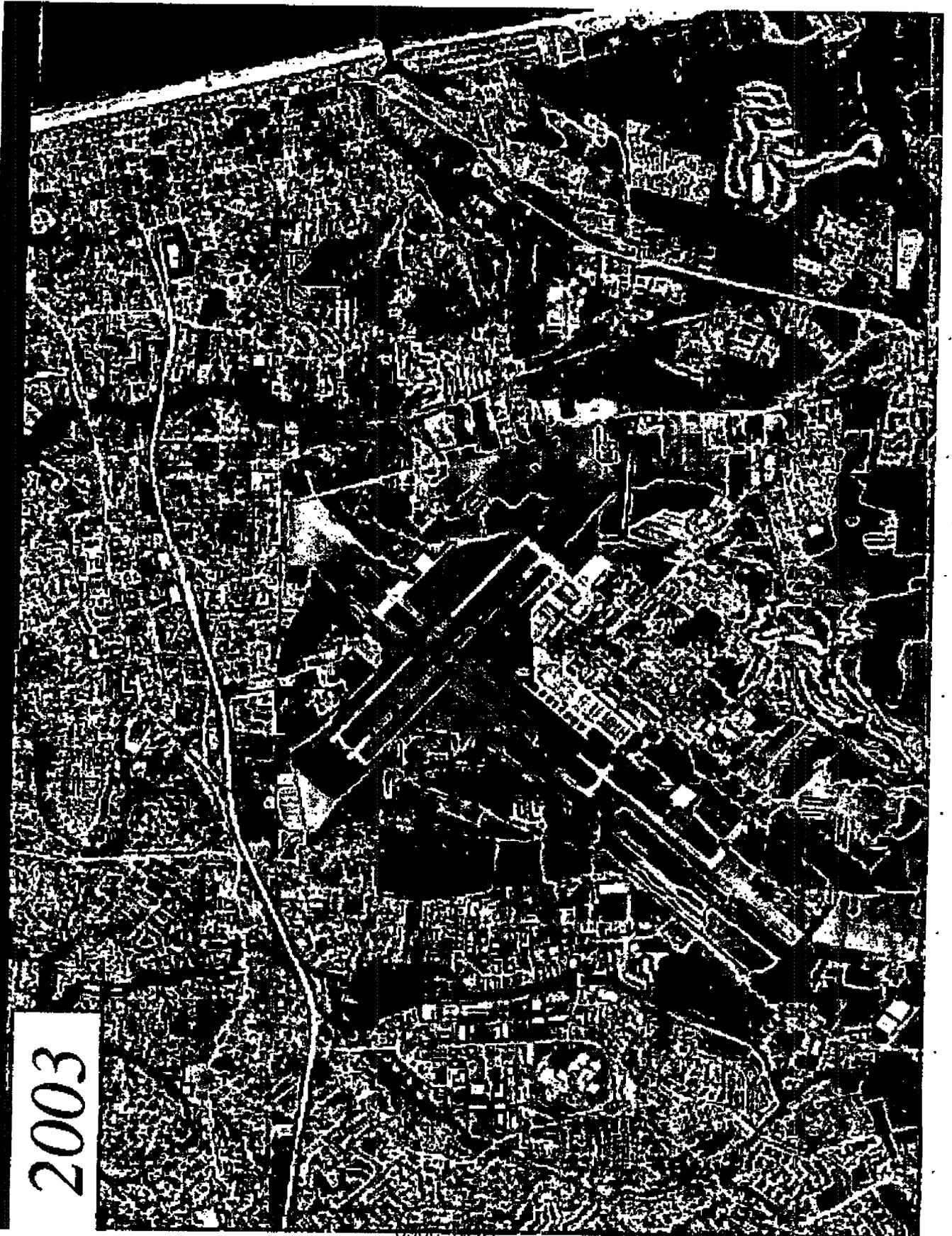


1943



1960





2003

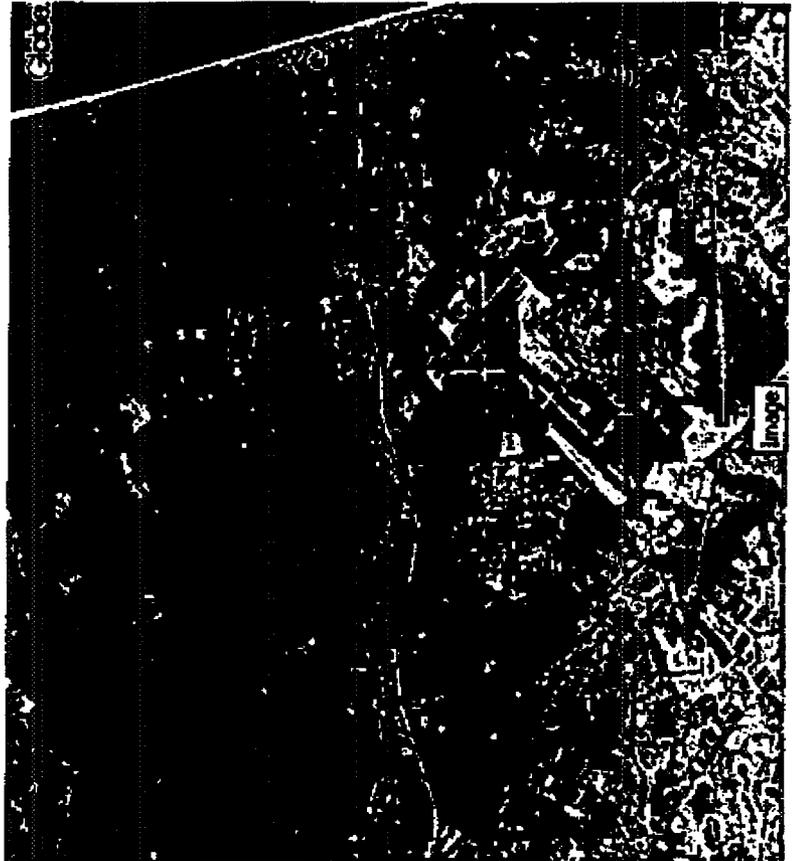
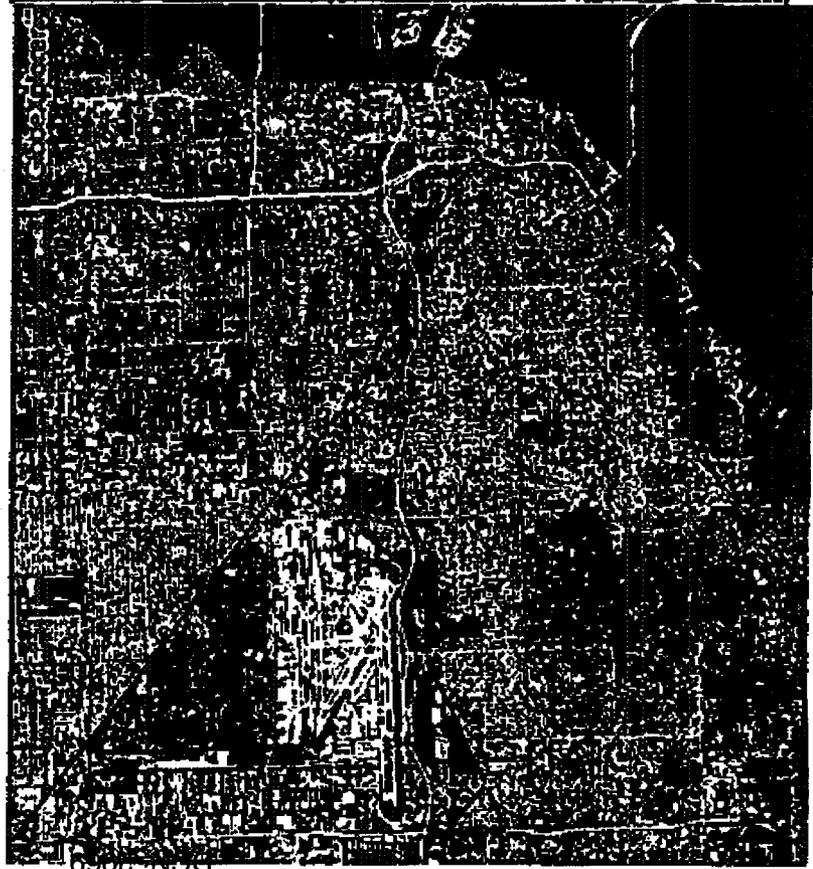


Airport Encroachment



Miami International

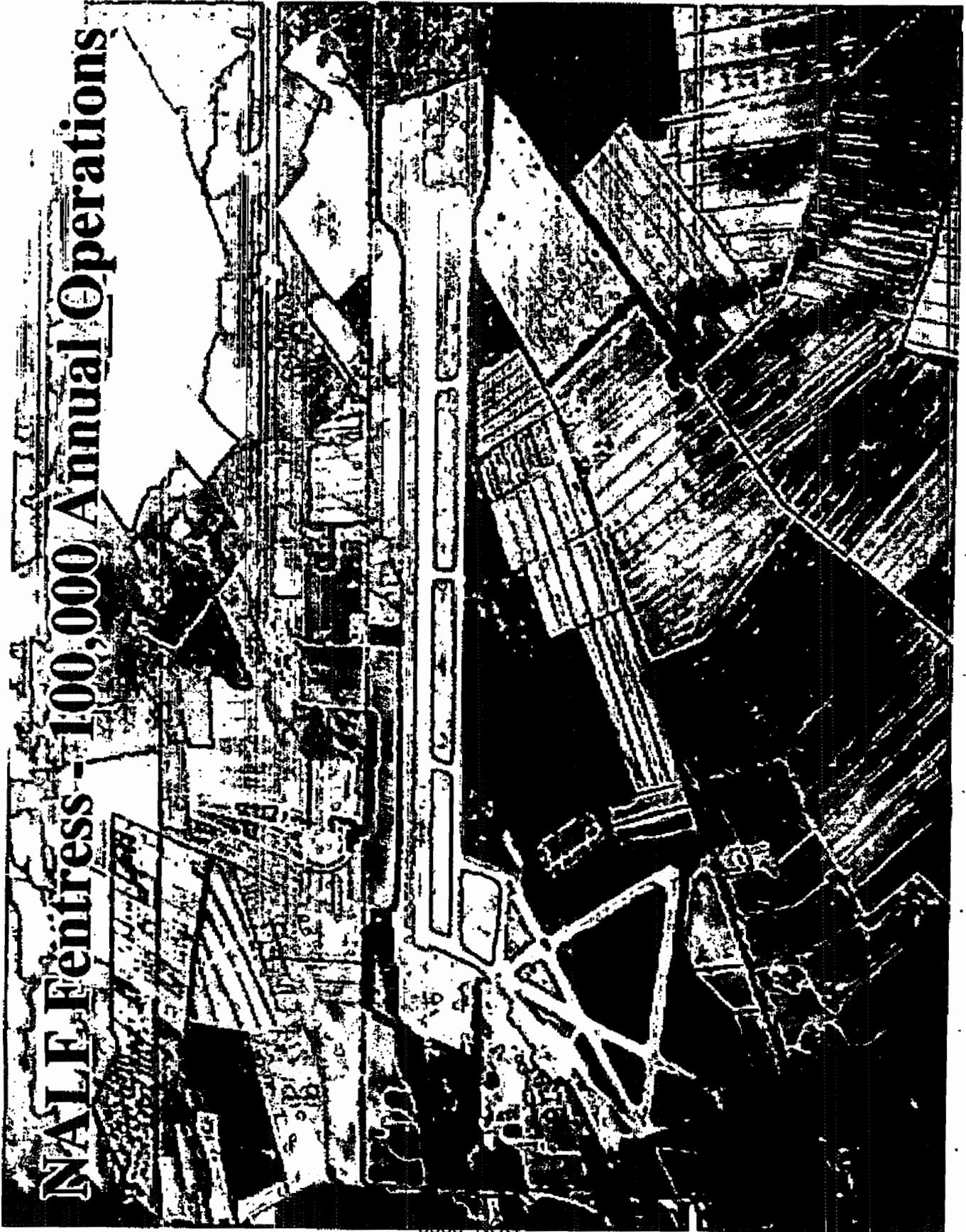
NAS Oceana



NAS Oceana - 200,000 Annual Operations



NALF Entress - 100,000 Annual Operations



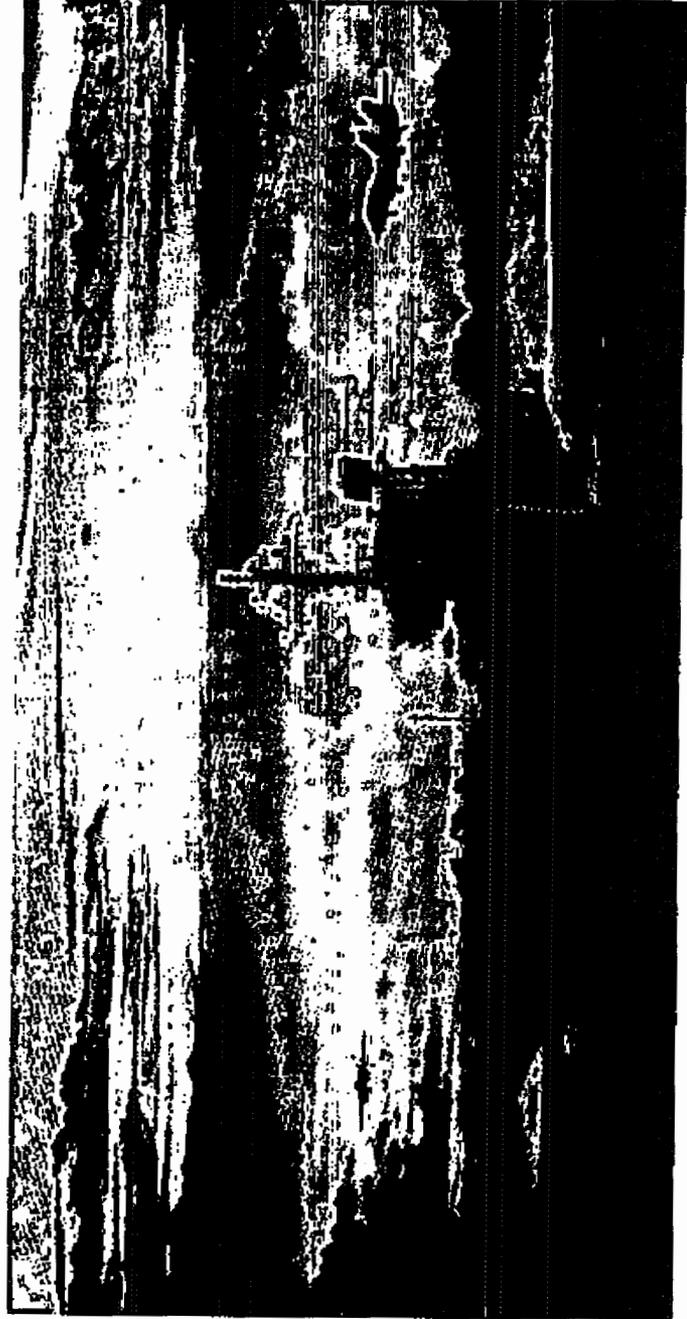


Mission



Support the Navy's Atlantic and Pacific Fleet force of Strike-Fighter Aircraft & Joint / Inter Agency Operations

- Provide the resources to conduct flight operations
- Provide top Quality of Service for Naval personnel and families





NAS Oceana Statistics



- NAS Oceana
 - 5,331 acres (main station)
 - 515 acres (non-contiguous)
 - 741 acres AG outlease
 - 3,681 acres of easements
- NALF Fentress
 - 2,556 acres
 - 3 acres (non-contiguous)
 - 893 acres AG outlease
 - 8,777 acres of easements
- Chambers Field
 - Airfield only
- Navy Dare Range
 - Use of 23,000 acres of Air Force Property

Infrastructure

- **3 Airfields**
 - 6 runways
- **732 facilities (Oceana & Fentress)**
- **\$1.74B replacement value (Oceana & Fentress)**



NAS Oceana Squadrons

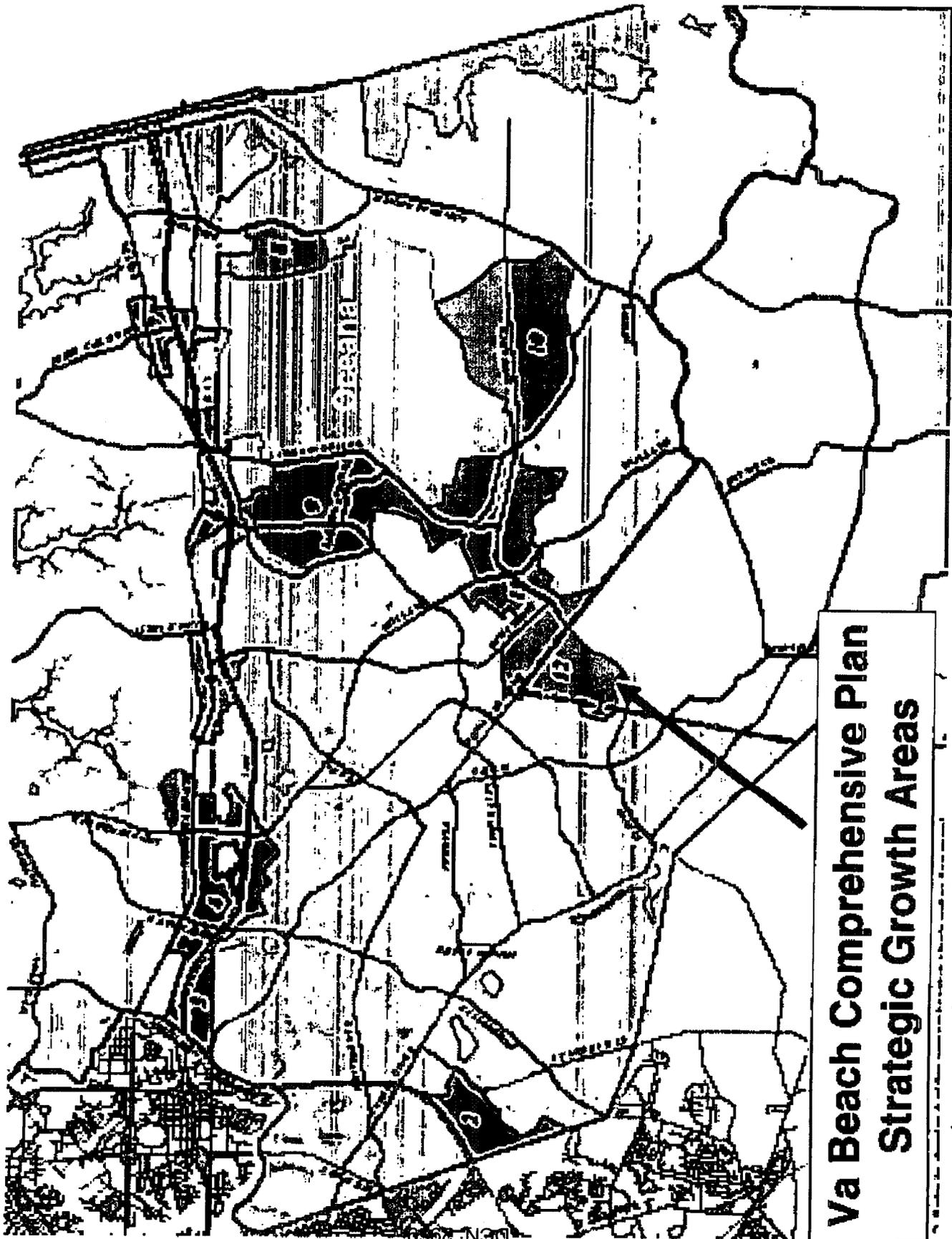
24-May-05



	<u>2001</u>	<u>2005</u>	<u>2010</u>
F-14 Squadrons	12	6	0
F-14 Aircraft	150	33	0
F/A-18C Squadrons	10	10	7
F/A-18C Aircraft	146	135	85
F/A-18E/F Squadrons	0	3*	9
F/A-18E/F Aircraft	0	39	120
VFC-12 Adversary	12	12	12
SAR H-3	2	0	0
Other Aircraft	6	14	14
Total Squadrons	23	19	17
Total Aircraft	316	233	231

Since 1990, Every Carrier Air Wing Deployed Has Seen Combat





**Va Beach Comprehensive Plan
Strategic Growth Areas**



Joint Land Use Study



• OSD / Office of Economic Adjustment (OEA) Program

• Participants

- NAS Oceana / Chambers Field / NALF Fentress
- Virginia Beach
- Norfolk
- Chesapeake

• Timeline

- July '04: Consultant start date
- October '04: Open houses & Draft JLUS recommendations
- January '05: Va Beh Public Hearing.....EMOTIONAL!
- April '05: Final JLUS delivery date
- May '05: City Councils vote on JLUS



Joint Land Use Study



- JLUS results thus far
 - Virginia General Assembly legislation
 - Required disclosure for sales & leases
 - Sound attenuation required for new business construction
 - Avigation easements
 - Encroachment partnering
 - Conservation groups
 - Southeastern Parkway (State of VA & City of Va Beach)
 - Proposed Virginia Beach AICUZ Overlay District
- **Key Factor**
 - City Council adoption / enforcement
 - JLUS process should continue regionally



Easement Enforcement



- **Background**
 - 1977-1989: U.S. Navy purchased over 400 restrictive easements
 - Covering 12,000 acres at a cost of \$57.9M to ensure future compatibility of land use with Naval Air operations
- **Situation**
 - Navy has periodically reviewed easements; comprehensive review now underway as part of JLUS
 - Sent broadcast letter to over 565 property owners encumbered by easements July 2004
 - Easement allows inspection to ensure compliance. Began Feb 2005 and are ongoing & we now know some are being violated.
 - Violators will be formally notified of non-compliance & given the opportunity to comply. Continued non-compliance results in legal action



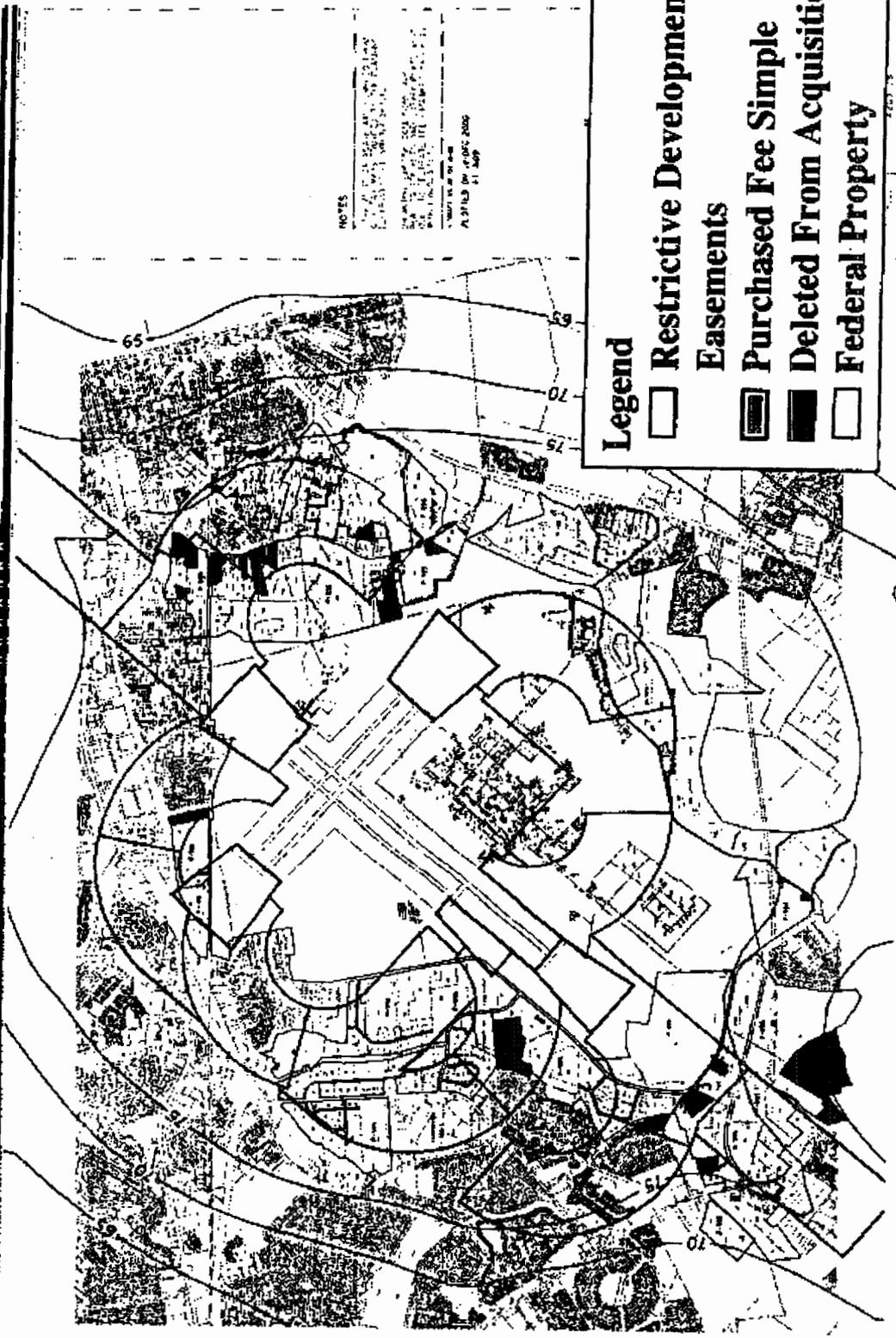
Easement Review Process



- All Navy restrictive easements are a matter of public record in the local courthouses (Virginia Beach & Chesapeake)
- Each proposal is reviewed by a panel of professionals
- The panel's recommendation is forwarded to the Commanding Officer of NAS Oceana for final review and approval
- Reviews are processed in the order they are received
- Normal processing time is three weeks



NAS Oceana Easements



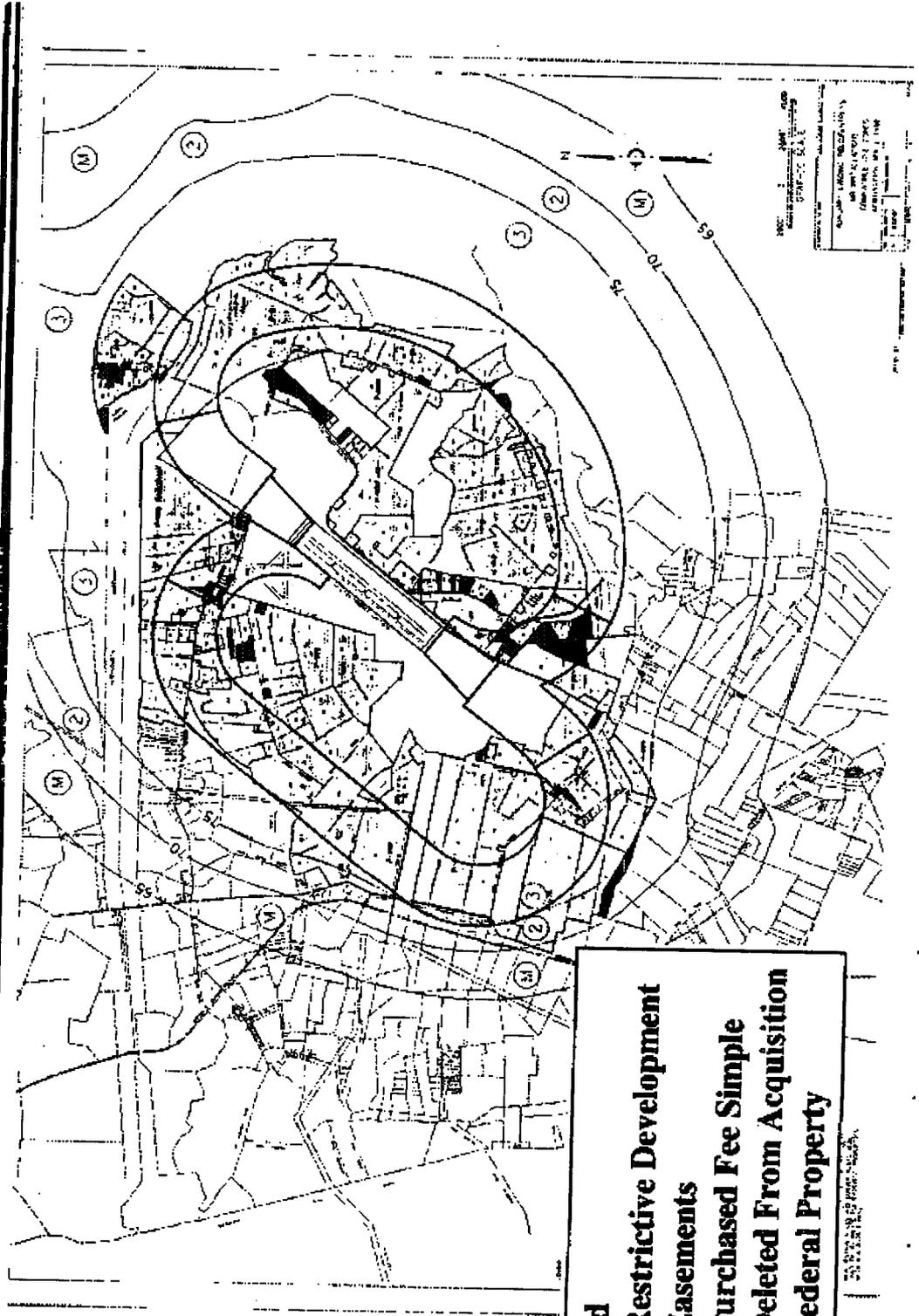
Legend

-  Restrictive Development
-  Easements
-  Purchased Fee Simple
-  Deleted From Acquisition
-  Federal Property

NOTES
 1. THIS MAP WAS PREPARED BY THE NAVY ENGINEERING CENTER, WASHINGTON, DC, ON 11/11/00.
 2. THE DATA FOR THIS MAP WAS OBTAINED FROM THE NAVY ENGINEERING CENTER, WASHINGTON, DC, ON 11/11/00.
 3. THE DATA FOR THIS MAP WAS OBTAINED FROM THE NAVY ENGINEERING CENTER, WASHINGTON, DC, ON 11/11/00.
 4. THE DATA FOR THIS MAP WAS OBTAINED FROM THE NAVY ENGINEERING CENTER, WASHINGTON, DC, ON 11/11/00.



NALF Fenbrass Easements



Legend

-  Restrictive Development Easements
-  Purchased Fee Simple Deleted From Acquisition
-  Federal Property

DCN: 11580

Miller, Gary, CIV, WSO-BRAC

From: Miller, Gary, CIV, WSO-BRAC
Sent: Wednesday, August 10, 2005 6:38 PM
To: Mandzia, Lesia, CIV, WSO-BRAC
Subject: RE: Environmental Restoration Cost for the 33 Major Recommendations for Closure

Walter Reed Army Medical Center is showing a cost to complete environmental restoration of \$755,000. They have spent through FY 03 \$1,605,000. Just as a reminder environmental restoration cost are not included in COBRA, they are considered by the decision makers in their review of the documents.

If you need anything else let me know.
Gary

Gary Miller, P.E.
Environmental Analyst
BRAC Commission
703-699-2930
gary.miller@wso.whs.mil

-----Original Message-----

From: Mandzia, Lesia, CIV, WSO-BRAC
Sent: Wednesday, August 10, 2005 6:11 PM
To: Miller, Gary, CIV, WSO-BRAC
Subject: RE: Environmental Restoration Cost for the 33 Major Recommendations for Closure

Great! And, Thank you!

-----Original Message-----

From: Miller, Gary, CIV, WSO-BRAC
Sent: Wednesday, August 10, 2005 6:04 PM
To: Mandzia, Lesia, CIV, WSO-BRAC
Subject: RE: Environmental Restoration Cost for the 33 Major Recommendations for Closure

Lesia,

What I started with was the 33 Major Closing facilities based upon plant replacement value exceeding \$100M, But I will look and see what I can find on Walter Reed.

Gary Miller, P.E.
Environmental Analyst
BRAC Commission
703-699-2930
gary.miller@wso.whs.mil

-----Original Message-----

DCN: 11580
From: Mandzia, Lesia, CIV, WSO-BRAC
Sent: Wednesday, August 10, 2005 5:56 PM
To: Miller, Gary, CIV, WSO-BRAC
Subject: FW: Environmental Restoration Cost for the 33 Major Recommendations for Closure

Gary: I took a look at the enviro doc and Walter Reed is not on it----it too is closing---is there any info on it?

Lesia

-----Original Message-----

From: Turner, Colleen, CIV, WSO-BRAC
Sent: Wednesday, August 10, 2005 12:18 PM
To: Abrell, Timothy, CIV, WSO-BRAC; Buzzell, Ashley, CIV, WSO-BRAC; Carroll, Ray, CIV, WSO-BRAC; Dean, Ryan, CIV, WSO-BRAC; Delaney, Michael, CIV, WSO-BRAC; Delgado, George, CIV, WSO-BRAC; Durso, James, CIV, WSO-BRAC; Farrington, Lester, CIV, WSO-BRAC; Knoepfle, Martin, CIV, WSO-BRAC; Mandzia, Lesia, CIV, WSO-BRAC; McRee, Bradley, CIV, WSO-BRAC; Mills, Valerie, CIV, WSO-BRAC; Pantelides, Thomas, CIV, WSO-BRAC; Schmidt, Carol, CIV, WSO-BRAC; Turner, Colleen, CIV, WSO-BRAC; Van Saun, David, CIV, WSO-BRAC
Subject: FW: Environmental Restoration Cost for the 33 Major Recommendations for Closure

-----Original Message-----

From: Van Saun, David, CIV, WSO-BRAC
Sent: Wednesday, August 10, 2005 11:59 AM
To: Turner, Colleen, CIV, WSO-BRAC
Subject: Fw: Environmental Restoration Cost for the 33 Major Recommendations for Closure

Please forward to all hands.

-----Original Message-----

From: Miller, Gary, CIV, WSO-BRAC <Gary.Miller@wso.whs.mil>
To: Small, Kenneth, CIV, WSO-BRAC <Kenneth.Small@wso.whs.mil>; Hanna, James, CIV, WSO-BRAC <James.Hanna@wso.whs.mil>; Dinsick, Robert, CIV, WSO-BRAC <robert.dinsick@wso.whs.mil>; Van Saun, David, CIV, WSO-BRAC <David.VanSaun@wso.whs.mil>
CC: Cook, Robert, CIV, WSO-BRAC <Robert.Cook@wso.whs.mil>
Sent: Wed Aug 10 11:51:12 2005
Subject: Environmental Restoration Cost for the 33 Major Recommendations for Closure

All,
Please forward to your staff:

For the 33 major proposed closures, please use the Environmental Restoration Cost numbers from the attached table, these have been updated based upon clearinghouse responses. For the Army facilities there are several that have operational ranges the cost to close these are not included in the Totals, if you want to list the additional costs they are listed as a range of costs in the far right column.

If you need any other assistance with environmental write-ups please come by.

Thanks,
Gary

Miller, Gary, CIV, WSO-BRAC

From: Miller, Gary, CIV, WSO-BRAC
nt: Monday, August 15, 2005 11:59 AM
Subject: Abrell, Timothy, CIV, WSO-BRAC
Fort Belvoir moves

Tim,

This area is in moderate nonattainment for the 8-hour ozone standard and in nonattainment for the PM2.5 standard. Both of these could require the State to modify the State Implementation Plan (SIP).

EPA requires that each state submit a state implementation plan or SIP to show how air pollution will be reduced to levels at or below the National Ambient Air Quality Standard (NAAQS). The plan must demonstrate how the state will maintain air pollution at the reduced levels. If a state does not submit an acceptable plan or does not develop a plan at all, EPA can develop and implement a plan, and can impose sanctions.

Virginia's SIP was submitted to EPA in early 1972. The SIP is a living document--more than 100 revisions have been made to the plan since its original submittal. The plan consists mostly of regulations, as well as permits, emissions inventories, attainment demonstrations, and other related documentation. 40 CFR Part 51 and Appendix V to Part 51 provide specific detail on what states are to include in their SIPs, and how they are to be submitted.

The control strategy is the heart of the SIP. It describes the emission reduction measures to be used by the state to attain and maintain the air quality standards. There are three basic types of control strategy measures:

- Stationary source control measures, which limit emissions primarily from commercial/industrial facilities and operations.
- Mobile source control measures which limit tailpipe and other emissions primarily from motor vehicles, and include federal motor vehicle emission standards, fuel volatility limits, reformulated gasoline, emissions control system anti-tampering program, and the Inspection and Maintenance program.
- Transportation control measures, which limit the location and use of motor vehicles, and include carpools, special bus lanes, rapid transit, commuter park and ride lots, bicycle lanes, and signal system improvements. These are generally included as commitments in plans, and do not require individual regulations.

This is more information than you wanted and as you can see there is no yes or no answer, but the bottom line is that the move of 18,000 people to the area most likely will impact the State's ability to meet the NAAQS within an approved timeline. This will require the State to implement additional actions to still meet the deadline. I do not know the deadline timeframe.

One additional item I noticed from Fort Belvoir, they have a huge environmental cleanup program underway with \$2,063,000,000 spent to date and \$689,000,000 estimated in costs to complete. This could impact the placement of new facilities within the base, since some land could be restricted from certain types of uses.

If you need anything else let me know.

Gary

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INSTALLATION ENVIRONMENTAL PROFILE

FORT BELVOIR**1. Air Quality (DoD Question #210-225):**

- a. The Clean Air Act (CAA) establishes health-based standards for air quality and all areas of the country are monitored to determine if they meet the standards. A major limiting factor is whether the installation is in an area designated nonattainment or maintenance (air quality is not meeting the standard) and is therefore subject to more stringent requirements, including the CAA General Conformity Rule. Conformity requires that any new emissions from military sources brought into the area must be offset by credits or accounted for in the State Implementation Plan (SIP) emissions budget. The criteria pollutants of concern include: CO, O₃ (1 hour & 8 Hour), and PM (PM₁₀, and PM_{2.5}). Installations in attainment areas are not restricted, while activities for installations in non-attainment areas may be restricted. Non-attainment areas are classified as to the degree of non-attainment: Marginal, Moderate, Serious, and in the case of O₃, Severe and Extreme. SIP Growth Allowances and Emission Reduction Credits are tools that can be used to accommodate increased emissions in a manner that conforms to a state's SIP. All areas of the country require operating permits if emissions from stationary sources exceed certain threshold amounts. Major sources already exceed the amount and are subject to permit requirements. Synthetic minor means the base has accepted legal limits to its emissions to stay under the major source threshold. Natural or true minor means the actual and potential emissions are below the threshold.
- b. FORT BELVOIR is in Moderate Nonattainment for Ozone (1 hr). FORT BELVOIR is proposed to be in Nonattainment for Ozone (8 hour). It holds a CAA Major Operating Permit. It holds 2 CAA Minor Operating Permits. No emission credit program available. No SIP growth allowance has been allocated for this installation. FORT BELVOIR is in an area projected or proposed to be designated nonattainment for the 8-hour Ozone or the PM_{2.5} NAAQS.

2. Cultural/Archeological/Tribal Resources (DoD Question #229-237):

- a. Many installations have historical, archeological, cultural and Tribal sites of interest. These sites and access to them often must be maintained, or consultation is typically required before changes can be made. The sites and any buffers surrounding them may reduce the quantity or quality of land or airspace available for training and maneuvers or even construction of new facilities. The presence of such sites needs to be recognized, but the fact that restrictions actually occur is the overriding factor the data call is trying to identify. A programmatic agreement with the State Historic Preservation Office (SHPO) facilitates management of these sites.
- b. Historic property has been identified on FORT BELVOIR. There is no programmatic agreement for historic property in place with the SHPO. It does not have sites with high archeological potential identified.

3. Dredging (DoD Question # 226-228):

- a. Dredging allows for free navigation of vessels through ports, channels, and rivers. Identification of sites with remaining capacity for the proper disposal of dredge spoil is the primary focus of the profile. However, the presence of unexploded ordnance or any other impediment that restricts the ability to dredge is also a consideration.
- b. FORT BELVOIR has impediments to dredging.

4. Land Use Constraints/Sensitive Resource Areas (DoD Question #198-201, 238, 240-247, 254-256, 273):

- a. Land use can be encroached from both internal and external pressures. This resource area combines several different types of possible constraints. It captures the variety of constraints not otherwise covered by other areas that could restrict operations or development. The areas include electromagnetic radiation or emissions, environmental restoration sites (on and off installation), military munitions response areas, explosive safety quantity distance arcs, treaties, underground storage tanks, sensitive resource areas, as well as policies, rules, regulations, and activities of other federal, state,

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tribal and local agencies. This area also captures other constraining factors from animals and wildlife that are not endangered but cause operational restrictions. This resource area specifically includes information on known environmental restoration costs through FY03 and the projected cost-to-complete the restoration.

- b. FORT BELVOIR reports that 6411 unconstrained acres are available for development out of 9059 total acres. FORT BELVOIR has spent \$2063M thru FY03 for environmental restoration, and has estimated the remaining Cost to Complete at \$689M. FORT BELVOIR has Explosive Safety Quantity Distance Arcs, none of which require safety waivers, and none with the potential for expansion. It has restrictions due to adjacent or nearby Sensitive Resource Area.

5. Marine Mammal/Marine Resources/Marine Sanctuaries (DoD Question #248-250, 252-253):

- a. This area captures the extent of any restrictions on near shore or open water testing, training or operations as a result of laws protecting Marine Mammals, Essential Fish Habitat, and other related marine resources.
- b. FORT BELVOIR is impacted by laws and regulations pertaining to Marine Mammal Protection Act, Essential Fish Habitats & Fisheries and Marine Sanctuaries, which may adversely restrict navigation and operations.

6. Noise (DoD Question # 202-209, 239):

- a. Military operations, particularly aircraft operations and weapons firing, may generate noise that can impact property outside of the installation. Installations with significant noise will typically generate maps that predict noise levels. These maps are then used to identify whether the noise levels are compatible with land uses in these noise-impacted areas. Installations will often publish noise abatement procedures to mitigate these noise impacts.
- b. FORT BELVOIR does not have noise contours that extend off the installation's property. It does not have published noise abatement procedures for the main installation.

7. Threatened and Endangered Species/Critical Habitat (DoD Question #259-264)

- a. The presence of threatened and endangered species (TES) can result in restrictions on training, testing and operations. They serve to reduce buildable acres and maneuver space. The data in this section reflects listed TES as well as candidate species, designated critical habitat as well as proposed habitat, and restrictions from Biological Opinions. The legally binding conditions in Biological Opinions are designed to protect TES, and critical habitat. The data call seeks to identify the presence of the resource, TES, candidate or critical habitat, even if they don't result in restrictions, as well places where restrictions do exist.
- b. FORT BELVOIR reported that federally-listed TES are present that have delayed or diverted operations/training/testing, candidate species are not present, critical habitat is not present, and the installation does not have a Biological Opinion.

8. Waste Management (DoD Question # 265-272):

- a. This resource area identifies whether the installation has existing waste treatment and/or disposal capabilities, whether there is additional capacity, and in some case whether the waste facility can accept off-site waste. This area includes Resource Conservation and Recovery Act (RCRA) Treatment, Storage and Disposal facilities, solid waste disposal facilities, RCRA Subpart X (open/burning/open detonation) and operations.

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- b. FORT BELVOIR has a permitted RCRA Treatment Storage and Disposal Facility (TSDF) . FORT BELVOIR does not have an interim or final RCRA Part X facility . FORT BELVOIR does not have an on-base solid waste disposal facility .

9. Water Resources (DoD Question # 258, 274-299):

- a. This resource area asks about the condition of ground and surface water, and the legal status of water rights. Water is essential for installation operations and plays a vital role in the proper functioning of the surrounding ecosystems. Contamination of ground or surface waters can result in restrictions on training and operations and require funding to study and remediate. Federal clean water laws require states to identify impaired waters and to restrict the discharge of certain pollutants into those waters. Federal safe drinking water laws can require alternative sources of water and restrict activities above groundwater supplies particularly sole source aquifers. Water resources are also affected by the McCarran Amendment (1952), where Congress returned substantial power to the states with respect to the management of water. The amendment requires that the Federal government waive its sovereign immunity in cases involving the general adjudication of water rights. On the other hand existence of Federal Reserve Water Rights can provide more ability to the government to use water on federal lands.
- b. FORT BELVOIR does not discharge to an impaired waterway. Groundwater contamination is reported. Surface water contamination is reported.
(The following water quantity data is from DoD Question # 282, 291, 297, 822, 825, 826):
FORT BELVOIR has -1792.2 Acre-Feet of surplus water potentially available for expansion. On average, it uses 1.73 MGD of potable and non-potable water, with the capacity to produce 4.4000000000000004 MGD. It processed on average 1.8500000000000001 MGD of domestic wastewater in the peak month (past 3 years), with the capacity to process 6 MGD. It processed on average 0 MGD of industrial wastewater in the peak month (past 3 years), with the capacity to process (No Capacity Reported) MGD.

10. Wetlands (DoD Question # 251, 257):

- a. The existence of jurisdictional wetlands poses restraints on the use of land for training, testing or operations. In the data call the installations were asked to report the presence of jurisdictional wetlands and compare the percent of restricted acres to the total acres. The presence of jurisdictional wetlands may reduce the ability of an installation to assume new or different missions, even if they do not presently pose restrictions, by limiting the availability of land.
- b. FORT BELVOIR reported 10.2% wetland restricted acres on the main installation, and no wetland restricted acres on ranges.

DCN: 11580

Miller, Gary, CIV, WSO-BRAC

From: Miller, Gary, CIV, WSO-BRAC
Sent: Wednesday, August 10, 2005 11:58 AM
Subject: Breitschopf, Justin, CIV, WSO-BRAC
RE: Environmental Impacts associated with the realignment of March Air Reserve Base, CA

Justin,

I would use the following:

DoD: March is located in an area that is in nonattainment of 8-hour ozone, carbon monoxide and particulate matter. An initial conformity analysis show that a conformity determination is not required. Currently this does not restrict installation operations.

R&A: The realignment at March is moving 5 aircraft to other bases and will not have any additional impact on the Air Quality parameters and will not cause further restriction to be implemented at the installation.

Gary Miller, P.E.
Environmental Analyst
BRAC Commission
703-699-2930
gary.miller@wso.whs.mil

From: Breitschopf, Justin, CIV, WSO-BRAC
Sent: Wednesday, August 10, 2005 10:53 AM
To: Miller, Gary, CIV, WSO-BRAC
Subject: Environmental Impacts associated with the realignment of March Air Reserve Base, CA
Importance: High

Gary,

Are there any environmental impact issues associated with the moves at March Air Reserve Base, CA?

Thanks,

Justin Breitschopf

Air Force Team
Defense Base Closure and Realignment Commission
2521 South Clark Street
Arlington, VA 22202
Main Line: (703) 699-2950

Summary of Scenario Environmental Impacts - Criterion 8

Scenario ID#: USAF 0083V2 (421c2)

Brief Description: Realign March.

Distribute 163d Air Refueling Wing (ANG) KC-135R aircraft to 452d Air Mobility Wing (AFRC), March ARB (4 PAA); 157th Air Refueling Wing (ANG), Pease International Tradeport AGS (3 PAA); 134th Air Refueling Wing (ANG), McGhee-Tyson ANGB (1 PAA) and 22d Air Refueling Wing (Active Duty) at McConnell AFB (1 PAA). The 163d ECS remains in place.

<u>General Environmental Impacts</u>	
Environmental Resource Area	March
Air Quality	March is located in an area that is in nonattainment for 8-hour ozone (severe), carbon monoxide (serious), and particulate matter (serious). An initial conformity analysis shows that a conformity determination is not required. March is located within 100 miles of four critical air quality regions. This restricts base operations by triggering Prevention of Significant Deterioration (PSD). The PSD regulation sets forth preconstruction review requirements for stationary sources to ensure that air quality in clean air areas does not significantly deteriorate while maintaining a margin for future industrial growth. The base has been required to implement carpooling as an emission reduction procedure, but the special action did not restrict the installation operations.
Cultural/ Archeological/ Tribal Resources	The base has a 103-acre historic district with 68 contributing resources.
Dredging	No impact
Land Use Constraints/ Sensitive Resource Areas	The base cannot expand ESQD Arcs by ≥ 100 feet without a waiver, which may lower the safety of the base if operations are added.
Marine Mammals/ Marine Resources/ Marine Sanctuaries	No impact
Noise	No increase in off-base noise is expected.
Threatened& Endangered Species/ Critical Habitat	T&E species and/or critical habitats exist but don't impact operations. Additional operations may impact T&E species and/or critical habitats.
Waste Management	Modification of the waste program may be necessary.
Water Resources	The state requires a permit for withdrawal of groundwater.

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Wetlands	Wetlands restrict 0.07% of the base. Wetlands do not currently restrict operations. Additional operations may impact wetlands, which may restrict operations.
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<u>Impacts of Costs</u>	
	March
Environmental Restoration	DERA money spent through FY03 (\$K): 11,066 Estimated CTC (\$K): 14,972 DO NOT ENTER IN COBRA
Waste Management	No impact
Environmental Compliance	No impact

<u>General Environmental Impacts</u>	
Environmental Resource Area	Pease (Gaining)
Air Quality	A preliminary conformity analysis shows that a conformity determination is not required. The base is located within 100 miles of two critical air quality regions, but this does not restrict operations.
Cultural/ Archeological/ Tribal Resources	No impact
Dredging	No impact
Land Use Constraints/ Sensitive Resource Areas	Sensitive Resource Areas exist but do not constrain operations. Additional operations may impact these areas and constrain operations.
Marine Mammals/ Marine Resources/ Marine Sanctuaries	No impact
Noise	Less than a 3dB general increase in contours can be expected. The FAA Part 150 reflects the current mission/local land use/current noise levels. 859 acres off-base within the noise contours are zoned by the local community. 80 of these acres are residentially zoned. The community has purchased easements for area surrounding the installation.
Threatened& Endangered Species/ Critical Habitat	No T&E species or critical habitats exist. No impact to T&E species is expected.

DRAFT DELIBERATIVE DOCUMENT--FOR DISCUSSION PURPOSES ONLY
NOT RELEASABLE UNDER FOIA**March Air Reserve Base, CA**

Recommendation: Realign March Air Reserve Base, California. The 163d Air Refueling Wing (ANG) will distribute its nine KC-135R aircraft to the 452d Air Mobility Wing (AFR), March Air Reserve Base (four aircraft); the 157th Air Refueling Wing (ANG), Pease International Tradeport Air Guard Station, New Hampshire (three aircraft); the 134th Air Refueling Wing (ANG), McGhee-Tyson Airport Air Guard Station, Tennessee (one aircraft); and the 22d Air Refueling Wing, McConnell Air Force Base, Kansas (one aircraft). The 163d Air Refueling Wing's expeditionary combat support (ECS) will remain in place.

Justification: This recommendation realigns aircraft and organizationally optimizes March Air Reserve Base. With the highest military value (16) of all air reserve component bases for the tanker mission, March Air Reserve Base is retained and streamlined from two wing organizational structures to one reserve component flying mission with a more effectively sized KC-135 unit of 12 aircraft. This action distributes the remaining Air National Guard force structure at March to the higher-ranking active installation, McConnell (15), and two ANG installations, McGhee-Tyson (74) and Pease (105). McGhee-Tyson, though rated lower in military value, receives one aircraft due to military judgment to robust the squadron to a more effective size of 12 aircraft. Military judgment also placed additional force structure at Pease to support the Northeast Tanker Task Force and also robust the squadron to a more effective size of 12 aircraft. All receiver installations are increased in operational capability with the additional aircraft because of their proximity to air refueling missions. March's ECS remains in place to support the Air Expeditionary Force and to retain trained and experienced Air National Guard personnel.

Payback: The total estimated one-time cost to the Department of Defense to implement this recommendation is \$11.0 million. The net of all costs and savings to the Department during the implementation period is a cost of \$1.9 million. Annual recurring savings to the Department after implementation are \$1.8 million, with a payback expected in five years. The net present value of the cost and savings to the Department over 20 years is a savings of \$15 million.

Economic Impact on Communities: Assuming no economic recovery, this recommendation could result in a maximum potential reduction of 201 jobs (111 direct jobs and 90 indirect jobs) over 2006-2011 period in the Riverside-San Bernardino-Ontario, California Metropolitan Statistical economic area, which is 0.01 percent of economic area employment. The aggregate economic impact of all recommended actions on this economic region of influence was considered and is at Appendix B of Volume I.

Community Infrastructure Assessment: A review of the community attributes indicates no issues regarding the ability of the infrastructure of the communities to support missions, forces and personnel. There are no known community infrastructure impediments to implementation of all recommendations affecting the installations in this recommendation.

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Environmental Impact: There are potential impacts to air quality; cultural, archeological, or tribal resources; land use constraints or sensitive resource areas; noise; threatened and endangered species or critical habitat; waste management; water resources; and wetlands that may need to be considered during the implementation of this recommendation. There are no anticipated impacts to dredging; or marine mammals, resources, or sanctuaries. Impacts of costs include \$387 thousand in costs for environmental compliance and waste management. These costs were included in the payback calculation. There are no anticipated impacts to the costs of environmental restoration. The aggregate environmental impact of all recommended BRAC actions affecting the installations in this recommendation have been reviewed. There are no known environmental impediments to the implementation of this recommendation.

Miller, Gary, CIV, WSO-BRAC

From: Brittain.Doyle@epamail.epa.gov
Sent: Thursday, August 25, 2005 11:54 AM
To: Miller, Gary, CIV, WSO-BRAC
Subject: Re: Cecil Field

Importance: High

Gary

The information you provided below is correct except for the dates which slipped because of new information that came available later.

- 1) A large TCE plume was recently discovered in the area of the hangars and runways at the base. This is OU 9, Site 59, and becomes "the long pole in the tent" as far as us planning construction completion at the base. We are working on a ROD for this site at this moment.
- 2) During a construction project near a different part of the runways, a large area of buried small arms UXO was discovered. This had to be dug up. The thoroughness with which the DOD HQ UXO experts reviewed and approved the workplans and provided oversight of the investigation and removal of the UXO was slow and impressively thorough. We had no clue that UXO had been buried in that area. This took time and money we had not expected or projected.
- 3) OU 5, Site 15 is an 85 acre site that is heavily contaminated with lead from former trap and skeet ranges, and from an incinerator area for the disposal of small arms munitions and rockets. Late in the RI/FS, the State asked that additional investigation be conducted for dioxins and perchlorate requiring extra time and money we had not expected or projected. No dioxins or perchlorates were found.

Last week, we had a Project Team Meeting with NAS Cecil Field during which the critical milestones remaining to be done were discussed including the construction completion at the base. During that discussion, we reviewed our information in CERCLIS and based on the information that we have at this time believe the information in CERCLIS to be correct. We anticipate a construction completion at that base in 2007.

Thanks

Doyle T. Brittain
Senior Remedial Project Manager
Environmental Protection Agency, Region IV Waste Management Division, FFB
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Atlanta, GA 30303
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Email <brittain.doyle@epa.gov>

"Miller, Gary,
CIV, WSO-BRAC"
<Gary.Miller@wso
.whs.mil>

To
Doyle Brittain/R4/USEPA/US@EPA

cc

DCN: 11580
08/23/2005 09:07
AM

Subject

Cecil Field

Doyle,

I am an EPA employee on detail to Jim Woolford's office and the BRAC Commission. A question came up on Cecil Field concerning the status of the environmental restoration. From the Region 4 web site I got the following:

Remedial actions for all approved RODs have been started. RODs for the remaining sites are expected to be approved during FY 2002/2003 and all actions started by the end of FY 2004. Remedial actions include long term monitoring of creek sediments and surface water, natural attenuation, soil excavation with off-site disposal and air sparging of groundwater. These cleanups address groundwater plumes of chlorinated solvents and petroleum waste products, as well as surface soils, sediments and sources contaminated with metals and organics.

Have the RODs been completed for the remaining sites? Any additional information would be helpful.

Thanks,

Gary W. Miller, P.E.
Environmental Analyst
BRAC Commission
793-699-2930
gary.miller@wso.whs.mil

Miller, Gary, CIV, WSO-BRAC

From: Miller, Gary, CIV, WSO-BRAC
nt: Wednesday, August 17, 2005 9:36 AM
Subject: Cook, Robert, CIV, WSO-BRAC; Cirillo, Frank, CIV, WSO-BRAC
FW: Cannon AFB

Frank and Bob,
FYI

I know the Chairman has brought up the limited or zero dollars DoD is carrying for the environmental restoration at Cannon. The information below that I sent to David is what we are going to get from EPA and most likely DoD from the questions for the record. The bottom line is the \$1.2M is not a bad number. If the State requires a lot of additional work the number could rise, but even if it doubles it is still a small amount in the DERA budget.

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m: Miller, Gary, CIV, WSO-BRAC
: Wednesday, August 17, 2005 9:31 AM
Subject: Combs, David, CIV, WSO-BRAC
Cannon AFB

David,

The \$1.2M cost to complete environmental restoration for Cannon is our best guess at this time. What I found out is that Cannon has 3 landfill sites in long-term maintenance, 35 sites pending approval from the State and 25 sites needing additional documentation for the State to approve close out. There are also a few areas which require additional investigation, including a fire training area. My take on this is the base has completed a number of sites (35 sites plus the 25 that require more documentation) and these type of sites are most likely locations where someone thought something was spilled or disposed of in the past and initial investigations did not find any evidence of contamination. My guess is the State may require a limit amount of samples to confirm or just documentation changes.

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DRAFT DELIBERATIVE DOCUMENT--FOR DISCUSSION PURPOSES ONLY
NOT RELEASABLE UNDER FOIA**Cannon Air Force Base, NM**

Recommendation: Close Cannon Air Force Base, New Mexico. Distribute the 27th Fighter Wing's F-16s to the 115th Fighter Wing, Dane County Regional Airport, Truax Field Air Guard Station, Wisconsin (three aircraft); 114th Fighter Wing Joe Foss Field Air Guard Station South Dakota (three aircraft); 150th Fighter Wing Kirtland Air Force Base, (three aircraft); 113th Wing Andrews Air Force Base -, Maryland (nine aircraft); 57th Fighter Wing Nellis Air Force Base, Nevada (seven aircraft), the 388th Wing at Hill Air Force Base, Utah (six aircraft), and backup inventory (29 aircraft).

Justification: Cannon has a unique F-16 force structure mix. The base has one F-16 Block 50 squadron, one F-16 Block 40 squadron and one F-16 Block 30 squadron. All active duty Block 50 bases have higher military value than Cannon. Cannon's Block 50s move to backup inventory using standard Air Force programming percentages for fighters. Cannon's F-16 Block 40s move to Nellis Air Force Base (seven aircraft) and Hill Air Force Base (six aircraft to right size the wing at 72 aircraft) and to backup inventory (11 aircraft). Nellis (12) and Hill (14) have a higher military value than Cannon (50). The remaining squadron of F-16 Block 30s (18 aircraft) are distributed to air National Guard units at Kirtland Air Force Base NM (16), Andrews Air Force Base MD (21), Joe Foss Air Guard Station SD (112) and Dane-Truax Air Guard Station WI (122). These moves sustain the active/Air National Guard/Air Force Reserve force mix by replacing aircraft that retire in the 2025 Force Structure Plan.

Payback: The total estimated one-time cost to the Department of Defense to implement this recommendation is \$90 million. The net of all costs and savings to the Department during the implementation period is a savings of \$816 million. Annual recurring savings to the Department after implementation are \$200 million with an immediate payback expected. The net present value of the costs and savings to the Department over 20 years is a savings of \$2,707 million.

Economic Impact on Communities: Assuming no economic recovery, this recommendation could result in a maximum potential reduction of 4,780 jobs (2,824 direct jobs and 1,956 indirect jobs) over the 2006-2011 period in the Clovis, New Mexico Area Metropolitan Statistical economic area, which is 20.47% of economic area employment. The aggregate economic impact of all recommended actions on this economic region of influence was considered and is at Appendix B of Volume I.

Community Infrastructure Assessment: A review of community attributes indicates no issues regarding the ability of the infrastructure of the communities to support missions, forces and personnel. There are no known community infrastructure impediments to implementation of all recommendations affecting the installations in this recommendation.

Environmental Impact: Nellis Air Force Base is in a National Ambient Air Quality Standards nonattainment area for carbon monoxide (serious), particulate matter (PM10, serious), and ozone (8-hr, subpart 1). A preliminary assessment indicates that a

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conformity determination may be required to verify that positive conformity can be achieved. Costs to mitigate this potential impact have been included in the payback calculation and this is not expected to be an impediment to the implementation of this recommendation. There are also potential impacts to air quality; cultural, archeological, or tribal resources; land use constraints or sensitive resource areas; noise; threatened and endangered species or critical habitat; waste management; water resources; and wetlands that may need to be considered during the implementation of this recommendation. There are no anticipated impacts to dredging; or marine mammals, resources, or sanctuaries. Impacts of costs include \$2.75 million in costs for environmental compliance and waste management. These costs were included in the payback calculation. There are no anticipated impacts to the costs of environmental restoration. The aggregate environmental impact of all recommended BRAC actions affecting the installations in this recommendation have been reviewed. There are no known environmental impediments to the implementation of this recommendation.

INSTALLATION ENVIRONMENTAL PROFILE
CANNON AFB

1. Air Quality (DoD Question #210-225):

- a. The Clean Air Act (CAA) establishes health-based standards for air quality and all areas of the country are monitored to determine if they meet the standards. A major limiting factor is whether the installation is in an area designated nonattainment or maintenance (air quality is not meeting the standard) and is therefore subject to more stringent requirements, including the CAA General Conformity Rule. Conformity requires that any new emissions from military sources brought into the area must be offset by credits or accounted for in the State Implementation Plan (SIP) emissions budget. The criteria pollutants of concern include: CO, O₃ (1 hour & 8 Hour), and PM (PM₁₀, and PM_{2.5}). Installations in attainment areas are not restricted, while activities for installations in non-attainment areas may be restricted. Non-attainment areas are classified as to the degree of non-attainment: Marginal, Moderate, Serious, and in the case of O₃, Severe and Extreme. SIP Growth Allowances and Emission Reduction Credits are tools that can be used to accommodate increased emissions in a manner that conforms to a state's SIP. All areas of the country require operating permits if emissions from stationary sources exceed certain threshold amounts. Major sources already exceed the amount and are subject to permit requirements. Synthetic minor means the base has accepted legal limits to its emissions to stay under the major source threshold. Natural or true minor means the actual and potential emissions are below the threshold.
- b. Cannon AFB is in Attainment for all Criteria Pollutants.

2. Cultural/Archeological/Tribal Resources (DoD Question #229-237):

- a. Many installations have historical, archeological, cultural and Tribal sites of interest. These sites and access to them often must be maintained, or consultation is typically required before changes can be made. The sites and any buffers surrounding them may reduce the quantity or quality of land or airspace available for training and maneuvers or even construction of new facilities. The presence of such sites needs to be recognized, but the fact that restrictions actually occur is the overriding factor the data call is trying to identify. A programmatic agreement with the State Historic Preservation Office (SHPO) facilitates management of these sites.
- b. No historic property has been identified on Cannon AFB. There is no programmatic agreement for historic property in place with the SHPO. It does not have sites with high archeological potential identified.

3. Dredging (DoD Question # 226-228):

- a. Dredging allows for free navigation of vessels through ports, channels, and rivers. Identification of sites with remaining capacity for the proper disposal of dredge spoil is the primary focus of the profile. However, the presence of unexploded ordnance or any other impediment that restricts the ability to dredge is also a consideration.
- b. Cannon AFB has no impediments to dredging.

4. Land Use Constraints/Sensitive Resource Areas (DoD Question #198-201, 238, 240-247, 254-256, 273):

- a. Land use can be encroached from both internal and external pressures. This resource area combines several different types of possible constraints. It captures the variety of constraints not otherwise covered by other areas that could restrict operations or development. The areas include electromagnetic radiation or emissions, environmental restoration sites (on and off installation), military

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munitions response areas, explosive safety quantity distance arcs, treaties, underground storage tanks, sensitive resource areas, as well as policies, rules, regulations, and activities of other federal, state, tribal and local agencies. This area also captures other constraining factors from animals and wildlife that are not endangered but cause operational restrictions. This resource area specifically includes information on known environmental restoration costs through FY03 and the projected cost-to-complete the restoration.

- b. Cannon AFB reports that 58506 unconstrained acres are available for development out of 69937 total acres. Cannon AFB has spent \$12.5M thru FY03 for environmental restoration, and has estimated the remaining the Cost to Complete at \$1M. Cannon AFB has Explosive Safety Quantity Distance Arcs, none of which require safety waivers, and none with the potential for expansion.

5. Marine Mammal/Marine Resources/Marine Sanctuaries (DoD Question #248-250, 252-253):

- a. This area captures the extent of any restrictions on near shore or open water testing, training or operations as a result of laws protecting Marine Mammals, Essential Fish Habitat, and other related marine resources.
- b. Cannon AFB is not impacted by laws and regulations pertaining to Marine Mammal Protection Act, Essential Fish Habitats & Fisheries and Marine Sanctuaries, which may adversely restrict navigation and operations.

6. Noise (DoD Question # 202-209, 239):

- a. Military operations, particularly aircraft operations and weapons firing, may generate noise that can impact property outside of the installation. Installations with significant noise will typically generate maps that predict noise levels. These maps are then used to identify whether the noise levels are compatible with land uses in these noise-impacted areas. Installations will often publish noise abatement procedures to mitigate these noise impacts.
- b. Cannon AFB has noise contours that extend off the installation's property. Of the 4116 acres that extend to off-base property, 110 acres have incompatible land uses. It has published noise abatement procedures for the main installation. It does not have published noise abatement procedures for the training and/or RDT&E range.

7. Threatened and Endangered Species/Critical Habitat (DoD Question #259-264)

- a. The presence of threatened and endangered species (TES) can result in restrictions on training, testing and operations. They serve to reduce buildable acres and maneuver space. The data in this section reflects listed TES as well as candidate species, designated critical habitat as well as proposed habitat, and restrictions from Biological Opinions. The legally binding conditions in Biological Opinions are designed to protect TES, and critical habitat. The data call seeks to identify the presence of the resource, TES, candidate or critical habitat, even if they don't result in restrictions, as well places where restrictions do exist.
- b. Cannon AFB reported that federally-listed TES are not present, candidate species are present, critical habitat is not present, and that Cannon AFB does not have a Biological Opinion.

8. Waste Management (DoD Question # 265-272):

- a. This resource area identifies whether the installation has existing waste treatment and/or disposal capabilities, whether there is additional capacity, and in some case whether the waste facility can

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accept off-site waste. This area includes Resource Conservation and Recovery Act (RCRA) Treatment, Storage and Disposal facilities, solid waste disposal facilities, RCRA Subpart X (open/burning/open detonation) and operations.

- b. Cannon AFB does not have a permitted RCRA Treatment Storage and Disposal Facility (TSDF). Cannon AFB does not have an interim or final RCRA Part X facility. Cannon AFB does not have an on-base solid waste disposal facility.

9. Water Resources (DoD Question # 258, 274-299):

- a. This resource area asks about the condition of ground and surface water, and the legal status of water rights. Water is essential for installation operations and plays a vital role in the proper functioning of the surrounding ecosystems. Contamination of ground or surface waters can result in restrictions on training and operations and require funding to study and remediate. Federal clean water laws require states to identify impaired waters and to restrict the discharge of certain pollutants into those waters. Federal safe drinking water laws can require alternative sources of water and restrict activities above groundwater supplies particularly sole source aquifers. Water resources are also affected by the McCarran Amendment (1952), where Congress returned substantial power to the states with respect to the management of water. The amendment requires that the Federal government waive its sovereign immunity in cases involving the general adjudication of water rights. On the other hand existence of Federal Reserve Water Rights can provide more ability to the government to use water on federal lands.
- b. Cannon AFB does not discharge to an impaired waterway. Groundwater contamination is reported. Surface water contamination is not reported. The state requires permits for the withdrawal of groundwater.

10. Wetlands (DoD Question # 251, 257):

- a. The existence of jurisdictional wetlands poses restraints on the use of land for training, testing or operations. In the data call the installations were asked to report the presence of jurisdictional wetlands and compare the percent of restricted acres to the total acres. The presence of jurisdictional wetlands may reduce the ability of an installation to assume new or different missions, even if they do not presently pose restrictions, by limiting the availability of land.
- b. Cannon AFB has less than 1% wetland restricted acres on the military installation.

Summary of Scenario Environmental Impacts - Criterion 8

Scenario ID#: USAF 0114V3 (125.1c2)

Brief Description: Close Cannon AFB. The 27th Fighter Wing's F-16 aircraft will be distributed to the 115th Fighter Wing (ANG), Dane County Regional APT, Truax Field AGS, (3 PAA, Block 30); 114th Fighter Wing (ANG), Joe Foss Field AGS (3 PAA, Block 30); 150th Fighter Wing (ANG), Kirtland AFB, (3 PAA, Blk 30); 113th Wing (ANG), Andrews AFB (9 PAA, Blk 30); 57th Fighter Wing, Nellis AFB (7 PAA, B40) and 388th Wing, Hill AFB (6 PAA, B40), BAI (29 PAA, Blk 40/50). Singapore F-16 Block 52 squadron will move to Luke AFB, Arizona.

<u>General Environmental Impacts</u>	
Environmental Resource Area	Cannon (Closing)
Air Quality	No impact
Cultural/ Archeological/ Tribal Resources	No impact
Dredging	No impact
Land Use Constraints/ Sensitive Resource Areas	No impact
Marine Mammals/ Marine Resources/ Marine Sanctuaries	No impact
Noise	No impact
Threatened& Endangered Species/ Critical Habitat	No impact
Waste Management	No impact
Water Resources	Closure of on-installation treatment works may be necessary.
Wetlands	No impact

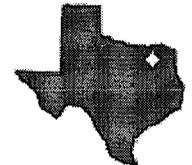
<u>Impacts of Costs</u>	
	Cannon (Closing)
Environmental Restoration	DERA money spent through FY03 (\$K): 12,500 Estimated CTC (\$K): 1,200 DO NOT ENTER IN COBRA

Common

	Decision makers should be aware that the closure decision contemplated in this scenario would necessitate the closure of ranges and the remediation of any munitions contaminants on the ranges. The cost and time required to remediate the ranges is uncertain and may be significant, potentially limiting near-term reuse of the range portion of the facility.
Waste Management	No impact
Environmental Compliance	FY06 NEPA cost: Scenario \$1,150K / Cumulative \$1,150K

<u>General Environmental Impacts</u>	
Environmental Resource Area	Dane County Regional - Truax Field AGS
Air Quality	An initial conformity analysis shows that a conformity determination is not required.
Cultural/ Archeological/ Tribal Resources	Sites or areas with a high potential for archeological sites were identified.
Dredging	No impact
Land Use Constraints/ Sensitive Resource Areas	The base cannot expand ESQD Arcs by ≥ 100 feet without a waiver, which may lower the safety of the base if operations are added.
Marine Mammals/ Marine Resources/ Marine Sanctuaries	No impact
Noise	Less than a 3dB general increase in contours can be expected. The FAA Part 150 reflects the current mission, local land use, and current noise levels. 1,913 acres off-base within the noise contours are zoned by the local community. 546 of these acres are residentially zoned. The community has purchased easements for area surrounding the installation.
Threatened & Endangered Species/ Critical Habitat	No impact
Waste Management	No impact
Water Resources	No impact
Wetlands	Wetlands Survey may need to be conducted to determine impact. Wetlands do not currently restrict operations. Additional operations may impact wetlands, which may restrict operations.
<u>Impacts of Costs</u>	
	Dane County Regional - Truax Field AGS

FFID:	TX621382073800	Funding to Date:	\$ 34.5 million
Size:	19,113 acres	Estimated Cost to Completion (Completion Year):	\$ 52.5 million (FY 2017)
Mission:	Provide maintenance for light combat vehicles, support rubber production, store ammunition, and conduct training	IRP/MMRP Sites Final RIP/RC:	FY 2009/FY 2017
HRS Score:	N/A	Five-Year Review Status:	The installation has not completed a 5-year review.
IAG Status:	None		
Contaminants:	TCE		
Media Affected:	Groundwater, surface water, sediment		



Progress To Date

In 1995, the BRAC Commission realigned Red River Army Depot by moving the M113 vehicle mission to other depots. The installation retained its Bradley Fighting Vehicle, the intern training, Patriot Missile, and rubber production missions. Areas of environmental concern at the depot include the oil-water separator lagoons, spill sites associated with previous industrial and pre-RCRA disposal activities, and spill sites associated with pesticide storage and mixing activities. Trichloroethylene (TCE) is the main contaminant affecting groundwater at the installation. In FY95, the installation formed a BRAC cleanup team (BCT) and the community formed the Red River Local Redevelopment Authority (RRLRA). In FY96, the installation formed a Restoration Advisory Board (RAB) and prepared a BRAC cleanup plan (BCP). The BCP was updated in FY01. The installation maintains a partnership with the Texas Natural Resource Conservation Commission through the Defense and State Memorandum of Agreement program.

Over the years, the installation removed more than 2,000 cubic yards of contaminated sediment from the north and south stormwater drainage ditches in the Western Industrial Area (WIA). The Army transferred 625 acres of the 797 acres of BRAC property to the RRLRA. The cleanup progress at Red River Army Depot for FY00 through FY03 is detailed below.

In FY00, the installation worked with the Waterways Experiment Station to prepare a groundwater model of the WIA area to support cleanup decisions. The installation completed all CERFA-uncontaminated acreage determinations with regulatory approval. The installation also provided a training session for the RAB on bioremediation and wetlands.

In FY01, the Army updated the BCP and transferred acreage to the RRLRA. The Army calibrated the WIA groundwater modeling study. The BCT was active in all reviews related to property transfer. The installation closed out two stormwater lagoons located on excess property. The Army cleaned out and refilled the north lagoon, and removed sludge from the south lagoon as hazardous waste due to high metal concentrations.

In FY02, the installation completed the cultural resources memorandum of agreement and submitted it to the regulators for review. It closed the south lagoon and initiated the WIA risk

assessment. The Army completed an inventory of closed, transferred, and transferring ranges and sites with unexploded ordnance, discarded military munitions, or munitions constituents. The inventory identified Five Military Munitions Response Program (MMRP) sites at the non-BRAC, active portion of this installation. It identified no BRAC MMRP sites.

In FY03, the installation completed the groundwater modeling study in the WIA and submitted the study to the regulators. The Army repaired the chrome and storm sewers by relining with cured-in-place-piping. The installation completed the Hays Plant Affected Property Assessment Report (APAR). The Army awarded a contract for the removal of the chrome beds at the industrial waste treatment plant. The installation expanded sampling at the X-1 Sewer Treatment Plant to define the extent of contamination. The Army presented its proposal to conduct a pilot study of dual phase extraction to determine the potential for removal of TCE from contaminated soils and groundwater. The regulators agreed to the proposal as a sound method for determining the technical practicability for removal of dense non-aqueous phase liquid (DNAPL). The Army Environmental Center analysis of the groundwater modeling projected a negligible environmental impact from groundwater discharge to Panther Creek. The installation initiated an MMRP site inspection in the active portion of the installation.

FY04 IRP Progress

The installation completed a pilot study to determine the treatability of TCE in the groundwater, which determined that treatment of DNAPL is not feasible using the current available technology. The Army removed contaminated soil from the former pesticide pit, the former Hays Sewer Treatment Plant, and the chrome drying beds, and submitted the APAR and response action completion report for these sites. The Army anticipates no further action at these sites. The Army installed four monitoring wells offsite to determine the degree of contaminant migration from the installation. Three of the wells were non-detect for TCE and one well had detections of TCE below the action level. The installation took additional soil, groundwater, surface water and sediment samples to define the extent of contamination at the X-1 Sewer Treatment Plant. The installation completed a finding of suitability to transfer approximately 14 acres. The Army submitted release investigation reports for the former transfer station at

Building 172 and the installation water treatment plant.

FY04 MMRP Progress

The Army has identified no MMRP sites on the BRAC portion of this installation.

Plan of Action

Plan of action items for Red River Army Depot are grouped below according to program category.

IRP

- Complete the APAR for the WIA and the X-1 Sewer Treatment Plant in FY05-FY06.
- Complete and implement the response action plan for the WIA and the X-1 Sewer Treatment Plant in FY05-FY06.

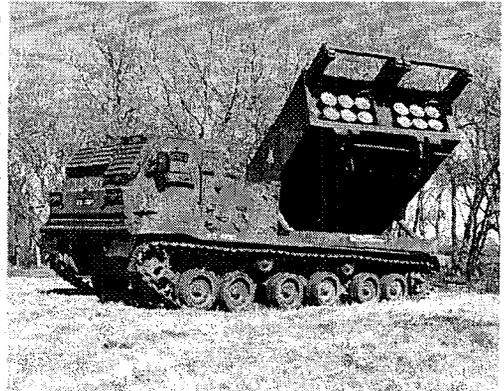
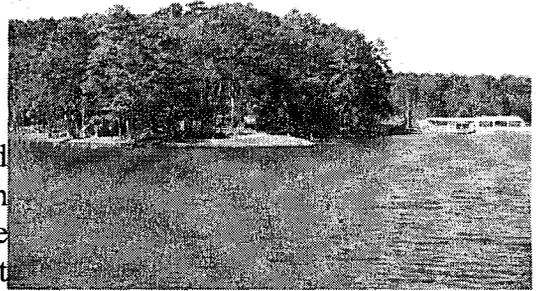
MMRP

There are no MMRP actions scheduled for FY05 or FY06.

Red River Army Depot Texarkana, TX

Background

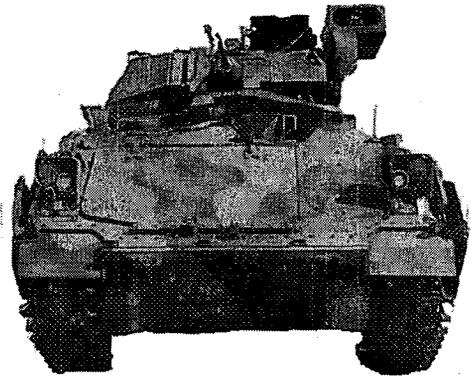
The Red River Army Depot (RRAD) is an active United States Army Facility covering 19,081 acres in northeastern Texas in Bowie County. 765 acres have been, or are scheduled for, transfer under the 1995 Base Realignment and Closure (BRAC). The remaining 18,316 acres are on the proposed BRAC 2005 list. Lone Star Army Ammunition Plant (LSAAP) is located adjacent to RRAD and is also on the proposed BRAC 2005 list. LSAAP consists of 15,546 acres. The major operational facilities on RRAD include maintenance and reconstruction of light-tracked vehicles; demilitarization of out-of-specification ordnance; ammunition storage; renovation, maintenance, modification, rectification of the Hawk, Chaparral, and Patriot missiles, and track- and road-wheel rebuilding of a wide variety of speciality vehicles. The majority of the acreage is used for ammunition storage and/or timber management.



If RRAD and LSAAP remain on the BRAC 2005 list, the U.S. Fish and Wildlife is interested in participating in a fed-to-fed land transfer to obtain acreage for use as a wildlife management area.

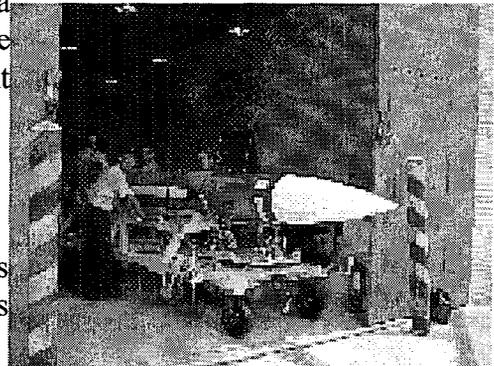
Major Issues at RRAD

RRAD has known groundwater contamination under the various manufacturing buildings at the Site. In addition, a Dense Non-Aqueous Phase Liquid (DNAPL) plume has also been encountered under the storm water conveyance ditches at depths down to 35 feet. This DNAPL will act as a continuing source to contaminate groundwater for the foreseeable future. There is also known sediment contamination off-post in Panther Creek.

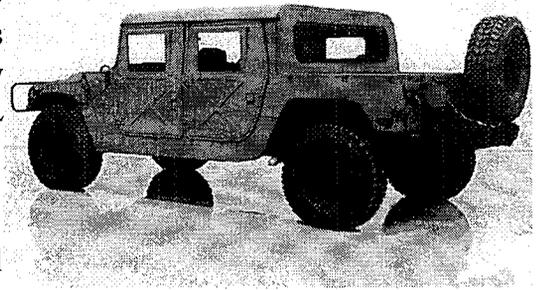


Site Status

The groundwater contaminant plume has migrated towards Panther Creek and has impacted Panther Creek. There is known surface water contamination in Panther



Creek, both on-post and off-post. Four groundwater monitoring wells were installed north of the RRAD facility near Panther Creek. The latest analytical results from these off-post groundwater monitoring wells show TCE concentrations off-post at over 4.5 µg/l (TCE MCL is 5 µg/l).



Environmental Threat

The EPA and Texas Commission on Environmental Quality (TCEQ) have had numerous discussions with RRAD concerning the impacts to Panther Creek and off-post groundwater. Remedial measures must be taken to mitigate the continued impacts to Panther Creek and the groundwater (particularly off-post groundwater). To that extent, the EPA and TCEQ have recommended that a Permeable Reactive Barrier (PRB) be installed to prevent the contaminated groundwater plume from reaching Panther Creek. It will allow the contaminated groundwater to be remediated in the PRB prior to reaching Panther Creek.

Historically, RRAD has refused to install a PRB, preferring to just monitor the contaminant plume. The reasons offered verbally by RRAD for not installing the PRB include: EPA and TCEQ staff may change, and the new project managers may request a different technology; the effectiveness of the PRB cannot be quantified; Panther Creek is not impacted by groundwater; the time frames for the PRB to remediate the groundwater are too long. The EPA has requested that RRAD put their position in writing in a letter to EPA. As of this time, the EPA has not received that letter.

Site Contaminants

- Metals
- VOCs
- SVOCs

Congressional Interest

Since RRAD and LSAAP are both on the BRAC 2005 list, there is a high level of congressional interest, including both U.S. Senators from Texas (Cornyn and Hutchison). The Regional BRAC hearing was held in San Antonio on July 11, 2005. Approximately 2,000 yellow-shirted people from the RRAD area attended the hearing. Texas Governor Rick Perry, U.S. Senator Kay Bailey-Hutchison, and U.S. Senator John Cornyn spoke in support of RRAD and LSAAP.

Information Current as of July 11, 2005

Contact: Greg Lyssy, USEPA, Region 6, (214) 665-8317

11 May 05

Red River Army Depot, TX

Recommendation: Close Red River Army Depot, TX. Relocate the storage and demilitarization functions of the Munitions Center to McAlester Army Ammunition Plant, OK. Relocate the munitions maintenance functions of the Munitions Center to McAlester Army Ammunition Plant, OK, and Blue Grass Army Depot, KY. Relocate the depot maintenance of Armament and Structural Components, Combat Vehicles, Depot Fleet/Field Support, Engines and Transmissions, Fabrication and Manufacturing, Fire Control Systems and Components, and Other to Anniston Army Depot, AL. Relocate the depot maintenance of Powertrain Components, and Starters/Generators to Marine Corps Logistics Base Albany, GA. Relocate the depot maintenance of Construction Equipment to Anniston Army Depot, AL, and Marine Corps Logistics Base Albany, GA. Relocate the depot maintenance of Tactical Vehicles to Tobyhanna Army Depot, PA and Letterkenny Depot, PA. Relocate the depot maintenance of Tactical Missiles to Letterkenny Army Depot, PA. Disestablish the supply, storage, and distribution functions for tires, packaged Petroleum, Oil, and Lubricants, and compressed gases. Relocate the storage and distribution functions and associated inventories of the Defense Distribution Depot to the Defense Distribution Depot, Oklahoma City, OK.

Justification: This recommendation supports the strategy of minimizing the number of industrial base sites performing depot maintenance for ground and missile systems. The receiving depots have greater maintenance capability, higher facility utilization and greater opportunities for inter-service workloading. This recommendation reinforces Anniston's and Letterkenny's roles as Centers of Industrial and Technical Excellence for Combat Vehicles (Anniston) and Missile Systems (Letterkenny).

This recommendation decreases the cost of depot maintenance operations by consolidation and elimination of 30 percent of duplicate overhead structures required to operate multiple depot maintenance activities. This recommendation also increases opportunities for inter-service workloading by transferring maintenance workload to the Marine Corps.

This recommendation relocates storage, demilitarization, and munitions maintenance functions to McAlester Army Ammunition Plant, and thereby reduces redundancy and removes excess from Red River Munitions Center.

This recommendation allows DoD to create centers of excellence, generate efficiencies, and create deployment networks servicing all Services.

This recommendation relocates the storage and distribution functions and associated inventories to the Defense Distribution Depot Oklahoma City at Tinker Air Force Base. It also contributes to the elimination of unnecessary redundancies and duplication, and streamlines supply and storage processes.

The disestablishment of the wholesale supply, storage, and distribution functions for all packaged POL, tires, and compressed gas products supports transformation by privatizing

11 May 05

these functions. Privatization of packaged POL, tires, and compressed gas products will eliminate inventories, infrastructure and personnel associated with these functions and products.

Payback: The total estimated one-time cost to the Department of Defense to implement this recommendation is \$456.2M. The net present value of all costs and savings to the Department of Defense during the implementation period is a cost of \$216.6M. Annual recurring savings to the Department after implementation are \$76.5M with a payback expected in 4 years. The net present value of the costs and savings to the Department over 20 years is a savings of \$539.0M.

Economic Impact on Communities: Assuming no economic recovery, this recommendation could result in a maximum potential reduction of 4,176 jobs (2,500 direct and 1,676 indirect) over the 2006 -2011 period in the Texarkana, TX - Texarkana, AR Metropolitan Statistical area, which is 6.15 percent of the economic area employment. The aggregate economic impact of all recommended actions on this economic region of influence was considered and is at Appendix B of Volume I.

Community Infrastructure Assessment: A review of community attributes indicates no significant issues regarding the ability of the infrastructure of the communities to support missions, forces and personnel. When moving from Red River Army Depot to Tobyhanna, 5 attributes improve (child care, medical health, safety, population center, and transportation) and 1 declines (employment). When moving from Red River to Letterkenny Army Depot, 2 attributes decline (child care and housing) and one improves (safety). When moving from Red River to Anniston Army Depot, 3 attributes improve (child care, cost of living and population center) and 1 declines (housing). When moving from Red River to Tinker, seven attributes improve (population, child care, education, employment, housing, medical and transportation) and one attribute declines (crime). There are no known community infrastructure impediments to implementation of all recommendations affecting the installations in this recommendation.

Environmental Impact: Closure of Red River Army Depot may require consultations with the State Historic Preservation Office to ensure that cultural sites are continued to be protected. Closure of operational ranges at Red River will necessitate clearance of munitions and remediation of any munitions constituents. The remediation costs for these ranges may be significant and the time required for completing remediation is uncertain. Contaminated areas at Red River will require restoration and/or monitoring. An Air Conformity Analysis is required at Anniston, Tobyhanna, and Letterkenny. Anniston is located over a sole-source aquifer, which may require additional mitigation measures/pollution prevention to protect the aquifer from increased depot maintenance activities. The industrial wastewater treatment plant at Anniston may require upgrades. Additional operations at Tinker may impact wetlands, which may lead to operational restrictions. This recommendation has no impact on dredging; marine mammals, resources, or sanctuaries; noise; or threatened and endangered species or critical habitat. This recommendation will require spending approximately \$4.8M for environmental compliance costs. These costs were included in the payback calculation. Red River

11 May 05

reports \$49.1M in environmental restoration costs. Because the Department has a legal obligation to perform environmental restoration regardless of whether an installation is closed, realigned, or remains open, these costs were not included in the payback calculation. This recommendation does not otherwise impact the costs of environmental restoration, waste management, and environmental compliance activities. The aggregate environmental impact of all recommended BRAC actions affecting the installations in this recommendation has been reviewed. There are no known environmental impediments to implementation of this recommendation.

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Profile generated on 12/30/2004 with data as of 12/30/2004

**INSTALLATION ENVIRONMENTAL PROFILE
RED RIVER ARMY DEPOT****1. Air Quality (DoD Question #210-225):**

- a. The Clean Air Act (CAA) establishes health-based standards for air quality and all areas of the country are monitored to determine if they meet the standards. A major limiting factor is whether the installation is in an area designated nonattainment or maintenance (air quality is not meeting the standard) and is therefore subject to more stringent requirements, including the CAA General Conformity Rule. Conformity requires that any new emissions from military sources brought into the area must be offset by credits or accounted for in the State Implementation Plan (SIP) emissions budget. The criteria pollutants of concern include: CO, O₃ (1 hour & 8 Hour), and PM (PM₁₀, and PM_{2.5}). Installations in attainment areas are not restricted, while activities for installations in non-attainment areas may be restricted. Non-attainment areas are classified as to the degree of non-attainment: Marginal, Moderate, Serious, and in the case of O₃, Severe and Extreme. SIP Growth Allowances and Emission Reduction Credits are tools that can be used to accommodate increased emissions in a manner that conforms to a state's SIP. All areas of the country require operating permits if emissions from stationary sources exceed certain threshold amounts. Major sources already exceed the amount and are subject to permit requirements. Synthetic minor means the base has accepted legal limits to its emissions to stay under the major source threshold. Natural or true minor means the actual and potential emissions are below the threshold.
- b. RED RIVER ARMY DEPOT is in Attainment for all Criteria Pollutants. It holds a CAA Major Operating Permit.

2. Cultural/Archeological/Tribal Resources (DoD Question #229-237):

- a. Many installations have historical, archeological, cultural and Tribal sites of interest. These sites and access to them often must be maintained, or consultation is typically required before changes can be made. The sites and any buffers surrounding them may reduce the quantity or quality of land or airspace available for training and maneuvers or even construction of new facilities. The presence of such sites needs to be recognized, but the fact that restrictions actually occur is the overriding factor the data call is trying to identify. A programmatic agreement with the State Historic Preservation Office (SHPO) facilitates management of these sites.
- b. No historic property has been identified on RED RIVER ARMY DEPOT. There is no programmatic agreement for historic property in place with the SHPO. It does not have sites with high archeological potential identified.

3. Dredging (DoD Question # 226-228):

- a. Dredging allows for free navigation of vessels through ports, channels, and rivers. Identification of sites with remaining capacity for the proper disposal of dredge spoil is the primary focus of the profile. However, the presence of unexploded ordnance or any other impediment that restricts the ability to dredge is also a consideration.
- b. RED RIVER ARMY DEPOT has no impediments to dredging.

4. Land Use Constraints/Sensitive Resource Areas (DoD Question #198-201, 238, 240-247, 254-256, 273):

- a. Land use can be encroached from both internal and external pressures. This resource area combines several different types of possible constraints. It captures the variety of constraints not otherwise covered by other areas that could restrict operations or development. The areas include electromagnetic radiation or emissions, environmental restoration sites (on and off installation), military munitions response areas, explosive safety quantity distance arcs, treaties, underground storage tanks, sensitive resource areas, as well as policies, rules, regulations, and activities of other federal, state, tribal and local agencies. This area also captures other constraining factors from animals and wildlife that are not endangered but cause operational restrictions. This resource area specifically includes

information on known environmental restoration costs through FY03 and the projected cost-to-complete the restoration.

- b. RED RIVER ARMY DEPOT reports that 1214 unconstrained acres are available for development out of 18316 total acres. RED RIVER ARMY DEPOT has spent \$17.899999999999999M thru FY03 for environmental restoration, and has estimated the remaining Cost to Complete at \$49M. RED RIVER ARMY DEPOT has Explosive Safety Quantity Distance Arcs, none of which require safety waivers, and some with the potential for expansion. It has Military Munitions Response Areas.

5. Marine Mammal/Marine Resources/Marine Sanctuaries (DoD Question #248-250, 252-253):

- a. This area captures the extent of any restrictions on near shore or open water testing, training or operations as a result of laws protecting Marine Mammals, Essential Fish Habitat, and other related marine resources.
- b. RED RIVER ARMY DEPOT is not impacted by laws and regulations pertaining to Marine Mammal Protection Act, Essential Fish Habitats & Fisheries and Marine Sanctuaries, which may adversely restrict navigation and operations.

6. Noise (DoD Question # 202-209, 239):

- a. Military operations, particularly aircraft operations and weapons firing, may generate noise that can impact property outside of the installation. Installations with significant noise will typically generate maps that predict noise levels. These maps are then used to identify whether the noise levels are compatible with land uses in these noise-impacted areas. Installations will often publish noise abatement procedures to mitigate these noise impacts.
- b. RED RIVER ARMY DEPOT does not have noise contours that extend off the installation's property. It does not have published noise abatement procedures for the main installation. It has noise contours that extend off of the range property. Of the 282 acres that extend to off-range property, 0 acres have incompatible land uses.

7. Threatened and Endangered Species/Critical Habitat (DoD Question #259-264)

- a. The presence of threatened and endangered species (TES) can result in restrictions on training, testing and operations. They serve to reduce buildable acres and maneuver space. The data in this section reflects listed TES as well as candidate species, designated critical habitat as well as proposed habitat, and restrictions from Biological Opinions. The legally binding conditions in Biological Opinions are designed to protect TES, and critical habitat. The data call seeks to identify the presence of the resource, TES, candidate or critical habitat, even if they don't result in restrictions, as well places where restrictions do exist.
- b. RED RIVER ARMY DEPOT reported that federally-listed TES are not present, candidate species are not present, critical habitat is not present, and the installation does not have a Biological Opinion.

8. Waste Management (DoD Question # 265-272):

- a. This resource area identifies whether the installation has existing waste treatment and/or disposal capabilities, whether there is additional capacity, and in some case whether the waste facility can accept off-site waste. This area includes Resource Conservation and Recovery Act (RCRA) Treatment, Storage and Disposal facilities, solid waste disposal facilities, RCRA Subpart X (open/burning/open detonation) and operations.
- b. RED RIVER ARMY DEPOT has a permitted RCRA Treatment Storage and Disposal Facility (TSDF) that accepts off-site waste. RED RIVER ARMY DEPOT has an interim or final RCRA Part X facility

that accepts off-site waste. RED RIVER ARMY DEPOT does not have an on-base solid waste disposal facility .

9. Water Resources (DoD Question # 258, 274-299):

- a. This resource area asks about the condition of ground and surface water, and the legal status of water rights. Water is essential for installation operations and plays a vital role in the proper functioning of the surrounding ecosystems. Contamination of ground or surface waters can result in restrictions on training and operations and require funding to study and remediate. Federal clean water laws require states to identify impaired waters and to restrict the discharge of certain pollutants into those waters. Federal safe drinking water laws can require alternative sources of water and restrict activities above groundwater supplies particularly sole source aquifers. Water resources are also affected by the McCarran Amendment (1952), where Congress returned substantial power to the states with respect to the management of water. The amendment requires that the Federal government waive its sovereign immunity in cases involving the general adjudication of water rights. On the other hand existence of Federal Reserve Water Rights can provide more ability to the government to use water on federal lands.
- b. RED RIVER ARMY DEPOT does not discharge to an impaired waterway. Groundwater contamination is reported. Surface water contamination is not reported.
(The following water quantity data is from DoD Question # 282, 291, 297, 822, 825, 826):
RED RIVER ARMY DEPOT has 2414 Acre-Feet of surplus water potentially available for expansion. On average, it uses 0.7660000000000001 MGD of potable and non-potable water, with the capacity to produce 3 MGD. It processed on average 1.3200000000000001 MGD of domestic wastewater in the peak month (past 3 years), with the capacity to process 1.5 MGD. It processed on average 0.3300000000000002 MGD of industrial wastewater in the peak month (past 3 years), with the capacity to process 1.25 MGD.

10. Wetlands (DoD Question # 251, 257):

- a. The existence of jurisdictional wetlands poses restraints on the use of land for training, testing or operations. In the data call the installations were asked to report the presence of jurisdictional wetlands and compare the percent of restricted acres to the total acres. The presence of jurisdictional wetlands may reduce the ability of an installation to assume new or different missions, even if they do not presently pose restrictions, by limiting the availability of land.
- b. RED RIVER ARMY DEPOT reported no wetland restricted acres on the main installation, and no wetland restricted acres on ranges.

**SUBJECT: SUMMARY OF SCENARIO ENVIRONMENTAL IMPACTS (CONTINUED);
SCENARIO #179**

Env Resource Area	<i>Losing Installation Assessment</i> Inst Name: Red River Depot	Analyst Comments (& data source(s) that drive assessment)
Air Quality	No impact.	#213 - Reported N/A - indicating all NAAQS in Attainment
Cultural/Archaeological/Tribal Resources	Some Native People sites identified. Surveys and consultation with SHPO may be required to ensure protection of these resources.	Q#231 -Native People sites reported. Q#233-98.5% surveyed. #230, 232, 235, 236 - No Archaeological sites identified, no sites with high potential for archaeological resources identified, no historic resources identified, no Programmatic Agreement with SHPO.
Dredging	No Impact	#227 - N/A
Land Use Constraints/Sensitive Resource Areas	Special waste management areas at the installation include IRP sites and operational ranges. Restoration, monitoring/sweeps, access controls, and/or deed restrictions may be required after closure to prevent disturbance, health and safety risks, and/or long-term release of toxins to environmental media.	Q#240 - DERA sites present - \$17.9M spent thru FY03, with \$48.8M CTC (IRP CTC is \$22.3M from DERP) #273 - Has MMRA's - CTC \$26.8M 8 operational ranges and 2 small arms ranges - estimate \$6.4M - \$73.9M
Marine Mammals/Marine Resources	No Impact	#248-250, 252, 253 - N/A
Noise	No Impact	#239 - 282 acres of Noise Zone 2 extend outside installation.
Threatened/Endangered Species/Critical	No Impact	#259-264 - No TES/habitat/candidate species.
Waste Management	Installation has RCRA TSD facility and RCRA Subpart X Permit. Restoration, monitoring/sweeps, access controls, and/or deed restrictions may be required for these areas to prevent disturbance, health and safety risks, and/or long-term release of toxins to environmental media.	Q#265 - Permitted hazardous waste TSD facility Q#269 - Has RCRA Subpart X permit for OB/OD facility #272 - No solid waste disposal facility

<p>Water Resources</p>	<p>Environmental media contamination issues at installation include 1,1,2 TCA; chloroform; perchlorates; carbon disulfide; cadmium; 1,1,DCE; 1,1,1TCE; TCE reported in groundwater. Restoration and/or monitoring of contaminated media will likely be required after closure in order to prevent significant long-term impacts to the environment.</p>	<p>Q#275 – 1,1,2TCA; chloroform; perchlorates; carbon disulfide; cadmium; 1,1,DCE; 1,1,1TCE; TCE groundwater contamination #281 - No surface water contamination</p>
<p>Wetlands</p>	<p>No Impact</p>	<p>#251- Wetlands survey completed 3/98 #257 - No wetlands reported.</p>



DEPARTMENT OF THE ARMY
OFFICE OF THE ASSISTANT SECRETARY
INSTALLATIONS AND ENVIRONMENT
110 ARMY PENTAGON
WASHINGTON DC 20310-0110

DCN: 2981

JUN 01 2005

SAIE-IA

Gray
MEMORANDUM FOR Army Team Leader, BRAC Commission

SUBJECT: Issues/Concerns/Questions on Fort Monroe, VA

1. The Commission requested a TABS response to issues raised during the initial Fort Monroe visit. The concerns outlined in the attached briefing center on three main topics: environmental remediation costs, disposal of historic structures, and the administrative capabilities of Fort Monroe.
2. Environmental remediation and the disposal of historic properties are BRAC implementation issues. The Department of Defense has a legal obligation to perform environmental restoration regardless of whether a base is closed, realigned, or remains open. The Army is also aware that coordination with the Virginia State Historic Preservation Office is required.
3. Fort Monroe has a robust Command & Control environment that is capable of supporting several administrative tenants. However, the installations that provide the most military value to the Army are those that are capable of supporting more than one type of mission. Fort Eustis is capable of supporting administrative tenants while leaving room for growth into other mission areas, such as training and mobilization. The closure of Fort Monroe allows the Army to divest itself of unnecessary administrative facilities while retaining other critical capabilities at Fort Eustis.

CRAIG E. COLLEGE
Deputy Assistant Secretary of the Army
for Infrastructure Analysis

DCN: 11580



DEFENSE BASE CLOSURE AND REALIGNMENT COMMISSION
2521 SOUTH CLARK STREET
ARLINGTON, VA 22202
TELEPHONE: (703) 699-2950
DCN: 2981

Chairman: The Honorable Anthony J. Principi
Commissioners: The Honorable James M. Biber, The Honorable Philip E. Coyle III, Admiral Harold W. Gehman, Jr., USN (Ret.), The Honorable James V. Harbo
General James T. Hill, USA (Ret.), General Lloyd W. Newton, USAF (Ret.), The Honorable Samuel K. Stinner, Brigadier General Sue Ellen Turner, USAF (Ret.)
Executive Director: Charles Baglitz

May 27, 2005

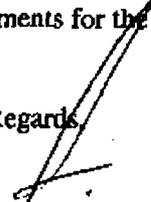
TO: The Army Basing Study (TABS)

FROM: BRAC Commission

SUBJECT: Issues/Concerns/Questions on Fort Monroe, VA

Please review the attached slides from the Ft Monroe base visit and provide your analysis based on the work previously done by your analyst. Most issues appear to be BRAC implementation. However, I would like your comments for the record.

Regards,


R. Gary Dinsick
Army Team Leader



Joe Camahlan/IMJ-E-MNR, PA 1757-78R-4826/DSN 6816/camahlanj@maroc.army.mil

Unexploded Ordnance (UXO)

1994 UXO Investigation

- Geophysical survey of unpaved, accessible areas detected 73,331 magnetic anomalies (additional 80,000 estimated in moat)
 - Study estimates 29.8% potentially UXO
 - Study estimates 1.8% actual UXO present
- Survey did not include main roads, under buildings, wetlands
 - How will DOD cleanup UXO under buildings?
- Estimate to remediate to a depth of 10 feet is approx. \$21.7M (1995 dollars)





UXO cont'd

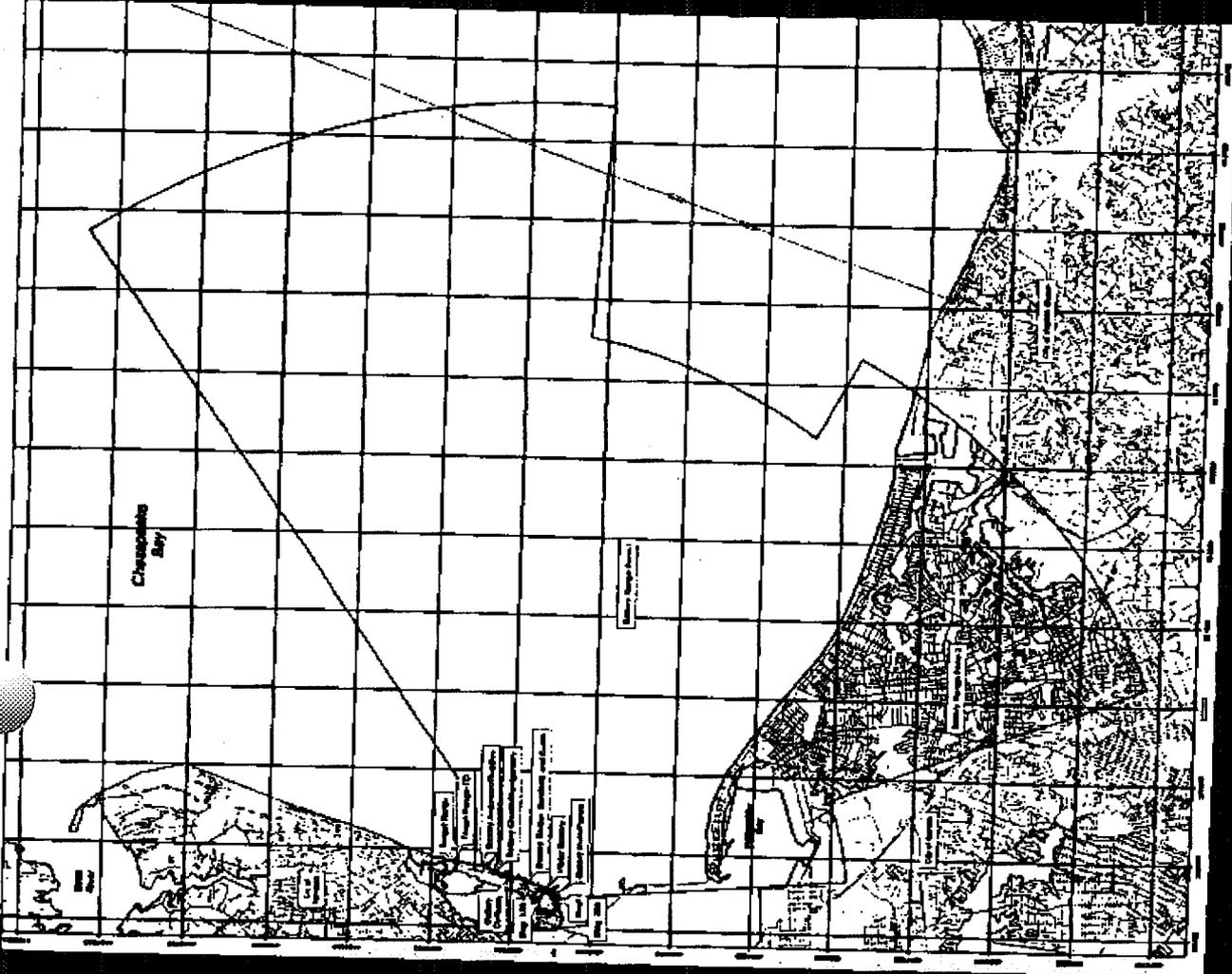


2003 Closed, Transferred and Transferring (CTT) Range/Site Inventory Report

- Report covers UXO, discarded military munitions (DMM) or munitions constituents (MC)
- Inventory based upon available records and historical research; not verified by field sampling
- Sites within installation boundaries (closed sites):
 - 10 sites, 72 acres; estimated remediation cost is \$11.1M
- Sites outside installation boundaries (transferred sites):
 - 3 sites, 68,402 acres; estimated remediation cost is \$180.9M

All sites eligible for Military Munitions Response Program (MMRP)

- Year of MMRP Inception: 2001
- Year of Remedial Action Completion: 2017
- Year of MMRP Completion: 2049
- Funding to Date: \$25K Cost To Complete: \$192.0M (35% of listed acreage to a depth of 4 feet)



Fort Monroe CTT Range Fan





CLOSURE ISSUES

- Remediation costs - unknown
 - No complete lead and asbestos surveys
 - No complete field sampling of groundwater, surface water and soils for other possible environmental contaminants
- Impediments to Post-BRAC Development
 - McKinney Act
 - Chesapeake Bay Restoration Act
 - National Historic Landmark
 - Reversionary Clause
 - Real Estate





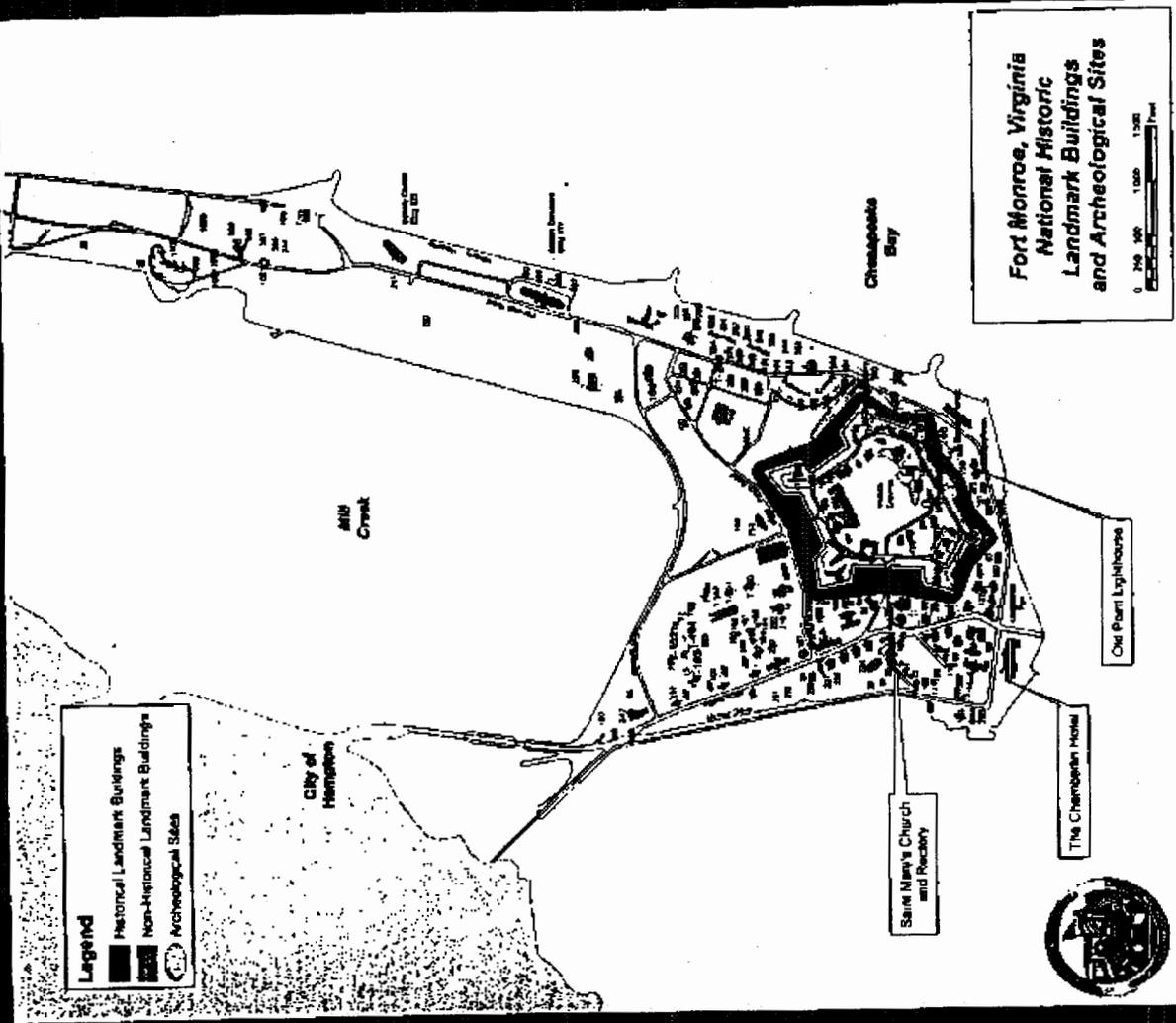
NATIONAL HISTORIC LANDMARK (NHL)



- Most of the Installation is a NHL
- Requires mandatory coordination with Virginia State Historic Preservation Officer and Advisory Council on Historic Preservation
 - 56% of permanent buildings contribute to the National Historic Landmark
 - 16 archaeological sites are eligible or potentially eligible for listing in National Register
- If closed, must mothball bldgs IAW Secretary of Interior standards
- Archaeological Investigation of the Cemetery near Walker Airfield and Fenwick Road
- **Still have capabilities of 92.8 Buildable Acres**



National Historic Landmark



NHL (cont)

- National Historic Landmark
 - 83 housing buildings
 - 2 buildings to support housing
 - 55 administrative buildings
 - 3 structures
 - 6 landscape features
 - 1 stone fort with 11 named/numbered segments
 - 11 archaeological sites eligible for register, 5 potentially eligible





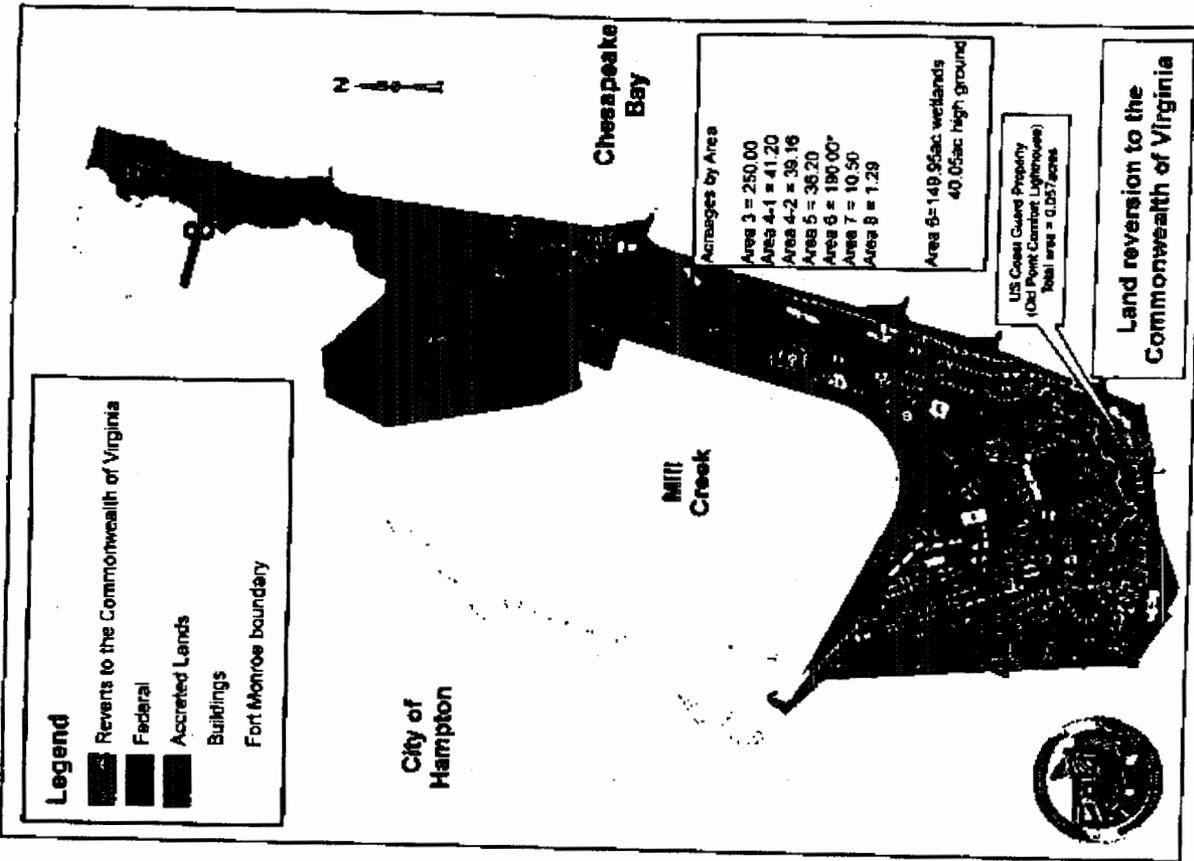
REVERSIONARY CLAUSE



- 295 of 570 acres of land reverts back to the Commonwealth of Virginia if no longer used for fortification and national defense
- Deed lines run under buildings
- How are improvements (structures) on the land handled if transferred back to the State?



Fort Monroe Reversion Clause



REAL ESTATE



GRANTEE	TERMS	NHL?	Does Land Revert to State?
<u>Chamberlain Hotel</u> Senior living facility with an assisted living component	Began: 1 Dec 2004 Ends: 30 Nov 2054	Yes	State ?
<u>Catholic Chapel & Rectory</u> Bishop of Richmond	Begins: 8 Jun 1860 Ends: Indefinite	Yes	Partial
<u>Lighthouse</u>	Owned by U.S. Coast Guard	Yes	Yes*
<u>U.S. Coast Guard Air Rights</u>	Begins: May 1984 Ends: 31 May 2009	N/A	N/A

* Governed by a separate reversion clause



NSWC Range House

- NSWC operates a Range House on the Chesapeake Bay at Fort Monroe
- NSWC has measurement systems that measure signatures of minesweepers looking at the phenomena of acoustic, magnetic, electric, and pressure data considered critical to the Navy
- Their location at Fort Monroe is ideal due to the Naval ships traveling the channel
- Fort Monroe provides a unique location unequaled along the East coast, due to the varying depth conditions along its bank
- **The BRAC proposal did not provide a solution to this issue**

WHY MOVE TO FORT EUSTIS?



- Current BRAC proposal realigns HQTRADOC and most other tenants to Fort Eustis
- Most Fort Eustis organizations are realigning elsewhere. Little remains on Fort Eustis
- The 2005 BRAC Report states the Army has 3 million buildable acres including mobilization/surge space. Fort Eustis was not identified as a mobilization/surge site
- Fort Eustis (8,228 acres) is more expensive to operate than Fort Monroe (570 acres)
- No additional cost to keep TRADOC, JTFCS, ACA and NETCOM at Fort Monroe
- We can also accommodate SERO and NETCOM in the space vacated by Accessions Command and the Cadet Command in realignment to Fort Knox
- Turning Fort Eustis into a command & control installation is not cost effective
- Can 7th Transportation Group & the Port realign?



FEDERAL LEASED SPACE IN HAMPTON ROADS



- There are 57 federal leases in Hampton Roads covering 1,600,000 SF of building space, at an average cost of \$24-\$30 per SF per year
- The Federal Government is spending \$38.4M - \$48.0M per year for leased space in Hampton Roads
- Will BRAC realign DOD leased space in Hampton Roads to military installations?
- Fort Monroe can accommodate additional organizations from leased space. City willing to build over 1M SF of leased space on Fort Monroe
 - Fort Monroe leased space is more secure
 - Fort Monroe leased space is more cost effective





SUMMARY

- Close Big Bethel Reservoir – partial closure (499 acres)
- No encroachment
- Major impediments to closure: reversionary clause, unexploded ordnance, National Historic Landmark, environmental impact, and current leases on Fort Monroe
- Fort Monroe has a modernized, well maintained infrastructure to accommodate HQ operations
- Fort Monroe can accommodate SERO and NETCOM with Accessions Command and Cadet Command moving to Fort Knox
- Fort Monroe is an alternative to DOD leases
- Fort Monroe is more cost efficient (only 570 Acres)

Spec
FY03
DCN: 11580

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@AS:K

DEPARTMENT OF THE ARMY—BRAC 2005—ANALYSES AND RECOMMENDATIONS

Fort Monroe, VA

Recommendation: Close Fort Monroe, VA. Relocate the US Army Training & Doctrine Command (TRADOC) Headquarters, the Installation Management Agency (IMA) Northeast Region Headquarters, the US Army Network Enterprise Technology Command (NETCOM) Northeast Region Headquarters and the Army Contracting Agency Northern Region Office to Fort Eustis, VA. Relocate the US Army Accessions Command and US Army Cadet Command to Fort Knox, KY.

Justification: This recommendation closes Fort Monroe, an administrative installation, and moves the tenant Headquarters organizations to Fort Eustis and Fort Knox. It enhances the Army's military value, is consistent with the Army's Force Structure Plan, and maintains adequate surge capabilities to address future unforeseen requirements. The closure allows the Army to move administrative headquarters to multi-purpose installations that provide the Army more flexibility to accept new missions. Both Fort Eustis and Fort Knox have operational and training capabilities that Fort Monroe lacks and both have excess capacity that can be used to accept the organizations relocating from Fort Monroe.

The recommended relocations also retain or enhance vital linkages between them relocating organizations and other headquarters activities. TRADOC HQs is moved to Ft. Eustis in order to remain within commuting distance of the Joint Forces Command (JFCOM) HQs in Norfolk, VA. JFCOM oversees all joint training across the military. IMA and NETCOM HQs are moved to Ft. Eustis because of recommendations to consolidate the Northeastern and Southeastern regions of these two commands into one Eastern Region at Ft. Eustis. The ACA Northern Region is relocated to Ft. Eustis because its two largest customers are TRADOC and IMA. The Accessions and Cadet Commands are relocated to Ft. Knox because of recommendations to locate the Army's Human Resources Command at Ft. Knox. The HRC recommendation includes the collocation of the Accessions and Cadet Commands with the Recruiting Command, already at Ft. Knox and creates a Center of Excellence for military personnel and recruiting functions by improving personnel life-cycle management.

Payback: The total estimated one-time cost to the Department of Defense to implement this recommendation is \$72.4M. The net of all costs and savings to the Department of Defense during the implementation period is a saving of \$146.9M. Annual recurring savings to the Department after implementation are \$56.9M with a payback expected in 1 year. The net present value of the costs and savings to the Department over 20 years is a savings of \$686.6M.

This recommendation affects the U.S. Post Office, a non-DoD Federal agency. In the absence of access to credible cost and savings information for that agency or knowledge regarding whether that agency will remain on the installation, the Department assumed that the non-DoD Federal agency will be required to assume new base operating responsibilities on the affected installation. The Department further assumed that because of these new base operating responsibilities, the effect of the recommendation on the non-DoD agency would be an increase in its costs. As required by Section 2913(d) of the

DEPARTMENT OF THE ARMY—BRAC 2005—ANALYSES AND RECOMMENDATIONS

BRAC statute, the Department has taken the effect on the costs of this agency into account when making this recommendation.

Economic Impact on Communities: Assuming no economic recovery, this recommendation could result in a maximum potential reduction of 2,275 jobs (1,013 direct and 1,262 indirect jobs) over the 2006 – 2011 period in the Virginia Beach-Norfolk-Newport News, VA-NC metropolitan statistical area, which is 0.23 percent of economic area employment. The aggregate economic impact of all recommended actions on this economic region of influence was considered and is at Appendix B of Volume I.

Community Infrastructure Assessment: A review of community attributes revealed no significant issues regarding the ability of the infrastructure of the communities to support missions, forces, and personnel. When moving from Ft. Monroe to Ft. Eustis, the following local area capabilities improved: Child Care, Population and Transportation. When moving from Ft. Monroe to Ft. Knox, the following local area capabilities improved: Child Care, Cost of Living, Education and Safety. The following capabilities are not as robust: Employment and Medical. There are no known community infrastructure impediments to implementation of all recommendations affecting the installations in this recommendation.

Environmental Impact: Closure of Fort Monroe will necessitate consultations with the State Historic Preservation Office to ensure that historic properties are continued to be protected. Increased operational delays and costs are likely at Fort Knox in order to preserve cultural resources and tribal consultations may be necessary. An Air Conformity determination and New Source Review and permitting effort will be required at Fort Eustis. Significant mitigation measures to limit releases may be required at Fort Eustis to reduce impacts to water quality and achieve US EPA water quality standards. This recommendation will require spending approximately \$1.95M for environmental compliance activities. These costs were included in the payback calculation. Although no restoration costs were reported, Fort Monroe has a probable Military Munitions Response Program site that may require some combination of UXO sweeps, clearance, munition constituent cleanup, remediation, and land use controls. Because the Department has a legal obligation to perform environmental restoration regardless of whether an installation is closed, realigned, or remains open no cost for environmental remediate was included in the payback calculation. This recommendation does not otherwise impact the costs of environmental restoration, waste management, and environmental compliance activities. The aggregate environmental impact of all recommended BRAC actions affecting the installations in this recommendation has been reviewed. There are no known environmental impediments to implementation of this recommendation.

Draft Deliberative Document-For Discussion Purposes Only-Do Not Release Under FOIA

Profile generated on 12/30/2004 with data as of 12/30/2004

INSTALLATION ENVIRONMENTAL PROFILE

FORT MONROE**1. Air Quality (DoD Question #210-225):**

- a. The Clean Air Act (CAA) establishes health-based standards for air quality and all areas of the country are monitored to determine if they meet the standards. A major limiting factor is whether the installation is in an area designated nonattainment or maintenance (air quality is not meeting the standard) and is therefore subject to more stringent requirements, including the CAA General Conformity Rule. Conformity requires that any new emissions from military sources brought into the area must be offset by credits or accounted for in the State Implementation Plan (SIP) emissions budget. The criteria pollutants of concern include: CO, O₃ (1 hour & 8 Hour), and PM (PM₁₀, and PM_{2.5}). Installations in attainment areas are not restricted, while activities for installations in non-attainment areas may be restricted. Non-attainment areas are classified as to the degree of non-attainment: Marginal, Moderate, Serious, and in the case of O₃, Severe and Extreme. SIP Growth Allowances and Emission Reduction Credits are tools that can be used to accommodate increased emissions in a manner that conforms to a state's SIP. All areas of the country require operating permits if emissions from stationary sources exceed certain threshold amounts. Major sources already exceed the amount and are subject to permit requirements. Synthetic minor means the base has accepted legal limits to its emissions to stay under the major source threshold. Natural or true minor means the actual and potential emissions are below the threshold.
- b. FORT MONROE is in Attainment for all Criteria Pollutants. It holds a CAA Synthetic Minor Operating Permit. Emission credit programs may be available. FORT MONROE is in an area projected or proposed to be designated nonattainment for the 8-hour Ozone or the PM_{2.5} NAAQS.

2. Cultural/Archeological/Tribal Resources (DoD Question #229-237):

- a. Many installations have historical, archeological, cultural and Tribal sites of interest. These sites and access to them often must be maintained, or consultation is typically required before changes can be made. The sites and any buffers surrounding them may reduce the quantity or quality of land or airspace available for training and maneuvers or even construction of new facilities. The presence of such sites needs to be recognized, but the fact that restrictions actually occur is the overriding factor the data call is trying to identify. A programmatic agreement with the State Historic Preservation Office (SHPO) facilitates management of these sites.
- b. Historic property has been identified on FORT MONROE. There is no programmatic agreement for historic property in place with the SHPO. It has sites with high archeological potential identified, which do not restrict construction and do not restrict operations.

3. Dredging (DoD Question # 226-228):

- a. Dredging allows for free navigation of vessels through ports, channels, and rivers. Identification of sites with remaining capacity for the proper disposal of dredge spoil is the primary focus of the profile. However, the presence of unexploded ordnance or any other impediment that restricts the ability to dredge is also a consideration.
- b. FORT MONROE has no impediments to dredging.

4. Land Use Constraints/Sensitive Resource Areas (DoD Question #198-201, 238, 240-247, 254-256, 273):

- a. Land use can be encroached from both internal and external pressures. This resource area combines several different types of possible constraints. It captures the variety of constraints not otherwise covered by other areas that could restrict operations or development. The areas include electromagnetic radiation or emissions, environmental restoration sites (on and off installation), military munitions response areas, explosive safety quantity distance arcs, treaties, underground storage tanks, sensitive resource areas, as well as policies, rules, regulations, and activities of other federal, state, tribal and local agencies. This area also captures other constraining factors from animals and wildlife that are not endangered but cause operational restrictions. This resource area specifically includes

information on known environmental restoration costs through FY03 and the projected cost-to-complete the restoration.

- b. FORT MONROE reports that 93 unconstrained acres are available for development out of 570 total acres. FORT MONROE has spent \$0M thru FY03 for environmental restoration, and has estimated the remaining Cost to Complete at \$0M. FORT MONROE does not have Explosive Safety Quantity Distance Arcs, some of which require safety waivers. It has Military Munitions Response Areas.

5. Marine Mammal/Marine Resources/Marine Sanctuaries (DoD Question #248-250, 252-253):

- a. This area captures the extent of any restrictions on near shore or open water testing, training or operations as a result of laws protecting Marine Mammals, Essential Fish Habitat, and other related marine resources.
- b. FORT MONROE is not impacted by laws and regulations pertaining to Marine Mammal Protection Act, Essential Fish Habitats & Fisheries and Marine Sanctuaries, which may adversely restrict navigation and operations.

6. Noise (DoD Question # 202-209, 239):

- a. Military operations, particularly aircraft operations and weapons firing, may generate noise that can impact property outside of the installation. Installations with significant noise will typically generate maps that predict noise levels. These maps are then used to identify whether the noise levels are compatible with land uses in these noise-impacted areas. Installations will often publish noise abatement procedures to mitigate these noise impacts.
- b. FORT MONROE does not have noise contours that extend off the installation's property. It does not have published noise abatement procedures for the main installation.

7. Threatened and Endangered Species/Critical Habitat (DoD Question #259-264)

- a. The presence of threatened and endangered species (TES) can result in restrictions on training, testing and operations. They serve to reduce buildable acres and maneuver space. The data in this section reflects listed TES as well as candidate species, designated critical habitat as well as proposed habitat, and restrictions from Biological Opinions. The legally binding conditions in Biological Opinions are designed to protect TES, and critical habitat. The data call seeks to identify the presence of the resource, TES, candidate or critical habitat, even if they don't result in restrictions, as well places where restrictions do exist.
- b. FORT MONROE reported that federally-listed TES are not present, candidate species are not present, critical habitat is not present, and the installation does not have a Biological Opinion.

8. Waste Management (DoD Question # 265-272):

- a. This resource area identifies whether the installation has existing waste treatment and/or disposal capabilities, whether there is additional capacity, and in some case whether the waste facility can accept off-site waste. This area includes Resource Conservation and Recovery Act (RCRA) Treatment, Storage and Disposal facilities, solid waste disposal facilities, RCRA Subpart X (open/burning/open detonation) and operations.
- b. FORT MONROE does not have a permitted RCRA Treatment Storage and Disposal Facility (TSDF). FORT MONROE does not have an interim or final RCRA Part X facility. FORT MONROE does not have an on-base solid waste disposal facility.

9. Water Resources (DoD Question # 258, 274-299):

- a. This resource area asks about the condition of ground and surface water, and the legal status of water rights. Water is essential for installation operations and plays a vital role in the proper functioning of the surrounding ecosystems. Contamination of ground or surface waters can result in restrictions on training and operations and require funding to study and remediate. Federal clean water laws require states to identify impaired waters and to restrict the discharge of certain pollutants into those waters. Federal safe drinking water laws can require alternative sources of water and restrict activities above groundwater supplies particularly sole source aquifers. Water resources are also affected by the McCarran Amendment (1952), where Congress returned substantial power to the states with respect to the management of water. The amendment requires that the Federal government waive its sovereign immunity in cases involving the general adjudication of water rights. On the other hand existence of Federal Reserve Water Rights can provide more ability to the government to use water on federal lands.
- b. FORT MONROE does not discharge to an impaired waterway. Groundwater contamination is not reported. Surface water contamination is not reported. The state requires permits for the withdrawal of groundwater. The installation reported restrictions or controls that limited the production or distribution of potable water.
(The following water quantity data is from DoD Question # 282, 291, 297, 822, 825, 826):
FORT MONROE has 3863.4000000000001 Acre-Feet of surplus water potentially available for expansion. On average, it uses 0.23999999999999999 MGD of potable and non-potable water, with the capacity to produce 6.0999999999999996 MGD. It processed on average 0.47999999999999998 MGD of domestic wastewater in the peak month (past 3 years), with the capacity to process 0.20000000000000001 MGD. It processed on average 0 MGD of industrial wastewater in the peak month (past 3 years), with the capacity to process (No Capacity Reported) MGD.

10. Wetlands (DoD Question # 251, 257):

- a. The existence of jurisdictional wetlands poses restraints on the use of land for training, testing or operations. In the data call the installations were asked to report the presence of jurisdictional wetlands and compare the percent of restricted acres to the total acres. The presence of jurisdictional wetlands may reduce the ability of an installation to assume new or different missions, even if they do not presently pose restrictions, by limiting the availability of land.
- b. FORT MONROE reported no wetland restricted acres on the main installation, and no wetland restricted acres on ranges.

SUBJECT: SUMMARY OF SCENARIO ENVIRONMENTAL IMPACTS (CONTINUED);

SCENARIO # 302

Env Resource Area	<i>Losing Installation Assessment</i> Inst Name: Ft Monroe	Analyst Comments (& data source(s) that drive assessment)
Air Quality	No impact	#213 In attainment for all Crit Pollutants
Cultural/Archeological/Tribal Resources	No impact expected. Surveys and consultation with the SHPO will be required to determine existence and disposition of any archeological or historical resources.	#230, 232 - 1 Arch site - no restr #231,234 No Native People sites; no interest; #233 - 97% surveyed #235 150 Historic Properties listed #236 - No Programmatic Agreement
Drudging	No impact	
Land Use Constraints/Sensitive Resource Areas	Special waste management areas at the installation include unexploded ordnance in the moat. Restoration, monitoring/sweeps, access controls, and/or deed restrictions may be required for this area to prevent disturbance, health and safety risks, and/or long-term release of toxins to environmental media.	#273 - Installation has no MMRAs No operational ranges. #240 No DERA sites reported AEDB-R shows Munitions Response sites containing UXO in the moat.
Marine Mammals/Marine Birds	No impact	
Noise	No impact	
Threatened & Endangered Species/Critical Habitats	No impact.	#259-264 - No TES/habitat/cand species
Waste Management	No impact.	#265 No RCRA TSD facility on site #269 No RCRA Subpart X Permit #272 No permitted solid waste disposal facility
Water Resources	No impact.	#275, 281 - No ground or surfacewater contamination. #822- Has domestic wastewater treatment plant #297 - 1 off-installation public dom ww treatment plant.
Wetlands	No impact	

SUBJECT: SUMMARY OF SCENARIO ENVIRONMENTAL IMPACTS (CONTINUED);

SCENARIO # 302

Env Resource Area	<i>Losing Installation Assessment</i> Inst Name: Ft Monroe	Analyst Comments (& data source(s) that drive assessment)
Air Quality	No impact	#213 In attainment for all Crit Pollutants
Cultural/Archeological/Tribal Resources	No impact expected. Surveys and consultation with the SHPO will be required to determine existence and disposition of any archeological or historical resources.	#230, 232 - 1 Arch site - no restr #231,234 No Native People sites; no interest; #233 - 97% surveyed #235 150 Historic Properties listed #236 - No Programmatic Agreement
Drilling	No impact	
Land Use Constraints/Sensitive Resource Areas	Special waste management areas at the installation include unexploded ordnance in the moat. Restoration, monitoring/sweeps, access controls, and/or deed restrictions may be required for this area to prevent disturbance, health and safety risks, and/or long-term release of toxins to environmental media.	#273 - Installation has no MMRA's No operational ranges. #240 No DERA sites reported AEDB-R - shows Munitions Response sites containing UXO in the moat.
Marine Mammals/Marine Resources	No impact	
Noise	No impact	
Threatened & Endangered Species/Critical Habitats	No impact.	#259-264 - No TES/habitat/cand species
Waste Management	No impact.	#265 No RCRA TSD facility on site #269 No RCRA Subpart X Permit #272 No permitted solid waste disposal facility
Water Resources	No impact.	#275, 281 - No ground or surfacewater contamination. #822- Has domestic wastewater treatment plant #297 - 1 off-installation public dom ww treatment plant.
Wetlands	No impact	

SUBJECT: SUMMARY OF SCENARIO ENVIRONMENTAL IMPACTS (CONTINUED);

SCENARIO #302

IMPACTS OF COSTS

Env Resource Area	Gaining Installation Inst Name: Ft Eustis, Ft Knox	Losing Installation Inst Name: Ft Monroe
Environmental Restoration	None for all three installations.	UXO sweep and restoration - \$500K - \$20M <i>-MMR</i>
Waste Management	None for all three installations.	None
Environmental Compliance	<p><u>Eustis:</u> -Air Conformity Analysis - \$25K-\$75K -New Source Review - \$100K-\$500K -Develop PA -\$10K -Install Best Mgt Practices to protect impaired waterways and reduce non-point source runoff from training areas and ranges - \$100K - \$3M. -Endangered Species Management (includes monitoring) \$20K-\$2M -NEPA (EA) - \$400K</p> <p><u>Knox:</u> -Develop PA -\$10K -Conduct Tribal govt to govt consultations - \$2K-\$10K per meeting. -Endangered Species Management (includes monitoring) \$20K-\$2M -NEPA (EA) - \$100K</p>	<p>Environmental Baseline Survey (EBS) \$300K-500K.</p> <p>Access controls / caretaker management - \$500K - 1M (annually).</p> <p>Asbestos / lead paint removal - \$200K - \$1M.</p> <p>Land Use controls management / enforcement in perpetuity - \$50K - \$100K per year.</p>
COBRA Costs:	<p><u>Eustis:</u> Air Conformity Analysis - \$50K New Source Review - \$100K NEPA (EA) - \$400K</p> <p><u>Knox:</u> NEPA (EA) - \$100K</p>	<p><u>Monroe:</u> EBS plus disposal EA - \$1.3M.</p>

Miller, Gary, CIV, WSO-BRAC

Subject: Nellis, Moody and Eielson Air Force Bases

Craig,

The letter you give me from Nortech Environmental Engineering and Industrial Hygiene, summarizes the potential environmental impacts identified in the Criterion 8 documents for the facilities. Without setting down with the facilities to discuss some of the impacts: Air Quality; Threatened and Endangered Species/Critical Habitat; Cultural/Archeological/Tribal Resources; Land Use Constraints; Noise and Wetlands it is hard to determine the impacts to operational use if additional aircraft are stationed at the facilities. With that said based on the information in the files the information they present is correct, there are potential impacts to the environmental resource areas. How much is hard to determine based upon the existing information.

Nellis is in an area that is in Nonattainment for CO and PM10, the area is proposed for Nonattainment for Ozone (8 hour). The PM10 is most likely based on the blowing dust and sand in the area and the area may never be able to meet the standard. There is a possibility that a waiver from the PM10 attainment date can be given by the regulatory agencies. Emission credits programs may be available, I was unable to discuss with the State contact. The State Implementation Plan does not include a growth allowance for the installation. Basically this will require the Air Force to complete a more in depth review of the air quality impacts and may require the submittal of a conformity analysis. If the addition of aircraft will require the construction of new facilities, some of them (paint spray booths, maintenance and etc.) may require an air permit. This is one of the unknowns. The critical air quality region, Grand Canyon, is located within 100 miles of the facility. This does not constrain operations.

Moody is in Attainment for all Criteria Pollutants. The addition of aircraft to the facility will not cause air conformity issues, however, if new facilities are constructed additional air permits for the sources may be required. The critical air quality region, Okefenokee National Wildlife Refuge, is located within 100 miles of the base. This does not constrain operations.

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Air Quality and other Environmental Issues – Nellis, Moody and Eielson Air force Bases

The eighth selection criteria is the environmental impact of the proposed actions, including the costs related to potential environmental restoration, waste management, and environmental compliance activities. Before we begin a discussion of the environmental issues with the designated beneficiaries from the realignment of Eielson, it is important to note that the freedom to train and accomplish its base mission at Eielson is unparalleled anywhere. Eielson simply does not face the constraints that other air force bases, namely Nellis and Moody, face on an ongoing base.

The environmental review of the three installations completed by the air force states that Eielson has only one limiting factor – a historic district that does not impact operations. By contrast, Nellis and Moody Air Force Base face substantial environmental issues. Nellis is operationally limited by air quality considerations. "A conformity determination may be required..... the inability to achieve a positive conformity determination may be a constraint to this scenario." "Air emission offsets may be required a significant air permit revision may be necessary". It would appear that the air quality issues facing Clark County and any expanded mission at Nellis Air Force base would be a significant factor in the decision-making.

According to General Robert Fogleson, Vice Chief of Staff, United States Air force in 2002, "air quality pressures generally affect operations at our installations more than on our ranges, but they potentially limit our basing options for force realignments and weapon system beddowns."

Clark County, which encompasses Las Vegas and Nellis Air Force Base, is currently struggling to mitigate the adverse air quality affects of explosive growth. The region is currently designated as nonattainment for carbon monoxide, particulate matter less than ten microns in diameter (PM10) and the 8-hour ozone standard, three of the six air pollutants regulated by the Environmental Protection Agency. And the Clean Air Act requires them to reach attainment, sooner rather than later.

Over eighty percent of carbon monoxide in Clark County comes from on-road motor vehicles. If we were to assume that Eielson's F16s and associated personnel are transferred to Nellis, we can also assume that there will be increased vehicle traffic in the area. More people, more vehicles, more vehicle miles traveled and more CO. Although Clark County has met the planning requirements under the Clean Air Act, it remains a serious CO nonattainment area. The air quality problems in the region are further exacerbated by the rapid growth they are experiencing – Las Vegas is the fastest growing metropolitan area in the nation. This growth threatens future conformity determinations.





June 14, 2005

In June 2004 EPA approved a plan showing that it would be impossible for Clark County to demonstrate attainment of the PM10 standards until December 2006. Primary causes of PM10 violations in Clark County are fugitive dust. Their control program is focused on implementing dust controls on paved roads and unpaved parking lots and dust controls for construction. Increased activity at Nellis will elevate PM10 emissions especially from the wind entrainment of disturbed soil within base's boundaries. And, increased emissions will make it more difficult for the County to attain the ambient PM10 standard, which may be problematic since the monitoring data shows Clark County to be hovering at the federal standard. Increased levels of PM10 will also complicate future conformity determinations.

The air quality issues facing Clark County are not abstract – Nellis AFB is located eight miles northeast of downtown Las Vegas. Clark County maintains a monitoring site for ozone and PM10 approximately one mile west of Nellis. Any increased pollutants generated by an expansion at Nellis will not just be blowing in the wind, they will need to be offset, which can be very expensive. They will become part of an existing community problem and will have to be dealt with; the easy solutions to air quality issues have already been implemented. Clark County may not have fallen into the regulatory abyss of the Clean Air Act, but they are poised on the precipice.

Nellis Air Force base is in an area that is experiencing rapid growth and the attendant pressures resulting from air quality standards. Projections for Las Vegas indicate that at current growth rates, Nellis AFB will be surrounded by development – and possibly increasing neighbor concerns- by 2015.

Eielson Air Force Base has no air quality constraints. The Fairbanks North Star Borough, which encompasses Eielson, is in attainment for carbon monoxide after a long struggle to meet federal standards. Eielson air force base was never impacted as it is approximately 15 miles distant from the boundary of the non attainment area.

Nellis and Moody Air Force Base have other environmental issues that can be considered impediments to expanded missions. Nellis has land use restrictions which "restricts range operations ground activities..... this restricts 20% of range land" and as a result units are "unable to complete training requirements at home installation and must go TDY.

Change of mission at both Nellis and Moody require that noise contours will need to be re-evaluated.

Threatened and Endangered species and critical habitat already restrict operations at Nellis and Moody and a preliminary investigation by the air force indicates that additional operations may impact threatened and endangered species at both locations





June 14, 2005

Wetlands do not currently restrict operations at Nellis, however additional operations may impact wetlands, which may restrict operations. Additional operations at Moody may impact wetlands on base and on the range, where current operations are restricted.



Summary of Cumulative Environmental Impacts - Criterion 8

Installation: Nellis AFB, NV

Date: 4/26/2005

General Description: This cumulative assessment is based on the following scenarios:

Scenario ID #	Description	Environmental Costs (\$K)	
		FY06	FY07
USAF-0114V3 (125.1c2)	Close Cannon AFB, NM	49	661
USAF-0113V3 (126.3c1)	Realign Hill AFB, UT	-	-
USAF-0054V3 (132.2c3)	Realign Elmendorf Excursion	88	1181
USAF-0044V2 (142c3)	Close Otis ANGB, MA	56	754
USAF-0055V2 (136c3)	Realign NAS New Orleans ARS, LA	2	22
USAF-0056V2 (137.3c1)	Realign Eielson AFB, AK	124	1671
USAF-0068V2 (311Zc2)	Realign Reno-Tahoe IAP AGS, NV	-	-
Non-BRAC	Programmatic Change	-	-
Total Costs		318	4289

Note: The above reflect revised costs based on the integration of multiple scenarios at one base. These costs should be used for each recommendation above, under COBRA Screen Five, "Env Non-Milcon Required"

<u>General Environmental Impacts</u>	
Environmental Resource Area	Nellis
Air Quality	A preliminary conformity analysis shows that a conformity determination may be required. A more in-depth review is required. The inability to achieve a positive conformity determination may be a constraint to this scenario. Air emission offsets may be required. The installation is located within 100 miles of the Grand Canyon, a critical air quality region. This causes no air quality restrictions. A significant air permit revision may be necessary.
Cultural/ Archeological/ Tribal Resources	Sites or areas with high potential for archeological sites were identified. The base is currently in formal consultation with 16 Native American Tribes that have asserted an interest in the military installation for the purposes of the National Historic Preservation Act or other required consultation activities. The sacred, archeological, and burial sites are local to the installation.
Dredging	No impact
Land Use Constraints/ Sensitive Resource Areas	The Desert National Wildlife Range restricts range operations ground activities above 4,000 ft MSL via MOU with US Fish and Wildlife Service. This restricts 20% of the range land. Four

	factors were identified at the Nevada Test and Training Range that constrain operations. Three of the operational constraints last two weeks per year, and the fourth constraint lasts one week per year. The four constraints are of the following type: Unable to complete training requirements at home installation and must go TDY. One factor was identified at Nellis that constrains operations for two weeks per year. The constraint is of the following type: Unable to complete training requirements at home installation and must go TDY. Military Munitions Response Program sites exist on the installation and may represent a safety hazard for future development.
Marine Mammals/ Marine Resources/ Marine Sanctuaries	No impact
Noise	Noise contours will need to be re-evaluated as a result of the change in mission. The AICUZ reflects the current mission, local land use, and current noise levels. 11,920 acres off-base within the noise contours are zoned by the local community. 1,060 of these acres are residentially zoned. The community has not purchased easements for area surrounding the installation.
Threatened& Endangered Species/ Critical Habitat	T&E species and/or critical habitats already restrict operations with a Biological Opinion. Additional operations may impact T&E species and/or critical habitats. In addition, the Biological Opinion will need to be evaluated to ensure the scenario conforms to it.
Waste Management	Modification of hazardous waste program is needed.
Water Resources	No impact
Wetlands	Wetlands do not currently restrict operations. Additional operations may impact wetlands, which may restrict operations.

<u>Impacts of Costs</u>	
	Nellis
Environmental Restoration	DERA money spent through FY03 (\$K): 43,187 Estimated CTC (\$K): 29,177 DO NOT ENTER IN COBRA
Waste Management	FY07 Waste Program Modification \$100K
Environmental Compliance	FY06 NEPA cost: \$318K FY07 Air Conformity Analysis \$50K FY07 Air Conformity Determination \$100K FY07 Significant Air Permit Revision \$300K FY07 Air Emission offsets \$3,691K

INSTALLATION ENVIRONMENTAL PROFILE
NELLIS AFB

1. Air Quality (DoD Question #210-225):

- a. The Clean Air Act (CAA) establishes health-based standards for air quality and all areas of the country are monitored to determine if they meet the standards. A major limiting factor is whether the installation is in an area designated nonattainment or maintenance (air quality is not meeting the standard) and is therefore subject to more stringent requirements, including the CAA General Conformity Rule. Conformity requires that any new emissions from military sources brought into the area must be offset by credits or accounted for in the State Implementation Plan (SIP) emissions budget. The criteria pollutants of concern include: CO, O₃ (1 hour & 8 Hour), and PM (PM₁₀, and PM_{2.5}). Installations in attainment areas are not restricted, while activities for installations in non-attainment areas may be restricted. Non-attainment areas are classified as to the degree of non-attainment: Marginal, Moderate, Serious, and in the case of O₃, Severe and Extreme. SIP Growth Allowances and Emission Reduction Credits are tools that can be used to accommodate increased emissions in a manner that conforms to a state's SIP. All areas of the country require operating permits if emissions from stationary sources exceed certain threshold amounts. Major sources already exceed the amount and are subject to permit requirements. Synthetic minor means the base has accepted legal limits to its emissions to stay under the major source threshold. Natural or true minor means the actual and potential emissions are below the threshold.
- b. Nellis AFB is in Serious Nonattainment for CO. Nellis AFB is in Serious Nonattainment for PM₁₀. Nellis AFB is proposed to be in Subpart 1 Nonattainment for Ozone (8 hour). It holds a CAA Major Operating Permit. Emission credit programs may be available. No SIP growth allowance has been allocated for this installation.

2. Cultural/Archeological/Tribal Resources (DoD Question #229-237):

- a. Many installations have historical, archeological, cultural and Tribal sites of interest. These sites and access to them often must be maintained, or consultation is typically required before changes can be made. The sites and any buffers surrounding them may reduce the quantity or quality of land or airspace available for training and maneuvers or even construction of new facilities. The presence of such sites needs to be recognized, but the fact that restrictions actually occur is the overriding factor the data call is trying to identify. A programmatic agreement with the State Historic Preservation Office (SHPO) facilitates management of these sites.
- b. No historic property has been identified on Nellis AFB. There is no programmatic agreement for historic property in place with the SHPO. It has sites with high archeological potential identified, which do not restrict construction and do not restrict operations.

3. Dredging (DoD Question # 226-228):

- a. Dredging allows for free navigation of vessels through ports, channels, and rivers. Identification of sites with remaining capacity for the proper disposal of dredge spoil is the primary focus of the profile. However, the presence of unexploded ordnance or any other impediment that restricts the ability to dredge is also a consideration.
- b. Nellis AFB has no impediments to dredging.

4. Land Use Constraints/Sensitive Resource Areas (DoD Question #198-201, 238, 240-247, 254-256, 273):

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- a. Land use can be encroached from both internal and external pressures. This resource area combines several different types of possible constraints. It captures the variety of constraints not otherwise covered by other areas that could restrict operations or development. The areas include electromagnetic radiation or emissions, environmental restoration sites (on and off installation), military munitions response areas, explosive safety quantity distance arcs, treaties, underground storage tanks, sensitive resource areas, as well as policies, rules, regulations, and activities of other federal, state, tribal and local agencies. This area also captures other constraining factors from animals and wildlife that are not endangered but cause operational restrictions. This resource area specifically includes information on known environmental restoration costs through FY03 and the projected cost-to-complete the restoration.
- b. Nellis AFB reports that 10526 unconstrained acres are available for development out of 24770 total acres. Nellis AFB has spent \$43.2M thru FY03 for environmental restoration, and has estimated the remaining the Cost to Complete at \$29M. It has Military Munitions Response Areas. It has restrictions due to adjacent or nearby Sensitive Resource Area. It reports constraints related to other factors. Nellis AFB has Explosive Safety Quantity Distance Arcs, none of which require safety waivers, and some with the potential for expansion.

5. Marine Mammal/Marine Resources/Marine Sanctuaries (DoD Question #248-250, 252-253):

- a. This area captures the extent of any restrictions on near shore or open water testing, training or operations as a result of laws protecting Marine Mammals, Essential Fish Habitat, and other related marine resources.
- b. Nellis AFB is not impacted by laws and regulations pertaining to Marine Mammal Protection Act, Essential Fish Habitats & Fisheries and Marine Sanctuaries, which may adversely restrict navigation and operations.

6. Noise (DoD Question # 202-209, 239):

- a. Military operations, particularly aircraft operations and weapons firing, may generate noise that can impact property outside of the installation. Installations with significant noise will typically generate maps that predict noise levels. These maps are then used to identify whether the noise levels are compatible with land uses in these noise-impacted areas. Installations will often publish noise abatement procedures to mitigate these noise impacts.
- b. Nellis AFB has noise contours that extend off the installation's property. Of the 11862 acres that extend to off-base property, 3142 acres have incompatible land uses. It has published noise abatement procedures for the main installation. It has published noise abatement procedures for the training and/or RDT&E range. It does not have published noise abatement procedures for the auxiliary airfield.

7. Threatened and Endangered Species/Critical Habitat (DoD Question #259-264)

- a. The presence of threatened and endangered species (TES) can result in restrictions on training, testing and operations. They serve to reduce buildable acres and maneuver space. The data in this section reflects listed TES as well as candidate species, designated critical habitat as well as proposed habitat, and restrictions from Biological Opinions. The legally binding conditions in Biological Opinions are designed to protect TES, and critical habitat. The data call seeks to identify the presence of the resource, TES, candidate or critical habitat, even if they don't result in restrictions, as well places where restrictions do exist.

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- b. Nellis AFB reported that federally-listed TES are present that have delayed or diverted operations/training/testing, candidate species are not present, critical habitat is not present, and that Nellis AFB has a Biological Opinion that places restrictions on operations.

8. Waste Management (DoD Question # 265-272):

- a. This resource area identifies whether the installation has existing waste treatment and/or disposal capabilities, whether there is additional capacity, and in some case whether the waste facility can accept off-site waste. This area includes Resource Conservation and Recovery Act (RCRA) Treatment, Storage and Disposal facilities, solid waste disposal facilities, RCRA Subpart X (open/burning/open detonation) and operations.
- b. Nellis AFB does not have a permitted RCRA Treatment Storage and Disposal Facility (TSDF). Nellis AFB does not have an interim or final RCRA Part X facility. Nellis AFB has an on-base solid waste disposal facility that is 50% filled.

9. Water Resources (DoD Question # 258, 274-299):

- a. This resource area asks about the condition of ground and surface water, and the legal status of water rights. Water is essential for installation operations and plays a vital role in the proper functioning of the surrounding ecosystems. Contamination of ground or surface waters can result in restrictions on training and operations and require funding to study and remediate. Federal clean water laws require states to identify impaired waters and to restrict the discharge of certain pollutants into those waters. Federal safe drinking water laws can require alternative sources of water and restrict activities above groundwater supplies particularly sole source aquifers. Water resources are also affected by the McCarran Amendment (1952), where Congress returned substantial power to the states with respect to the management of water. The amendment requires that the Federal government waive its sovereign immunity in cases involving the general adjudication of water rights. On the other hand existence of Federal Reserve Water Rights can provide more ability to the government to use water on federal lands.
- b. Nellis AFB discharges to an impaired waterway. Groundwater contamination is reported. Surface water contamination is not reported. The state requires permits for the withdrawal of groundwater. Exceedances of drinking water standards are reported, during at least one of the last three reporting periods.

10. Wetlands (DoD Question # 251, 257):

- a. The existence of jurisdictional wetlands poses restraints on the use of land for training, testing or operations. In the data call the installations were asked to report the presence of jurisdictional wetlands and compare the percent of restricted acres to the total acres. The presence of jurisdictional wetlands may reduce the ability of an installation to assume new or different missions, even if they do not presently pose restrictions, by limiting the availability of land.
- b. Nellis AFB has no wetland restricted acres on the military installation.

Summary of Cumulative Environmental Impacts - Criterion 8

Installation: Moody AFB, GA

Date: 4/23/2005

General

Description: This cumulative assessment is based on the following scenarios:

Scenario ID #	Description	Environmental Costs (\$K)	
		FY06	FY07
USAF-0056V2 (137.3)	Realign Eielson AFB, AK	193	50
USAF-0122V3 (316.3)	Realign Pope AFB, NC	583	150
E&T-0046R	Consolidate DoD Rotary at Ft Rucker, AL, and Fixed at Various Locations	-	-
Total Costs		776	200

Note: The above reflect revised costs based on the integration of multiple scenarios at one base. These costs should be used for each recommendation above, under COBRA Screen Five, "Env Non-Milcon Required"

<u>General Environmental Impacts</u>	
Environmental Resource Area	Moody
Air Quality	An air permit revision may be needed. A critical air quality region, Okefenokee Nat'l Wildlife Refuge is located within 100 miles of the base; however, this does not constrain operations.
Cultural/ Archeological/ Tribal Resources	The installation contains 65 archaeological sites; 6 constrain current construction, future construction, and training/testing operations by requiring pre-impact consultation. The base has been in formal consultation with 10 Native American tribes who are interested archaeological sites. One historic property is present. Additional operations may impact these sites/properties, which may constrain operations.
Dredging	No impact

Land Use Constraints/ Sensitive Resource Areas	Operations are already restricted because of non-DoD laws, regulations, or policies at the main installation and the training range. Two acres and groundwater have been restricted because of the Burma Road Landfill, which has a benzene groundwater plume that is located within 0.038 miles of the installation. Two sensitive resource areas are present; one, the Banks Lake National Wildlife Refuge restricts base and range ops by requiring an altitude above the refuge of at least 1,500 ft AGL. Additional operations may further impact these constraining factors and therefore further restrict operations.
Marine Mammals/ Marine Resources/ Marine Sanctuaries	No impact
Noise	Noise contours will need to be re-evaluated as a result of the change in mission. Noise abatement procedures are already in place. The AICUZ reflects the current mission/local land use/current noise levels, and has been adopted for local land use planning. 12,127 acres off-base within the noise contours are zoned by the local community. 96 of these acres are residentially zoned. The community has not purchased easements for the area surrounding the installation.
Threatened & Endangered Species/ Critical Habitat	One T&E species on the main installation and one T&E species on the range already restrict operations. In addition, two Biological Opinions are in place for the Gulf of Mexico water training area (marine turtles) and Bemiss Field/C-130 Drop Zone (eastern indigo snake). Additional operations may impact T&E species. In addition, the Biological Opinions will need to be evaluated to ensure the scenario conforms to them.
Waste Management	Modification of the hazardous waste program may be required.
Water Resources	The state requires a permit for withdrawal of groundwater. Modification of on-installation treatment works may be necessary.
Wetlands	Wetlands restrict 31% of the base and 43% of the range. Wetlands already restrict construction operations. Additional operations may impact wetlands, which may restrict operations.

<u>Impacts of Costs</u>	
	Moody
Environmental Restoration	DERA money spent through FY03 (\$K): 42,962 Estimated CTC (\$K): 50,384 DO NOT ENTER IN COBRA
Waste Management	FY07 Hazardous Waste Program Modification: \$100K
Environmental Compliance	FY06 NEPA cost: \$776K FY07 Significant Air Permit Revision: \$100K

INSTALLATION ENVIRONMENTAL PROFILE
MOODY AFB

1. Air Quality (DoD Question #210-225):

- a. The Clean Air Act (CAA) establishes health-based standards for air quality and all areas of the country are monitored to determine if they meet the standards. A major limiting factor is whether the installation is in an area designated nonattainment or maintenance (air quality is not meeting the standard) and is therefore subject to more stringent requirements, including the CAA General Conformity Rule. Conformity requires that any new emissions from military sources brought into the area must be offset by credits or accounted for in the State Implementation Plan (SIP) emissions budget. The criteria pollutants of concern include: CO, O₃ (1 hour & 8 Hour), and PM (PM₁₀, and PM_{2.5}). Installations in attainment areas are not restricted, while activities for installations in non-attainment areas may be restricted. Non-attainment areas are classified as to the degree of non-attainment: Marginal, Moderate, Serious, and in the case of O₃, Severe and Extreme. SIP Growth Allowances and Emission Reduction Credits are tools that can be used to accommodate increased emissions in a manner that conforms to a state's SIP. All areas of the country require operating permits if emissions from stationary sources exceed certain threshold amounts. Major sources already exceed the amount and are subject to permit requirements. Synthetic minor means the base has accepted legal limits to its emissions to stay under the major source threshold. Natural or true minor means the actual and potential emissions are below the threshold.
- b. Moody AFB is in Attainment for all Criteria Pollutants. It holds a CAA Synthetic Minor Operating Permit.

2. Cultural/Archeological/Tribal Resources (DoD Question #229-237):

- a. Many installations have historical, archeological, cultural and Tribal sites of interest. These sites and access to them often must be maintained, or consultation is typically required before changes can be made. The sites and any buffers surrounding them may reduce the quantity or quality of land or airspace available for training and maneuvers or even construction of new facilities. The presence of such sites needs to be recognized, but the fact that restrictions actually occur is the overriding factor the data call is trying to identify. A programmatic agreement with the State Historic Preservation Office (SHPO) facilitates management of these sites.
- b. Historic property has been identified on Moody AFB. There is no programmatic agreement for historic property in place with the SHPO. It has sites with high archeological potential identified, which restrict construction and operations.

3. Dredging (DoD Question # 226-228):

- a. Dredging allows for free navigation of vessels through ports, channels, and rivers. Identification of sites with remaining capacity for the proper disposal of dredge spoil is the primary focus of the profile. However, the presence of unexploded ordnance or any other impediment that restricts the ability to dredge is also a consideration.
- b. Moody AFB has no impediments to dredging.

4. Land Use Constraints/Sensitive Resource Areas (DoD Question #198-201, 238, 240-247, 254-256, 273):

- a. Land use can be encroached from both internal and external pressures. This resource area combines several different types of possible constraints. It captures the variety of constraints not otherwise covered by other areas that could restrict operations or development. The areas include electromagnetic radiation or emissions, environmental restoration sites (on and off installation), military

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munitions response areas, explosive safety quantity distance arcs, treaties, underground storage tanks, sensitive resource areas, as well as policies, rules, regulations, and activities of other federal, state, tribal and local agencies. This area also captures other constraining factors from animals and wildlife that are not endangered but cause operational restrictions. This resource area specifically includes information on known environmental restoration costs through FY03 and the projected cost-to-complete the restoration.

- b. Moody AFB reports that 549 unconstrained acres are available for development out of 11458 total acres. Moody AFB has spent \$43M thru FY03 for environmental restoration, and has estimated the remaining the Cost to Complete at \$50M. It has restrictions due to adjacent or nearby Sensitive Resource Area. Moody AFB has Explosive Safety Quantity Distance Arcs, none of which require safety waivers, and some with the potential for expansion. Moody AFB reports being constrained by the laws, regulations, policies, or activities of non-DoD federal, tribal, state, or local agencies.

5. Marine Mammal/Marine Resources/Marine Sanctuaries (DoD Question #248-250, 252-253):

- a. This area captures the extent of any restrictions on near shore or open water testing, training or operations as a result of laws protecting Marine Mammals, Essential Fish Habitat, and other related marine resources.
- b. Moody AFB is not impacted by laws and regulations pertaining to Marine Mammal Protection Act, Essential Fish Habitats & Fisheries and Marine Sanctuaries, which may adversely restrict navigation and operations.

6. Noise (DoD Question # 202-209, 239):

- a. Military operations, particularly aircraft operations and weapons firing, may generate noise that can impact property outside of the installation. Installations with significant noise will typically generate maps that predict noise levels. These maps are then used to identify whether the noise levels are compatible with land uses in these noise-impacted areas. Installations will often publish noise abatement procedures to mitigate these noise impacts.
- b. Moody AFB has noise contours that extend off the installation's property. Of the 10531 acres that extend to off-base property, 114 acres have incompatible land uses. It has published noise abatement procedures for the main installation. It has noise contours that extend off of the range property. Of the 1099 acres that extend to off-range property, 0 acres have incompatible land uses. It has published noise abatement procedures for the training and/or RDT&E range.

7. Threatened and Endangered Species/Critical Habitat (DoD Question #259-264)

- a. The presence of threatened and endangered species (TES) can result in restrictions on training, testing and operations. They serve to reduce buildable acres and maneuver space. The data in this section reflects listed TES as well as candidate species, designated critical habitat as well as proposed habitat, and restrictions from Biological Opinions. The legally binding conditions in Biological Opinions are designed to protect TES, and critical habitat. The data call seeks to identify the presence of the resource, TES, candidate or critical habitat, even if they don't result in restrictions, as well places where restrictions do exist.
- b. Moody AFB reported that federally-listed TES are present that have delayed or diverted operations/training/testing, candidate species are not present, critical habitat is not present, and that Moody AFB has a Biological Opinion that places restrictions on operations.

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8. Waste Management (DoD Question # 265-272):

- a. This resource area identifies whether the installation has existing waste treatment and/or disposal capabilities, whether there is additional capacity, and in some case whether the waste facility can accept off-site waste. This area includes Resource Conservation and Recovery Act (RCRA) Treatment, Storage and Disposal facilities, solid waste disposal facilities, RCRA Subpart X (open/burning/open detonation) and operations.
- b. Moody AFB does not have a permitted RCRA Treatment Storage and Disposal Facility (TSDF) . Moody AFB does not have an interim or final RCRA Part X facility. Moody AFB does not have an on-base solid waste disposal facility .

9. Water Resources (DoD Question # 258, 274-299):

- a. This resource area asks about the condition of ground and surface water, and the legal status of water rights. Water is essential for installation operations and plays a vital role in the proper functioning of the surrounding ecosystems. Contamination of ground or surface waters can result in restrictions on training and operations and require funding to study and remediate. Federal clean water laws require states to identify impaired waters and to restrict the discharge of certain pollutants into those waters. Federal safe drinking water laws can require alternative sources of water and restrict activities above groundwater supplies particularly sole source aquifers. Water resources are also affected by the McCarran Amendment (1952), where Congress returned substantial power to the states with respect to the management of water. The amendment requires that the Federal government waive its sovereign immunity in cases involving the general adjudication of water rights. On the other hand existence of Federal Reserve Water Rights can provide more ability to the government to use water on federal lands.
- b. Moody AFB does not discharge to an impaired waterway. Groundwater contamination is reported. Surface water contamination is not reported. The state requires permits for the withdrawal of groundwater.

10. Wetlands (DoD Question # 251, 257):

- a. The existence of jurisdictional wetlands poses restraints on the use of land for training, testing or operations. In the data call the installations were asked to report the presence of jurisdictional wetlands and compare the percent of restricted acres to the total acres. The presence of jurisdictional wetlands may reduce the ability of an installation to assume new or different missions, even if they do not presently pose restrictions, by limiting the availability of land.
- b. Moody AFB has 30.5% wetland restricted acres on the military installation.

Summary of Cumulative Environmental Impacts - Criterion 8**Installation:**Eielson AFB, AK**Date:** 4/26/2005**General Description:**This cumulative assessment is based on the following scenarios:

Scenario ID #	Description	Environmental Costs (\$K)	
		FY06	FY07
USAF-0056V2 (137.3)	Realign Eielson AFB AK	0	0
Total Costs		0	0

Note: The above reflect revised costs based on the integration of multiple scenarios at one base. These costs should be used for each recommendation above, under COBRA Screen Five, "Env Non-Milcon Required"

<u>General Environmental Impacts</u>	
Environmental Resource Area	Eielson
Air Quality	No impact
Cultural/ Archeological/ Tribal Resources	The base has a 582-acre historic district with 21 contributing resources.
Dredging	No impact
Land Use Constraints/ Sensitive Resource Areas	No impact
Marine Mammals/ Marine Resources/ Marine Sanctuaries	No impact
Noise	No impact
Threatened& Endangered Species/ Critical Habitat	No impact
Waste Management	No impact
Water Resources	No impact
Wetlands	No impact

<u>Impacts of Costs</u>	
	Eielson
Environmental Restoration	DERA money spent through FY03 (\$K): 57,367 Estimated CTC (\$K): 8,600 DO NOT ENTER IN COBRA
Waste Management	No impact
Environmental Compliance	No impact

Eielson
8.6M CTC
Spent - FY03 \$57.4M

INSTALLATION ENVIRONMENTAL PROFILE
EIELSON AFB

1. Air Quality (DoD Question #210-225):

- a. The Clean Air Act (CAA) establishes health-based standards for air quality and all areas of the country are monitored to determine if they meet the standards. A major limiting factor is whether the installation is in an area designated nonattainment or maintenance (air quality is not meeting the standard) and is therefore subject to more stringent requirements, including the CAA General Conformity Rule. Conformity requires that any new emissions from military sources brought into the area must be offset by credits or accounted for in the State Implementation Plan (SIP) emissions budget. The criteria pollutants of concern include: CO, O₃ (1 hour & 8 Hour), and PM (PM₁₀, and PM_{2.5}). Installations in attainment areas are not restricted, while activities for installations in non-attainment areas may be restricted. Non-attainment areas are classified as to the degree of non-attainment: Marginal, Moderate, Serious, and in the case of O₃, Severe and Extreme. SIP Growth Allowances and Emission Reduction Credits are tools that can be used to accommodate increased emissions in a manner that conforms to a state's SIP. All areas of the country require operating permits if emissions from stationary sources exceed certain threshold amounts. Major sources already exceed the amount and are subject to permit requirements. Synthetic minor means the base has accepted legal limits to its emissions to stay under the major source threshold. Natural or true minor means the actual and potential emissions are below the threshold.
- b. Eielson AFB is in Attainment for all Criteria Pollutants. It holds a CAA Major Operating Permit. Permit Exceedances reported.

2. Cultural/Archeological/Tribal Resources (DoD Question #229-237):

- a. Many installations have historical, archeological, cultural and Tribal sites of interest. These sites and access to them often must be maintained, or consultation is typically required before changes can be made. The sites and any buffers surrounding them may reduce the quantity or quality of land or airspace available for training and maneuvers or even construction of new facilities. The presence of such sites needs to be recognized, but the fact that restrictions actually occur is the overriding factor the data call is trying to identify. A programmatic agreement with the State Historic Preservation Office (SHPO) facilitates management of these sites.
- b. Historic property has been identified on Eielson AFB. There is no programmatic agreement for historic property in place with the SHPO. It does not have sites with high archeological potential identified.

3. Dredging (DoD Question # 226-228):

- a. Dredging allows for free navigation of vessels through ports, channels, and rivers. Identification of sites with remaining capacity for the proper disposal of dredge spoil is the primary focus of the profile. However, the presence of unexploded ordnance or any other impediment that restricts the ability to dredge is also a consideration.
- b. Eielson AFB has no impediments to dredging.

4. Land Use Constraints/Sensitive Resource Areas (DoD Question #198-201, 238, 240-247, 254-256, 273):

- a. Land use can be encroached from both internal and external pressures. This resource area combines several different types of possible constraints. It captures the variety of constraints not otherwise covered by other areas that could restrict operations or development. The areas include electromagnetic radiation or emissions, environmental restoration sites (on and off installation), military

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munitions response areas, explosive safety quantity distance arcs, treaties, underground storage tanks, sensitive resource areas, as well as policies, rules, regulations, and activities of other federal, state, tribal and local agencies. This area also captures other constraining factors from animals and wildlife that are not endangered but cause operational restrictions. This resource area specifically includes information on known environmental restoration costs through FY03 and the projected cost-to-complete the restoration.

- b. Eielson AFB reports that 5527 unconstrained acres are available for development out of 67081 total acres. Eielson AFB has spent \$57.4M thru FY03 for environmental restoration, and has estimated the remaining the Cost to Complete at \$9M. It has Military Munitions Response Areas. It reports constraints related to other factors. Eielson AFB has Explosive Safety Quantity Distance Arcs, none of which require safety waivers, and some with the potential for expansion.

5. Marine Mammal/Marine Resources/Marine Sanctuaries (DoD Question #248-250, 252-253):

- a. This area captures the extent of any restrictions on near shore or open water testing, training or operations as a result of laws protecting Marine Mammals, Essential Fish Habitat, and other related marine resources.
- b. Eielson AFB is not impacted by laws and regulations pertaining to Marine Mammal Protection Act, Essential Fish Habitats & Fisheries and Marine Sanctuaries, which may adversely restrict navigation and operations.

6. Noise (DoD Question # 202-209, 239):

- a. Military operations, particularly aircraft operations and weapons firing, may generate noise that can impact property outside of the installation. Installations with significant noise will typically generate maps that predict noise levels. These maps are then used to identify whether the noise levels are compatible with land uses in these noise-impacted areas. Installations will often publish noise abatement procedures to mitigate these noise impacts.
- b. Eielson AFB has noise contours that extend off the installation's property. Of the 1200 acres that extend to off-base property, 50 acres have incompatible land uses. It has published noise abatement procedures for the main installation. It has published noise abatement procedures for the training and/or RDT&E range.

7. Threatened and Endangered Species/Critical Habitat (DoD Question #259-264)

- a. The presence of threatened and endangered species (TES) can result in restrictions on training, testing and operations. They serve to reduce buildable acres and maneuver space. The data in this section reflects listed TES as well as candidate species, designated critical habitat as well as proposed habitat, and restrictions from Biological Opinions. The legally binding conditions in Biological Opinions are designed to protect TES, and critical habitat. The data call seeks to identify the presence of the resource, TES, candidate or critical habitat, even if they don't result in restrictions, as well places where restrictions do exist.
- b. Eielson AFB reported that federally-listed TES are not present, candidate species are not present, critical habitat is not present, and that Eielson AFB does not have a Biological Opinion.

8. Waste Management (DoD Question # 265-272):

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- a. This resource area identifies whether the installation has existing waste treatment and/or disposal capabilities, whether there is additional capacity, and in some case whether the waste facility can accept off-site waste. This area includes Resource Conservation and Recovery Act (RCRA) Treatment, Storage and Disposal facilities, solid waste disposal facilities, RCRA Subpart X (open/burning/open detonation) and operations.
- b. Eielson AFB does not have a permitted RCRA Treatment Storage and Disposal Facility (TSDF). Eielson AFB does not have an interim or final RCRA Part X facility. Eielson AFB has 2 on-base solid waste disposal facilities that are 29.7% filled.

9. Water Resources (DoD Question # 258, 274-299):

- a. This resource area asks about the condition of ground and surface water, and the legal status of water rights. Water is essential for installation operations and plays a vital role in the proper functioning of the surrounding ecosystems. Contamination of ground or surface waters can result in restrictions on training and operations and require funding to study and remediate. Federal clean water laws require states to identify impaired waters and to restrict the discharge of certain pollutants into those waters. Federal safe drinking water laws can require alternative sources of water and restrict activities above groundwater supplies particularly sole source aquifers. Water resources are also affected by the McCarran Amendment (1952), where Congress returned substantial power to the states with respect to the management of water. The amendment requires that the Federal government waive its sovereign immunity in cases involving the general adjudication of water rights. On the other hand existence of Federal Reserve Water Rights can provide more ability to the government to use water on federal lands.
- b. Eielson AFB discharges to an impaired waterway. Groundwater contamination is reported. Surface water contamination is reported. The state requires permits for the withdrawal of groundwater.

10. Wetlands (DoD Question # 251, 257):

- a. The existence of jurisdictional wetlands poses restraints on the use of land for training, testing or operations. In the data call the installations were asked to report the presence of jurisdictional wetlands and compare the percent of restricted acres to the total acres. The presence of jurisdictional wetlands may reduce the ability of an installation to assume new or different missions, even if they do not presently pose restrictions, by limiting the availability of land.
- b. Eielson AFB has 48.3% wetland restricted acres on the military installation.

DCN: 11580

Miller, Gary, CIV, WSO-BRAC

From: Miller, Gary, CIV, WSO-BRAC
Sent: Wednesday, August 17, 2005 6:09 PM
To: Beauchamp, Arthur, CIV, WSO-BRAC
Small, Kenneth, CIV, WSO-BRAC; Cook, Robert, CIV, WSO-BRAC
Subject: RE: Ellsworth Environmental Clean-up Costs

Art,

The AF is showing \$27 million in costs to complete the environmental restoration at Ellsworth. They have spent \$67.36 million through FY03. I am not sure where the \$1.15 million number came from that he provided. They did not provide backup to the numbers (such as the \$54 million they say it will take to cleanup Ellsworth) so it is hard to say which is correct. However, the number we are using comes from the Defense Environmental Restoration Account which only includes environmental restoration costs for contamination prior to 1986. However, this number usually includes long term monitoring and maintenance of installed corrective action treatment systems. He is correct in saying there are other costs that may be incurred if the installation is closed. These are related to closing underground storage tanks and misc. other units such as oil/water separators and fire training areas. In general these costs are not included in the payback calculations and so they are not tracked. The best we can do is show it as an issue and include DoD's estimate, there is know information that would lead me to believe the cost should be doubled.

Gary

Gary Miller, P.E.
Environmental Analyst
BRAC Commission
703-699-2930
gary.miller@wso.whs.mil

-----Original Message-----

From: Beauchamp, Arthur, CIV, WSO-BRAC
Sent: Wednesday, August 17, 2005 4:40 PM
To: Miller, Gary, CIV, WSO-BRAC
Cc: Small, Kenneth, CIV, WSO-BRAC; Cook, Robert, CIV, WSO-BRAC
Subject: FW: Ellsworth Environmental Clean-up Costs

Gary, can you confirm this? Or let me know how I can. It just so happened that this morning Bob asked that we take a hard look at the Environmental Remediation at Ellsworth so the timing on this email is good. Tks.]

Art

From: Taylor, Bob (Thune) [mailto:Bob_Taylor@thune.senate.gov]
Sent: Wednesday, August 17, 2005 1:21 PM
To: Beauchamp, Arthur, CIV, WSO-BRAC
Subject: Ellsworth Environmental Clean-up Costs

Art, we will likely send you an overall cost/savings paper that includes this later today, but wanted to pass to our estimates on actual clean-up costs if Ellsworth closes.

We believe the Air Force grossly underestimated the cost of environmental clean-up. I believe their estimate was only \$1.15 million total cost.

According to DoD's own 2004 Environmental Programs Annual Report to Congress, (dtd Feb 25, 2005) Ellsworth has received \$69.5 million to date for environmental clean-up and remediation.

The estimated cost of completion in this report is stated to be at least \$26.4 million (through FY 2028).

Keep in mind these estimated costs were put together as if Ellsworth continues to operate as an active military base. Cost to clean-up a closed base about to be handed over for civilian use rise markedly.

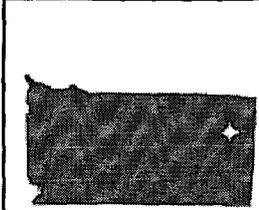
Therefore, it's safe to assume that these costs will increase dramatically should Ellsworth be subject to closure:

- 1) Additional remediation/clean-up costs could pop-up once the base is shut down;
- 2) The duties that the Air Force was otherwise was taking care of (i.e. monitoring and treatment of contamination) will be passed along to the state and/or the surrounding town/county, but the costs will still be borne by DoD.

We think the costs are probably more accurately in the range of \$52 million, conservatively.

FFID:	SD857212464400
Size:	4,858 acres
Mission:	Maintain a combat-ready force capable of executing long-range bombardment operations
HRS Score:	33.62; placed on NPL in August 1990
IAG Status:	Federal facility agreement signed in January 1992
Contaminants:	Solvents (including TCE), POLs, lead, low-level radioactive waste
Media Affected:	Groundwater and soil

Funding to Date: \$ 69.5 million
Estimated Cost to Completion \$ 26.4 million (FY 2028)
(Completion Year):
IRP/MMRP Sites Final RIP/RC: FY 2002/FY 2003
Five-Year Review Status: Completed FY2000 - remedy remains protective



Progress To Date

Ellsworth Air Force Base (AFB) maintains a combat-ready force capable of executing long-range bombardment operations. The base was placed on the NPL in August 1990 and signed a federal facility agreement in January 1992. Site types include landfills, underground storage tanks, maintenance areas, a fire training area, and a low-level radioactive waste burial site. Groundwater and soil contamination resulted from releases of trichloroethylene (TCE) and petroleum/hydrocarbons (POLS) at these sites. In FY95, the base formed a Restoration Advisory Board. In FY00, a 5-year review was completed for 13 sites concluding that all sites were protective of human health and the environment.

Environmental studies conducted from FY85 to FY87 identified 20 sites at Ellsworth AFB. Sites at the installation were grouped into 12 operable units (OUs). To date, Records of Decision (RODs) have been signed for OUs 1 through 10 and OU 12. The cleanup progress at Ellsworth AFB for FY00 through FY03 is detailed below.

In FY00, a remedial investigation (RI) was completed and monitoring began at Site ST-26. A 5-year review was completed for 13 ROD sites, with the regulatory agencies concerning that all sites were protective of human health and the environment, subject to landfill cap landslide repairs at Landfill-05 (LF-05). Remediation of basewide groundwater contamination (OU 11) continued.

In FY01, remediation of basewide groundwater contamination continued and the installation completed the water line extension at OU 11 and placed the site under remedial action operations (RA-O). Long-term management (LTM) and RA-O continued at selected sites. The RI for Site RW-27 began. Also in FY01, a comprehensive range inventory was initiated. This inventory was designed to be an annual, iterative effort. To supply data for the inventory, a detailed questionnaire was completed that collected data on the types of munitions used, the range's environmental status, and the type and level of external stakeholder interest.

In FY02, the installation continued the RI and started interim RA free product removal at Site RW-27. LTM and RA-O continued at Site OU 11 and other selected sites. The installation

Plan of Action

The preliminary assessment scheduled for FY05 is no longer required, as the area previously identified by Air Force contractors as an MMRF area of concern was subsequently determined to be an Explosives Ordnance Disposal site closed under the Environmental Restoration Program in FY97.

Plan of action items for Ellsworth Air Force Base are grouped below according to program category.

IRP

- Continue FS for Site RW-27 in FY05.
- Continue RA-O and LTM at selected sites in FY05-FY06.
- Finalize the expanded RI/FS report for Site RW-27 in FY06.

FY04 MMRP Progress

The Air Force updated its MMRF inventory. The preliminary assessment scheduled for FY05 is no longer required, as the area previously identified by Air Force contractors as an MMRF area of concern was subsequently determined to be an Explosives Ordnance Disposal site closed under the Environmental Restoration Program in FY97.

FY04 IRP Progress

The installation completed the RI/FS for Site OT-18. For site RW-27, the installation also completed the expanded RI and started the FS. In addition, Ellsworth AFB continued the RA-O and LTM at selected sites. The cost of completing environmental restoration at this installation changed significantly due to estimating criteria issues.

The Air Force updated its MMRF inventory. The preliminary assessment scheduled for each MMRF site. Assessment Code scores were updated for each MMRF site. updated its MMRF inventory. Cost estimates and Risk collected for the expanded RI/FS for RW-27. The Air Force RI/FS for Site OT-18, and removed free product at Site RW-27. In FY03, the Air Force completed repairs at LF-05, continued RI/FS for Site OT-18, and removed free product at Site RW-27. Assessment Code scores were updated for each MMRF site.

MMRP

There are no MMRP actions scheduled for FY05 or FY06.



U.S. Environmental Protection Agency Region 8 - Ellsworth Air Force Base

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Ellsworth Air Force Base

Meade and Pennington Counties, South Dakota, Congressional District - At Large
CERCLIS ID-SD2571924644

April 2002

**National Priorities List
Construction Complete**

ABOUT THE ELLSWORTH AIR FORCE BASE (EAFB) SITE . . .

EAFB is a U.S. Air Force Air Combat Command base six miles east of Rapid City, South Dakota. It is next to the town of Box Elder. EAFB covers about 4,858 acres in Meade and Pennington Counties. The Base includes runways, airfield operations, industrial areas, as well as housing and recreational facilities. EAFB is surrounded by farm land, a few private homes and light commercial activities.

Military activities for a half century left contamination, both on the Base and on private land beyond its boundaries. The Environmental Protection Agency (EPA) added EAFB to its National Priorities List on August 30, 1990. The Air Force, EPA and the State of South Dakota have worked as partners to clean up EAFB.

BACKGROUND

EAFB began in July 1942 as the Rapid City Army Air Base, a training facility for B-17 bomber crews. In 1948, as part of the 28th Strategic Reconnaissance Wing, it became a permanent facility.

Historically, EAFB has been operations headquarters for a variety of aircraft, as well as the Titan I Intercontinental Ballistic Missile system and the Minuteman missile system. Presently, the 28th Bombardment Wing (B-1B bombers) is the host unit of EAFB.

CONTAMINANTS

Studies to identify hazardous substances were conducted in 12 general areas of EAFB, including landfills, a fire protection training area, spill sites, industrial areas, and an explosive-ordnance disposal area. The hazardous substances found most often on the Base are solvents and jet fuels, located in both soils and ground water.

Some ground-water contaminants have moved beyond the EAFB boundary to the east and south at low concentrations, but above federal drinking-water standards. Continued use of the contaminated ground water over long periods for household purposes, particularly as drinking water, could pose unacceptable health risks.

CONSTRUCTION COMPLETE

The Air Force installed cleanup systems to address possible future health risks. Construction of cleanup systems is complete at all contaminated areas. The cleanup includes ground-water pump- and-treat systems, landfill covers, soil treatment systems, excavation activities and natural attenuation (lessening). The systems are functioning properly.

Ground-water contamination has impacted the drinking water wells of some homes adjacent to the east and south of EAFB. The Air Force has provided potable water to these homes via water main extensions from the EAFB water-supply system. Eventually, the mains will be transferred to the City of Box Elder for operation and maintenance.

The Air Force capped landfills and has enforced institutional controls to prevent unauthorized access to those landfills and to prevent the caps from being disturbed.

Contaminated ground water is pumped out of the ground and cleaned up to drinking water standards. The treated water is then either discharged to a local drainage, to EAFB wastewater- treatment plant, or re-injected into the aquifer. East of EAFB, the source of ground-water contamination has been stopped. Natural attenuation of the remaining contamination will continue to be monitored.

These ground-water cleanup systems will be in operation for 20 to 30 years to complete the cleanup. The relatively low levels of contamination in off-Base areas are expected to lessen within the same time frame.

Cleanup of the entire EAFB, including 20 years of ground-water treatment, is expected to cost approximately \$30 million. All cleanup activities are being performed by the Air Force. EPA and the State of South Dakota provide regulatory oversight.

FIVE YEAR REVIEW

In September 2000, the Air Force conducted a five-year review of all remedies constructed on EAFB. EPA and the State of South Dakota reviewed and commented on the results. The only significant issue was a naturally occurring slope failure at one landfill. The slope failure had caused a breach in the vegetative cover. It was immediately repaired by the Air Force. A more permanent solution to prevent future slope failures is being investigated.

All existing remedial systems require monitoring and sometimes minor modifications. The EAFB Environmental Flight staff continue to conduct these efforts and ensure that the remedies remain protective of human health and the environment.

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Last updated on Wednesday, June 9th, 2004
URL: <http://www.epa.gov/region8/superfund/sites/sd/ellafb.html>

Ellsworth Air Force Base

Environmental Considerations

\$61 million spent to date on clean-up. DoD estimates \$3.23 million in costs for environmental compliance and waste management. The hazardous substances found most often on the Base are solvents and jet fuels, located in both soils and ground water. Some ground-water contaminants have moved beyond the EAFB boundary to the east and south at low concentrations, but above federal drinking-water standards. Continued use of the contaminated ground water over long periods for household purposes, particularly as drinking water, could pose unacceptable health risks.

The Air Force installed cleanup systems to address possible future health risks. Construction of cleanup systems is complete at all contaminated areas. The cleanup includes ground-water pump- and-treat systems, landfill covers, soil treatment systems, excavation activities and natural attenuation (lessening). The systems are functioning properly.

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Cleanup of the entire EAFB, including 20 years of ground-water treatment, is expected to cost approximately \$30 million. All cleanup activities are being performed by the Air Force. EPA and the State of South Dakota provide regulatory oversight.

All existing remedial systems require monitoring and sometimes minor modifications. The EAFB Environmental Flight staff conduct these efforts and ensure that the remedies remain protective of human health and the environment.

Prepared by ? BOA Ethor Saxon
Environmental clean up needs funds in
BRAC. Several costs

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Ellsworth Air Force Base, SD and Dyess Air Force Base, TX

Recommendation: Close Ellsworth Air Force Base, South Dakota. The 24 B-1 aircraft assigned to the 28th Bomb Wing will be distributed to the 7th Bomb Wing, Dyess Air Force Base, Texas. Realign Dyess Air Force Base, Texas. Realign Dyess Air Force Base. The C-130 aircraft assigned to the 317th Airlift Group will be distributed to the active duty 314th Airlift Wing (22 aircraft) and Air National Guard 189th Airlift Wing (two aircraft), Little Rock Air Force Base, Arkansas; the 176th Wing (ANG), Elmendorf Air Force Base, Alaska (four aircraft); and the 302d Airlift Wing (AFR), Peterson Air Force Base, Colorado (four aircraft). Peterson Air Force Base will have an active duty/Air Force Reserve association in the C-130 mission. Elmendorf Air Force Base will have an active duty/Air National Guard association in the C-130 mission.

Justification: This recommendation consolidates the B-1 fleet at one installation to achieve operational efficiencies. Ellsworth (39) ranked lower in military value for the bomber mission than Dyess (20). To create an efficient, single-mission operation at Dyess, the Air Force realigned the tenant C-130s from Dyess to other Air Force installations. The majority of these aircraft went to Little Rock (17-airlift), which enables consolidation of the active duty C-130 fleet into one stateside location at Little Rock, and robusts the Air National Guard squadron to facilitate an active duty association with the Guard unit. The other C-130s at Dyess were distributed to Elmendorf (51-airlift) and Peterson (30-airlift) to facilitate active duty associations with the Guard and Reserve units at these installations.

Payback: The total estimated one-time cost to the Department of Defense to implement this recommendation is \$299 million. The net of all costs and savings to the Department during the implementation period is a savings of \$316 million. Annual recurring savings to the Department after implementation are \$161 million, with a payback expected in one year. The net present value of the cost and savings to the Department over 20 years is a savings of \$1,853 million.

Economic Impact on Communities: Assuming no economic recovery, this recommendation could result in a maximum potential reduction of 6,768 jobs (3,852 direct jobs and 2,916 indirect jobs) over the 2006-2011 period in the Rapid City, South Dakota Metropolitan Statistical economic area, which is 8.46 percent of economic area employment. The aggregate economic impact of all recommended actions on this economic region of influence was considered and is at Appendix B of Volume I.

Community Infrastructure Assessment: A review of community attributes indicates no issues regarding the ability of the infrastructure of the communities to support missions, forces, and personnel. There are no known community infrastructure impediments to implementation of all recommendations affecting the installations in this recommendation.

Environmental Impact: There are potential impacts to air quality; cultural, archeological, or tribal resources; land use constraints or sensitive resource areas; noise;

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waste management; water resources; and wetlands that may need to be considered during the implementation of this recommendation. There are no anticipated impacts to dredging; marine mammals, resources, or sanctuaries; or threatened and endangered species or critical habitat. Impacts of costs include \$3.23 million in costs for environmental compliance and waste management. These costs were included in the payback calculation. There are no anticipated impacts to the costs of environmental restoration. The aggregate environmental impact of all recommended BRAC actions affecting the installations in this recommendation have been reviewed. There are no known environmental impediments to the implementation of this recommendation.

INSTALLATION ENVIRONMENTAL PROFILE
ELLSWORTH AFB

1. Air Quality (DoD Question #210-225):

- a. The Clean Air Act (CAA) establishes health-based standards for air quality and all areas of the country are monitored to determine if they meet the standards. A major limiting factor is whether the installation is in an area designated nonattainment or maintenance (air quality is not meeting the standard) and is therefore subject to more stringent requirements, including the CAA General Conformity Rule. Conformity requires that any new emissions from military sources brought into the area must be offset by credits or accounted for in the State Implementation Plan (SIP) emissions budget. The criteria pollutants of concern include: CO, O₃ (1 hour & 8 Hour), and PM (PM₁₀, and PM_{2.5}). Installations in attainment areas are not restricted, while activities for installations in non-attainment areas may be restricted. Non-attainment areas are classified as to the degree of non-attainment: Marginal, Moderate, Serious, and in the case of O₃, Severe and Extreme. SIP Growth Allowances and Emission Reduction Credits are tools that can be used to accommodate increased emissions in a manner that conforms to a state's SIP. All areas of the country require operating permits if emissions from stationary sources exceed certain threshold amounts. Major sources already exceed the amount and are subject to permit requirements. Synthetic minor means the base has accepted legal limits to its emissions to stay under the major source threshold. Natural or true minor means the actual and potential emissions are below the threshold.
- b. Ellsworth AFB is in Attainment for all Criteria Pollutants. It holds a CAA Major Operating Permit.

2. Cultural/Archeological/Tribal Resources (DoD Question #229-237):

- a. Many installations have historical, archeological, cultural and Tribal sites of interest. These sites and access to them often must be maintained, or consultation is typically required before changes can be made. The sites and any buffers surrounding them may reduce the quantity or quality of land or airspace available for training and maneuvers or even construction of new facilities. The presence of such sites needs to be recognized, but the fact that restrictions actually occur is the overriding factor the data call is trying to identify. A programmatic agreement with the State Historic Preservation Office (SHPO) facilitates management of these sites.
- b. Historic property has been identified on Ellsworth AFB. There is no programmatic agreement for historic property in place with the SHPO. It does not have sites with high archeological potential identified.

3. Dredging (DoD Question # 226-228):

- a. Dredging allows for free navigation of vessels through ports, channels, and rivers. Identification of sites with remaining capacity for the proper disposal of dredge spoil is the primary focus of the profile. However, the presence of unexploded ordnance or any other impediment that restricts the ability to dredge is also a consideration.
- b. Ellsworth AFB has no impediments to dredging.

4. Land Use Constraints/Sensitive Resource Areas (DoD Question #198-201, 238, 240-247, 254-256, 273):

- a. Land use can be encroached from both internal and external pressures. This resource area combines several different types of possible constraints. It captures the variety of constraints not otherwise covered by other areas that could restrict operations or development. The areas include electromagnetic radiation or emissions, environmental restoration sites (on and off installation), military

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munitions response areas, explosive safety quantity distance arcs, treaties, underground storage tanks, sensitive resource areas, as well as policies, rules, regulations, and activities of other federal, state, tribal and local agencies. This area also captures other constraining factors from animals and wildlife that are not endangered but cause operational restrictions. This resource area specifically includes information on known environmental restoration costs through FY03 and the projected cost-to-complete the restoration.

- b. Ellsworth AFB reports that 1858 unconstrained acres are available for development out of 8144 total acres. Ellsworth AFB has spent \$67.4M thru FY03 for environmental restoration, and has estimated the remaining the Cost to Complete at \$27M. It has Military Munitions Response Areas. Ellsworth AFB has Explosive Safety Quantity Distance Arcs, none of which require safety waivers, and some with the potential for expansion.

5. Marine Mammal/Marine Resources/Marine Sanctuaries (DoD Question #248-250, 252-253):

- a. This area captures the extent of any restrictions on near shore or open water testing, training or operations as a result of laws protecting Marine Mammals, Essential Fish Habitat, and other related marine resources.
- b. Ellsworth AFB is not impacted by laws and regulations pertaining to Marine Mammal Protection Act, Essential Fish Habitats & Fisheries and Marine Sanctuaries, which may adversely restrict navigation and operations.

6. Noise (DoD Question # 202-209, 239):

- a. Military operations, particularly aircraft operations and weapons firing, may generate noise that can impact property outside of the installation. Installations with significant noise will typically generate maps that predict noise levels. These maps are then used to identify whether the noise levels are compatible with land uses in these noise-impacted areas. Installations will often publish noise abatement procedures to mitigate these noise impacts.
- b. Ellsworth AFB has noise contours that extend off the installation's property. Of the 31356 acres that extend to off-base property, 596 acres have incompatible land uses. It does not have published noise abatement procedures for the main installation. It has published noise abatement procedures for the training and/or RDT&E range.

7. Threatened and Endangered Species/Critical Habitat (DoD Question #259-264)

- a. The presence of threatened and endangered species (TES) can result in restrictions on training, testing and operations. They serve to reduce buildable acres and maneuver space. The data in this section reflects listed TES as well as candidate species, designated critical habitat as well as proposed habitat, and restrictions from Biological Opinions. The legally binding conditions in Biological Opinions are designed to protect TES, and critical habitat. The data call seeks to identify the presence of the resource, TES, candidate or critical habitat, even if they don't result in restrictions, as well places where restrictions do exist.
- b. Ellsworth AFB reported that federally-listed TES are not present, candidate species are present, critical habitat is not present, and that Ellsworth AFB does not have a Biological Opinion.

8. Waste Management (DoD Question # 265-272):

Draft Deliberative Document-For Discussion Purposes Only-Do Not Release Under FOIA

- a. This resource area identifies whether the installation has existing waste treatment and/or disposal capabilities, whether there is additional capacity, and in some case whether the waste facility can accept off-site waste. This area includes Resource Conservation and Recovery Act (RCRA) Treatment, Storage and Disposal facilities, solid waste disposal facilities, RCRA Subpart X (open/burning/open detonation) and operations.
- b. Ellsworth AFB does not have a permitted RCRA Treatment Storage and Disposal Facility (TSDF). Ellsworth AFB does not have an interim or final RCRA Part X facility. Ellsworth AFB does not have an on-base solid waste disposal facility.

9. Water Resources (DoD Question # 258, 274-299):

- a. This resource area asks about the condition of ground and surface water, and the legal status of water rights. Water is essential for installation operations and plays a vital role in the proper functioning of the surrounding ecosystems. Contamination of ground or surface waters can result in restrictions on training and operations and require funding to study and remediate. Federal clean water laws require states to identify impaired waters and to restrict the discharge of certain pollutants into those waters. Federal safe drinking water laws can require alternative sources of water and restrict activities above groundwater supplies particularly sole source aquifers. Water resources are also affected by the McCarran Amendment (1952), where Congress returned substantial power to the states with respect to the management of water. The amendment requires that the Federal government waive its sovereign immunity in cases involving the general adjudication of water rights. On the other hand existence of Federal Reserve Water Rights can provide more ability to the government to use water on federal lands.
- b. Ellsworth AFB does not discharge to an impaired waterway. Groundwater contamination is reported. Surface water contamination is not reported. The state requires permits for the withdrawal of groundwater.

10. Wetlands (DoD Question # 251, 257):

- a. The existence of jurisdictional wetlands poses restraints on the use of land for training, testing or operations. In the data call the installations were asked to report the presence of jurisdictional wetlands and compare the percent of restricted acres to the total acres. The presence of jurisdictional wetlands may reduce the ability of an installation to assume new or different missions, even if they do not presently pose restrictions, by limiting the availability of land.
- b. Ellsworth AFB has less than 1% wetland restricted acres on the military installation.

Summary of Scenario Environmental Impacts - Criterion 8

Scenario ID#: USAF-0018V3 (200.3)

Brief Description: Close Ellsworth AFB, SD

<u>General Environmental Impacts</u>	
Environmental Resource Area	Ellsworth (Closing)
Air Quality	No impact
Cultural/ Archeological/ Tribal Resources	The installation contains 7 historic properties which may require consultation with the state historic preservation office prior to the transfer of property.
Dredging	No impact
Land Use Constraints/ Sensitive Resource Areas	No impact
Marine Mammals/ Marine Resources/ Marine Sanctuaries	No impact
Noise	Aircraft noise will be eliminated
Threatened& Endangered Species/ Critical Habitat	The installation is regulated by the USFWS regarding T&E species which may require consultation with the USFWS prior to the transfer of property.
Waste Management	No impact
Water Resources	No impact
Wetlands	No impact

<u>Impacts of Costs</u>	
	Ellsworth (Closing)
Environmental Restoration	DERA money spent through FY03 (\$K): 67364 Estimated CTC (\$K): 26983 DO NOT ENTER IN COBRA Decision makers should be aware that the closure decision contemplated in this scenario would necessitate the closure of 2

	ranges and the remediation of any munitions contaminants on the ranges. The cost and time required to remediate the ranges is uncertain and may be significant, potentially limiting near-term reuse of the range portion of the facility.
Waste Management	None
Environmental Compliance	FY06 NEPA cost: Scenario \$1.15M / Cumulative \$1.15M

<u>General Environmental Impacts</u>	
Environmental Resource Area	Dyess (Gaining)
Air Quality	Base is in attainment for all pollutants. A significant permit revision may be required.
Cultural/ Archeological/ Tribal Resources	There are 7 archaeological sites on-base; however, operations are not restricted by these and no other cultural resources exist.
Dredging	No impact.
Land Use Constraints/ Sensitive Resource Areas	Flight operations/plans have been diverted, delayed, or re-routed because of noise. Additional operations may further impact this constraining factor and therefore further restrict operations.
Marine Mammals/ Marine Resources/ Marine Sanctuaries	No impact.
Noise	Noise contours will need to be re-evaluated as a result of the change in mission. The AICUZ reflects the current mission, local land use, & current noise levels. 36,002 acres off-base within the noise contours are zoned by the local community. 752 of these acres are residentially zoned. The community has purchased easements on both developed and undeveloped land.
Threatened& Endangered Species/ Critical Habitat	No T&E species or critical habitats exist. No impact to T&E species is expected.
Waste Management	The hazardous waste program may require modification.
Water Resources	No impact
Wetlands	Wetlands restrict 0.5% of the base. Wetlands already restrict operations. Additional operations may impact wetlands, which may restrict operations.

<u>Impacts of Costs</u>

TO: Hal Tickle
Navy Analyst

FROM: Gary Miller, P.E.
Environmental Analyst

SUBJECT: Review of environmental issues identified in the "Report of Attorney General Richard Blumenthal Concerning the Proposed Closure of the Groton Submarine Base..."

Environmental Cleanup Status: The New London Submarine Base site covers 576 acres on the eastern bank of the Thames River in Groton. The base was established in 1868, and has been an operation and support base for submarine activities in the Atlantic Ocean since 1916.

The Base was listed on the National Priorities List on 08/03/1990. A Federal Facilities Agreement (FFA) for the Base provided for oversight by EPA and the Connecticut Department of Environmental Protection.

Multiple Record of Decision's (ROD's), implementing various cleanup remedies across the Base have been signed. Currently all three landfills have been capped, 7 removal actions have been completed and contaminated soil/sediment at the Area A Downstream has been removed. Wetland restoration is underway at the Area A Downstream. Soil excavation has been completed at the Area A Weapons Center. Investigations are well underway at the Lower Sub Base Area and for the groundwater throughout the base.

Issues: The report makes two main points associated with the environmental cleanup at the facility.

1. "DOD has made erroneous projections of costs and estimated savings associated with the proposed closure of the base caused by inadequate and currently unavailable information of the extent and degree of potential radiological contamination at the base."
2. "DOD has failed to understand and calculate the true extent and cost of its legal obligations under a Federal Facilities Agreement ("FFA") unique to the base, which requires a high level of remediation *before* the base can be transferred, contrary to DOD's assumptions. The FFA creates legally enforceable rights for the state pursuant to the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA")."

Review - Issue 1: One of the arguments concerns the Navy's lack of knowledge concerning nature and extent of contamination on the northern part of the Submarine Base. They also cite a 1997 Historical Radiological Assessment (HRA) as proof that the radiological assessment of the Base is incomplete. The Navy is currently completing the

update to the HRA. It is unknown if additional contamination could be identified once the update is complete. Based upon the state report they feel the Navy would still need to complete further reviews of the northern area of the base. I have no other information on what may exist in the northern area of the Base.

They are correct in that the law does require investigation and remediation of the potential radiological contamination of the base. As far as I can tell the Navy is planning on completing the radiological cleanup. During the development of the scenario for closure of New London, the Navy included in the payback calculation for the Base, money to complete potential radiological surveys and other work. The cost are based mainly on the Naval Nuclear Propulsion Program (NNPP) area of the Base, however they did include cost to look at other potential sites. The cost breakdown included in the payback calculation was \$3.44M for surveys and sampling, \$3.28M for facility dismantlement, and \$3.23M for radiological waste disposal. The survey total was based on release of 624,832 square feet for the NNPP, and 269,073 square feet for general radioactive material (G-RAM; all Navy non-NNPP applications of radioactivity, such as medical or historical radium use). At this time there is no way to know if these costs are adequate.

The state also makes an argument that the Navy has underestimated the clean-up cost since the state requires a clean-up standard of 19 Millirem Plus As Low As Reasonably Achievable. EPA generally uses a risk based clean-up level based upon standard risk numbers for a range of 10^{-4} to 10^{-6} . The dose standard they provide is within a range used by Department of Energy which uses a 15 to 25 Millirem value for clean-up. So I do not believe the clean-up standard is a hindrance to property transfer at this time.

Review - Issue 2: The argument appears to be based upon the FFA from 1994 which has a section on property transfer. My reading of the section indicates that transfer is still governed by CERCLA Section 120 which controls the transfer of all Federal property. So this facility will be no different than others, with the exception that the radiological clean-up requirements will need to be met. There are conditions in 120 that will allow early transfer, prior to completion of remediation with additional signed agreements.

The other part of the state argument concerns the inclusion of costs for radiological testing and remediation not being included in the payback calculations. The state seems to think that the \$23.9M environmental restoration cost should have included in the payback calculation. The environmental restoration cost does not include the radiological surveys and remediation. Radiological survey, testing and clean-up for this area is considered a one-time cost associated with closing the facility. As shown in the response to Issue 1 these cost are included in the payback calculation.

The costs shown in Issue 1 came from a letter dated July 13, 2005 which is the Navy response to a clearinghouse question submitted by me concerning how radiological cleanup cost were considered in the payback calculations.

New London Environmental Remediation Issues identified during August 2, 2005 meeting with Connecticut Department of Environmental Protection Commissioner Gina McCarthy.

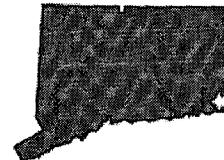
During the meeting several issues were identified by the state including:

1. **Cost of radiological cleanup.** The state has estimated at least \$31.5 million vs. the \$9.95 million identified in the Navy payback calculations. The Navy based their assumptions on decommissioning of the Naval Nuclear Propulsion Program area of the base and a small percentage of the remainder of the base. The state assumption is that a much large part of the base will need to be investigated and potential remediation completed. The state feels the current historical radiological survey of the base is incomplete and does not identify areas of the base where radium dials and other types of radiological waste could have been disposed. The Navy is currently updating the survey and this may answer some of the concerns. The state appears to be taking a worst case scenario in to account in their estimate. Currently there is no way to place a cost on potential remediation until the survey of the base is complete. The state may very well be correct, but the Navy has a starting point included in the payback calculations. There are currently no known areas of radiological contamination other than the ones included in the Navy estimate.
2. **Environmental restoration cost to complete.** The state has estimated approximately \$125.5 million vs. \$23 million identified by the Navy. The disparity involves the types of costs included in each estimate. The Navy used the FY 2003 Defense Environmental Restoration Program estimates for cost to complete reported in the FY 2003 report to Congress. These estimates generally include environmental restoration of contamination prior to 1986 and may not include some of the UST cleanup cost identified in the state's estimate. All of the cost to complete estimates we have from DoD are based on the same assumptions. Yes, there will be additional costs to cleanup sites on the facilities prior to transfer. These will include USTs, industrial waste treatment facilities, wash racks, maintenance shoes and so on. These costs have not been identified by DoD to the BRAC Commission. As long as the Commissioner's are educated on what is included in the estimates, we have provided them with the information as required in the BRAC law.
3. **Additional environmental restoration cost.** The state provided a list of restoration costs that they feel must be considered. A spread sheet with cost to backup the Superfund part of their estimate was also included. This cost was approximately \$65 million however, the spread sheet only adds up to approximately \$45 million (I removed an error of \$4.3 million in their calculations, but could not identify the remainder of their estimate). The estimate also includes some petroleum storage tank remediation which may not be included in the Navy estimate. The state indicated that most of the Superfund cost they identify would be in remediation of the Area A wetlands, after

discussions with EPA staff, I feel the state may have over estimated the cost to remediate this area. The area the state estimated was sampled and only a limited area may have contamination that requires excavation. I could not identify from the information provided what the \$35 million for pesticide remediation would include. I could also not verify the \$12 million for hazardous waste restoration. This seems excessive since the cost under this item would be to close out any storage areas the Navy may currently operate and currently there again is no information that there is contamination to remediate. The same goes for the \$12 million in UST costs, there is no information concerning how many tanks would actually need remediation. The state's estimate is largely based on a worst case scenario and these are costs the Navy will be responsible for whether the base closes or stays open.

4. **Federal Facilities Agreement.** The argument appears to be based upon the FFA from 1994 which has a section on property transfer. My reading of the section indicates that transfer is still governed by CERCLA Section 120 which controls the transfer of all Federal property. So this facility will be no different than others, with the exception that the radiological clean-up requirements will need to be met. There are conditions in 120 that will allow early transfer, prior to completion of remediation with additional signed agreements. Although the property may not be transferred within six years, most of the property could be available through a lease in furtherance of transfer within that time frame. Based upon past rounds the cleanup could be delayed. The current round of BRAC has facilities that are further along in the cleanup program area than past rounds.
5. **Additional Environmental Factors.** It is true that Kings Bay has some restrictions to protect the right whales but, I understand that it is only during calving season and restricts the speed that boats must travel with the protected area.

FFID:	CT117002202000	Media Affected:	Groundwater, surface water, sediment, land soil
Size:	547 acres	Funding to Date:	\$ 57.6 million
Mission:	Maintain and repair submarines; conduct submarine training and submarine medical research; provide a home port for submarines	Estimated Cost to Completion (Completion Year):	\$ 23.1 million(FY 2020)
HRS Score:	36.53; placed on NPL in August 1990	IRP/MMRP Sites Final RIP/RC:	FY 2012/None
IAG Status:	Federal facility agreement signed in January 1995	Five-Year Review Status:	Completed FY2001
Contaminants:	Dredge spoils, incinerator ash, POLs, PCBs, spent acids, pesticides, solvents, construction debris, metals, VOCs		



Progress To Date

New London Naval Submarine Base maintains and repairs submarines. Significant sites at the installation include the Area A landfill (Site 2), a number of smaller disposal areas, and fuel and chemical storage areas. The installation was placed on the NPL in August 1990 because of polychlorinated biphenyl (PCB) contamination at Site 2. The installation formed a technical review committee in FY89 and converted it to a Restoration Advisory Board in FY94. The installation signed a federal facility agreement in January 1995. In FY01, the installation completed a 5-year review.

Twenty-nine sites have been identified at this installation, including 22 CERCLA sites, along with underground storage tanks (USTs) which were grouped into two UST sites. The installation has completed Record of Decision (ROD) documents for Sites 2, 3, 6, 8, 20 and the basewide groundwater operable unit (OU). In addition, the installation has signed No Further Action RODs for Site 4 and Site 15. The installation completed the proposed remedial action plan (PRAP) and ROD for the basewide groundwater OU. The cleanup progress at New London Naval Submarine Base for FY00 through FY03 is detailed below.

In FY00, the installation completed the feasibility study (FS), PRAP, and ROD for Site 20. A draft final FS was completed for the lower base sites. Remedial design (RD) and remedial action (RA) at Site 3 and RD at Site 8 were completed. Fieldwork was completed for the basewide groundwater OU remedial investigation (RI).

In FY01, the RAs at Sites 8 and 20 were completed. Groundwater monitoring continued at Sites 2 and 6. The RI for the basewide groundwater OU was completed. The 5-year review was completed as planned. The draft FS was completed for the lower base.

In FY02, groundwater monitoring at Sites 2, 6, and 8 continued. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

In FY03, the Navy performed additional fieldwork in the adjacent Thames River. This data will be included in the FS for

Navy

the lower base sites. The installation completed the FS for the basewide groundwater OU.

FY04 IRP Progress

The installation completed the PRAP and ROD for the basewide groundwater OU. Additional investigation requirements delayed the completion of the Thames River Study and lower base FS.

FY04 MMRP Progress

The Navy has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for New London Naval Submarine Base are grouped below according to program category.

IRP

- Complete RD and RA for basewide groundwater OU in FY05.
- Complete Thames River Study and FS for lower base sites in FY05.
- Complete PRAP and ROD for lower base sites in FY05.

MMRP

There are no MMRP actions scheduled for FY05 or FY06.



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NEW LONDON SUBMARINE BASE

Groton and Ledyard, Connecticut

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New London County

Street: ROUTE 12
Address: CRYSTAL LAKE RD

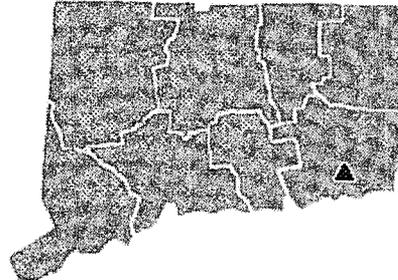
Zip Code: 06349

Congressional District(s): 02

EPA ID #: CTD980906515

Site ID #: 0100261

Site Aliases: DOD/USN
SB/Overbank
Disp Area NW 3
DOD/USN
SB/DPDO, Area
Site #6,
DOD/USN
SB/Area A
Landfill #2



Site Responsibility: Federal

NPL LISTING HISTORY	
Proposed Date	10/26/1989
Final Date	08/03/1990

Site Description

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The New London Submarine Base site covers 576 acres on the eastern bank of the Thames River in Groton. The base was established in 1868, and has been an operation and support base for submarine activities in the Atlantic Ocean since 1916. Areas of concern include the Area A Landfill, the Over Bank Disposal Area, the Defense Reutilization and Marketing Office (DRMO), the Lower Submarine Base, and the Goss Cove Landfill. From 1957 to 1973, volatile organic compounds (VOCs), pesticides, polychlorinated

biphenyls (PCBs), spent battery acids, and other wastes were buried below the water table in the 11-acre Area A Landfill, which is situated adjacent to wetlands. The Over Bank Disposal Area was created sometime after an earthen dam was built in 1957. The DRMO was used as a burning ground and landfill from 1950 to 1969 and is currently used as a temporary storage area. Inspection reports from 1982 recorded leaking containers and evidence of spills associated with containers stored directly on the ground. In 1983, approximately 40 gallons of PCB-contaminated oil were reported to have been spilled onto the ground. In 1988, Navy sampling revealed lead, cadmium, and various pesticides in sediments and surface water. The area around the base is mixed industrial, commercial, and residential property. Groundwater in some areas of the base is as shallow as 8 feet below the surface, with permeable soils. These conditions potentially threaten the area groundwater. The population within 1 mile of the base is 4,000.

Threats and Contaminants

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The soil, sediments, groundwater, and surface water are contaminated with pesticides and heavy metals including cadmium and lead. The soil also contains VOCs, PCBs, and polycyclic aromatic hydrocarbons (PAHs). The site is a restricted-access Naval base, so the chance of direct contact with on-site sediments, soil, or surface water is minimal.

Cleanup Approach

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The site is being addressed in five long-term remedial phases focusing on cleanup of the Area A Landfill, the Over Bank Disposal Area, the DRMO Area, the Lower Sub Base, and other contaminated areas of the base.

Response Action Status

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Area A Landfill	In 1990, the Navy began an investigation into the nature and extent of VOC, pesticide, battery acid, and other contamination at the Area A Landfill. While in operation, the landfill accepted all non-salvageable materials. Leachate from the landfill drains into the area wetland and is ultimately carried downstream and discharged into the Thames River. At the conclusion of the investigation, completed in the fall of 1995, a final cleanup remedy was selected that includes installation of a double-lined landfill cap and monitoring. Design and construction
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	<p>of the selected remedy were completed in October 1997. Prior to construction, a removal action was completed at the CBU Drum Storage Area located on top of the landfill.</p>
<p>Area A Downstream/Over Bank Disposal Area</p>	<p>In 1990, the Navy began an investigation into the nature and extent of contamination at the Over Bank Disposal Area. The Navy removed all contaminated soils and debris at the Over Bank Disposal Area as part of an interim cleanup action in March 1997. A Record of Decision (ROD) was signed on March 30, 1998 that requires excavation and dredging of contaminated soils and sediments. Construction is complete and wetland restoration is underway. A Record of Decision was signed in November 2004 for remediation of petroleum related compounds discovered at the new source area.</p>
<p>DRMO Area</p>	<p>In 1990, the Navy began a study into the nature and extent of contamination at the DRMO Area. Initial findings detected high to moderate levels of contaminants in the soil samples analyzed; low contaminant levels were detected in the groundwater. The second phase of this investigation is currently underway. Upon completion of the investigation, scheduled for early 1998, a final cleanup remedy will be selected. In November 1994, as an interim cleanup remedy, the Navy removed PCB- and lead-contaminated soil, backfilled the area with clean fill, and placed an asphalt cap over the area. The removal action will be evaluated for its long-term effectiveness by groundwater monitoring. A ROD was signed on March 30, 1998. The remedies selected were institutional controls to prevent digging, disturbance of the existing cap and other exposure as well as groundwater monitoring to ensure that contaminants do not migrate to the Thames River.</p>
<p>Lower Sub Base</p>	<p>In 1990, the Navy began an investigation into the nature and extent of contamination at the Lower Sub Base. Petroleum products have been observed in several man holes. The exact source of these releases is still being investigated, although it appears to be</p>

	<p>from underground fuel lines or storage tank leaks. At the conclusion of the investigation, scheduled for 2005, a final cleanup remedy will be selected. As part of an interim cleanup action in July 1994, the Navy removed lead-contaminated soil from the Building 31 area, disposed it off site, and backfilled the area with clean fill. A ROD is planned for December 2005.</p>
Goss Cove Landfill	<p>In 1990, the Navy began an investigation into the nature and extent of contamination. A Record of Decision was signed in September 1999 that called for a semi permeable cap with groundwater monitoring. Construction of the remedy was completed in October 2001.</p>
Area A Weapons Center	<p>In 1990, the Navy began an investigation into the nature and extent of contamination. A Record of Decision was signed in June 2000. Construction of the remedy began in September 2001 and was completed by the end of December 2001.</p>
Other Areas	<p>In 1993, the Navy began an investigation into the nature and extent of contamination in other site areas. The site areas being investigated include: Lower Submarine Base and a Former Gasoline Station. Once the investigations are completed, the EPA and the State will evaluate the study results to determine the most appropriate cleanup remedies.</p>
Torpedo Shops	<p>A ROD was signed in September 2004 that called for excavation with off-site disposal is recommended for Site 7. Approximately 1,600 cubic yards of soil will be removed and the total cost is estimated to be \$440,200. The following remediation goals have been established: PAHs, 1 mg/kg; benzene, 0.02 mg/kg; chlorobenzene, 2 mg/kg; and 1,4-dichlorobenzene, 1.5 mg/kg.</p> <p>No further action under CERCLA was recommended for Site 14 because a removal action in 2001 addressed all incremental cancer risks and hazard indices (now within or below EPA's acceptable risk ranges).</p>

<p>Basewide Groundwater</p>	<p>An interim ROD for groundwater in the northern portion of the Site was signed in December 2004. The groundwater at Sites 3, 7, 14, 15, 18, and 20 comprises only a portion of the basewide groundwater Operable Unit (OU9). A Final action for OU9 will be selected after the remaining sites have been investigated and when source control actions are complete (2008). Institutional controls that restrict extraction and use of the groundwater will be implemented at Sites 3 (Area A Downstream Watercourses) and 7 (Torpedo Shops). The location and magnitude of the groundwater contamination will also be identified. No further action under CERCLA is recommended for the groundwater at Sites 14 (Overbank Disposal Area Northeast), 15 (Spent Acid Storage and Disposal Area), 18 (Solvent Storage Area), and 20 (Area A Weapons Center) because all incremental cancer risks and hazard indices are within or below EPA's acceptable risk ranges.</p>
<p>Sites 16 & 18</p>	<p>Site 16 comprises the two areas located west of Tautog Road, adjacent to Buildings 449 and 452 near the Naval Hospital in Groton, CT. The Naval Hospital operated a skid-mounted waste incinerator adjacent to the hospital in the 1980s. The incinerator was used to destroy medical records and medical waste contaminated with pathological agents.</p> <p>Site 18 consists of Building 33, the Solvent Storage Area, and was used for the storage of gas cylinders and 55-gallon drums of solvents such as trichloroethene and dichloroethene.</p> <p>No further action under CERCLA was selected in September 2004 because all incremental cancer risks and hazard indices are within or below EPA's acceptable risk ranges.</p>

<p>Enforcement Highlights</p>	<p>The base is participating in the Installation Restoration Program, a specially funded program established by the Department of Defense (DOD) in 1978 to identify, investigate, and control the migration of hazardous contaminants at military and other DOD facilities.</p>
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Environmental Progress

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The removal of PCB- and lead-contaminated soil and the capping of the DRMO area, Building 31, and the Spent Acid Storage Disposal Area have reduced threats at the New London Submarine Base site while investigations of other site areas are underway. Removal actions were completed in March 1997 at OBDA and the Rubble Fill Area at Bunker A-86. The Area A Landfill cap is also completed. A ROD was signed for the Rubble Fill Area at Bunker A-86 in June 1998. Excavation work has been completed at the Area A Downstream and a cap has been completed on the Goss Cove landfill in 2001. A removal action has been completed at the Over the Bank Disposal Area Northeast in 2001. Construction is complete at the Area A Weapons Center.

Current Site Status

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The Naval Submarine Base encompasses 547 acres adjacent to the Thames River in Groton, CT. The site contains multiple areas of contamination, including three landfills, chemical storage sites, tank farms, contaminated watercourses, and varying degrees of groundwater contamination. The U.S. Navy is the lead agency for site investigation and cleanup, with formal oversight by EPA via a federal facilities agreement (FFA) and the Connecticut Department of Environmental Protection.

There has been substantial environmental progress at the Naval Submarine Base. All three of the landfills have been capped (Area A, DRMO, and Goss Cove), 7 removal actions have been completed (Building 31, Spent Acid Storage and Disposal Area, DRMO, Rubble Fill at Bunker A-86, CBU Drum Storage Area, OBDA, and OBDANE), and contaminated soil/sediment at the Area A Downstream has been removed. Wetland restoration is underway at the Area A Downstream. Soil excavation was completed at the Area A Weapons Center in December 2001. Investigations are well underway at the Lower Sub base Area and for the groundwater throughout the base. The first Five Year Review was completed in December 2001.

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Newsletters & Press Releases:

[Recent Press Releases about this project \(if any\)](#)

Federal Register Notices:

[Final NPL Listing](#)

Reports and Studies:

[First Five-Year Review Report, December 7, 2001 \(162KB\)](#) 

[Proposed Plan for Site 3 - New Source Area Soil \(Operable Unit 03\) July 2004 \(504KB\)](#) 

[Proposed Plan for Site 7 - Torpedo Shops, and Site 14 - Overbank Disposal Area Northeast Soil \(Operable Unit 08\) July 2004 \(467KB\)](#) 

[Proposed Plan for Site 16 - Hospital Incinerators and Site 18 - Solvent Storage Area Soil \(Operable Unit 11\) July 2004 \(311KB\)](#) 

[Proposed Plan for the Groundwater at Sites 3, 7, 14, 15, 18, and 20 \(Operable Unit 9\) September 2004 \(2,617KB\)](#) 

Decision Documents:

[View Records of Decision \(RODS\) on-line \(EPA HQ\)](#)

[Interim Record of Decision for Sites 3, 7, 14, 15, 18, and 20 - Groundwater, Operable Unit 09, December 30, 2004 \(four linked files; opening file 1,118KB\)](#) 

[Record of Decision for Site 3 - New Source Area Soil, Operable Unit 03, November 9, 2004 \(2,398KB\)](#) 

[Record of Decision for Site 7 - Torpedo Shops and Site 14 - Overbank Disposal Area Northeast Soil, Operable Unit 08, September 30, 2004 \(5,954KB\)](#) 

[Record of Decision for Site 16 and 18 Soil, Operable Unit 11, September 30, 2004 \(4,984KB\)](#) 

Other Links:

[NPL Site Narrative at Listing:](#)

Site Repositories

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Town of Groton Public Library, 52 Route 117 Newtown Rd., Groton, CT 06340

Bill Library, 718 Colonel Ledyard Highway, Ledyard, CT 06339

Public Works Office, Naval Submarine Base, New London, Groton, CT 06349

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Gina McCarthy
Commissioner

STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION

79 ELM STREET HARTFORD, CT 06106-5127

PHONE: 860-424-3001



August 10, 2005

Chairman Anthony J. Principi
2005 Base Realignment and Closure Commission
2521 S. Clark Street, Suite 600
Arlington, VA 22202
Washington, DC

Dear Chairman Principi:

As a follow up to the meeting Team Connecticut had with BRAC Staff on August 2, 2005, and at the request of Governor M. Jodi Rell, I am writing to you today to share critical information regarding radiological assessment and contamination at Naval Submarine Base New London.

First and foremost, the Connecticut Department of Environmental Protection (CTDEP) wants to make it clear that it agrees that the Naval Nuclear Propulsion Program (NNPR) has maintained very strict controls over radioactive materials under its management since its formation. Given the strict controls in place at the NNPP, the information CTDEP submitted to BRAC did not estimate any significant increase in the clean up costs associated with NNPP activities.

Recent research conducted by the CTDEP Division of Radiation over the past few months has however, raised serious concerns that have not been resolved about potential contamination that may have occurred as a result of radioactive material usage in other programs at the New London base. For example:

- In the 1940's, the Sub Base conducted radium dial painting activities at multiple locations with three employees, at least one of which was a full time position. This activity maintained at least 25 grams of radium dial paint in its inventory.
- In 1945, radium contamination was identified in the normal waste stream.
- In 1951, Navy personnel at the Sub Base were experiencing difficulty with the proper use of a 250-milligram capsule of radium for hull radiography. It was identified that the individual responsible for this work and the associated problem with the radioactive source "had been at sea for 17 years and upon returning to the base was given this assignment which was completely foreign to any training he had previously received."
- In 1961, an Atomic Energy Commission Inspection Report found two violations, one of which was "No records were maintained of surveys conducted to determine compliance with the requirements of 10 CFR 20 in violation of Section 20.401(b), Records of surveys, radiation monitoring, and disposal."

COPY

This documentation clearly suggests that unlike the NNPR, there has been a serious lack of controls relative to the usage of radioactive materials commonly known as "G-RAM" in other programs. Given the Navy's failure to provide vital historical information on the uses and disposition of radioactive materials beyond those associated with the Naval Nuclear Propulsion Program, it seems only reasonably to conclude that a complete assessment in accordance with the process known as Multi-Agency Radiological Survey and Site Investigation Manual (MARSSIM) is necessary before any reasonable estimate can be made of the radiological contamination on the site and the associated clean up costs.

Yours truly,



Gina McCarthy
Commissioner

CC: Gov. M. Jodi Rell
Hal Tickle
Jim Hanna
Gary Miller

DCN: 11580

RICHARD BLUMENTHAL
ATTORNEY GENERAL



55 Elm Street
P.O. Box 120
Hartford, CT 06141-0120

Office of The Attorney General
State of Connecticut

(860) 808-5318

July 15, 2005

The Honorable Christopher Dodd
United States Senator
SR-448 Russell Senate Office Building
Washington, D.C. 20510-0702

The Honorable Joseph I. Lieberman
United States Senator
SH-706 Hart Senate Office Building
Washington, D.C. 20510-0703

Dear Senator Dodd and Senator Lieberman:

On June 28, 2005, I sent you my Report of my research and conclusions concerning the BRAC process regarding the proposed closure of the Groton Submarine Base. Upon further study and review, I have updated one section of the report to clarify that the Federal Facilities Agreement (FFA), including provisions requiring the cleanup of contamination before the base can be transferred is clearly enforceable under federal law. Accordingly, I enclose a copy of my revised report, for you to use and to share with the Washington Group and the BRAC Commission as you deem appropriate.

I continue to be available to provide any requested supporting documentation or further information, and to discuss my research and conclusions.

Very truly yours,

A handwritten signature in dark ink, appearing to read "Richard Blumenthal".

RICHARD BLUMENTHAL

REVISED (JULY 15, 2005)
REPORT OF ATTORNEY GENERAL RICHARD BLUMENTHAL
CONCERNING THE PROPOSED CLOSURE OF THE
GROTON SUBMARINE BASE AND THE BRADLEY AIR NATIONAL GUARD
UNIT

I. INTRODUCTION

This report summarizes serious deficiencies in the information and assumptions relied upon by the Department of Defense ("DOD") in making its recommendation to close the Submarine Base in New London. These deficiencies establish that the DOD recommendation is insupportable. The report focuses on environmental and other legal issues, because the DOD clearly has made unwarranted factual and legal assumptions about the nature, extent and cost of the environmental cleanup that will be legally required if this base is closed. In addition, DOD appears to have misunderstood the legal ownership status of the base.

These incorrect assumptions fatally undercut DOD's cost savings projections underlying its recommendation to close the Submarine Base. Exposing these errors should be a significant part of Connecticut's presentation in opposition to the ill-conceived plan to close the Submarine Base. Some of these errors, especially involving the Federal Facilities Agreement and the deed restrictions, involve rights that are legally enforceable.

In addition, the proposal to close the Bradley International Airport Air National Guard Unit violates federal law, which requires the consent of the Governor to be effective. Such a violation also involves legally enforceable rights.

II. ENVIRONMENTAL ISSUES

A. Introduction to Environmental Issues

Our report documents three major flaws in the DOD analysis leading to the recommendation to close the New London Submarine Base. Each flaw creates a major inaccuracy in DOD's projections concerning claimed cost savings from closure, or the DOD's analysis of the effects of closure upon the New London area economy.

- DOD has made erroneous projections of costs and estimated savings associated with the proposed closure of the base caused by inadequate and currently unavailable information of the extent and degree of potential radiological contamination at the base.
- DOD has failed to understand and calculate the true extent and cost of its legal obligations under a Federal Facilities Agreement ("FFA") unique to this base, which requires a high level of remediation *before* the base can be transferred, contrary to DOD's assumptions. The FFA creates legally enforceable rights for the state pursuant to the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA").
- DOD has grossly underestimated the economic impact of closure on the communities surrounding the base, by ignoring the legal implications of the FFA on future reuse of the base if it were to be closed.

B. DOD's cost projections for cleanup of radiological waste are totally unreliable

Although, as explained below, the law clearly requires that remediation of this base must be completed *prior to its transfer*, DOD has plainly admitted that it knows little of the extent and nature of contamination, particularly radiological contamination on the northern part of the Submarine Base, and that it *cannot make an accurate or realistic assessment of the time and money required for complete remediation unless and until extensive radioactive assessments are done*. These additional radioactive waste assessments could take years to complete before the extent of radioactive contamination is determined. *Such assessments and resulting remediation would not be required if the base remained open*. According to the Navy: "(w)ere this facility to shut down, significant additional sampling and surveying would be performed prior to releasing the facility for unrestricted use." Letter March 6, 1996 from J. Tarpey, Acting Director, Radiological Controls, Department of the Navy, to Kymberlee Keckler, Remedial Project Manger, U.S. Environmental Protection Agency, Region I, p.32. This statement is later reaffirmed: "(t)he Navy acknowledges that additional characterization of both the buildings and environmental areas [for the presence of radioactive materials] would be necessary were the Sub Base to be shut down, consistent with practices at other closing Naval facilities." Id., p. 36. Instead of basing potential closing costs on hard figures calculated from thorough testing, the Navy has attempted, as explained below, to extrapolate from the costs of cleaning up two significantly dissimilar bases to determine closing costs for the Groton Sub Base. Such estimates are obviously valueless in calculating savings.

In addition, the Navy has admitted numerous other shortcomings in its site investigations to date. These shortcomings further confirm the complete inadequacy of the Navy's knowledge of the extent of contamination at the base, and therefore, the inadequacy of any attempt to project realistic cleanup costs. For example:

- The Navy has admitted that it has examined for radioactive contamination only a small fraction of the Sub Base property -- less than nine hundred *thousand* of the 23.5 *million* square feet comprising the base, or about 4% of the total base area.
- The Navy has admitted that it has almost exclusively concentrated its radiological assessment in the southern part of the Sub Base, the 624,832 square feet of the base directly under the control of the Naval Nuclear Propulsion Program ("NNPP"). For the remainder of the base-- most particularly the northern portion of the base-- the Navy has completely inadequate information regarding the extent of the radiological contamination.
- The Navy has admitted that its estimates of the cost of decontaminating the Groton submarine base are extrapolations derived from the cleanup costs that it incurred at two very different bases -- Mare Island and Charleston. Those bases, to take but one example, have far fewer landfill and waste disposal sites that could contain radioactive waste than the Submarine Base at Groton, and yet the Navy has used Mare Island and Charleston closing costs to project cleanup costs for Groton. The Navy's "one size fits all" approach has no basis in fact or reality. Neither Mare Island nor Charleston can be used "to determine realistic closure cost estimates" for the Groton submarine base until Groton-specific contamination studies are done--studies the Navy has admitted will take years to complete.
- Very simply, the cost of clean-up at other bases is irrelevant to the cleanup of the Sub Base because the Navy does not know what contamination exists at Groton, and therefore cannot use Mare Island and Charleston for a comparison with Groton.
- The Navy admits that its radiological assessment of the Groton submarine base is incomplete. It is working on an update of its original 1997 Historical Radiological Assessment ("HRA"), an assessment it has acknowledged was cursory, but even that update will not be complete until sometime next year. Even if the Navy completes its update, the evaluation will still be incomplete and unreliable because it is not based on the testing and studies necessary to determine the scope of radiological contamination on the base. Far more study will still be required.
- The Navy concedes that in creating the 1997 HRA, it found that historical documentation of early uses of general radioactive material, from the 1940s to 1950s, was "sparse," and that the disposition of certain sources of radioactivity was "unknown." HRA, Volume II, p. 4-6. The inadequacy of early data is undoubtedly more acute at the Sub Base than at other submarine bases, because of its longer history. As the Navy notes, "Subbase is the oldest operating and support base for Naval submarines." HRA, Vol. II, p. 4-2. In spite of the long history of use of radioactive materials and lack of adequate documentation in the early years, the Navy conducted its 1997 HRA without interviewing or even trying to locate personnel who might have had knowledge of the disposition of radioactive

material in the 1940s and 1950s. HRA, Vol. II, pp. 2-3 - 2-4.

- The exceedingly limited groundwater sampling to date has found "samples exceeding either the gross alpha [limit for radioactivity] or the gross beta [limit for radioactivity] during Phase I" testing. Navy's Response to Comments on Draft HRA, page 20. The Navy's position is that this is due to "naturally-occurring potassium-40" even though the "work plan did not require a background study to determine naturally occurring levels of radioactivity." *Id.* In fact, it is impossible to conclude that radiation levels are merely background radiation, or to determine their source, without having performed even a minimally acceptable background radiation study, as the Navy concedes it has not done. More importantly, the Navy has acknowledged that it has used radioactive materials including Am-241, Cs-131 and 137, K-42, C-14, Fe-59, Zn-65, Cr-51, I-123, 131, Ga-67, and Co-57 at the submarine base. *HRA, Vol II, Sections 5, 6.* It has also acknowledged that there have been "incidents" or releases of radioactive material, and that only a small subset of the entire facility has been surveyed for radioactivity. Without extensive further study, there is no way to determine where that radioactivity came from, what it is, or what will be required to clean it up.

Further, it is important to consider the inadequacies in the Navy's site characterization and other radiological survey work in the context of the historical experience of the State of Connecticut with radioactive contamination at federal facilities. The Navy repeatedly asserts that it has focused its testing on areas and buildings where records or interviews suggest that radioactive materials may have been used, rather than conducting a full sampling of the entire base. Unfortunately, Connecticut's recent documented experiences show that this approach alone cannot reasonably be expected to identify all dangerous materials. Much more extensive site survey work is necessary to show what is or is not on the base property. Past nuclear materials handling and waste disposal practices have resulted in numerous undocumented releases of radioisotopes into structures, landfills, and the general environment, many of which were only discovered years later. Remediation of these releases has been complicated and expensive and is still far from complete. Reliance on existing records and interviews to determine the areas for testing is plainly inadequate.

For example, at another large Department of Defense site, C.E. Windsor in Windsor, Connecticut, the original site survey work was based, like the HRA for the Sub Base, on an assessment of written records and interviews that indicated that nuclear materials were only used in a select number of buildings. As decommissioning of these buildings was underway, a passerby found an area of buried disposal drums in an adjacent forest that turned out to be a major source of radiological contaminants -- an area that was not identified in any records or interviews. In another part of the site, workers tripped over a debris pile of radioactively contaminated waste that had been simply dumped in the woods and abandoned -- again, undocumented in any way.

In another series of instances, radium watch manufacturing facilities for the United States Army Air Corps, in and around Torrington, Connecticut, were found to

have dangerous levels of radioactive material decades after the buildings had been "cleaned up" and released for use as low-income housing. No records were available at the time, or have been found since, that detailed the numerous releases or would otherwise have alerted state health and environmental authorities to the presence of these materials. Only the State's independent and thorough site surveys eventually discovered the threat.

These experiences in Connecticut show plainly that release incidents and disposal practices at federal facilities, particularly in the 1940-1970 period, can and have resulted in situations where no reliable documentation exists that would point regulators to areas of concern. In a site as large as the Sub Base, where nuclear materials have been handled for many decades and where groundwater sampling indicates the presence of radioactive isotopes, it is clearly insufficient to rely on site characterization based on old records (or their absence) and inferences based on historical practices. A full scale study is the only way to determine the extent of contamination -- a study that must be done if closing is to occur.

A related flaw in DOD's projection of the cost and extent of necessary cleanup concerns the environmental standard which radiological cleanup must meet. Although the DOD, in a letter of June 15, 2005 to Senator Joseph Lieberman, speaks, appropriately, but somewhat vaguely, of cleanup to permit "unrestricted future use," there is no indication that DOD has recognized there is a legally binding cleanup standard for radiological contamination in Connecticut. The legal radiological clean-up standard in Connecticut -- which would be binding on the Navy -- is 19 Millirem Plus As Low As Reasonably Achievable (ALARA). This standard is enforceable through CERCLA and the Federal Facility Agreement as an Applicable, Relevant, Appropriate Regulation (ARAR). I will be glad to provide our legal analysis establishing the enforceability of this standard. It appears that the Navy has failed to take this standard into account in calculating cleanup costs, which creates yet another deficiency in the Navy's attempts to estimate the real costs of cleanup of the base.

These facts, taken together, establish that the DOD used clearly erroneous assumptions in placing the Groton submarine base on the DOD base closure list. According to the Navy's admissions to the EPA, the extent of the radioactive contamination at the Groton site is now unknown, but will have to be fully determined if the base is closed, resulting in potential substantial and significant costs above those that would be required if the base remains operational. While DOD has acknowledged its ignorance of the nature and extent of radiological contamination on the northern part of the base, it has completely ignored the obvious consequence of that ignorance. Without adequate identification of the nature and extent of the radiological contamination, it is impossible to accurately project the costs of required cleanup. There is really no factual basis at all for DOD's projections of cleanup costs in the absence of adequate data.

C. DOD has failed to factor in the legal requirements of its Federal Facilities Agreement in computing the costs of cleanup, further undercutting the accuracy of its cost projections

Another fundamental deficiency in DOD's analysis is its disregard of the existence and significance of the Federal Facilities Agreement (FFA) regarding this base. This agreement was negotiated and executed in 1994 by the State of Connecticut, represented by my office, along with the United States Navy and the United States Environmental Protection Agency. It remains in full force and effect. The agreement was necessary because the Submarine Base had been designated as a Superfund site by EPA under the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA"), and CERCLA required the creation of a legally binding plan for site remediation and investigation.

Under Section 37 of the Agreement, the Navy is prohibited from "enter[ing] into an agreement to sell or otherwise transfer real property comprising an Area of Contamination . . . until the Navy has completed all Remedial Actions and Operation and Maintenance for such Area of Contamination as required by this Agreement. . . ."¹ Contrary to DOD's assumptions in compiling its cost of closure estimates, the requirements of the FFA dictate a far higher cleanup cost for this base if it is closed and made available for other use than if it remains open, because all cleanup must be completed before the property can be transferred. It is critical to note that this requirement -- full cleanup prior to transfer of the property -- does not necessarily apply to other federal properties which are not subject an FFA. Normally, environmentally impaired military bases can be transferred and returned to economic use before all remediation is completed. Pursuant to the Defense Base Closure and Realignment Act of 1990, in the absence of such an agreement, the Secretary can transfer a base *before* it is fully remediated, as long as a redevelopment authority agrees to perform all environmental restoration, waste management and environmental activities that are required for the facility under Federal and State laws. In contrast, the Groton FFA *prohibits transfer of affected lands until the areas of contamination are fully remediated - - period*. For the Sub Base, therefore, the requirement for complete cleanup will greatly increase the costs in the years preceding and following any closure. DOD has completely failed to recognize that fact, and include it in its cost calculation -- resulting in a fundamentally unreliable estimate.

The requirements of the FFA are fully enforceable under federal law and Connecticut can enforce these rights in court. Under CERCLA section 120(e), the FFA is the legal mechanism to obtain compliance with CERCLA by any department of the United States which owns a superfund site. CERCLA section 120(f) provides for the participation of the state in the FFA. Under paragraphs 21.7 and 21.8 of the FFA, for

¹ While Section 37.1 references an exception to this requirement when the Navy has complied with 42 U.S.C. §9620(h), that exception does not change the requirement. The Navy can only comply with that provision by covenanting that all remedial action necessary to protect human health and the environment has been taken before the date of the [property] transfer . . . 42 U.S.C. §9620(h)(3)(A)(ii). It can only provide that covenant after cleanup is complete.

Connecticut has the right to enforce any term in the FFA in United States District Court. Additionally, under paragraph 21.1, any standard, condition or requirement of the FFA is enforceable under the Citizens Suit provision of CERCLA, section 310. Section 310(a)(1) allows a state to sue the United States for any violation of any condition or requirement effective under CERCLA, including any provision of an FFA under section 120 of CERCLA. In simplest terms, Connecticut has the legal right to go to court to enforce the terms of the FFA.

According to DOD in its May 2005 "Base Closure and Realignment Report to the Commission," radioactive waste clean-up costs were not used to reduce the projected base closure "savings." Underlying this conclusion is a completely erroneous legal and factual assumption, explicitly stated by DOD, that the costs would be the same whether the base remained open, realigned or was closed. As stated in the Report: "Naval Submarine Base New London, CT ... reports \$23.9 million in costs for environmental restoration. Because the Department has a legal obligation to perform environmental restoration regardless of whether an installation is closed, realigned, or remains open, *this cost is not included in the payback calculation.*" Similarly, in a DOD memorandum setting forth the policy guidance for implementing BRAC 2005, the Undersecretary of Defense instructed the service branches that: "Since the Department of Defense has a legal obligation to perform environmental restoration regardless of whether a base is closed, realigned or remains open, environmental restoration costs at closing bases *will not be considered in the cost of closure calculations.*" These assumptions and their use in the cost calculations are contrary to law.

The facts described above show clearly that costs associated with closure of the Groton submarine base will significantly exceed the costs that would be incurred if the base were to remain open. And yet, not only were costs resulting from this required testing and remediation not included in calculations of costs of closure of the base, but the truth is that the actual costs *cannot* be determined until necessary intensive testing is done.

In sum, the facts and applicable legal requirements seriously undermine and contradict DOD's savings projections for closure of the base, because those projections wrongly assume that the costs of environmental remediation may be ignored. Until a complete radioactive waste assessment is made -- a lengthy, costly project in itself -- the costs of decontamination cannot be accurately determined, and no cost savings can be accurately computed for the closure of the Groton submarine base.

D. Because of its failure to consider the requirements of the FFA, DOD has grossly underestimated the cost of closure to the economy of Southeastern Connecticut

The implications of the FFA for the future economic development of the New London area are another source of great concern that further undermine the reliability of the calculation underlying the DOD recommendation for closure of the Sub Base. This recommendation discusses economic impact on the affected communities through the

year 2011, and appears to tacitly assume that the property will become available for productive reuse within the next six years. This estimate may be wildly optimistic in light of the FFA requirements. In light of the provisions of the FFA, and the unanswered environmental questions discussed above, it is apparent that no one has any realistic idea of how long it will take to complete cleanup of the property and permit its release for productive reuse.

The economic impacts to the community of the potential long term inability to use a very large vacated parcel of waterfront property are staggering, and probably unique to this base. The situation is unique because of the requirements of the FFA, and the impact of the problem is compounded by the very high economic value of the base's land if it were clean and available for reuse. Nothing in available DOD documents provides any suggestion that DOD has acknowledged and considered this potentially devastating economic impact upon the greater New London area, nor that DOD has considered the ways in which this economic impact differs from the impact at other bases.

III. DOD APPEARS UNAWARE OF THE DEED RESTRICTIONS RELATING TO PART OF THE SUB BASE LAND AND THEIR IMPLICATIONS -- BOTH LEGAL AND ECONOMIC

As discussed in detail below, the federal government is required by deed restrictions to utilize the land housing the core of the Sub Base for naval purposes, and it risks forfeiting title to that land if it fails to do so. It is not clear, however, that the DOD has incorporated the potential costs of losing the property in estimating economic impacts of closing the Sub Base. To the contrary, the DOD may be erroneously relying on significant proceeds from the sale or lease of that property to reduce its net closure costs. For this additional reason, the DOD's estimated costs for closing the Sub Base may be understated.

By way of background, on March 2, 1867, the United States Congress passed an Act directing "the Secretary of the Navy ... to receive and accept a deed of gift, when offered by the State of Connecticut, of a tract of land situated in the Thames river, near New London, Connecticut, with a water front of not less than one mile, to be held by the United States *for naval purposes*." Chap. CLXXII - *An Act making Appropriations for the Naval Service for the Year ending thirtieth June, eighteen hundred and sixty-eight*, 39th Congress of the United States, Sess. II Ch. 171, 172, March 2, 1867 (emphasis added).

Similarly, the City of New London, as agent of the State of Connecticut, was authorized by an 1867 Act of the Connecticut General Assembly to acquire and hold land for eventual conveyance to the federal government **for naval purposes**. See *An Act in Addition to and Alteration of an Act entitled An Act Concerning Land [New London Navy Yard]*, Special Laws, Connecticut General Assembly, May 1868, Vol. V, 798, pages 318-319, copy attached (hereafter referred to as the "1867 Act")

Pursuant to this grant of authority, in January of 1868, the City of New London acquired approximately 112 acres of land in Ledyard and Groton. This property, which encompasses main components of the present Sub Base and houses at least 85 buildings, as well as piers and other valuable facilities, was transferred on April 11, 1868 by deed from the State of Connecticut to the federal government ("the Deed"). The Deed expressly required that the land be used for "for naval purposes." In particular, the Deed provides in relevant part as follows:

The State of Connecticut acting hereby by [commissioner appointed by the governor and city of New London by its Mayor] . . . [does] give, grant, bargain and sell and confirm unto the said United States of America the following tract of land (described) . . . to be held by the said United States **for Naval purposes** as contemplated by said Act of Congress of the United States relative thereto, approved Mar. 2d, 1867, [see C below] and the act of the general Assembly of the State of Connecticut hereinbefore mentioned . . .

To have and to hold the aforesaid premises with all the appurtenances thereof unto the said United States and their assignees [sic] for naval purposes according to the provisions of said act of the general assembly of said State of Connecticut therein before mentioned.

See Deed at page 611 (Emphasis added.)

There is no question, therefore, that the Deed, together with the 1867 state and federal legislative acts, requires that the original 112 acres of the Sub Base property be used in perpetuity for naval purposes. While it is unlikely that the federal government can be compelled to continue to use the property for naval purposes, controlling legal precedent suggests that its failure to do so would likely result in forfeiture of the property to the State of Connecticut.

In particular, Connecticut's Statute of Charitable Uses, Conn. Gen. Stat. § 47-2, provides that land given for public or charitable purposes must be used *forever* for such purpose. Connecticut law provides that when a charitable restriction on land use is frustrated or violated, equity will trigger "a resulting trust" to the original grantor. See Waterbury Trust Co. v. Porter, 131 Conn. 206 (1944). Put differently, where the holder of land fails to comply with charitable or public restrictions on its use, the grantor -- in this case, the State of Connecticut -- can seek reversion of the land, even when no clause in the original grant mandates such a reversion. Section 3-125 of the General Statutes authorizes the Attorney General to bring legal actions to enforce public and charitable restrictions on the use of land, including legal actions to strip title from property holders who violate public or charitable land use restrictions.

Under the federal Quiet Title Act, 28 U.S.C. 2409a, the federal government is not shielded by sovereign immunity principles from legal claims, such as this one, as to the title to land for which it holds an interest. My research shows that the State's substantive

laws, including its equitable principles governing charitable uses and resulting trusts, are applicable in an action against the federal government under the federal Quiet Title Act.

The State, therefore, would be entitled to bring an action under the Quiet Title Act for equitable reversion of title to the original 112 acres of the Sub Base under the Quiet Title Act. See, e.g., USA v. Bedford, 657 F.2d 1300, 1216 (2d Cir. 1981)(the Quiet Title Act "casts a wide jurisdictional net" and permit "almost any variety of suit concerning interests in land"); see also Prater v. USA, 612 F.2d 157, 159 (5th Cir. 1980)(same). Under the FFA, as discussed above, therefore, the federal government would be required to clean up the property to the highest standards before transfer, but it would never be able to realize any offsetting monetary recovery for disposing of it after cleanup, as it would have to be returned to the state pursuant to the terms of the Deed.

IV. THE RECOMMENDED CLOSURE OF THE BRADLEY INTERNATIONAL AIRPORT GUARD UNIT WOULD VIOLATE FEDERAL LAW

Included among the list of bases recommended for closure is the Bradley International Airport Air Guard Unit ("the Bradley Air Guard Unit"). While the BRAC Commission has characterized the Bradley Air Guard Unit's closure as a "realignment," the Commission's recommendation would result in *all* of the Unit's equipment and personnel being relocated from Connecticut to Massachusetts. In addition to the security concerns posed to the citizens of Connecticut by the recommended closure of Connecticut's only Air National Guard flight wing, it is estimated that the closure would result in the loss of at least seventy military and civilian jobs in our State.

Federal law appears to prohibit the closure or relocation of any Connecticut Army or Air National Guard Unit absent the Governor's express consent. In particular, "[a] unit of the Army National Guard of the United States or the Air National Guard may not be relocated or withdrawn ... without the consent of the governor of the State or, in the case of the District of Columbia, the commanding general of the National Guard of the District of Columbia." See 10 U.S.C. § 18238; see also 32 U.S.C. § 104(c) ("[n]o change in the branch, organization, or allotment of a unit located entirely within a State may be made without the approval of its governor").

Because no such consent has been granted by the Governor with regard to the Bradley Air Guard Unit, closure or relocation of that unit would be unlawful. Therefore, legal action may be available and appropriate to prevent the federal government from carrying out the recommended closure of the Bradley Air Guard Unit.

V. CONCLUSION

Connecticut can make a powerful case that DOD has no realistic idea of the

Criteria 8: Environmental Assessment and Restoration

- Substantial Deviation from BRAC Selection Criteria:
 - Exclusion of consideration of Restoration Costs is a complete and substantial deviation from BRAC Criterion 8
 - Underestimate of closure and restoration costs significantly skews savings projections
 - Failure to consider legal implications of Federal Facilities Agreement and deed restrictions skews costs
- The Result: Costs impacts to Navy and the community are severely underestimated – invalidating the cost/benefit assessment

Closure Costs: Immediate and Unavoidable Consequence of Base Closure

<u>Program</u>	<u>DEP Estimate</u>	<u>Navy Estimate</u>
•Hazardous Waste	\$ 4,317,250 ?	\$ 1,000
•Underground Tanks	\$ 1,265,000	Not Identified ✓
•Radiological	\$ 31,510,000 ?	\$ 9,950,000
Total	\$37,092,250	\$9,951,000
Costs Not Considered by the Navy	\$27,141,250	

**SUBBASE New London
BRAC Commission Briefing
COBRA Model Analysis
08/02/2005**

AOC 2B. -	28,133,619 -
AOC 3A -	328,000 -
AOC 3C -	444,430 -
AOC 7	704823 -
AOC 8	319525 -
SITE 10	2,358,452 /
SITE 13	3,516,513 /
AOC 15	15000 -
SITE 17 Zone 3	1,117,578 -
AOC 18	82,818 -
SITE 21	5,062,882 -
SITE 22	654,958 -

42,738,998 -

AOC 25	273,869 -
zone 2	1001901 -
TOTAL	\$ 44,014,768 -
AOC 6	903,240 -
AOC 23	292,766 -

\$ 45,210,774

SUBASE NLON SUMMARY: PETROLEUM AND HAZARDOUS CHEMICAL UST/AST STORAGE

June 7, 2005 prepared by G. SCOTT DESHEFY

- The Naval Submarine Base New London (SUBASE NLON) in Groton, Connecticut has historically operated at least 107 underground storage tank (UST) systems for which formal notification to the CT DEP has been made. Most of those tank systems have exceeded 10,000 gallons in capacity. Several USTs were registered as having capacities of 25,000 gallons or more. Nine 110-foot-diameter, 11-foot high concrete-walled USTs (OT-1 through OT-9) each had a capacity of 750,000 gallons. Because heating fuel USTs of less than 2,100 gallons capacity, used exclusively for on-site heating, are excluded from DEP registration requirements, the history and number of SUBASE heating fuel tanks with total volumetric capacities less than 2,100 gallons is unknown.
- Examination of the Underground Storage Tank Enforcement Program's ACCESS database for comparison with a listing of active USTs, which had been revised by the SUBASE in March 2004, showed between 23 and 28 underground storage tanks operative on the SUBASE. Recent communications with SUBASE NLON environmental personnel suggest that several USTs may have been closed since March 2004. Records review, however, suggests that the number of currently active USTs at the SUBASE, exceeding 1,000 gallons in capacity, is at least eighteen (18).
- In addition to over 80 documented underground storage tank closures since 1966, several very large projects have been undertaken by the naval facility to decommission bulk storage UST complexes, investigate their impacts and perform remediation. Two of the most extensive projects are where large quantities of petroleum products and sludges have been stored underground and where petroleum and other chemical impacts have been documented. These project areas, contracted to Halliburton NUS Corporation and Brown & Root Environmental under the Comprehensive Long-Term Environmental Action Navy award system, include the "ball field" tank farm (BTF), an area encompassing OT-10/OT-10-3 (a fiberglass-reinforced plastic tank currently operative and referenced as part of a separate UST remediation project) and the Building 325/Building 89 Project (BBP), including the

- Free product (diesel fuel) in the BTF was attributed to releases from historical diesel lines along Tang Avenue. Groundwater sampled during the 1999 phase of investigation and analyzed for BTEX and SVOCs showed BTEX compounds at various frequencies in the seven wells sampled. All BTEX concentrations detected were reported as below applicable screening criteria in 1999, but consultants concluded that groundwater sink near OT-3 caused contaminated groundwater and free product to migrate towards the storm sewer system, which ultimately discharged to Thames River.
- The BBP site investigation/remediation project has included three locations within the SUBASE: waste oil tank 10 (OT-10/OT-10-3) currently operating in the eastern portion of the BTF, which consists of a sump, two tanks (NN-02/10,000 gal and NN-03/30,000 gal) and an oil/water separator; Building 325, which had two No. 2 fuel oil tanks (R02/15,000 gal and R01R1/10,000 gal) in close proximity; and Building 89, which had one No.2 oil tank (Z01/3,000 gal) located adjacent to the building. Concentrations of TPH were discovered in the soil at one location near OT-10, but levels of TPH were determined not to exceed the industrial cleanup standard. No further action was proposed by consultants and predicated on future industrial land use of the site and unlikely direct exposure to the soil in the area contaminated (NN-02) because of grass cover and partial fencing of the area of concern. TCLP lead concentrations near OT-10 exceeded pollutant mobility criteria set by CTDEP. All four of the 1996 groundwater samples analyzed near OT-10 for manganese exceeded groundwater protection criteria. No further action was taken for lead and manganese contamination pending further investigation. Soils in the vicinity of Building 325 were found to contain levels of TPH exceeding the direct exposure clean-up standard of 500 mg/kg. Those soils were excavated and removed at Building 325. Continued groundwater monitoring was proposed. 1996 comparisons of Building 89 analytical data to the state's RSRs suggested groundwater had been impacted by petroleum products. Petroleum-related groundwater contamination has also been detected in other areas of the Lower SUBASE, including, but not limited to, the waste oil pit at Building 79, the Powerhouse Storage Tanks, Fuel Oil distribution lines, Quay Wall, Pier 33 and Berth 16. Elevated levels of lead also have been detected in soils throughout the Lower SUBASE, possibly caused, at least in part, by cleaning, recharging and refurbishing of batteries.
- Extensive gasoline releases have occurred at the NEX service station and the Dolphin Mart service station. On-going

In a 1986 report, issued by EPA, estimates were given that 30%-40% (35%) of existing underground storage tank systems, including manifolded systems, were leaking to some measurable degree. Note: even a UST system determined to be "tight" through the best available hydrostatic testing (i.e., with a leak detection precision of 0.05 gallons per hour) may still be leaking at a rate of 1.2 gallons per day or 438 gallons per year. Back in 1986, the vast majority of underground storage tank systems were still constructed of bare steel (without protection from galvanic corrosion, the primary cause of deterioration and failure). Despite improvements in the structural integrity of UST systems, corrosion protection, fiberglass-reinforced plastic and other noncorrodible materials, double-walled systems as examples, the number of releases from newer USTs, which are compliant with new installation structural requirements, remains high. This persistence of releases, despite more stringent structural requirements, may be explained by use of inexpensive materials for integral piping from which the vast majority of releases occur. To take into account the improved integrity of the newer tank systems, which have replaced unprotected steel tanks over the years, but still recognizing the high frequencies of leakages (most from piping), which do not correlate with these structural improvements, I will use a 20% failure rate (over the operational life expectancy of the tank and integral piping) for newer, structurally compliant UST systems, currently active at the SUBASE. But, I will use a 35% historical failure rate for those USTs (predominantly bare steel), which existed at the SUBASE and have already been closed, but for which records show no confirmative closure sampling. Because most leaks occur within the integral piping of UST systems and because many above ground storage tanks at the SUBASE are connected to long underground distribution system, a 35% failure rate also will be used for clean-up calculations associated with those ASTs currently in use. (Again, records on historical locations and decommissioning of ASTs are unavailable at this time.)

ASSUMPTION #2:

Petroleum clean-up costs vary with the types of contaminants, groundwater and land use classifications, resulting remedial standards and the amounts of pollutant released (a function of both leak detection compliance and release response time). For example, GA/GAA class volatilization criteria for residential areas are roughly one half the levels allowable for volatile and semi-volatile compounds in industrial use classifications. Furthermore, the presence of methyl tertiary-butyl ether (MTBE) can lead to substantial increase in the costs for remediation, including areas and duration of drinking water treatment. Gasoline clean-up costs for which applications have been made to the CT Clean-up Fund currently average about \$127,000 with many of these clean-ups still incomplete. Average estimates for clean-ups per tank system, provided by EPA prior to the 1998 UST closure deadline, ranged as follows:

such categories (ASTs less than 1,000 gallons, greater than 1,000 gallons and less than 10,000 gallons, and greater than 10,000 gallons (taking into account two 150,000 boat fueling ASTs currently active at the SUBASE)).

ACTIVE UST CLEAN-UP COST ESTIMATES

UST vol. capacity # USTs X 20% failure rate X average clean-up cost = C

6,000-gal or less	(7) (0.20) (\$225,000) = \$315,000
10,000-gal to 30,000-gal	(8) (0.20) (\$500,000) = \$800,000
150,000-gal or more	(3) (0.20) (\$1,000,000) = \$600,000
TOTAL.....\$1,715,000.00	

CLOSED UST CLEAN-UP COST ESTIMATES

UST vol capacity # USTs X 35% failure rate X average clean-up cost = C

2,000-gal or less	(28) (0.35) (\$100,000) = \$980,000
2,000-gal to 10,000-gal	(22) (0.35) (\$250,000) = \$1,925,000
greater than 10,000-gal	(30) (0.35) (\$400,000) = \$4,200,000
TOTAL.....\$7,105,000 .00	

ACTIVE AST CLEAN-UP COST ESTIMATES

AST vol capacity #ASTs X 35% failure rate X average clean-up cost = C

1,000-gal or less	(20) (0.35) (\$50,000) = \$350,000
1,000-gal to 10,000-gal	(20) (0.35) (\$100,000) = \$700,000
greater than 10,000-gal	(12) (0.35) (\$200,000) = \$840,000
TOTAL.....\$1,890,000 ,00	

Area of Concern or Site ID #	AOC 1		AOC # 2A		AOC 2B	
Description of Area of Concern	Construction Battalion Unit Drum Storage Area	Former drum storage area on top of Area A landfill (included with Area A Landfill)	Area A Landfill - Ongoing Monitoring	Mixed waste Landfill operated from 1960's to 1973	Area A Wetlands	Wetlands filled with Thames River dredge spoil in the 1950's
	Units	Unit Cost	Quantity	Cost	Quantity	Cost
PRELIMINARY WORK						
Aquifer Classification	each	\$15,000.00		\$0.00	\$0.00	0 \$0.00
Additional Investigation - Pre Remediation						
Evaluation of previous work	each	\$15,000.00		\$0.00	\$0.00	1 \$15,000.00
Offsite site well search	each	\$3,750.00		\$0.00	\$0.00	0 \$0.00
Investigation work plan	each	\$18,750.00		\$0.00	\$0.00	1 \$18,750.00
Mobilization and Demobilization	each	\$1,500.00		\$0.00	\$0.00	1 \$1,500.00
20 ft monitoring wells at \$100/foot	each	\$1,500.00		\$0.00	\$0.00	20 \$30,000.00
Well development	each	\$375.00		\$0.00	\$0.00	20 \$7,500.00
Well sampling	each	\$375.00		\$0.00	\$0.00	20 \$7,500.00
GW Analysis (VOC + 5 QA/QC)	each	\$213.75		\$0.00	\$0.00	20 \$4,275.00
GW Analysis (Metals + 5 QA/QC)	each	\$135.00		\$0.00	\$0.00	20 \$2,700.00
GW Analysis (SVOC's)	each	\$243.75		\$0.00	\$0.00	20 \$4,875.00
GW Analysis (Pesticides and Herbicides)	each	\$281.25		\$0.00	\$0.00	20 \$5,625.00
GW Analysis (PCB's)	each	\$75.00		\$0.00	\$0.00	20 \$1,500.00
Soil Analysis (TPH)	each	\$93.75		\$0.00	\$0.00	20 \$1,875.00
Soil borings at \$37/ft	each	\$555.00		\$0.00	\$0.00	40 \$22,200.00
Soil Analysis (VOC + 5 QA/QC)	each	\$213.75		\$0.00	\$0.00	40 \$8,550.00
Soil Analysis (Metals + 5 QA/QC)	each	\$135.00		\$0.00	\$0.00	40 \$5,400.00
Soil Analysis (SVOC's)	each	\$243.75		\$0.00	\$0.00	40 \$9,750.00
Soil Analysis (Pesticides and Herbicides)	each	\$281.25		\$0.00	\$0.00	40 \$11,250.00
Soil Analysis (PCB's)	each	\$75.00		\$0.00	\$0.00	40 \$3,000.00
Soil Analysis (TPH)	each	\$93.75		\$0.00	\$0.00	40 \$3,750.00
Investigation Report	each	\$22,500.00		\$0.00	\$0.00	1 \$22,500.00
Remediation Options Evaluation	each	\$36,000.00		\$0.00	\$0.00	1 \$36,000.00
Remediation Work plan	each	\$33,750.00		\$0.00	\$0.00	1 \$33,750.00
TOTAL PRELIMINARY WORK				\$0.00	\$0.00	\$257,250.00
REMEDICATION						
Site Preparation	estimate	--		\$0.00	\$0.00	\$0.00
Excavation	C.Y.	\$45.00		\$0.00	\$0.00	95,556 \$4,300,000.00
Utility Removal	estimate	--		\$0.00	\$0.00	\$0.00
Dewatering/Treatment and Disposal	gallon	\$0.38		\$0.00	\$0.00	\$0.00
Confirmation Sampling - VOCs	each	\$213.75		\$0.00	\$0.00	\$0.00
Confirmation Sampling - SVOCs		\$243.75				
Confirmation Sampling - metals		\$135.00				
Confirmation Sampling - TPH		\$93.75				
Confirmation Sampling - PCBs		\$75.00				
Transportation						
Characterization Sampling	each	\$1,125.00		\$0.00	\$0.00	162 \$182,250.00
Hazardous	tons	\$97.50		\$0.00	\$0.00	\$0.00
Non-Hazardous	tons	\$30.00		\$0.00	\$0.00	162,444 \$4,873,333.33
Disposal						

Area of Concern or Site ID #	AOC 1		AOC # 2A		AOC 2B	
Description of Area of Concern	Former drum storage area on top of Area A Construction landfill (included with Area A Storage Area Landfill)	Area A Landfill - Ongoing Monitoring Mixed waste Landfill operated from 1960's to 1973	Area A Wetlands Wetlands filled with Thames River dredge spoil in the 1950's			
Units Unit Cost	Quantity Cost	Quantity Cost	Quantity Cost			
Notes Estimate assumes that one cubic yard of excavated soil is approximately 1.7 tons. Unit cost estimates reduced by 25% from original spreadsheet						

Area of Concern or Site ID #			AOC 3A		AOC 3C		AOC 6	
Description of Area of Concern			Area A Downstream Watercourse s		Area A Wetlands to the Thames River		New Source Area	
	Units	Unit Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost
Hazardous	tons	\$243.75		\$0.00		\$0.00		\$0.00
Non-Hazardous	tons	\$42.00		\$0.00	1,732	\$72,744.00		\$0.00
Backfilling	C.Y.	\$30.00		\$0.00	1,019	\$30,570.00		\$0.00
ELUR		\$5,000.00						
Health and Safety								
Health and Safety Plan	each	\$1,875.00		\$0.00	1	\$1,875.00		\$0.00
PPE - Level B	manhours	\$6.75		\$0.00		\$0.00		\$0.00
PPE - Level C	manhours	\$1.50		\$0.00		\$0.00		\$0.00
PPE - Modified Level C	manhours	\$0.75		\$0.00		\$0.00		\$0.00
Equipment Decontamination	man days	\$228.60		\$0.00		\$0.00		\$0.00
Engineered Barriers & Site Restoration	per sq. ft.	\$8.15		\$0.00		\$0.00		\$0.00
Vapor Extraction System								
Vapor Extraction Wells	each	\$2,250.00		\$0.00		\$0.00		\$0.00
Blower (for vacuum system)	each	\$1,875.00		\$0.00		\$0.00		\$0.00
Building (to house treatment systems)	each	\$37,500.00		\$0.00		\$0.00		\$0.00
M	Per Month	\$3,750.00		\$0.00		\$0.00		\$0.00
		SUB-TOTAL		\$0.00		\$206,287.17		\$0.00
	Contingency (10%)	0.10		\$0.00		\$20,628.72		\$0.00
	Insurance and Bonds (5%)	0.05		\$0.00		\$10,314.36		\$0.00
	Engineering Design (10%)	0.10		\$0.00		\$20,628.72		\$0.00
	Construction Mgt./Engineering Oversight (25%)	0.25		\$0.00		\$51,571.79		\$0.00
TOTAL REMEDIATION				\$0.00		\$309,430.75		\$0.00
ON GOING MONITORING								
Long-term O&M work plan	each	\$15,000.00	1	\$15,000.00		\$0.00	1	\$15,000.00
Groundwater Monitoring								
Well sampling	each	\$375.00	100	\$37,500.00	24	\$9,000.00	384	\$144,000.00
GW Analysis (VOC + 5 QA/QC)	each	\$213.75	100	\$21,375.00		\$0.00		\$0.00
GW Analysis (Metals + 5 QA/QC)	each	\$135.00	100	\$13,500.00		\$0.00	384	\$51,840.00
GW Analysis (SVOC's)	each	\$243.75		\$0.00		\$0.00	384	\$93,600.00
GW Analysis (Pesticides and Herbicides)	each	\$281.25	100	\$28,125.00		\$0.00		\$0.00
GW Analysis (PCB's)	each	\$75.00		\$0.00		\$0.00	384	\$28,800.00
GW Analysis (TPH)	each	\$93.75		\$0.00	24	\$2,250.00		\$0.00
Letter report	each	\$1,875.00	20	\$37,500.00	8	\$15,000.00	8	\$15,000.00
Closeout report	each	\$75,000.00	1	\$75,000.00	1	\$75,000.00	1	\$75,000.00
Other On-Going Monitoring and Maintenance				\$100,000.00				
On-Going Maintenance of Cap and Vents								\$480,000.00
TOTAL ON-GOING MONITORING				\$328,000.00		\$101,250.00		\$903,240.00
GRAND TOTAL				\$328,000.00		\$444,430.75		\$903,240.00

Area of Concern or Site ID #	AOC 7		AOC 8		AOC 9							
Description of Area of Concern	Torpedo maintenance shops with former underground storage tanks and former septic system		Torpedo Shops		Mixed waste landfill operated from 1946 to 1957		Goss Cove Landfill		Oily Wastewater Tank OT-5 (include with AOC 23)		750000 gallon used for oily bilge water (include with AOC 23)	
	Units	Unit Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost
PRELIMINARY WORK												
Aquifer Classification	each	\$15,000.00		\$0.00		\$0.00						\$0.00
Additional Investigation - Pre Remediation												
Evaluation of previous work	each	\$15,000.00		\$0.00		\$0.00						\$0.00
Offsite site well search	each	\$3,750.00		\$0.00		\$0.00						\$0.00
Investigation work plan	each	\$18,750.00		\$0.00		\$0.00						\$0.00
Mobilization and Demobilization	each	\$1,500.00		\$0.00		\$0.00						\$0.00
20 ft monitoring wells at \$100/foot	each	\$1,500.00		\$0.00		\$0.00						\$0.00
Well development	each	\$375.00		\$0.00		\$0.00						\$0.00
Well sampling	each	\$375.00		\$0.00		\$0.00						\$0.00
GW Analysis (VOC + 5 QA/QC)	each	\$213.75		\$0.00		\$0.00						\$0.00
GW Analysis (Metals + 5 QA/QC)	each	\$135.00		\$0.00		\$0.00						\$0.00
GW Analysis (SVOC's)	each	\$243.75										
GW Analysis (Pesticides and Herbicides)	each	\$281.25										
GW Analysis (PCB's)	each	\$75.00										
GW Analysis (TPH)	each	\$93.75										
10 soil borings at \$37/ft	each	\$555.00		\$0.00		\$0.00						\$0.00
Soil Analysis (VOC + 5 QA/QC)	each	\$213.75		\$0.00		\$0.00						\$0.00
Soil Analysis (Metals + 5 QA/QC)	each	\$135.00		\$0.00		\$0.00						\$0.00
Soil Analysis (SVOC's)	each	\$243.75										
Soil Analysis (Pesticides and Herbicides)	each	\$281.25										
Soil Analysis (PCB's)	each	\$75.00										
Soil Analysis (TPH)	each	\$93.75										
Investigation Report	each	\$22,500.00		\$0.00		\$0.00						\$0.00
Remediation Options Evaluation	each	\$36,000.00	1	\$36,000.00		\$0.00						\$0.00
Remediation Work plan	each	\$33,750.00	1	\$33,750.00		\$0.00						\$0.00
TOTAL PRELIMINARY WORK					\$69,750.00		\$0.00					\$0.00
REMEDICATION												
Site Preparation	estimate	-		\$0.00		\$0.00						\$0.00
Excavation	C.Y.	\$45.00	1,600	\$72,000.00		\$0.00						\$0.00
Utility Removal	estimate	-										
Dewatering/Treatment and Disposal	gallon	\$0.38		\$0.00		\$0.00						\$0.00
Confirmation Sampling - VOCs	each	\$213.75	10	\$2,137.50		\$0.00						\$0.00
Confirmation Sampling - SVOCs		\$243.75										
Confirmation Sampling - metals		\$135.00										
Confirmation Sampling - TPH		\$93.75										
Confirmation Sampling - PCBs		\$75.00										
Transportation												
Characterization Sampling	each	\$1,125.00	2	\$2,250.00		\$0.00						\$0.00
Hazardous	tons	\$97.50		\$0.00		\$0.00						\$0.00
Non-Hazardous	tons	\$30.00	2,720	\$81,600.00		\$0.00						\$0.00
Disposal												

Area of Concern or Site ID #	AOC 7		AOC 8		AOC 9	
Description of Area of Concern	Torpedo Shops	Torpedo maintenance shops with former underground storage tanks and former septic system	Goss Cove Landfill	Mixed waste landfill operated from 1946 to 1957	Oily Wastewater Tank OT-5 (include with AOC 23)	750000 gallon ust used for oily bilge water (include with AOC 23)
	<i>Units</i>	<i>Unit Cost</i>	<i>Quantity</i>	<i>Cost</i>	<i>Quantity</i>	<i>Cost</i>
Notes Estimate assumes that one cubic yard of excavated soil is approximately Unit cost estimates reduced by 25% from original spreadsheet						

Area of Concern or Site ID #			Site 10	Zone 1	AOC 11		Site 13 Zone 4	
Description of Area of Concern			Lower Base Fuel Storage Tanks and Tank 54H	Six diesel, lube oil and hydraulic oil ust's and associated piping	Lower Base Power Plant Oil Tanks	Two #6 fuel oil, one waste oil, one diesel ust's and associated piping	Lower Base - Building 79 Waste Oil Pit	Concrete waste oil pit in building used for maintenance of diesel engines
	Units	Unit Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost
Hazardous	tons	\$243.75		\$0.00		\$0.00	4,037	\$984,018.75
Non-Hazardous	tons	\$42.00	11,118	\$466,956.00	0	\$0.00	4,038	\$169,596.00
Backfilling	C.Y.	\$30.00	6,540	\$196,200.00	0	\$0.00	4,750	\$142,500.00
ELUR		\$5,000.00	1	\$5,000.00			1	\$5,000.00
Health and Safety								
Health and Safety Plan	each	\$1,875.00	1	\$1,875.00	0	\$0.00	1	\$1,875.00
PPE - Level B	manhours	\$6.75		\$0.00		\$0.00		\$0.00
PPE - Level C	manhours	\$1.50		\$0.00		\$0.00		\$0.00
PPE - Modified Level C	manhours	\$0.75		\$0.00		\$0.00		\$0.00
Equipment Decontamination	man days	\$228.60		\$0.00		\$0.00		\$0.00
Engineered Barriers & Site Restoration	per sq. ft.	\$8.15		\$0.00		\$0.00		\$0.00
Vapor Extraction System								
Vapor Extraction Wells	each	\$2,250.00		\$0.00		\$0.00		\$0.00
Blower (for vacuum system)	each	\$1,875.00		\$0.00		\$0.00		\$0.00
Building (to house treatment systems)	each	\$37,500.00		\$0.00		\$0.00		\$0.00
M	Per Month	\$3,750.00		\$0.00		\$0.00		\$0.00
		SUB-TOTAL		\$1,352,096.00		\$0.00		\$2,108,414.75
Contingency (10%)	0.10			\$135,209.60		\$0.00		\$210,841.48
Insurance and Bonds (5%)	0.05			\$67,604.80		\$0.00		\$105,420.74
Engineering Design (10%)	0.10			\$135,209.60		\$0.00		\$210,841.48
Construction Mgt./Engineering Oversight (25%)	0.25			\$338,024.00		\$0.00		\$527,103.69
TOTAL REMEDIATION				\$2,028,144.00		\$0.00		\$3,162,622.13
ON GOING MONITORING								
Long-term O&M work plan	each	\$15,000.00		\$0.00	0	\$0.00	1	\$15,000.00
Groundwater Monitoring								
Well sampling	each	\$375.00	96	\$36,000.00	0	\$0.00	72	\$27,000.00
GW Analysis (VOC + 5 QA/QC)	each	\$213.75		\$0.00		\$0.00	72	\$15,390.00
GW Analysis (Metals + 5 QA/QC)	each	\$135.00		\$0.00		\$0.00	72	\$9,720.00
GW Analysis (SVOC's)	each	\$243.75	96	\$23,400.00	0	\$0.00	72	\$17,550.00
GW Analysis (Pesticides and Herbicides)	each	\$281.25		\$0.00		\$0.00		\$0.00
GW Analysis (PCB's)	each	\$75.00		\$0.00		\$0.00		\$0.00
GW Analysis (TPH)	each	\$93.75	96	\$9,000.00	0	\$0.00	72	\$6,750.00
Letter report	each	\$1,875.00	2	\$3,750.00	0	\$0.00	2	\$3,750.00
Closeout report	each	\$75,000.00	1	\$75,000.00	0	\$0.00	1	\$75,000.00
Other On-Going Monitoring and Maintenance								\$0.00
On-Going Maintenance of Cap and Vents								
TOTAL ON-GOING MONITORING				\$147,150.00		\$0.00		\$170,160.00
GRAND TOTAL				\$2,358,852.75		\$0.00		\$3,516,513.38

Area of Concern or Site ID #	AOC 15		AOC 16		Site 17 Zone 3	
Description of Area of Concern	Spent Acid Storage and Disposal Area (SASDA) (NO FURTHER ACTION)	Former waste battery acid underground storage tank	Hospital Incinerators (NO FURTHER ACTION)	Incinerator operated by the base hospital during the 1980's for medical waste and records	Hazardous Materials/Soil Storage Area (Building 31)	Former battery overhaul shop and hazardous waste storage building
	Units	Unit Cost	Quantity	Cost	Quantity	Cost
PRELIMINARY WORK						
Aquifer Classification	each	\$15,000.00		\$0.00		\$0.00
Additional Investigation - Pre Remediation						
Evaluation of previous work	each	\$15,000.00		\$0.00		\$0.00
Offsite site well search	each	\$3,750.00		\$0.00	1	\$15,000.00
Investigation work plan	each	\$18,750.00		\$0.00	0	\$0.00
Mobilization and Demobilization	each	\$1,500.00		\$0.00	1	\$18,750.00
20 ft monitoring wells at \$100/foot	each	\$1,500.00		\$0.00	1	\$1,500.00
Well development	each	\$375.00		\$0.00	4	\$6,000.00
Well sampling	each	\$375.00		\$0.00	4	\$1,500.00
GW Analysis (VOC + 5 QA/QC)	each	\$213.75		\$0.00	8	\$3,000.00
GW Analysis (Metals + 5 QA/QC)	each	\$135.00		\$0.00	8	\$1,710.00
GW Analysis (SVOC's)	each	\$243.75		\$0.00	8	\$1,080.00
GW Analysis (Pesticides and Herbicides)	each	\$281.25		\$0.00	8	\$1,950.00
GW Analysis (PCB's)	each	\$75.00		\$0.00	0	\$0.00
GW Analysis (TPH)	each	\$93.75		\$0.00	0	\$0.00
10 ft soil borings at \$37/ft	each	\$555.00		\$0.00	8	\$750.00
Soil Analysis (VOC + 5 QA/QC)	each	\$213.75		\$0.00	6	\$3,330.00
Soil Analysis (Metals + 5 QA/QC)	each	\$135.00		\$0.00	6	\$1,282.50
Soil Analysis (SVOC's)	each	\$243.75		\$0.00	18	\$2,430.00
Soil Analysis (Pesticides and Herbicides)	each	\$281.25		\$0.00	12	\$2,925.00
Soil Analysis (PCB's)	each	\$75.00		\$0.00	0	\$0.00
Soil Analysis (TPH)	each	\$93.75		\$0.00	0	\$0.00
Investigation Report	each	\$22,500.00		\$0.00	12	\$1,125.00
Remediation Options Evaluation	each	\$36,000.00		\$0.00	1	\$22,500.00
Remediation Work plan	each	\$33,750.00		\$0.00	1	\$36,000.00
TOTAL PRELIMINARY WORK				\$0.00	\$0.00	\$154,582.50
REMEDATION						
Site Preparation	estimate	-		\$0.00		\$0.00
Excavation	C.Y.	\$45.00		\$0.00		\$0.00
Utility Removal	estimate	-		\$0.00	2,100	\$94,500.00
Dewatering/Treatment and Disposal	gallon	\$0.38		\$0.00		\$0.00
Confirmation Sampling - VOCs	each	\$213.75		\$0.00	0	\$0.00
Confirmation Sampling - SVOCs		\$243.75			22	\$5,362.50
Confirmation Sampling - metals		\$135.00			44	\$5,940.00
Confirmation Sampling - TPH		\$93.75			22	\$2,062.50
Confirmation Sampling - PCBs		\$75.00			0	\$0.00
Transportation						
Characterization Sampling	each	\$1,125.00		\$0.00	7	\$7,875.00
Hazardous	tons	\$97.50		\$0.00	357	\$34,807.50
Non-Hazardous	tons	\$30.00		\$0.00	3,213	\$96,390.00
Disposal						

Area of Concern or Site ID #	AOC 15		AOC 16		Site 17 Zone 3	
Description of Area of Concern	Spent Acid Storage and Disposal Area (SASDA) (NO FURTHER ACTION)	Former waste battery acid underground storage tank	Hospital Incinerators (NO FURTHER ACTION)	Incinerator operated by the base hospital during the 1980's for medical waste and records	Hazardous Materials/So lvent Storage Area (Building 31)	Former battery overhaul shop and hazardous waste storage building
	<i>Units</i>	<i>Unit Cost</i>	<i>Quantity</i>	<i>Cost</i>	<i>Quantity</i>	<i>Cost</i>
Notes Estimate assumes that one cubic yard of excavated soil is approximately Unit cost estimates reduced by 25% from original spreadsheet						

Area of Concern or Site ID #	AOC 18		Site 19 Zone 4		AOC 20					
Description of Area of Concern	Former solvent storage area in the southern portion of the base		Solvent Storage Area (Building 316)		Building formerly used for solvent storage		Area A Weapons Center (NO FURTHER ACTION)		Site used for storage and maintenance of torpedoes and other weapons	
	Units	Unit Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost
Hazardous	tons	\$243.75		\$0.00		\$0.00		\$0.00		\$0.00
Non-Hazardous	tons	\$42.00		\$0.00		\$0.00		\$0.00		\$0.00
Backfilling	C.Y.	\$30.00		\$0.00		\$0.00		\$0.00		\$0.00
ELUR		\$5,000.00								
Health and Safety										
Health and Safety Plan	each	\$1,875.00		\$0.00		\$0.00		\$0.00		\$0.00
PPE - Level B	manhours	\$6.75		\$0.00		\$0.00		\$0.00		\$0.00
PPE - Level C	manhours	\$1.50		\$0.00		\$0.00		\$0.00		\$0.00
PPE - Modified Level C	manhours	\$0.75		\$0.00		\$0.00		\$0.00		\$0.00
Equipment Decontamination	man days	\$228.60		\$0.00		\$0.00		\$0.00		\$0.00
Engineered Barriers & Site Restoration	per sq. ft.	\$8.15		\$0.00		\$0.00		\$0.00		\$0.00
Vapor Extraction System										
Vapor Extraction Wells	each	\$2,250.00								
Blower (for vacuum system)	each	\$1,875.00		\$0.00		\$0.00		\$0.00		\$0.00
Building (to house treatment systems)	each	\$37,500.00		\$0.00		\$0.00		\$0.00		\$0.00
O&M	Per Month	\$3,750.00		\$0.00		\$0.00		\$0.00		\$0.00
		SUB-TOTAL		\$0.00		\$0.00		\$0.00		\$0.00
	Contingency (10%)	0.10		\$0.00		\$0.00		\$0.00		\$0.00
	Insurance and Bonds (5%)	0.05		\$0.00		\$0.00		\$0.00		\$0.00
	Engineering Design (10%)	0.10		\$0.00		\$0.00		\$0.00		\$0.00
	Construction Mgt./Engineering Oversight (25%)	0.25		\$0.00		\$0.00		\$0.00		\$0.00
TOTAL REMEDIATION				\$0.00		\$0.00		\$0.00		\$0.00
ON GOING MONITORING										
Long-term O&M work plan	each	\$15,000.00		\$0.00		\$0.00		\$0.00		\$0.00
Groundwater Monitoring										
Well sampling	each	\$375.00		\$0.00		\$0.00		\$0.00		\$0.00
GW Analysis (VOC + 5 QA/QC)	each	\$213.75		\$0.00		\$0.00		\$0.00		\$0.00
GW Analysis (Metals + 5 QA/QC)	each	\$135.00		\$0.00		\$0.00		\$0.00		\$0.00
GW Analysis (SVOC's)	each	\$243.75		\$0.00		\$0.00		\$0.00		\$0.00
GW Analysis (Pesticides and Herbicides)	each	\$281.25		\$0.00		\$0.00		\$0.00		\$0.00
GW Analysis (PCB's)	each	\$75.00		\$0.00		\$0.00		\$0.00		\$0.00
GW Analysis (TPH)	each	\$93.75		\$0.00		\$0.00		\$0.00		\$0.00
Letter report	each	\$1,875.00		\$0.00		\$0.00		\$0.00		\$0.00
Closeout report	each	\$75,000.00		\$0.00		\$0.00		\$0.00		\$0.00
Other On-Going Monitoring and Maintenance										
On-Going Maintenance of Cap and Vents										
TOTAL ON-GOING MONITORING				\$0.00		\$0.00		\$0.00		\$0.00
GRAND TOTAL				\$82,818.75		\$0.00		\$0.00		\$0.00

Area of Concern or Site ID #	Site 21		Zone 7		Site 22 Zone 5		AOC 23	
Description of Area of Concern	Berth 16		Former Incinerator, Diesel UST and Diesel Pipeline		Pier 33		Former indoor battery acid AST's and associated underground piping Fuel Tank Farm includes Site 25 Site Used for storage of fuel oil consisting of nine 110 foot diameter, 11 foot high ust's	
	Units	Unit Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost
PRELIMINARY WORK								
Aquifer Classification	each	\$15,000.00		\$0.00		\$0.00		\$0.00
Additional Investigation - Pre Remediation								
Evaluation of previous work	each	\$15,000.00	1	\$15,000.00	1	\$15,000.00	1	\$15,000.00
Offsite site well search	each	\$3,750.00	0	\$0.00	0	\$0.00	0	\$0.00
Investigation work plan	each	\$18,750.00	1	\$18,750.00	1	\$18,750.00	1	\$18,750.00
Mobilization and Demobilization	each	\$1,500.00	1	\$1,500.00	1	\$1,500.00	1	\$1,500.00
20 ft monitoring wells at \$100/foot	each	\$1,500.00	6	\$9,000.00	3	\$4,500.00	18	\$27,000.00
Well development	each	\$375.00	6	\$2,250.00	3	\$1,125.00	18	\$6,750.00
Well sampling	each	\$375.00	17	\$6,375.00	6	\$2,250.00	18	\$6,750.00
GW Analysis (VOC + 5 QA/QC)	each	\$213.75	17	\$3,633.75	6	\$1,282.50	9	\$1,923.75
GW Analysis (Metals + 5 QA/QC)	each	\$135.00	17	\$2,295.00	6	\$810.00	4	\$540.00
GW Analysis (SVOC's)	each	\$243.75	17	\$4,143.75	6	\$1,462.50	18	\$4,387.50
GW Analysis (Pesticides and Herbicides)	each	\$281.25	0	\$0.00	0	\$0.00		\$0.00
GW Analysis (PCB's)	each	\$75.00	0	\$0.00	0	\$0.00		\$0.00
GW Analysis (TPH)	each	\$93.75	17	\$1,593.75	6	\$562.50	18	\$1,687.50
10 soil borings at \$37/ft	each	\$555.00	10	\$5,550.00	6	\$3,330.00	36	\$19,980.00
Soil Analysis (VOC + 5 QA/QC)	each	\$213.75	10	\$2,137.50	6	\$1,282.50	18	\$3,847.50
Soil Analysis (Metals + 5 QA/QC)	each	\$135.00	30	\$4,050.00	18	\$2,430.00		\$0.00
Soil Analysis (SVOC's)	each	\$243.75	20	\$4,875.00	12		36	\$8,775.00
Soil Analysis (Pesticides and Herbicides)	each	\$281.25	0	\$0.00	0		0	\$0.00
Soil Analysis (PCB's)	each	\$75.00	10	\$750.00	12		0	\$0.00
Soil Analysis (TPH)	each	\$93.75	20	\$1,875.00	12		36	\$3,375.00
Investigation Report	each	\$22,500.00	1	\$22,500.00	1	\$22,500.00	1	\$22,500.00
Remediation Options Evaluation	each	\$36,000.00	1	\$36,000.00	1	\$36,000.00		\$0.00
Remediation Work plan	each	\$33,750.00	1	\$33,750.00	1	\$33,750.00		\$0.00
TOTAL PRELIMINARY WORK				\$176,028.75		\$146,535.00		\$142,766.25
REMEDICATION								
Site Preparation	estimate	-		\$0.00		\$0.00		\$0.00
Excavation	C.Y.	\$45.00	8,400	\$378,000.00	1,060	\$47,700.00		\$0.00
Utility Removal	estimate	-						
Dewatering/Treatment and Disposal	gallon	\$0.38		\$0.00		\$0.00		\$0.00
Confirmation Sampling - VOCs	each	\$213.75	0	\$0.00	0	\$0.00		\$0.00
Confirmation Sampling - SVOCs		\$243.75	194	\$47,287.50	36	\$8,775.00		
Confirmation Sampling - metals		\$135.00	220	\$29,700.00	72	\$9,720.00		
Confirmation Sampling - TPH		\$93.75	0	\$0.00	36	\$3,375.00		
Confirmation Sampling - PCBs		\$75.00	0	\$0.00	0	\$0.00		
Transportation								
Characterization Sampling	each	\$1,125.00	17	\$19,125.00	4	\$4,500.00		\$0.00
Hazardous	tons	\$97.50	5,100	\$497,250.00	0	\$0.00		\$0.00
Non-Hazardous	tons	\$30.00	9,180	\$275,400.00	1,802	\$54,060.00		\$0.00
Disposal								

Area of Concern or Site ID #	Site 21	Zone 7	Site 22 Zone 5	AOC 23
Description of Area of Concern	Berth 16	Former Incinerator, Diesel UST and Diesel Pipeline	Pier 33 Former indoor battery acid AST's and associated underground piping includes Site 25	Site Used for storage of fuel oil consisting of nine 110 foot diameter, 11 foot high ust's Fuel Tank Farm
Notes	Quantity	Cost	Quantity	Quantity
Estimate assumes that one cubic yard of excavated soil is approximately Unit cost estimates reduced by 25% from original spreadsheet				

Area of Concern or Site ID #			AOC 24		AOC 25		Zone 2	
Description of Area of Concern			Central Paint Accumulation Area (Building 174)	Former boat sandblasting and painting and storage of lead ballast	Lower Sub-Base Classified Materials Incinerator	Former Incinerator (any remediation would be part of AOC 21)	Diesel pipelines	
	Units	Unit Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost
Hazardous	tons	\$243.75		\$0.00		\$0.00	111	\$27,056.25
Non-Hazardous	tons	\$42.00	226	\$9,492.00		\$0.00	3,204	\$134,568.00
Backfilling	C.Y.	\$30.00	133	\$3,990.00		\$0.00	1,950	\$58,500.00
ELUR		\$5,000.00	1	\$5,000.00			1	\$5,000.00
Health and Safety								
Health and Safety Plan	each	\$1,875.00		\$0.00		\$0.00	1	\$1,875.00
PPE - Level B	manhours	\$6.75		\$0.00		\$0.00		\$0.00
PPE - Level C	manhours	\$1.50		\$0.00		\$0.00		\$0.00
PPE - Modified Level C	manhours	\$0.75		\$0.00		\$0.00		\$0.00
Equipment Decontamination	man days	\$228.60		\$0.00		\$0.00		\$0.00
Engineered Barriers & Site Restoration	per sq. ft.	\$8.15		\$0.00		\$0.00		\$0.00
Vapor Extraction System								
Vapor Extraction Wells	each	\$2,250.00		\$0.00		\$0.00		\$0.00
Blower (for vacuum system)	each	\$1,875.00		\$0.00		\$0.00		\$0.00
Building (to house treatment systems)	each	\$37,500.00		\$0.00		\$0.00		\$0.00
M ³	Per Month	\$3,750.00		\$0.00		\$0.00		\$0.00
SUB-TOTAL				\$37,112.00		\$0.00		\$450,581.75
Contingency (10%)		0.10		\$3,711.20		\$0.00		\$45,058.18
Insurance and Bonds (5%)		0.05		\$1,855.60		\$0.00		\$22,529.09
Engineering Design (10%)		0.10		\$3,711.20		\$0.00		\$45,058.18
Construction Mgt./Engineering Oversight (25%)		0.25		\$9,278.00		\$0.00		\$112,645.44
TOTAL REMEDIATION				<u>\$55,668.00</u>		<u>\$0.00</u>		<u>\$675,872.63</u>
ON GOING MONITORING								
Long-term O&M work plan	each	\$15,000.00		\$0.00		\$0.00	1	\$15,000.00
Groundwater Monitoring								
Well sampling	each	\$375.00	40	\$15,000.00		\$0.00	72	\$27,000.00
GW Analysis (VOC + 5 QA/QC)	each	\$213.75	0	\$0.00		\$0.00	36	\$7,695.00
GW Analysis (Metals + 5 QA/QC)	each	\$135.00	40	\$5,400.00		\$0.00	72	\$9,720.00
GW Analysis (SVOC's)	each	\$243.75	40	\$9,750.00		\$0.00	72	\$17,550.00
GW Analysis (Pesticides and Herbicides)	each	\$281.25		\$0.00		\$0.00	0	\$0.00
GW Analysis (PCB's)	each	\$75.00		\$0.00		\$0.00	0	\$0.00
GW Analysis (TPH)	each	\$93.75	40	\$3,750.00		\$0.00	72	\$6,750.00
Letter report	each	\$1,875.00	2	\$3,750.00		\$0.00	2	\$3,750.00
Closeout report	each	\$75,000.00	1	\$75,000.00		\$0.00	1	\$75,000.00
Other On-Going Monitoring and Maintenance				\$0.00				
On-Going Maintenance of Cap and Vents								
TOTAL ON-GOING MONITORING				\$112,650.00		\$0.00		\$162,465.00
GRAND TOTAL				\$273,869.25		\$0.00		\$1,001,901.38

STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION



August 1, 2005

To the Editor of The Day:

In his recent letter to the editor, Rear Admiral Mark Kenny explained the reasoning behind the U.S. Department of Defense's \$9.95 million estimate for the cost of cleaning up radiological waste if the Submarine base in New London is closed (U.S. Naval Cleanup Cost Estimate on Target, July 22, 2005). After carefully reviewing Admiral Kenny's explanation, the Department of Environmental Protection stands by our assertion that the Department of Defense's estimate is too low and that the real cost of the radiological cleanup will be at least \$31.5 million.

The Navy estimated the cost of the radiological cleanup based on the erroneous assumption that what it knows about radiological conditions at the "Lower Base" of approximately 20 acres used by the Naval Nuclear Propulsion Program (NNPP) - can be reasonably applied to the rest of the 687 acre facility. This assumption is not valid because the Navy has limited knowledge of radiological use and conditions for non-NNPP areas.

In fact, the Navy is on record as stating "(w)ere this facility to shut down, significant additional sampling and surveying would be performed prior to releasing the facility for unrestricted use...the Navy acknowledges that additional characterization of both the buildings and environmental areas {for the presence of radioactive materials} would be necessary were the Sub Base to be shut down..." (letter dated March 6, 1996 from J. Tarpey, Acting Director, Radiological Controls, Department of the Navy to Kymberlee Keckler, Remedial Project Manager, U.S. Environmental Protection Agency).

In addition, the Navy's estimate is based upon outdated radiation survey and site investigation processes. In 1997 several federal agencies, including the U.S. Department of Defense, developed a process known as the Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM) that improved standards for verifying successful radiological cleanup. While the Navy based its cost estimates for the sub base on its experiences at Charlestown and Mare Island, these sites were cleaned up prior to MARSSIM. The DEP's estimate of \$31.5 million, on the other hand, is based on radiological cleanup activities presently being conducted in Connecticut that consistent with MARSSIM.

Until the Navy conducts a complete Historical Site Assessment meeting the standards of MARSSIM, no one can accurately determine the real cost of radiological cleanup at the Submarine base. For purposes of moving forward with the base closing process, the Department of Environmental Protection asserts reasonable estimate for calculating the true cost of closing the Submarine base.

Yours truly,

A handwritten signature in cursive script, appearing to read "Gina McCarthy".

Gina McCarthy
Commissioner
Connecticut Department of Environmental Protection

The Day



U.S. Navy Cleanup Cost Estimate On Target

Published on 7/22/2005

Letters To The Editor:

I am writing to explain the basis for the cost estimate to support the radiological release of Sub Base New London for unrestricted future use, should it be closed under the Defense Base Realignment and Closure Commission.

An article in The Day titled "McCarthy: Navy's cost estimate for sub base cleanup far too low," published July 7, quoted the Connecticut Department of Environmental Protection testimony stating "major costs underestimated by the Navy include . . . dealing with radiological equipment used in conjunction with nuclear-powered submarines. The Navy calculated this cost at \$9.95 million, while the state says the cost would be \$31.5 million." The article also states, "The written testimony also notes the Navy's estimate makes no mention of how much it would cost to remediate radiological contamination at the base."

These statements are inaccurate.

The Navy has substantial knowledge of existing sub base conditions. We have extensive and relatively recent experience and cost data for closing facilities that performed complex radiological work, and releasing them for unrestricted future use with respect to radioactivity: Charleston and Mare Island Naval Shipyards between 1993 and 1996. The Environmental Protection Agency and the states were involved throughout these processes and satisfied with the results.

The Navy's \$9.95 million estimate for the submarine base included \$3.28 million for facility dismantlement, \$3.23 million for radiological waste disposal, and \$3.44 million for surveys and sampling. The survey total was based on release of 624,832 square feet for the Naval Nuclear Propulsion Program (NNPP), and 269,073 square feet for general radioactive material (G-RAM, all Navy non-NNPP applications of radioactivity, such as medical or historical radium use). Hence, the Navy's \$9.95 million estimate for radiological closure of the sub base has a solid basis.

Mark W. Kenny
Groton

Editor's note: The writer is a rear admiral in the Navy, and is commander of Navy Region Northeast and Submarine Group Two.

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The Navy states it uses the Multi-Agency Radiological Survey and Site Investigation Manual (MARSSIM) as guidance for making decisions regarding the decommissioning of facilities. Document attached to 6/30/05 email from Mr. Charles Pearson to Dr. Edward Wilds.

Subbase New London's Historical Radiological Assessment (HRA) was written prior to the adoption of MARSSIM. Though it was reviewed and agreed to by both state and federal agencies and met the standards at that time, it does not meet today's minimum requirements for a Historical Site Assessment as outlined in MARSSIM.

- It does not adequately identify potential, likely, or known sources of radioactive material and radioactive contamination based on existing or derived information. Examples of sources of radioactive material that lack detailed analysis include, but are not limited to, G-RAM sources of radioluminescent dials, self-luminous signs, radium, liquid tritium, liquid C-14, etc. (Note that a single self-luminous sign can contain over 20 Curies of tritium, radioactive hydrogen, and if broken can cause significant contamination to the area undetectable by gamma spectroscopy.)
- It does not adequately identify sites that may need further action.
- It does not provide any initial classification of the site or survey units as impacted or non-impacted.

The HRA is a good starting point for the development of a Historical Site Assessment but it does not meet the minimum recommended guidance.

The HRA and initial cost estimates seem to be developed with the assumption that an area is not impacted by radioactive material unless documentation exists showing that it was impacted. This is contrary to the fundamental guidance of MARSSIM that the initial assumption is "that all areas are initially considered Class 1 areas unless some basis for reclassification as non-impacted, Class 3, or Class 2 is provided." An example given in the attachment referenced above states that "Non-impacted areas would include residential areas and other buildings that have or had nothing more than smoke detectors and exit signs with sealed radioactive sources." Exit signs generally contain 20 Curies of tritium and no documentation is provided that exit signs used at Subbase New London were never damaged, lost or stolen.

Detailed analysis of G-RAM use is lacking. An example demonstrating this is the following statement in the HRA volume II. Section 5.1.1 Liquids of the HRA states "The NSMRL NRMP (and NRC license prior to conversion to the NRMP program) at various times authorized specified (and limited) quantities of any physical form of the following radionuclides: P-32, C-14, H-3, I-131, Fe-59, K-42, Na-24, Ca-45, Zn-65, S-35, Cs-137, Cr-51, I-125, Cl-36." Several of these radionuclides have long half-lives that could pose an exposure threat for several years and there is no discussion of the use protocols, radioactivity, or specific locations where they sources were used. Unsealed liquid forms of radioactive material pose a greater risk of possible contamination than sealed sources.

There is no discussion on how survey samples were analyzed for soft beta emitters such as H-4 (tritium) and C-14. The beta radiation from soft beta emitters are hard to detect and require suitable collection protocols and detection instrumentation to ensure meaningful results are obtained. A negative result due to inappropriate use of instrumentation such as sodium iodide or hyper-pure Germanium detectors cannot be used to verify the absence of radiological contamination.

	CY	CE	Charleston _{NR}	Charleston _{G-RAM}	Mare Island _{NR}	Mare Island _{G-RAM}	S1C _{NR}	Radium Clock _{NR}	Radium Clock _{Est}
Sq. Ft. Surveyed	DCN: 11580		5,000,000	150,000	5,000,000	1,250,000	55,000	50,000	2,000,000
Bldg (Sq. Ft.)		140,000							
Land Area-Acres	14	1							
HSA	\$1,500,000.00								
Decomm Plan		\$250,000.00							
Characterization	\$3,000,000.00	\$1,000,000.00							
DCGL		\$325,000.00							
Dose Modeling									
FSS	\$15,000,000.00	\$250,000.00	\$27,277,597.00	\$49,655.00	\$27,347,737.00	\$479,459.00	\$5,000,000.00	\$750,000.00	\$750,000.00
Total	\$19,500,000.00	\$1,825,000.00	\$27,277,597.00	\$49,655.00	\$27,347,737.00	\$479,459.00	\$5,000,000.00	\$750,000.00	\$750,000.00
Cost/Sq.Ft.	\$31.98	\$9.94	\$5.46	\$0.33	\$5.47	\$0.38	\$90.91	\$15.00	\$0.38

Site	Subbase _{NR}	Subbase _{G-RAM}	Subbase	Subbase _{DEP Est}	Subbase _{DEP Est}	Subbase _{DEP Est}
Sq. Ft. Surveyed	624,832	269,073	893,905		893,905	
Bldg (Sq. Ft.)						
Land Area-Acres				20		20
HSA				\$2,000,000.00	\$393,318.20	\$383,328.00
Decomm Plan						
Characterization				\$5,000,000.00	\$983,295.50	\$958,320.00
DCGL					\$0.00	\$0.00
Dose Modeling					\$0.00	\$0.00
FSS	\$3,342,851.00	\$96,866.00	\$3,439,717.00	\$18,000,000.00	\$3,539,863.80	\$3,449,952.00
Total	\$3,342,851.00	\$96,866.00	\$3,439,717.00	\$25,000,000.00	\$4,916,477.50	\$4,791,600.00
Cost/Sq.Ft.	\$5.35	\$0.36	\$3.85	\$28.70	\$5.50	\$5.50

STATE OF CONNECTICUT



M. JODI RELL, GOVERNOR
CHRISTOPHER DODD, SENATOR
JOSEPH LIEBERMAN, SENATOR
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ROB SIMMONS, MEMBER OF CONGRESS

UNITED STATES CONGRESS



July 18, 2005

The Honorable Anthony J. Principi
Chairman
2005 Base Realignment and Closure Commission
2521 Jefferson Davis Highway
Arlington, VA 22202

Re: Submarine Base New London

Dear Chairman Principi:

As a follow-up to the Connecticut presentation at the July 6 regional Base Realignment and Closure Commission hearing in Boston, we are pleased to forward the attached supplemental data to round out "The Case for New London."

The data consists of additional details supporting the arguments advanced at the hearing. These details add much greater weight to our assertions that the Navy significantly understated the costs associated with the proposed closure and dispersal of Submarine Base New London (SBNL), while exaggerating the savings.

In particular, we would like to draw your staff's attention to the section on the environmental impact (Criterion 8). An extremely in-depth analysis by the Connecticut Department of Environmental Protection shows that the Navy failed to account for some \$131 million in short- and long-term environmental cleanup costs that would necessarily follow a closure.

We would appreciate the opportunity to meet with your staff in the days ahead to briefly review key aspects of the supplemental data. We will submit a separate request for such a meeting.

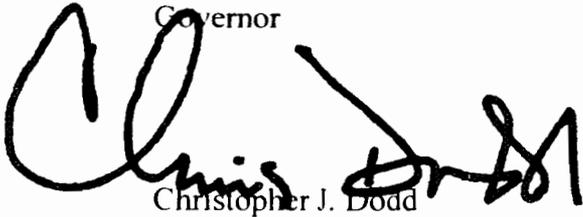
DCN: 11580

Meanwhile, should any questions arise regarding this submission, the points of contact are Phil Dukes in the Governor's office (860-524-7340) and Neal Orringer in Sen. Dodd's office (202-224-2823). Thank you for your ongoing consideration.

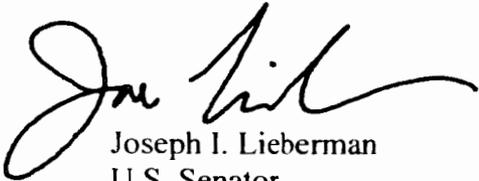
Sincerely,



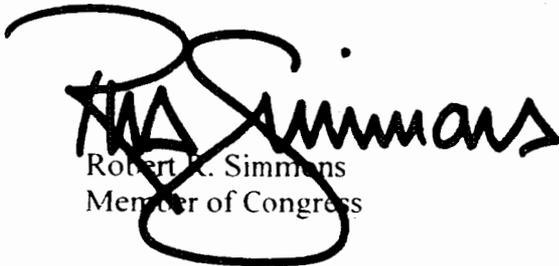
M. Jodi Rell
Governor



Christopher J. Dodd
U.S. Senator



Joseph I. Lieberman
U.S. Senator



Robert C. Simmans
Member of Congress

DCN: 11580

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SUBCOMMITTEE ON HIGHWAYS AND TRAFFIC
SUBCOMMITTEE ON COAST GUARD AND
MARINE TRANSPORTATION

CONGRESSMAN ROB SIMMONS
HOUSE OF REPRESENTATIVES
SECOND DISTRICT, CONNECTICUT

Ms. Anne Rathmell Davis
Special Assistant to the Secretary of the Navy for Base Realignment and Closure
Department of the Navy
Office of the Secretary
1000 Navy Pentagon
Washington, DC 20350-1000

Dear Ms. Davis:

In the 1990's, official Department of the Navy policy led to the creation of an integrated industrial capability at Electric Boat that supports new construction; major conversion and alteration; and maintenance and repair of all classes of nuclear submarines.

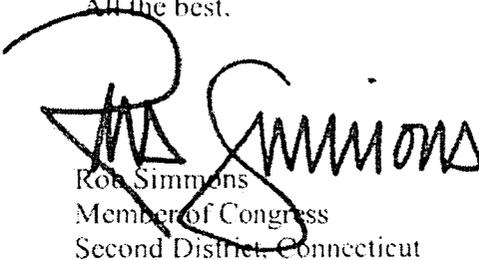
In order to contain costs and conserve resources, the Navy created this unique integrated industrial capability only at Electric Boat, New London. It is not replicated anywhere else in the Navy or the private sector. By virtue of this policy, EB has achieved significant economies of scale and cost savings for the Navy by having a fully integrated work force support all three industrial capabilities.

Deconstructing this industrial arrangement would require replication of EB's capabilities elsewhere. Replication, in turn, would result in loss of industrial efficiency and increase in costs to the Navy across the full spectrum of industrial capabilities.

In light of the foregoing, if SUBBASE New London is closed, please quantify the resulting cost impact to the Navy of:

- New submarine construction;
- Major submarine conversion and alteration; and
- Submarine Maintenance and repair.

All the best,


Rob Simmons
Member of Congress
Second District, Connecticut

215 Cannon House Office Building
Washington, DC 20515
(202) 225-2076

2 Courthouse Square
Norwich, CT 06360
(860) 886-0129

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Enfield, CT 06033
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Toll Free in Connecticut: (800) 822-4319

www.house.gov/simmons

New London CODEL/Community Meeting

August 2, 2005

NAME	POSITION	TELEPHONE NUMBER
Albert Konetzni	VADM U.S. Navy (Ret.)	
Ms. Gina McCarthy	Connecticut Commissioner of Environmental Protection	
Mr. Hank Teskey	Electric Boat	860.433.1537 HTeskey@EBMail.gdeb.com
Mr. Tod Schaefer,	Electric Boat	
Mr. Brian Forshaw,	Connecticut Realignment Coalition	
Mr. John Markowicz,	Connecticut Realignment Coalition	860.437.4659 jmarkowitz@secter.org
Mr. Mark Proctor	Whitney, Brown & Bradley Company	
Mr. Michael Kennedy	Government Accountability Office	
Mr. Steven Karalekas	The Washington Group	202.789.2111 Spike8@aol.com
Mr. James Noone	The Washington Group	
Mr. Neal Orringer	Sen. Dodd's office	202.224.2680 Neal_Orringer@Dodd.Senate.gov
Mr. Alan Payne	Sen. Lieberman's office	202.224.4777 Alan_Payne@Lieberman.senate.gov
Mr. Justin Bernier	Rep. Simmons Office	202.225.5004 Justin.bernier@mail.house.gov
Hal Tickle	Navy/Marine Corps Senior Analyst	703.699.2916 harold.tickle@wso.whs.mil
Gary Miller	BRAC Environmental Representative	

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RECOMMENDATION FOR CLOSURE

NAVAL AIR STATION, ATLANTA, GEORGIA

Recommendation: Close Naval Air Station Atlanta, GA. Relocate its aircraft and necessary personnel, equipment and support to Naval Air Station Joint Reserve Base New Orleans, LA; Naval Air Station Joint Reserve Base Fort Worth, TX; and Robins Air Force Base, Robins, GA. Relocate Reserve Intelligence Area 14 to Fort Gillem, Forest Park, GA. Relocate depot maintenance Aircraft Components, Aircraft Engines, Fabrication and Manufacturing, and Support Equipment in support of F/A-18, C-9 and C-12 aircraft to Fleet Readiness Center West Site Fort Worth at Naval Air Station Joint Reserve Base Fort Worth, TX. Relocate intermediate maintenance in support of E-2C aircraft to Fleet Readiness Center Mid-Atlantic Site New Orleans at Naval Air Station Joint Reserve Base New Orleans, LA. Consolidate the Naval Air Reserve Atlanta with Navy Marine Corps Reserve Center Atlanta located at Dobbins Air Reserve Base, Marietta, GA. Retain the Windy Hill Annex.

Justification: This recommendation reduces excess capacity while maintaining reserve forces in regions with favorable demographics. The aviation assets will be located closer to their theater of operations and/or will result in increased maintenance efficiencies and operational synergies. Relocating Reserve Intelligence Area 14 to Fort Gillem creates synergies with joint intelligence assets while maintaining the demographic base offered by the Atlanta area for this function. The Fleet Readiness Center portion of this recommendation realigns and merges depot and intermediate maintenance activities. It supports both DoD and Navy transformation goals by reducing the number of maintenance levels and streamlining the way maintenance is accomplished with associated significant cost reductions.

Payback: The total estimated one-time cost to the Department of Defense to implement this recommendation is \$43.03 million. The net of all costs and savings to the Department during the implementation period is a savings of \$289.85 million. Annual recurring savings to the Department after implementation are \$66.05 million with an immediate payback expected. The net present value of the costs and savings to the Department over 20 years is a savings of \$910.87 million.

Economic Impact on Communities: Assuming no economic recovery, this recommendation could result in a maximum potential reduction of 2,186 jobs (1,420 direct jobs and 766 indirect jobs) over the 2006-2011 period in the Atlanta-Sandy Springs-Marietta, GA Metropolitan Statistical Area, which is less than 0.1 percent of economic area employment. The aggregate economic impact of all recommended actions on this economic region of influence was considered and is at Appendix B of Volume I.

Community Infrastructure: A review of community attributes indicates no issues regarding the ability of the infrastructure of the communities to support missions, forces, and personnel. There are no known community infrastructure impediments to implementation of all recommendations affecting the installations in this recommendation.

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Environmental Impact: Naval Air Station Joint Reserve Base Fort Worth, TX is in Serious Non-attainment for Ozone (1-Hour) and an Air Conformity Determination may be required. There are potential impacts to waste management. Naval Air Station Joint Reserve Base New Orleans, LA is in Attainment. Robins Air Force Base, GA is in Attainment. There are potential impacts to cultural, archeological, tribal resources; land use constraints or sensitive resource areas; noise; waste management; water resources; and wetlands. No impacts are anticipated for the resource areas of dredging, marine mammals, resources, or sanctuaries; or threatened and endangered species. For Fort Gillem, GA and Dobbins Air Reserve Base, GA, there are no anticipated impacts regarding the resource areas of air quality; cultural, archeological, tribal resources; dredging; land use constraints or sensitive resource areas; marine mammals, resources, or sanctuaries; noise; threatened and endangered species; waste management; water resources; or wetlands. This recommendation indicates impacts of costs at the installations involved, which reported \$230 thousand in costs for waste management and environmental compliance. These costs were included in the payback calculation. This recommendation does not otherwise impact the costs of environmental restoration, waste management or environmental compliance activities. The aggregate environmental impact of all recommended BRAC actions affecting the installations in this recommendation has been reviewed. There are no known environmental impediments to implementation of this recommendation.

Summary of Scenario Environmental Impacts

DON scenario: DON-0068AR

Action 1: Close base operations at NAS Atlanta.

Action 2: Relocate VAW 77 to NAS JRB New Orleans, LA, to include required personnel, equipment, and support.

Action 3: Relocate VR 46, C-12 aircraft, and VMFA 142 to NAS JRB Fort Worth, TX, to include required personnel, equipment, and support.

Action 4: Relocate HMLA 773, MALS 42, and MAG 42 to Robins AFB, GA, to include required personnel, equipment, and support.

Action 5: Disestablish Naval Air Reserve Atlanta.

Action 6: Consolidate AIMD with NAS JRB Fort Worth, to include required personnel, equipment and support.

Action 7: Consolidate AIMD with NAS JRB New Orleans, to include required personnel, equipment and support.

Action 8: Relocate RIA 14 to Fort Gillem, GA, to include required personnel, equipment, and support.

Action 9: Disestablish NAVHOSP Jacksonville, FL, function BMC Marietta DMIS 0277.

Action 10: Disestablish NAVDENCEN Southeast, Jacksonville, FL function BDC NAS Atlanta DMIS 1713.

ASSUMPTIONS: The purpose of this scenario is to close NAS Atlanta, GA, and relocate the Navy squadrons to NAS JRB Fort Worth and NAS JRB New Orleans, relocate the Marine squadrons and support to Robins AFB, and retain Marine reserve components at Windy Hill Annex. This scenario does not impact the Navy and Marine Corps Reserve Center located on Dobbins ARB. This scenario requires the transfer of Windy Hill Annex Class I and Class II property to Dobbins ARB. Each action must reflect the transfer of support personnel and equipment as appropriate that results from all actions associated with this scenario. VFA 203 will disestablish.

General Environmental Impacts

Environmental Resource Area	Naval Air Station Atlanta, GA (Installation Closed)	NAS JRB Fort Worth, TX (Gaining Installation)	NAS JRB New Orleans, LA (Gaining Installation)	Robins AFB, GA (Gaining Installation)
Air Quality	Reduces impact on air quality.	In Serious Non-Attainment for Ozone (1hr). Conformity determination required.	In Attainment for all criteria pollutants. No conformity determination required.	Minor air permit may be required.
Cultural/Archeological/Tribal Resources	No impact.	No impact.	No impact.	Robins AFB contains archeological sites, areas with a high potential for archeological sites, and historic property that may be impacted by the scenario.
Dredging	No impact.	No impact.	No impact.	No impact.
Land Use Constraints/Sensitive Resource Areas	No impact.	1077 unconstrained acres out of 1717 total acres. No impact.	353 unconstrained acres out of 4901 total acres. No impact.	The base cannot expand ESQD Arcs by ≥ 100 feet without a waiver, which may lower the safety of the base if operations are added.
Marine Mammals/Marine Resources/Marine Sanctuaries	No impact.	No impact.	No impact.	No impact.
Noise	Reduces noise impacts.	No impact.	No impact. Noise contours are dominated by existing fighter aircraft and new mission will not increase affected acreage or	Noise contours will need to be re-evaluated as a result of the change in mission. The AICUZ/JLUS reflects the current mission/local land use/current noise

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			population. Response coordinated with Mr. Zusman.	levels. 12,863 acres off-base within the noise contours are zoned by the local community. 903 of these acres are residentially zoned.
Threatened& Endangered Species/Critical Habitat	No impact.	No impact. TES not present.	No impact. TES not present.	No impact.
Waste Management	Reduces HAZMAT disposal.	No impact. Minor increase in municipal waste costs.	No impact.	Modification of hazardous waste program cost estimate is \$100K
Water Resources	No impact.	No impact.	No impact.	The state requires a permit for withdrawal of groundwater. Modification of on-installation treatment works may be necessary to accommodate increased mission.
Wetlands	No impact.	No impact.	No impact. Base has 7.2% wetlands.	Wetlands restricts 26% of the base. Wetlands do not currently restrict operations. Additional operations may impact wetlands, which may restrict operations.

Impacts of Costs

Selection Criterion 8 Environmental Points	Naval Air Station Atlanta, GA (Installation Closed)	NAS JRB Fort Worth, TX (Gaining Installation)	NAS JRB New Orleans, LA (Gaining Installation)	Robins AFB, GA (Gaining Installation)
Environmental Restoration	DERA costs \$0 M thru FY 03; \$0 M CTC	DERA costs \$19.8 M thru FY 03; \$5.5 M CTC	DERA costs \$0.2M thru FY03; \$0.03M CTC	DERA costs \$126 M thru FY03; \$133 M CTC.
Waste	None	None	None	Modification of

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Management				hazardous waste program cost estimate is \$100K
Environmental Compliance	None	\$80K-Perform Environmental Assessment for relocation. If actions 3 and 6 are done concurrently, then \$80K is total cost. If actions are performed at separate time cost will be \$80K per action.	None	NEPA requirements need to be determined by moving organization. Minor Air Permit Revision - \$50K

Action #8 RIA 14 to Ft Gillem, GA and the assumption that management for the Windy Hill annex will transfer to the Navy Marine Corps Reserve Center at Dobbins ARB contain no Criterion 8 impacts.

General Environmental Impacts

Action 1: Realign NAS Atlanta by transferring the installation management functions/responsibilities to Dobbins ARB and establish Joint Base Dobbins-Atlanta. The U.S. Air Force will assume responsibility for all Base Operating Support (BOS) (with the exceptions of Health and Military Personnel Services) and the O&M portion of Sustainment, Restoration and Modernization (SRM). (Data taken from HSA-0119)

Environmental Resource Area	Dobbins ARB (Gaining Installation)
Air Quality	No impact
Cultural/Archeological/Tribal Resources	No impact
Dredging	No impact
Land Use Constraints/Sensitive Resource Areas	No impact
Marine Mammals/Marine Resources/ Marine Sanctuaries	No impact
Noise	No impact
Threatened& Endangered Species/Critical Habitat	No impact
Waste Management	No impact

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Water Resources	No impact
Wetlands	No impact

Impacts of Costs

Selection Criterion 8 Environmental Points	Dobbins ARB (Gaining Installation)
Environmental Restoration	DERA money spent through FY03 (\$K): 2573 Estimated CTC (\$K): 919
Waste Management	No costs
Environmental Compliance	No costs

**INSTALLATION ENVIRONMENTAL PROFILE
NAVAL AIR STATION ATLANTA, GA**

1. Air Quality (DoD Question #210-225):

- a. The Clean Air Act (CAA) establishes health-based standards for air quality and all areas of the country are monitored to determine if they meet the standards. A major limiting factor is whether the installation is in an area designated nonattainment or maintenance (air quality is not meeting the standard) and is therefore subject to more stringent requirements, including the CAA General Conformity Rule. Conformity requires that any new emissions from military sources brought into the area must be offset by credits or accounted for in the State Implementation Plan (SIP) emissions budget. The criteria pollutants of concern include: CO, O₃ (1 hour & 8 Hour), and PM (PM₁₀, and PM_{2.5}). Installations in attainment areas are not restricted, while activities for installations in non-attainment areas may be restricted. Non-attainment areas are classified as to the degree of non-attainment: Marginal, Moderate, Serious, and in the case of O₃, Severe and Extreme. SIP Growth Allowances and Emission Reduction Credits are tools that can be used to accommodate increased emissions in a manner that conforms to a state's SIP. All areas of the country require operating permits if emissions from stationary sources exceed certain threshold amounts. Major sources already exceed the amount and are subject to permit requirements. Synthetic minor means the base has accepted legal limits to its emissions to stay under the major source threshold. Natural or true minor means the actual and potential emissions are below the threshold.
- b. NAVAL AIR STATION ATLANTA, GA is in Severe Nonattainment for Ozone (1 hr) and in attainment for all other criteria pollutants. It is in Nonattainment for Ozone (8 hour). It is proposed to be in Nonattainment for PM 2.5. It did not report holding an CAA Operating Permit. Emission credit programs may be available. No SIP growth allowance has been allocated for this installation. NAVAL AIR STATION ATLANTA, GA is in an area projected or proposed to be designated nonattainment for the 8-hour Ozone or the PM_{2.5} NAAQS.

2. Cultural/Archeological/Tribal Resources (DoD Question #229-237):

- a. Many installations have historical, archeological, cultural and Tribal sites of interest. These sites and access to them often must be maintained, or consultation is typically required before changes can be made. The sites and any buffers surrounding them may reduce the quantity or quality of land or airspace available for training and maneuvers or even construction of new facilities. The presence of such sites needs to be recognized, but the fact that restrictions actually occur is the overriding factor the data call is trying to identify. A programmatic agreement with the State Historic Preservation Office (SHPO) facilitates management of these sites.
- b. No historic property has been identified on NAVAL AIR STATION ATLANTA, GA. There is no programmatic agreement for historic property in place with the SHPO. It does not have sites with high archeological potential identified.

3. Dredging (DoD Question # 226-228):

- a. Dredging allows for free navigation of vessels through ports, channels, and rivers. Identification of sites with remaining capacity for the proper disposal of dredge spoil is the primary focus of the profile. However, the presence of unexploded ordnance or any other impediment that restricts the ability to dredge is also a consideration.
- b. NAVAL AIR STATION ATLANTA, GA has no dredging requirement.

4. Land Use Constraints/Sensitive Resource Areas (DoD Question #198-201, 238, 240-247, 254-256, 273):

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- a. Land use can be encroached from both internal and external pressures. This resource area combines several different types of possible constraints. It captures the variety of constraints not otherwise covered by other areas that could restrict operations or development. The areas include electromagnetic radiation or emissions, environmental restoration sites (on and off installation), military munitions response areas, explosive safety quantity distance arcs, treaties, underground storage tanks, sensitive resource areas, as well as policies, rules, regulations, and activities of other federal, state, tribal and local agencies. This area also captures other constraining factors from animals and wildlife that are not endangered but cause operational restrictions. This resource area specifically includes information on known environmental restoration costs through FY03 and the projected cost-to-complete the restoration.
 - b. NAVAL AIR STATION ATLANTA, GA reports that 23 unconstrained acres are available for development out of 193 total acres. NAVAL AIR STATION ATLANTA, GA has spent \$0M thru FY03 for environmental restoration, and has estimated the remaining Cost to Complete at \$0M. NAVAL AIR STATION ATLANTA, GA has Explosive Safety Quantity Distance Arcs, none of which require safety waivers, and none with the potential for expansion.
- 5. Marine Mammal/Marine Resources/Marine Sanctuaries (DoD Question #248-250, 252-253):**
- a. This area captures the extent of any restrictions on near shore or open water testing, training or operations as a result of laws protecting Marine Mammals, Essential Fish Habitat, and other related marine resources.
 - b. NAVAL AIR STATION ATLANTA, GA is not impacted by laws and regulations pertaining to Marine Mammal Protection Act, Essential Fish Habitats & Fisheries and Marine Sanctuaries, which may adversely restrict navigation and operations.
- 6. Noise (DoD Question # 202-209, 239):**
- a. Military operations, particularly aircraft operations and weapons firing, may generate noise that can impact property outside of the installation. Installations with significant noise will typically generate maps that predict noise levels. These maps are then used to identify whether the noise levels are compatible with land uses in these noise-impacted areas. Installations will often publish noise abatement procedures to mitigate these noise impacts.
 - b. NAVAL AIR STATION ATLANTA, GA has noise contours that extend off the installation's property. Of the 13466 acres that extend to off-base property, 8062 acres have incompatible land uses. It does not have published noise abatement procedures for the main installation.
- 7. Threatened and Endangered Species/Critical Habitat (DoD Question #259-264)**
- a. The presence of threatened and endangered species (TES) can result in restrictions on training, testing and operations. They serve to reduce buildable acres and maneuver space. The data in this section reflects listed TES as well as candidate species, designated critical habitat as well as proposed habitat, and restrictions from Biological Opinions. The legally binding conditions in Biological Opinions are designed to protect TES, and critical habitat.

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The data call seeks to identify the presence of the resource, TES, candidate or critical habitat, even if they don't result in restrictions, as well places where restrictions do exist.

- b. NAVAL AIR STATION ATLANTA, GA reported that federally-listed TES are not present, candidate species are not present, critical habitat is not present, and that NAVAL AIR STATION ATLANTA, GA does not have a Biological Opinion

8. Waste Management (DoD Question # 265-272):

- a. This resource area identifies whether the installation has existing waste treatment and/or disposal capabilities, whether there is additional capacity, and in some case whether the waste facility can accept off-site waste. This area includes Resource Conservation and Recovery Act (RCRA) Treatment, Storage and Disposal facilities, solid waste disposal facilities, RCRA Subpart X (open/burning/open detonation) and operations.
- b. NAVAL AIR STATION ATLANTA, GA does not have a permitted RCRA Treatment Storage and Disposal Facility (TSDF). NAVAL AIR STATION ATLANTA, GA does not have an interim or final RCRA Part X facility. NAVAL AIR STATION ATLANTA, GA does not have an on-base solid waste disposal facility.

9. Water Resources (DoD Question # 258, 274-299):

- a. This resource area asks about the condition of ground and surface water, and the legal status of water rights. Water is essential for installation operations and plays a vital role in the proper functioning of the surrounding ecosystems. Contamination of ground or surface waters can result in restrictions on training and operations and require funding to study and remediate. Federal clean water laws require states to identify impaired waters and to restrict the discharge of certain pollutants into those waters. Federal safe drinking water laws can require alternative sources of water and restrict activities above groundwater supplies particularly sole source aquifers. Water resources are also affected by the McCarran Amendment (1952), where Congress returned substantial power to the states with respect to the management of water. The amendment requires that the Federal government waive its sovereign immunity in cases involving the general adjudication of water rights. On the other hand existence of Federal Reserve Water Rights can provide more ability to the government to use water on federal lands.
- b. NAVAL AIR STATION ATLANTA, GA discharges to an impaired waterway. Groundwater contamination is not reported. Surface water contamination is not reported.

10. Wetlands (DoD Question # 251, 257):

- a. The existence of jurisdictional wetlands poses restraints on the use of land for training, testing or operations. In the data call the installations were asked to report the presence of jurisdictional wetlands and compare the percent of restricted acres to the total acres. The presence of jurisdictional wetlands may reduce the ability of an installation to assume new or

COBRA Model Analysis

Overview

- One-time military construction costs underestimated by at least **\$269m** *
- Recurring personnel savings overstated by **\$84m/yr**
- One-time moving costs understated by **\$31m**
- Recurring other unique costs underestimated by **\$42m/yr**
- Recurring overhead cost **\$50m**

COBRA Model Analysis

One Time Costs

- Submarine School training facilities - \$47m
 - Navy used cost of \$211/sf should be \$325/sf
- Kings Bay Pier Construction - \$10m *
- COBRA model uses cost of \$14m
- Pier cost per FPG \$24m
- Kings Bay Soil Conditions (FEMA) - \$30m
- BEQ/Housing/Footprint - \$128m
- New drydock-NFLK (\$93m-\$39m) - 54m *
- Installation/relocation costs - \$31m

COBRA Model Analysis

Recurring Savings

- Personnel savings overstatement - **\$84m/yr**
 - COBRA eliminated 1,560 billets for \$169M/yr savings
 - Reduction overstated by approximately 780 billets
- Examples:
 - 533 medical billets serve 8,045 personnel at NLON
 - 62 are to be relocated to service 6,485 (\$37m savings)
 - GAO found reduction overstated by 214 billets (\$18m costs) *
- COBRA omitted NLON retiree medical costs
 - NAVY BRAC agreed to TRICARE increase of \$5m *

COBRA Model Analysis

Recurring Savings (Con't)

- BOS algorithm overstates savings (\$15m) *
 - Eliminated 1,188 actual billets and \$12m non-payroll
 - Added 283 billets at KB and Norfolk and \$15m non-payroll BOS (+\$3m non-payroll delta=50 billets)
 - Per Navy analysis, BOS costs are 50% fixed, 50% variable. 594 billets should be relocated
- NLON could outsource military BOS billets as * done at KB (\$17m)
 - 451 military = 372 civilians due to 33 hour work week
 - Save \$39m, cost \$22m net savings = \$17m

COBRA Model Analysis

Recurring Savings (Con't)

- BRAC double counts previously reported *
Chief of Navy Installations (“CNI”) billet reductions
 - 1,223 non-medical billets per COBRA, 994 as of today (\$19M)
- Further reductions at NLON anticipated *
through 2011

COBRA Model Analysis

Other Unique Costs

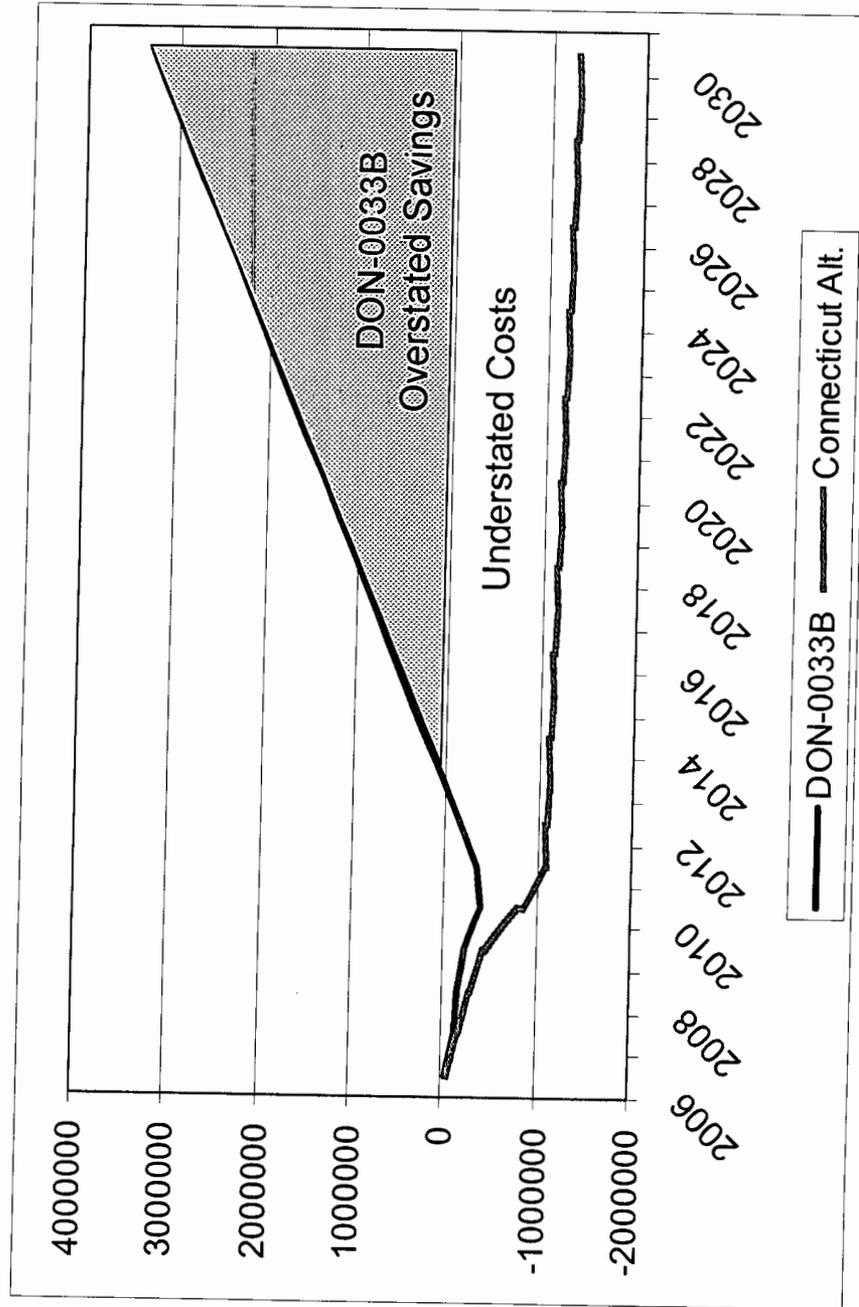
- Contractor cost savings overstated - \$42m/yr
- Savings are a result of:
 - Headcount reduction (438 at NLON vs. 143 KB/NFK)
 - Wrong because no change in sub maintenance workload
 - Comparing actual savings to COBRA model defaults
 - Actual NLON Savings = 438 contractors at \$114k (\$50m)
 - COBRA Default Costs =143 civilian government employees at \$60k (\$8m)
- Norfolk actual data call requested 207 billets at * \$174k (\$36m) - - - this submission was ignored

COBRA Model Analysis

Recurring Overhead Costs

- Approximately \$50m in overhead costs would be applied to new construction with the loss of overhaul and repair volume

Comparison of Potential Savings Analysis



SUBASE New London COBRA Adjustments

One-Time Costs		(Millions)
NAVY TOTAL		\$680
Sub School Training Facilities		\$47
Navy used cost of \$211/sf should be \$325/sf		
Kings Bay Pier Construction		\$10
COBRA model uses cost of \$14 million		
Pier costs per FPG is \$24 million		
Kings Bay Soil Conditions (FEMA)		\$30
Additional Housing & BEQ Costs at Kings Bay		\$100
New Dry-Dock @ Norfolk		\$54
Dry-dock will not be moved from Washington		
Added Installation/Relocation Costs		\$31
Environmental		\$125
TOTAL		\$1,077

Recurring Savings		(Millions)
Navy Total		\$ 193
Billet Savings		\$ (84)
COBRA omitted NLON retire medical costs (\$5M)		
BOSS Algorithm overstates savings (\$15M)		
NLON could outsource military BOSS Billets (17M)		
Double counting of CNI Billet reductions (\$18M)		
Contractor Costs savings overstated		\$ (42)
Additional EB Overhead Costs		\$ (50)
TOTAL		\$ 17

SUBASE New London COBRA Scenarios

#	Scenario	One-time (costs)	Net implementation (costs) or savings	Net annual recurring savings	Payback Period	20-year net present value
1	BASE CASE: DON-0033B	\$ (679.6)	\$ (345.4)	\$ 192.8	3 years	\$ (1,576.4)
2	Corrects DON-0033B for the number of contractors eliminated and the number of DOD personnel added in Norfolk and Kings Bay. Also adds \$133 million in construction for KB Pier, Submarine School and environmental costs	\$ (809.1)	\$ (71.2)	\$ 37.7	30 years	\$ 273.7
3	Identical to Scenario 2 with additional \$80 million in one-time costs for 800 housing units in Kings Bay and \$125 million for environmental remediation at SUBASE New London	\$ (1,077.0)	\$ (917.4)	\$ 37.7	46 years	\$ 455.8
4	Identical to previous scenario plus additional miscellaneous recurring costs of \$50 million per year to reflect increased EB overhead that will be charged back to the Navy	\$ (1,077.0)	\$ (1,067.4)	\$ (12.3)	Never	\$ 1,080.2

Restoration Costs – Must be Considered

<u>Program</u>	<u>DEP Estimate</u>	<u>Navy Estimate</u>
• Superfund	\$65,019,975	\$23,000,000
• Hazardous Waste	\$12,682,806 ?	0
• Underground Tanks	\$12,130,000 ?	Partial in Superfund
• PCB	\$ 652,147	Partial in Superfund
• Pesticides	\$35,000,000 ?	0
• Radiologic	Unknown	
Total	Unknown: \$125,484,928 plus costs of radiological remediation (1)	\$23,000,000
Costs Not Considered by the Navy	Unknown: \$102,484,928 plus radiological (1)	

*Area A wetland
DD A1410M*

(1) Navy documentation verifies that radiological assessment has not been completed and associated remediation costs cannot be estimated at this time. DOD has historically underestimated restoration costs (see case studies).

Closure vs. Remediation Costs

- Closure Costs = Pay me now
\$37,092,250 /
- Remediation = Pay me sooner
\$125,484,928 (plus
radiological remediation)

FFA and Deed Restrictions Require Clean Up Before Base Transfer

- 1) Federal Facilities Agreement requires clean up before transfer – period. Navy assumption that the property will be transferred for reuse within six years (economic impacts beyond 2011 not considered) inconsistent with FFA
- 2) Deed requires use of land by military or title forfeited to state
 $1+2 = 1$
- 3) Accelerated clean up and restoration; Proceeds from sale or lease may not go to Navy

Additional Environmental Factors Need to be Considered

- Environmental issues play key factor in military readiness and operating costs
 - Shoaling Rates:
 - New London: Dredging every 15 years
 - Kings Bay: Annual Dredging and Continuous Sediment Controls
 - Storm Severity and Frequency:
 - New London: No interruption in operations
 - Kings Bay: High frequency of severe hurricanes and tropical storms mean high risk of inoperability
 - Endangered Species:
 - New London: No special restrictions
 - Kings Bay: Costly operational protocols to protect right whales, manatees and sea turtles