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POSITION PAPERS

RELATED

TO

REDSTONE ARSENAL, AL

Presented by:

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Agenda

AGENDA

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Redstone Highlights

REDSTONE HIGHLIGHTS

- Redstone is Army's highest ranked Research and Development Center.
- 37,000 Acres - No significant encroachment on environmental issues.
- Highest concentration of engineers in a SMSA (Source: 2000 Census, Summary File 3, Page 50).
- Full-length airfield on Redstone - Two commercial runways less than a mile from the border of Redstone.
- 130+ agencies located at Redstone.
- 900,000 people in region.
- Second largest Research Park in the Nation.
- Two major universities with 45 graduate degree programs and 17 Ph.d programs. Information in DoD recommendation to the contrary is incorrect.
- Regional airport - 100 daily flights - 9 round-trips daily to D.C.
- 32,000 people work at Redstone.
- BRAC recommendations combine much of the Department of Defense Missile Programs to a single location.
- AMC relocation collocates the Command with its largest commodity purchaser (AMCOM").
- Redstone has over 25,000 missile and aerospace specialists in the area.
- 32,000 people work at Redstone, over 20,000 other defense and aerospace contractors work off-base.
- Over 50% of Army's foreign military sales occur at Redstone.
- The area is one of the leading high-tech areas in the Country.
- Redstone is a secure, government-owned base far outside the National Capitol Region.
- The people WILL MOVE - 1995 BRAC move than 60%, technical and acquisition experts moved to Redstone from St. Louis.

RECENT NEWS EVENTS ABOUT OUR AREA

- Huntsville ranked #6 on Forbes list of Top Cities for Business, *Forbes Magazine*, May, 2005.
- Huntsville in South's top three Metros for quality of life, *Expansion Management Magazine*, March, 2005.
- University of Alabama in Huntsville Graduate Engineering Management Program ranked #1 in the Country, Society for Engineering Management, January, 2005.
- Huntsville ranked 4th "America's Best Places to Live and Work," *Employment Review*, January, 2003.
- Huntsville ranked 1st "Best Places to live for Black Americans," *Family Digest Magazine*, March, 2003.
- Huntsville has highest concentration of Inc. 500 Fast Growing Private Companies, *Inc. Magazine*, October, 2004.
- Huntsville "One of Nation's Top Values for Salaries and Cost of Living," *Salary.com*, May, 2005



Response to Presentation of Northern Virginia

Response to Presentation of Northern Virginia

On July 7, 2005, representatives of Northern Virginia presented their position to the BRAC Commission. They contended that the recommendations of the DoD were in violation of the Defense Base Closure and Realignment Act of 1990, as amended (the "Act"). They also contended that DoD failed to consider the fact that many of the current workforce would not relocate to other areas, and the result would be a significant loss in capability. We disagree with the positions taken by Northern Virginia, in part, for the reasons stated below.

Virginia's Position: Vacating leased space, ensuring force protection and reducing military presence in the National Capitol Region were never part of the Act's criteria contained in Section 2913(f) of the Act and are in violation of BRAC law.

Redstone's Response: The criteria are not to be read in a vacuum. The criteria should be evaluated in light of the real world conditions under which our military is forced to operate. Leased space in an expensive area such as Northern Virginia is a cost issue, a force protection issue and an efficiency issue.

In leased space, DoD does not own the space. Generally, it is subject to a pass-through of property taxes (and future increases) over which it has no control. Rents are, to some degree, controlled by a long-term lease, but generally have cost of living adjustments. And, when the lease expires, DoD has nothing except a long history of rent payments and uncertain costs in the future. Location of government-owned property on a military base is a better value for DoD, and DoD was correct in considering leased property in a less favorable light.

Additionally, prior Commissions have looked unfavorably at leased space when evaluating DoD recommendations. When one considers the very high lease costs in Northern Virginia, it is difficult to contemplate a situation where DoD would not consider the impact of leased space. The "leased space" issue raised by Virginia is without merit.

The two other factors related to Northern Virginia are the concerns about the National Capitol Region and force protection. Again, the suggestion that DoD ignore these considerations in its determination of military value is to ignore the world as it exists today.

Force protection concerns are real. There have been two terrorist attacks on government buildings in recent years (Oklahoma City and the Pentagon). To require that military buildings be located where they can be protected is important for our Nation's defense. In 2003, DoD issued the "Minimum Antiterrorism Standards for Buildings." These standards and setbacks protect critical employees, their missions and the facilities which they occupy. It has been acknowledged that the leased space in Northern Virginia cannot meet those standards.

To expose significant research and development to facilities that do not meet the standards places our entire country at risk. Force protection is a real concern, and DoD was correct in considering it in establishing military value of an installation.

Virginia contends that consideration of the Nation's Capitol Region in evaluating the criteria established in Section 2903(f) was improper and, therefore, the recommendations of

DoD, which took that factor into consideration, should be rejected. It is blatantly apparent that any space in and around the Capitol Region is at much higher risk than a facility located on a military base outside of the Region. The District of Columbia and Northern Virginia, as shown by the attacks on 9/11, are high-risk areas. DoD's desire to remove as much of the risk as possible and disseminate the facilities and talent to more secure areas is clearly good judgment that impacts our readiness and future mission capabilities.

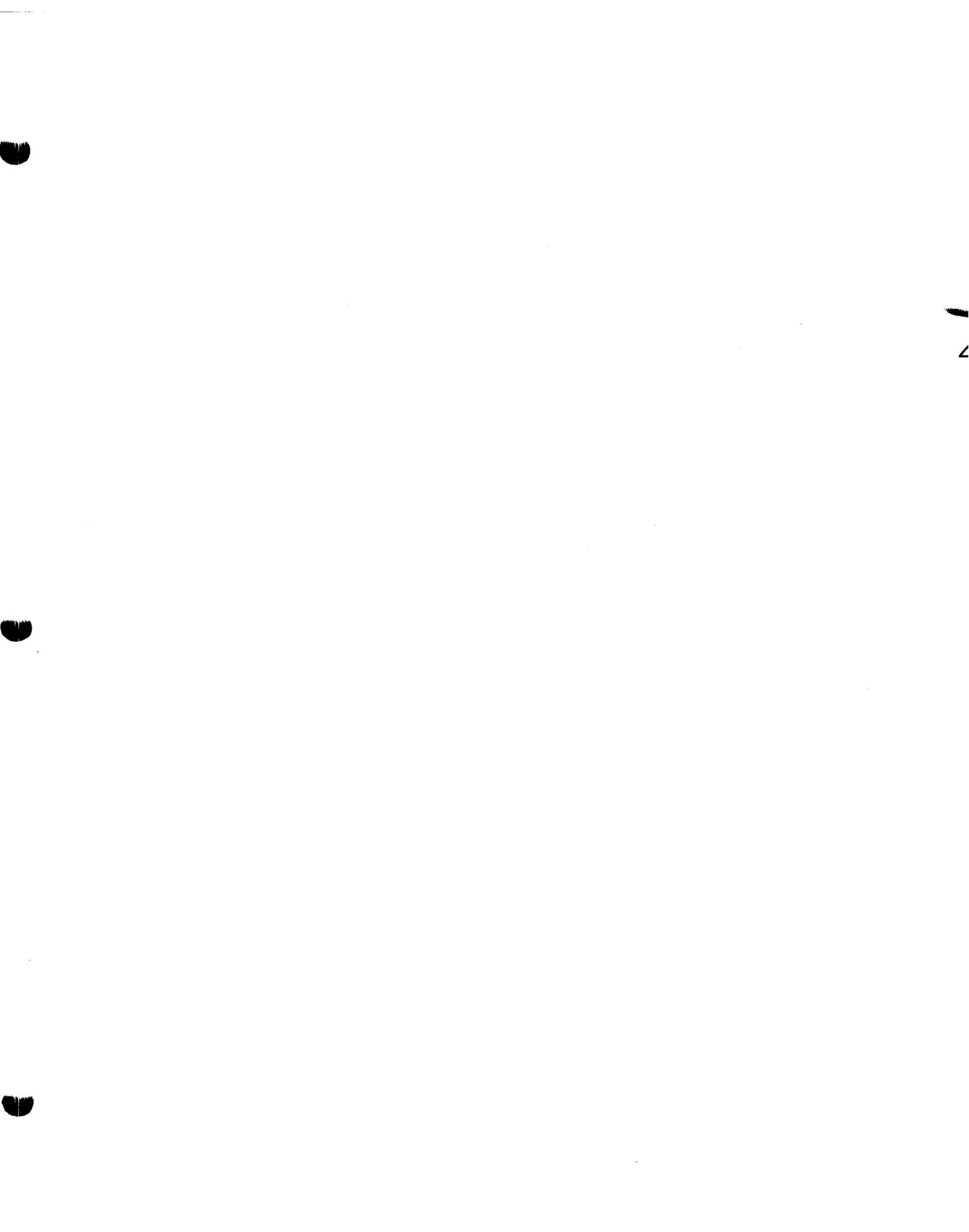
As it relates to expensive leased space in Northern Virginia that cannot be given adequate force protection, Virginia is proposing rejecting decisions that save money, protect DoD missions and diversify the risks that our Nation faces. DoD properly applied the military criteria of Section 2903(f), and the decisions should be upheld.

Virginia Position: The personnel will not relocate outside of the area, and there will be a significant loss of capability.

Redstone's Response: History, at least as it relates to Redstone, does not support Virginia's findings. In the 1995 BRAC, DoD recommended that the aviation function of the Aviation and Troop Command in St. Louis be relocated to Redstone. The same arguments were made at that time - the people were highly-qualified, could get other jobs and would not move outside the area. After a very aggressive effort by the cities around Redstone, which included numerous visits to the St. Louis area, over 60% of the positions moved. It is believed this is the highest percentage of any major relocation in BRAC history. If the area has a good quality of life, opportunities for the employee and his or her family and good working conditions, the employees will relocate. History has shown that to be true.

Correction to DoD Statement

University Programs near Redstone: Finally, the area wishes to correct a statement in the DoD recommendations that there are limited university advance degree programs in the area around Redstone. There are two large universities in Huntsville which offer over 60 advanced degree programs, primarily in technical areas. In fact, many of the programs are in support of military and aerospace activities at Redstone. We are uncertain of the source of the information suggesting there were only two such programs, and we desire to see the record corrected in this area.



**Relocation of Army Materiel Command (AMC)
and USASAC**

RELOCATION OF ARMY MATERIEL COMMAND (AMC) AND USASAC

DOD RECOMMENDATION: Move Army Materiel Command and U. S. Army Security Assistance Command from Ft. Belvoir, Virginia to Redstone Arsenal, Alabama.

- The recommendation is supported on the basis of cost savings and collocation with similar functions.
- Redstone's military ranking is 48 of 334 DoD entities - superior to the ranking of Ft. Belvoir.
- Collocates AMC with its largest buying subordinate command. AMC has minor activities at Ft. Belvoir.
- Redstone already does one-half of Army's foreign military sales (FMS). USASAC relocation to Redstone would provide significant efficiencies and savings.
- DoD's Acquisition University - South is located at Redstone.
- Net present value to DoD over 20 years is a savings of \$122.9M (includes all Army HQ and FOA moves). Total estimated one-time cost to implement the recommendations is \$199.9M. Net implementation costs during period is \$111.8M. Annual recurring savings after implementation is \$23.9M, with payback expected in 10 years.
- Relocation of AMC headquarters and USASAC to a military installation that is farther than 100 miles from the Pentagon provides dispersion away from the National Capitol Region. Redstone has full force protection.
- Collocates AMC Headquarters and USASAC with existing and relocated MDA operations, relocated Space and Missile Defense Command (SMDC) Headquarters and activities already at Redstone.
- No infrastructure impediments. No environmental or encroachment issues.

Related Issues:

1. DoD's recommendation in this area also closes Red River Army Depot and DLA's collocated Distribution Center and relocates missions. The Army Materiel Command Logistics Leadership Center is also collocated with Red River Army Depot, *but is not addressed in BRAC recommendations*. With the Depot and Distribution Center closing, the Logistics Leadership Center should be moved to Redstone Arsenal for the synergy of collocation with the Defense Acquisition University - South, AMCOM (the Army's largest Life Cycle Management Command) and Army Materiel Command Headquarters, the primary customers of students of the Logistics Leadership Center.
2. The DoD Joint Cross Services Group recommended the consolidation of Depot Level Procurement Management. *The recommendations relating to any transfer of*

management responsibility for Depot Level Reparable management consolidation of aviation and missile spares should be reassessed and reversed.

- The correct prerogatives of the AMCOM CG, in the new Life Cycle Management Command (LCMC), as the manager for worldwide aviation and missile readiness, would be eroded by DLA, not the AMCOM team, buying critical reparable.
- Workload leveling in the buying activity would be problematic, and the LCMC Soldier Focused Logistics PM "trail boss" model being followed in AMCOM with the PM as the life cycle manager would be complicated if procurement functions for reparable move.
- These reparable items are procured in the billions of dollars, and "savings" in this recommendation are considered suspect. It only takes a few errors in procuring high cost reparable to be devastating to readiness and to easily off-set any purported savings.
- Aviation and missile reparable items are readiness critical parts, complex in design, involve flight safety, are high unit cost, long production lead-time items, and require the full Team Redstone technology base to manage them correctly.

**Relocation
of Space and Missile Defense Command (SMDC)**

RELOCATION OF SPACE AND MISSILE DEFENSE COMMAND (SMDC)

DOD RECOMMENDATION: Consolidate SMDC Headquarters and staff into the new Von Braun complex facilities at Redstone Arsenal, out of leased space in Northern Virginia.

Background: SMDC Headquarters is a 3-star Army Major Command (MACOM) that is dual-hatted as a Joint Functional Component Command for Integrated Missile Defense. SMDC evolved from Huntsville-based organization lineage (Safeguard, BMD, etc.). this realignment:

- Consolidates/establishes a Missile Defense Center of Excellence at Redstone Arsenal and leverages the capabilities of the Missile Defense Agency; PEO, Missiles and Space, PEO Aviation; Aviation and Missile Command (AMCOM); NASA's Marshall Space Flight Center; and US Army Corps of Engineers.
- Enhances joint and collocated Missile Defense Agency programs - Ground-based Midcourse Defense, THAAD, Cruise Missile Defense, Lower Tier, MEADS and Arrow.
- Supports the total Life Cycle Management approach to missile acquisition, from cradle to grave, and from concept/S&T through retirement/demilitarization.
- Relocates SMDC Headquarters outside the National Capitol Region (> 100 mi). This permits force protection of SMDC Headquarters at Redstone Arsenal versus Northern Virginia.
- Most of SMDC is already located at Redstone.
- Military value ranking of SMDC in Virginia - 199 of 334. Redstone is ranked 48 of 334.



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**Relocation of Major Functions
of Missile Defense Agency (MDA)**

RELOCATION OF MAJOR FUNCTIONS OF MISSILE DEFENSE AGENCY (MDA)

DOD RECOMMENDATION: Relocate all MDA functions, except the Battle Management and Sensor Directorates, to Redstone Arsenal, out of leased space in Virginia.

Background: The relocation of these MDA functions is part of the DoD recommendation to move both the MDA functions and the Headquarters component of the Army's Space and Missile Defense Command to Redstone Arsenal, AL. This realignment:

- Consolidates/establishes a Missile Defense Center of Excellence at Redstone Arsenal and leverages the capabilities of the Missile Defense Agency; PEO, Missiles and Space, PEO, Aviation; Aviation and Missile Command (AMCOM); NASA's Marshall Space Flight Center; and US Army Corps of Engineers.
- Enhances joint and collocated Missile Defense Agency programs - Ground-based Midcourse Defense, THAAD, Cruise Missile Defense, Lower Tier, MEADS and Arrow.
- Supports the total Life Cycle Management approach to missile acquisition, from cradle to grave, and from concept/S&T through retirement/demilitarization.
- Relocates MDA functions outside the NCR (>100 mi). This permits force protection of MDA entities at Redstone Arsenal, versus National Capitol Region.
- Military value ranking of MDA in Virginia is 329 of 334. Redstone is ranked 48.



**Reconsideration of Relocation
of Joint Program Office for Robotics**

RECONSIDERATION OF RELOCATION OF JOINT PROGRAM OFFICE FOR ROBOTICS

DOD RECOMMENDATION: Relocate the joint robotics program development and acquisition activities from Redstone Arsenal, AL to Detroit Arsenal, Warren, MI.

Reconsideration Request: Leave the Joint Robotics Program development and acquisition at Redstone.

Background: Unmanned systems development is the "rocket science" of the 21st century. Today, all unmanned systems, current and transformational, are managed at Redstone. Moving ground vehicle programs to Detroit Arsenal will fragment collaborative development and take away from Redstone a vitally important national asset, both technical and economic.

- Robotic Systems development is already aligned under PEO GCS. Robotic Systems platforms are vehicles, but the most complex part of the systems are the Payloads and Controls (what the systems do). Integration of technical capabilities is critical to unmanned systems and that is done at Redstone.
- Unmanned Systems (UGV, UAV and Payloads) are developed and integrated at Redstone Arsenal. All of the Army's transformational unmanned ground and airborne systems (under the Future Combat Systems) are developed at Redstone. Collaboration between all the Army's Unmanned Systems (UGV and UAV) is critical to Transformation and can be done most effectively at Redstone.
- The BRAC recommendation to realign joint robotics to Warren, MI, misrepresents costs as savings. The relocation of Joint Robotics does not save anything, but rather costs \$3.9M. The BRAC data analysis represented the total of both the Joint Robotics move (\$3.9M cost) and the Woodbridge move (\$21M savings) together to show overall savings. In fact, the only savings results from the Woodbridge move. The recommendation underestimates the costs to move Joint Robotics Development, which is a one time net cost for implementation of \$7.4M; Annual net recurring cost of \$4.1 M; and net present value cost of \$60.6M.
- Several unmanned systems companies have established themselves in Huntsville, and the Army Future Combat Systems Lead Systems Integrator established the unmanned systems management in Huntsville because of the center of gravity established at Redstone Arsenal. A move to Detroit will have far reaching adverse impacts on the synergy of these capabilities, the growth of Huntsville's robotics business base and its recognition as a leader in unmanned systems development.
- Detroit Arsenal does not have, and cannot develop, the necessary test and training facilities that exist and are in use at Redstone Arsenal.
- Redstone Arsenal has over many years become a leading center for DoD systems integration and technology utilization and transfer. As this transformation has occurred, the emphasis on the vehicle or bus has given way to the systems capability to meet

evolving requirements. The importance of Robotics is not the vehicle but the systems capability. Redstone is the leader in systems integration of robotics systems.



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Relocation of 2nd Recruiting Brigade

RELOCATION OF 2ND RECRUITING BRIGADE

DOD RECOMMENDATION: With the closing of Fort Gillem, GA, the 2nd Recruiting Brigade should be relocated to Redstone Arsenal, AL.

Background: Fort Gillem, an Army administrative installation and AAFES distribution center, is recommended for closure. This recommendation also relocates the 2nd Recruiting Brigade to Redstone Arsenal. The Brigade has regional missions throughout the Southeastern United States. Its relocation to Redstone:

- Enhances the Army's military value.
- Maintains adequate surge capabilities.
- Is consistent with the Army's Force Structure Plan.
- Allows the Army to use excess capabilities at an installation that accomplishes more than administrative missions.
- Places the Brigade in a central location in the Southeast consistent with its recruiting mission.
- Provides access to nearby transportation center in Huntsville, AL.

Additionally:

- There are no significant infrastructure issues.
- Payback expected in one year.
- Savings of over \$421M over twenty years is forecast.
- No known environmental impediments.



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Relocation of Rotary Wing Air Platform

RELOCATION OF ROTARY WING AIR PLATFORM

DOD RECOMMENDATION: Realign the Army's Aviation Technical Test Center (ATTC) at Fort Rucker, AL and Robins Air Logistic Center (ALC), GA functions to Redstone Arsenal, AL.

Background: This Air Land Sea & Space recommendation realigns and consolidates those activities that are primarily focused on Rotary Wing Air Platform activities in Development, Acquisition, Test and Evaluation (DAT&E). This action creates the Joint Center for Rotary Wing Air Platform DAT&E at Redstone Arsenal, Huntsville, AL. Implementation of this recommendation builds upon existing rotary wing air platform technical expertise and facilities in place at Redstone and provides focused support for future aviation technological advances in rotorcraft development.

- Establishes Center for Rotary Wing Air Platform Research and Development, Acquisition, Test, and Evaluation.
- Enhances synergy by consolidating rotary wing work to major sites, preserving healthy competition and leveraging climatic/geographic conditions and existing infrastructure, minimize environmental impact.
- Collocates aircraft and aircraft support systems with development and acquisition personnel to enhance efficiency and effectiveness of rotary wing platform design and development activities.
- Post-1995 BRAC, the Army established Redstone Arsenal as a Rotary Wing Center of Excellence with multi-platform acquisition, sustainment, technology research and development. Addition of ATTC and Robins activities further expands Redstone's rotary wing mission.
- No infrastructure impediments.



**Reconsideration of Relocation
of Explosive Ordinance Device Department**

RECONSIDERATION OF RELOCATION OF EXPLOSIVE ORDNANCE DEVICE DEPARTMENT

DOD RECOMMENDATION: Relocate the EOD Training Department to Fort Lee, VA as part of the larger Ordnance Munitions and Electronics Maintenance School (OMEMS) move.

Our Recommendation: The EOD Department of the School is a critical part of the FBI and Homeland Security activities at Redstone and should remain at Redstone.

Background: Relocating the EOD Training Department would have an adverse impact on the Nation's Global War on Terrorism. There exists significant disagreement within the military and federal law enforcement communities as to whether the department was intended to be included in the overall OMEMS relocation to Fort Lee, VA. It was not specifically addressed in the BRAC Report.

- The FBI has invested heavily (\$26M+) in explosives training facilities on Redstone Arsenal, establishing its Hazardous Devices School as the Nation's premier hazardous devices training facility. The current proximity of training areas and facilities between the FBI and EOD enhances the sharing of the latest terrorist and domestic threats as the information is gathered in the field. Congress recently appropriated funds for the FBI and ATF to expand their activities at Redstone.
- Relocating the Army's training would break this synergy and could cost time and lives.
- Specialized field facilities, constructed to support EOD training (underground bunker and tunnel complexes, etc.), are incorporated into an EOD Training complex that already exists on Redstone.
- Redstone has the large land areas required to provide the required safety standoffs from Explosive Ordnance Disposal (EOD) training and events. Redstone Arsenal currently dedicates 1,000 acres for EOD training. This area is already set aside with no competition from other agencies for the required space.
- Redstone Arsenal has set aside an additional 500 acres for expanded training requirements for emerging munitions.
- Redstone has the required permits for EOD training and events and currently conducts regular EOD training.
- The local civilian community is openly supportive of EOD training and has grown accustomed to detonations over many decades.
- The total estimated cost to the Department of Defense to implement the relocation to Ft. Lee, VA did not include the cost of the specialized EOD Training Ranges, the land and the EOD Training complex, nor did it include the time and cost of permitting for explosives ranges and EPA assessments.

- There are no community infrastructure impediments that prevent implementation of the recommendations, other what would be determinable in EPA assessments.

Other issues related to Explosives Ordnance Disposal Training: The noise and air quality analysis of relocating the EOD Training Department activities to Ft. Lee, VA has not been completed. The impact to air quality and to noise may result in significant adverse impacts at Ft. Lee. Without a thorough analysis, it cannot be estimated what the cost of environmental compliance may be and if significant impacts to the environment can be mitigated.



Consider Moving Aviation Functions of CECOM

CONSIDER MOVING AVIATION FUNCTIONS OF CECOM

DOD RECOMMENDATION: Relocate all of the Communications and Electronics Command from Ft. Monmouth, NJ to Aberdeen Proving Ground, MD.

Our Recommendation: Move CECOM's Avionics, Aviation Survivability Equipment and Aviation Communication Products and their supporting elements from CERDEC, and the acquisition center and IMMC elements to Redstone instead of Aberdeen.

Background: Relocating the Avionics, Aviation survivability Equipment and Aviation Communication Products in the C4ISR RDA Center to Redstone supports the BRAC objective of collocating related services. Redstone is the Center of Excellence for Aviation. These products are all aviation related, essential for developing and deploying a mission capable aviation force. All other Army Aviation related programs managed by the C4ISR RDA Center is done in Huntsville. AMCOM is the Army's R&D command for Aviation Programs that has the right acquisition infrastructure to best support the Aviation mission. Integrating the CERDEC slice with AMRDEC would provide better support for Army Aviation system development activities. The existing aviation test facilities allow system testing including all the imbedded aviation related C3I systems (the Avionics, Aviation Survivability Equipment and Aviation Communications); providing a full mission support capability.

- The aviation products that are in the C4ISR RDA Center today are all essential to continued mission success of PEO Aviation manned helicopters and fixed wing assets managed at Redstone.
- The Tennessee Valley has a large population of engineers, acquisition and R&D expertise, making it easier to staff positions of those who do not transition (~35% estimate) to gaining location. In May 2005, *Expansion Management* magazine ranked Huntsville #2 nationally per capita for scientists and engineers. The 2000 Census shows the Huntsville SMSA as having the highest concentration of engineers of any SMSA in the US. Local area colleges and universities offer multiple graduate level and PhD programs in science, mathematics, computer science and engineering disciplines.
- The payback for relocation of the entire CECOM to Redstone was 5 years instead of 6 for APG. We extrapolate that this realignment would experience similar result. The net present value to DoD over 20 years is expected to be a savings of 20-30% greater than realignment to APG.
- APG (Edgewood Arsenal) conducts chemical research creating a hazardous environment in the APG area. From a safety and quality of life issue, moving additional organizations to APG is putting more government employees and contractors at risk. Redstone Arsenal provides a safer environment.
- No infrastructure impediments.

**Consider Moving MDA Sensors
and Battle Management Directorates**

CONSIDER MOVING MDA SENSORS AND BATTLE MANAGEMENT DIRECTORATES

DOD RECOMMENDATION: Relocate most of functions of MDA to Redstone. Do not move MDA's Battle Management and Sensor Directorates. MDA HQ to move to Ft. Belvoir.

Our Recommendation: DoD did not move the two directorates to Redstone, but failed to state where they should relocate. They should be moved to Redstone.

Background: DoD recommends that MDA relocate most of its current functions to Redstone Arsenal, AL to enhance jointness and establish an invaluable synergy with the principle DoD expertise in ground-based missile research and development as well as with expertise in missile-related test and evaluation. DoD strongly emphasizes the importance of collocating the critical functions associated with the development of missile defenses to assure the most effective and efficient management of this complex national program. But, not moving these ancillary critical missions to Redstone seems to be at odds with this rationale. Collocating these entities:

- Significantly enhances the development of the Ballistic Missile Defense System.
- Consolidates work with existing MDA activities already at Redstone.
- Collocates with extensive sensor work already located at Redstone.
- Establishes synergy with the principle DoD expertise in ground-based missile research and development at Redstone.
- Collocates the directorates where most other related work will be located.
- Increases the efficiencies to be gained by consolidating resources and technical expertise.
- Strengthens the continued development of effective missile defense capabilities and assures the integration of management of various components.
- Military value ranking of MDA - Virginia is 329 of 334. Redstone is ranked 48 of 334.

REDSTONE ARSENAL Huntsville, AL

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SLIDE
PRESENTATION

RELEVANT STATISTICAL DATA OF:
REDSTONE/HUNTSVILLE MSA

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INTRODUCTION

Huntsville/Madison County, Alabama is located in the middle of the southeastern United States, with more than four million people within a 100-mile radius. The Huntsville community serves as the primary economic hub of the north Alabama and southern Tennessee region. The counties adjoining Madison County combine to form an eight-county regional market with a population in excess of 750,000 people.

The Huntsville/Madison County economy has one of the strongest economies in the South, with low unemployment, strong job growth and income levels leading the region. Business growth and investment from U.S. and international companies have made Huntsville/Madison County one of the country's top "hot spots" for growing a business and raising a family. Huntsville/Madison County's cost of living index is below the national average, the cost of housing is very affordable and the median cost of rent is below national levels.

The Huntsville/Madison County area is comprised of vital and growing communities which share a common commitment with Department of Defense and other federal agencies. The region's long-standing relationship with the military/aerospace community has matured into a union of mutual interdependence resulting in great benefits to both Redstone Arsenal and the civilian community. The Huntsville/Madison County region provides a positive and unique environment for military personnel and their families.

This presentation will highlight the demographics of a progressive region that offers stable and invaluable resources for Redstone Arsenal. An area with an educated workforce that is second to none and ranks at the top when compared to other region's Metropolitan Statistical Area (MSA), Primary Metropolitan Statistical Area (PMSA) and Consolidated Metropolitan Statistical Area (CMSA).

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RELEVANT STATISTICAL DATA OF:
REDSTONE/HUNTSVILLE MSA
VS. UNITED STATES

**HUNTSVILLE
 ALABAMA**

**UNITED
 STATES**

Population	281,421,906	342,376
Median Age	35.3	35.7
Median Family Income	\$50,056	\$52,248
Per Capita Income	\$21,587	\$22,073
Average Household Size	2.59	2.47
Average Cost of Housing	\$119,600	\$99,300
Average Cost of Rental Housing	\$519	\$393

BREAKDOWN OF ETHNIC GROUPS

White Alone	75%	74%
Minorities	25%	26%
% of Population with Higher Education	51.8%	59.3%
% of Population with Graduate Degrees	8.9%	10.3%
% of Employed Civilians in Professional/Scientific/Technical Services	5.8%	8.6%
% of Employed Civilians in Architectural & Engineering Occupations	2.0%	6.5%
% of Employed Civilians in Computer/Mathematical Operations	2.4%	5.4%

All data taken from U.S. Census Bureau Year 2000 Statistics. Higher Education includes: "Some College" and higher Graduate Degrees include Masters and higher

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CATEGORIES

RELEVANT STATISTICAL DATA OF:
**REDSTONE/HUNTSVILLE MSA VS.
 U.S. AIR FORCE BASES WITH
 SIMILAR MISSIONS**

	Huntsville-Alexandria Redstone Arsenal	Dayton Springfield Wright Patterson AFB	Colorado Springs CO Peterson AFB	Omanah, NH-IA MSA O'Hara AFB	Los Angeles- Long Beach, CA PMSA Los Angeles AFB
Population	342,376	950,558	516,929	716,998	9,519,388
Median Age	35.7	36.6	33	33.7	32
Median Family Income	\$52,248	\$50,965	\$53,995	\$54,596	\$46,452
Per Capita Income	\$22,073	\$21,598	\$22,005	\$22,145	\$20,683
Average Cost of Housing	\$99,300	\$99,000	\$147,100	\$101,000	\$209,300
Average Cost of Rental Housing	\$393	\$426	\$597	\$478	\$643
BREAKDOWN OF ETHNIC GROUPS					
White Alone	74%	82.3%	81.3%	85.3%	48.5%
Minority Groups	26%	17.7%	18.7%	14.7%	51.5%
% of Population with Higher Education	59.3%	51.1%	68.4%	59.8%	51.0%
% of Population with Graduate Degrees	10.3%	8.5%	11.6%	8.6%	8.7%
% of Employed Civilians in Professional/Scientific/Technical Services	8.6%	5.8%	7.9%	5.6%	6.9%
% of Employed Civilians in Architectural & Engineering	6.5%	2.7%	3.0%	1.5%	1.9%
% of Employed Civilians in Computer/Mathematical Jobs	5.4%	2.5%	5.6%	3.5%	2%

All data is from U.S. Census Bureau, 2000 Statistics.
 Group Population includes Senior Citizen and Higher Education Programs, see also table on page 19.

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RELEVANT STATISTICAL DATA OF
REDSTONE/HUNTSVILLE MSA
VS. AREAS WITH AMC MAJOR
COMMANDS

Huntsville, AL
 Redstone Arsenal

Washington
 DC/MD/VA/WV
 PMSA Belvoir
 Aberdeen PG

Monmouth-
 Ocean, NH PMSA
 Ft. Monmouth

Newark, NJ
 PMSA Piscataway

Detroit, MI
 PMSA TACOM

Population	342,376	4,923,153	1,126,217	2,032,989	4,441,551
Median Age	35.7	34.9	39.1	36.3	35.5
Median Family Income	\$52,248	\$72,247	\$65,994	\$67,886	\$59,205
Per Capita Income	\$22,073	\$30,360	\$27,477	\$28,435	\$24,364
Average Cost of Housing	\$99,300	\$178,900	\$160,700	205,700	132,700
Average Cost of Rental Housing	\$393	\$765	\$692	\$656	\$502

BREAKDOWN OF ETHNIC GROUPS

White Alone	74%	60%	88.3%	65.9%	71%
Minority Groups	26%	40%	11.7%	34.1%	29%

% of Population with Higher Education

% of Population with Graduate Degrees	10.3%	18.8%	9.6%	12.0%	8.4%
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% of Employed Civilians in Professional/Scientific/Technical Services

% of Employed Civilians in Professional/Scientific/Technical Services	8.6%	13.5%	7.5%	8.4%	6.8%
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% of Employed Civilians in Architectural & Engineering

% of Employed Civilians in Architectural & Engineering	6.5%	2.4%	2.1%	1.9%	3.9%
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% of Employed Civilians in Computer/Mathematical Jobs

% of Employed Civilians in Computer/Mathematical Jobs	5.4%	7.0%	3.4%	3.4%	2.5%
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All data taken from U.S. Census Bureau's Bureau of Economic Analysis, 2000 Statistics on Higher Education, Science, and Higher Education Programs, in Job, Industry, and Education

CATEGORIES

**HOURLY WAGES FOR SPECIFIC
TECHNICAL OCCUPATIONS FOR
SELECTED METROPOLITAN AREAS**

Metropolitan Area	Electrical/Electronic Engineers	Mathematical/ Computer Scientists	Computer Programmers
Huntsville, AL MSA Redstone Arsenal	\$32.67	\$33.17	\$21.97
Los Angeles-Long Beach, CA PMSA LA Air Force Base	\$41.98	\$35.35	\$27.79
Colorado Springs, CO MSA Peterson Air Force Base	\$31.66	\$29.72	\$29.52
Washington, DC Ft. Belvoir/Others	\$39.20	\$34.09	\$26.89
Wilmington-Newark, DE-MD PMSA Aberdeen Proving Ground	\$33.68	\$38.84	\$28.41
Baltimore, MD PMSA Aberdeen Proving Ground	\$39.20	\$34.09	\$26.89
Detroit, MI PMSA TACOM	\$33.61	\$35.25	\$32.18
Monmouth-Ocean, NJ MSA Ft. Monmouth	\$33.68	\$38.84	\$28.41
Newark, NJ PMSA Picatinny Arsenal	\$33.68	\$38.84	\$28.41
Omaha, NE-IA PMSA Offutt Air Force Base	\$29.69	\$29.26	\$23.47
Dayton-Springfield, OH PMSA Wright-Patterson AFB	\$32.81	\$27.21	\$20.21

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Source: National Compensation Survey, US Bureau of Labor Statistics

**COST OF LIVING COMPOSITE INDEX
COMPARISON OF SELECTED
METROPOLITAN AREAS**

Cost of Living Index

Metropolitan Area
Major Installation

Huntsville, AL Metro	93.1
Redstone Arsenal	
Los Angeles-Long Beach, CA	147.4
L.A. Air Force Base	
Colorado Springs, CO	99.0
Peterson Air Force Base	
Washington-Arlington Alexandria DC-VA	137.7
Ft. Belvoir/Others	
Baltimore-Towson MD Metro	94.0
Aberdeen Proving Ground	
Detroit-Livonia-Dearborn MI	100.3
Metro Division TACOM	
Monmouth-Ocean, NJ	128.3
Ft. Monmouth	
Newark-Elizabeth NJ	135.3
Picatiny Arsenal	
Omaha-Council Bluffs NE-IA	93.0
Offutt Air Force Base	
Dayton, OH Metro	93.2
Wright-Patterson AFB	

100% Represents
National Benchmark

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**COST OF LIVING
VS. EARNINGS**

**Required Increase of
After Taxes Income For Huntsville
Residents Moving To Another City
Maintaining Present Lifestyle**

Los Angeles-Long Beach, CA	58.3%
Washington-Arlington-Alexandria DC-VA	47.9%
Newark-Elizabeth, NJ Metro	45.3%
Monmouth-Ocean, NJ	37.8%
Detroit, MI Metro	7.7%
Colorado Springs, CO Metro Area	6.3%

Metropolitan Area