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FOREWORD

This document provides information about, and analysis of, Los Angeles Air Force Base ("LA AFB") and its major tenant, the Air Force Space and Missile Systems Center (SMC). The report also provides analysis of the costs and savings resulting from closure and realignment of LA AFB functions. The purpose of this document is to serve as a reference for the Department of Defense (DoD or "Department") and the Base Realignment and Closure (BRAC) 2005 Commission process. The intent is to provide insight needed to assess the capability to beddown LA AFB missions at various military installations if the closure of LA AFB is considered by the BRAC 2005 Commission.

The material included in the report was drawn from a number of sources that include the community of Los Angeles, CA; State of California; military installations; DoD reports and policy papers and the Military Departments ("Services"); various meetings and seminars; interviews with the Los Angeles community, LA AFB, Service, DoD and elected officials at all levels; and during visits to LA AFB and the local community. All efforts have been made to ensure report information is current; however, there may be cases where circumstances have significantly changed based on the unwillingness of military organizations and communities to divulge certain data.

The opinions, findings, conclusions, or recommendations expressed in this publication are those of the authors and do not necessarily reflect those of the Department of Defense or other Federal Agencies.

Portions of the paper are dated by having been prepared prior to the release of DoD analytical tools and analysis or the Congress completing its reorganization of Committees; however, the fundamental elements are valid.

EXECUTIVE SUMMARY

This report discusses the characteristics of LA AFB and issues related to the Department of Defense (DoD) Base Realignment and Closure (BRAC) 2005 Commission process. The authors believe that various other military installations can effectively host SMC missions currently located at LA AFB.

The analysis demonstrates that LA AFB is at risk for a closure recommendation as part of the BRAC 2005 process; LA AFB was initially recommended for closure by DoD's Technical Joint Cross Service Group (TJCSG); and the relocation of SMC missions offer significant opportunities for DoD to enhance the jointness of Research and Development, Test & Evaluation (RDT&E) functions for DoD space and missile acquisition and operations. LA AFB is a single mission base with no specialized facilities. The installation is in a category of special interest because of DoD excess capacity, and the Services failed to eliminate redundancies between Laboratories in previous BRAC rounds. LA AFB scored poorly for military value in BRAC 1995 analysis and had limited – or no – ability to substantively improve those scores based on infrastructure limitations and environmental factors in the Los Angeles Basin. As expected, the base scored extremely poorly in all categories the Air Force used to rate Mission Compatibility Indices (MCI) for the BRAC 2005 process. Federal employees and military members assigned to LA AFB receive some of the largest "supplemental income" – in the form of either Civilian Locality Pay or Basic Allowance for Housing, respectively – to offset the high cost of living in the Los Angeles area. Further, the high, local labor rates and costs of goods and services in the region impact every aspect of SMC's current "cost of doing business." Since the cost of doing business specific-to-each installation is an element of military value analysis in BRAC 2005 – for the first time – the high costs of retaining SMC in Los Angeles has to be justified on other, mission-imperative needs. While the SMC missions must be performed someplace, there are no compelling reasons for location in one of the most expensive operating environments in the country. Modern communications and computer technology permit successful support of large, complicated and challenging programs by diverse organizations and experts in different parts of the world on a daily basis. There is every reason to believe similar success can be achieved with SMC missions from personnel working at other military installations in the United States with the support of private companies and educational institutions still located in Southern California.

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1. INTRODUCTION

This report discusses the characteristics of LA AFB and issues related to the Department of Defense (DoD) Base Realignment and Closure (BRAC) 2005 Commission process. The authors believe the several other military installations could effectively host SMC[1] missions currently located at LA AFB.

The report is organized into eight major areas:

- Introduction
- Background – Installation description; discussion of SMC missions; identification of primary customers and partners; and the responsible Congressional Delegation
- Discussion – Why SMC missions may be available; why LA AFB is vulnerable to closure and why SMC should be moved.
- Vulnerabilities of retaining SMC in Los Angeles
- Potential issues to a closure decision
- Los Angeles Community's primary retention strategies and analysis
- A notional cost analysis using the DoD cost model
- Summary.

The analysis demonstrates LA AFB could be at risk for a closure recommendation as part of the BRAC 2005 process, and the relocation of SMC missions offer significant opportunities for DoD to enhance joint RDT&E operations for space and missile acquisition and operations. The next section discusses baseline information about the installation and SMC.

2. BACKGROUND

Description. Los Angeles AFB is located in the City of El Segundo, approximately one mile south of the Los Angeles International Airport ("LAX"). The main portion of the base is on two parcels of land, separated by a highway, that total approximately 112 acres. There is an additional 127 acres at a military family housing annex. The "base" is essentially composed of office buildings and support-service facilities with no aircraft runway or capability to add one. LA AFB is one of 7 installations operated by the Air Force Space Command (AFSPC), although several installations owned by other major commands – including Air Force Material Command's (AFMC) Kirtland AFB – host significant AFSPC organizations. Primary AFSPC mission areas and installations are shown in Table 1 on the following page.

[1] Throughout this paper, LA AFB and SMC are used interchangeably since SMC is the only significant organizational tenant on the installation.

Table 1: Primary AFSPC Locations and Mission Areas

Organization	Location
Missile Warning and Space Surveillance	Peterson AFB, CO
Launch, range operation, support for space, Intercontinental Ballistic Missile (ICBM) and Ballistic Missile Defense (BMD)	Vandenberg AFB, CA
Launch, range operation, support for space shuttle program and U.S. Navy Trident Submarine missile testing	Patrick AFB, FL
Satellite Command and Control	Schriever AFB, CO
Minuteman III and Peacekeeper ICBM operations	F.E. Warren AFB, WY
Missile Warning and Space Communications	Buckley AFB, CO
Space and Missile Systems Center	*Los Angeles AFB, CA*

Sources: HQ AFSPC/PA.

Mission. Hosting SMC is LA AFB's only function. SMC is responsible for research, development, acquisition, and sustainment of military space and missile systems. As part of its mission, SMC completes satellite on-orbit checkouts after launch before turning over systems to other federal agencies. In addition to Los Angeles AFB, SMC has operating locations worldwide.

- SMC Mission Statement: "Deliver unrivaled space and missile systems to the joint warfighter and our nation."
- SMC Goal Statement: "Be the recognized center of technical excellence, and the product center of choice for innovative, affordable, operationally effective space systems"

Primary SMC Functional Areas. The following functional areas represent SMC primary elements. The activities shown in **bold** represent functions that could be realigned to other installations. The descriptions are intended to assist determination if these program offices can be effective "fits" with, or complementary to, missions currently performed at other military installations. Those activities in *italics* primarily provide administrative and personnel-support services to SMC. The majority of personnel associated with these areas would – most likely – be eliminated if LA AFB was closed and SMC missions relocated since most installations have offices providing similar services. Gaining installations would require a smaller number of personnel to support the relocated workload.

- **Command Section and Command Support (CC).** This assumes SMC realigns as a "command" and its command responsibilities are not absorbed into existing organizations. If the mission areas were distributed to other-Services/Agencies for performance, the command section would be eliminated and its personnel authorizations taken as BRAC savings.
- **Directorate of Systems Acquisition (AX).** Responsible for policy and program guidance for all logistics activity and also supports program offices responsible for specific space systems. These are identified with an "*" in this list.

- **Defense Meteorological Satellite Program (DMSP) Office (WX).*** This program designs, builds, launches, and maintains several near polar orbiting, sun synchronous satellites monitoring meteorological, oceanographic, and solar environments to provide global visual, infrared and sensor weather data to DoD "fusion" centers to support planning and military operations worldwide.
- **Development and Transformation Directorate (TD).*** This is the "thinker directorate" of SMC. The mission is to "develop and demonstrate Responsive Space concepts for transformational weapon systems"... using military utility, system concept design, and cost analyses; trade studies, and development of pre-acquisition strategies. TD works in direct support of DoD's Missile Defense Agency (MDA).
- **Evolved Expendable Launch Vehicle (EELV) Systems Office (EV).*** EV is tasked to manage development of a more affordable replacement for current rocket systems to insert medium and heavy lift payloads into space. The program envisions a single, modular system that consolidates manufacturing, operations, and force structure. The EELV will replace the current medium and heavy lift systems (Titan, Delta, and Atlas) that are effective, but more expensive to operate and lack technological capabilities needed to support future forces.
- **Inspector General (IG).** This assumes the magnitude and complexity of space systems acquisition activities demands a specialized and dedicated inspection function. If not – or if programs were realigned to installations with their own organic inspection function – the Inspector General's Office would be eliminated.
- **Launch Programs (CL).*** CL acquires and sustains a reliable, affordable and national space launch capability. The office is responsible for the launch vehicles that place satellite systems developed and managed by other SMC organizations into space.
- **Military Satellite Communications (MILSATCOM) Joint Program Office (MC).*** This office is the principal acquisition office for DoD satellite communication systems. MC oversees a wide range of current and future systems, all of which are focused on securing, exploiting and supporting "survivable, worldwide, rapid communications ... in protected and wideband frequency spectrums." MC is the largest space program office in DoD and supports over 15 unclassified systems used by DoD, NASA, National Laboratories, National Security Agency, Defense Information Systems Agency, and others.
- **NAVSTAR Global Positioning System (GPS) Joint Program Office (GP).*** GP is the primary agency responsible for acquisition and sustainment of a survivable, effective, and affordable GPS for its users – including military, Federal agency, allied nations, commercial users and individuals. Responsibilities include integration of GPS technology into devices used by ground, naval and aviation forces.
- **Satellite and Launch Control Systems Program Office (RN).*** With the mission to **acquire,** RN purchases everything that is used to build or support satellite control and range systems used by U.S. Air Force Space Command, including developing new systems and upgrading existing systems to handle current and future requirements. Its mission complements that of the Space Launch and Range Organization discussed in the next bullet.

- **Space Launch and Range Organization (LR).*** Responsible for acquiring, maintaining and interfacing with a system of launch capable organizations and liaison with range management and operation contractors. The mission of **management** is complemented by the activities of RN. (Note: Increasingly, the contract for a satellite system includes the cost of launch, on-station and, if needed, recovery services.)
- **Space-Based Infrared Systems (SBIRS) Office (IS).*** The SBIRS mission is to, "develop, deploy and sustain space-based surveillance system for missile warning, missile defense, battle space characterization" and timely acquisition of technical intelligence. The program is intended to replace the older satellite constellation of the Defense Support Program used to provide strategic warning of missile launches.
- **Space-Based Radar (SBR) Joint Program Office (SB).*** The Space-Based Radar program is intended to provide Combatant Commanders and operational forces a worldwide, on-demand, near continuous, surveillance, and reconnaissance capability to support a robust situational awareness of all potential battle spaces. This system would integrate tactical information collection with strategic surveillance and warning provided by the Space-Based Infrared System discussed in the next bullet.
- **Space Superiority System Program Office (SY).*** There is no publicly available information; however, the office name implies its focus and probably supports classified – "black" – programs. It should be assumed that this function is integral for planning how best to exploit space and protect U.S. space systems from enemy attack or degradation.
- *Comptroller (FM).*
- *Contracting (PK).*
- *Historian (HO).*
- *Human Resources (HR).*
- *Intelligence Directorate (IN).*
- *Public Affairs (PA).*
- *Safety (SE).*
- *Small Business Office (BC).*
- *Staff Judge Advocate (JA).*

*Offices supported by the Directorate of Systems Acquisition.

Personnel.

Military	Civilian
1,517	1,491

Obtaining precise manning levels for military organizations since September 11, 2001, has been very difficult since access to many DoD databases is now restricted. Therefore, the foregoing personnel numbers and those used for assumptions during cost analysis in a later section are taken from the "authorized strength" reported in the *Air Force Association Magazine: 2004 USAF Almanac* (May 2004).

Customers & Partners:

SMC is heavily involved with other space-related agencies of the Federal government. The organizations shown in Table 2 are the "Major Customers & Partners," as identified on the www.losangeles.af.mil website.

Table 2: SMC Major Customers & Partners

Aerospace Corporation	NAVSPACECOM U.S. Navy Space Command
AFMC Air Force Materiel Command	NIMA National Imagery and Mapping Agency
AFMC/DRS Space & Missile Systems Division, Directorate of Requirements, AFMC	NOAA National Oceanic and Atmospheric Administration
AFOTEC/TS Air Force Operational Test and Evaluation Center, Space & Missile Systems Directorate	NRO National Reconnaissance Office
AFRL Air Force Research Laboratory, Phillips Research Site, Kirtland AFB	NSSA National Security Space Architect
AFSPC Air Force Space Command	OASD C3I Assistant Secretary of Defense, C3I
BMDO Ballistic Missile Defense Organization	OASC Office of Air and Space Commercialization, US Dept of Commerce
DCMA Defense Contract Management Agency	Schriever AFB
Discoverer II Joint Program Office	SIOD Space & Information Operations Directorate, US Army Training & Doctrine Command
HQ AFDC Headquarters Air Force Doctrine Center	SPAWAR U.S. Navy Space & Naval Warfare Systems Command
JSC Joint Spectrum Center	SMDC U.S. Army Space and Missile Defense Command, US Army Space Command
NASA National Aeronautics and Space Administration	USSPACECOM U.S. Space Command

Major Support Contractor: The majority of all SMC work – other than program oversight and contracting – is performed by contract with more 300 private sector companies, many that maintain offices throughout the United States in addition to those in Southern California.

The largest, and most significant contractor, is The Aerospace Corporation ("Aerospace"). Much of the following material was sourced from the corporate website – www.aero.com.

Aerospace is a private, nonprofit corporation established in 1960 under the laws of the State of California. The purposes of the corporation are exclusively scientific: to provide research, development, and advisory services. Aerospace operates a Federally Funded Research and Development Center (FFRDC) for DoD. The corporation's primary customer is the SMC of Air Force Space Command, although work is performed in the national interest for other agencies, international organizations, and governments. Most of the corporation's work is hands-on engineering associated with the design, test, evaluation, and initial operation of space systems.

Aerospace headquarters is in El Segundo, CA, adjacent to LA AFB. It also has 24 offices located at major space-related facilities and in the Washington, D.C. area. According to the company's 2002 Annual Report, revenues from operations were approximately $506 million, the majority derived from its work for SMC and the National Reconnaissance Office (NRO).

When initially created, physical proximity to SMC was essential for effective interaction, management and oversight of SMC programs; therefore Aerospace and SMC "grew up" together in adjacent buildings.

Major Tenants: None. Tenants are primarily administrative support organizations providing services to the functions of SMC. Some tenants have a regional focus, but do not necessarily require location on an active Air Force base in the area, i.e., Air Force Office of Special Investigations.

Congressional Representation: Congressional Members, whose districts include El Segundo, along with significant committee to which they are assigned, are shown in Table 3. **Bold** assignments represent those with the most potential significance for LA AFB.

Table 3: Congressional Representatives

Name	State/District	Significant Committee Assignments *
Sen. Dianne Feinstein (D)	CA	Caucus on International Narcotics Select Committee on Intelligence **Appropriations** **Subcommittee on:** Agriculture, Rural Development, and Related Matters **Defense** Energy and Water Development Interior **Military Construction** Energy and Natural Resources Judiciary Rules and Administration
Sen. Barbara Boxer (D)	CA	**Commerce, Science and Technology** **Subcommittee on:** Aviation **Communications** Environment and Public Works Foreign Relations Subcommittee on: International Operations and Terrorism
Cong. Jane Harman (D) **	CA/36 (El Segundo and other parts of Los Angeles)	Select Committee on Homeland Security Permanent Select Committee on Intelligence (Ranking Minority Member and ex-officio member of all subcommittees) **Subcommittee on:** Human Intelligence, Analysis & Counterintelligence Intelligence Policy and National Security **Technical and Tactical Intelligence** Terrorism and Homeland Security

* Reorganization of both House and Senate Defense Committees is currently underway.

** House Member committee assignments for the 109th Congress were still under consideration a/o February 18, 2005. Committee assignments shown were for the 2nd Session of the 108th Congress.

3. DISCUSSION

Why is SMC in Los Angeles? SMC was created in the mid-1950s with a group of scientists and engineers tasked to develop the first intercontinental ballistic missile. The world-class research and engineering schools, intellectual resources and industrial facilities (Lockheed's Skunk Works, etc.) in Southern California and proximity to major air and sea test ranges were considered essential to success. Also, access to experts in aeronautics and space-related disciplines, on-going test activities and 1950s-era unique facilities at Edwards AFB and Naval Air Warfare Center at Point Mugu were additional attractions. As SMC "grew up," the U.S. aerospace industry grew up along with it and major military contractors established offices in the Los Angeles area to be close to their customer. Finally, the creation of the Aerospace Corporation – SMC's primary contractor – adjacent to LA AFB became a major justification for SMC to remain in El Segundo. Essentially, SMC is in Los Angeles because the geographic and technological imperatives of the 1950s have been honored during previous BRAC rounds.

Why focus on LA AFB? The majority of SMC activities either mirror (acquisition, contracting, etc.) – or could be combined with similar (satellite systems, launch management, on-orbit operations, etc. – similar activities at other DoD locations. DoD has repeatedly stated its intent to consolidate activities that are duplicated amongst the Services. Research, Development, Test & Evaluation (RDT&E) functions received particularly close scrutiny in BRAC 2005 through the TJCSG since that is one of the mission areas where DoD failed to consolidate excess capacity across the Services in prior BRAC rounds. Both the Congress and the Government Accountability Office (GAO) have criticized DoD for failing to seriously address mission duplication, and DoD, in turn, has criticized the Military Departments for parochialism in their analyses. LA AFB was analyzed for closure in BRAC 2005, but the installation was ultimately not recommended for closure based on consideration of personnel losses that "might" occur if SMC functions moved elsewhere. The TJCSG in its LA AFB consideration recommended movement of SMC to Peterson AFB, CO; however there are other locations that offer logical, military-value-anchored cases for mission consolidation based on the ability to create significant mission and RDT&E synergies. Kirtland AFB, NM, and Redstone Arsenal, AL, along with other Air Force and Services' installations, provide reasonable, cost effective alternatives for SMC function locations.

Does SMC need to remain in Los Angeles? Modern high-speed, secure communications for voice and data; the power of today's computers; increased ease of travel; and growing reliance on "virtual" development and testing combine to reduce the importance of geographic considerations for SMC to remain at LA AFB. Although the Los Angeles community and installation leadership may not concur, the fact that the Air Force has studied and concluded several times since 1990 that the functions of LA AFB could be performed at a number of other installations, indicates that the Air Force leadership has other options. Therefore, the value of the Los Angeles location has decreased importance. When the ability to perform SMC missions elsewhere is considered with cost advantages of doing business at other locations, the case to move SMC functions is compelling.

Why move SMC? SMC resides on a single mission installation with no specialized facilities. It is also located in one of the highest cost areas of the country. During BRAC 2005 analysis, cost implications are of particular importance based on two key changes to how costs will be treated.

In the BRAC 2005 process, DoD performed its cost analyses in a more precise manner than was mandated in earlier BRAC rounds. Of the many changes, one of the most significant is the mandate to include the "cost of operations" as a factor in all military value analyses. One of the largest variables in an installation's cost of operation is the number and type of personnel assigned. In prior BRAC rounds, DoD used a notional "standard salary approach" – an averaged salary in three personnel categories (officers, enlisted members, and civilians) – in its calculations. The only personnel cost difference between installations resulted from the number of personnel in each category assigned to the base. Even using this rudimentary approach to cost modeling, previous BRAC rounds have generally resulted in missions moving from bases in high cost areas to those in areas with lower costs of living.

In order to comply with new requirements, DoD included personnel salary calculations specific to each installation in the cost analysis for each closure and realignment scenario. While retaining the "standard salary approach" to provide continuity across personnel demographics, DoD used actual factors to tailor costs to an installation. The resulting analysis then reflected not only the differences based on the type of personnel assigned, but also the impact of the cost of living in different locations. For civilian personnel, the regionalized salary adjustment is made in the "Locality Pay" received. For military members, the adjustment is made to the basic allowance for housing (BAH) entitlement. By tying cost data to specific installations, those bases in areas with lower costs of living scored better on the cost-of-personnel metrics than those in higher cost areas. Since the cost of executing BRAC actions is a significant element of the quantitative portion of Service/DoD analyses, regional cost factors do play a role in closure and realignment recommendations. Unlike previous BRAC rounds where cost was listed as part of the Military Value analysis, but considered primarily along with Criterion 5 (Return on Investment) using the Cost of Base Realignment Actions (COBRA) Model, DoD used the cost of operations as a true element of its Military Value analysis – the predominate category of evaluation – in BRAC 2005.

There are 32 Locality Pay regions across the country with "base pay" multipliers for Fiscal Year (FY) 2005 pay ranging from 11.72% to 26.39%. Table 4 indicates FY 2005 rates for a GS9, Step 5 civilian employee (COBRA Model "standard civilian") for several areas of the United States:

Table 4: Civilian Locality Pay Comparison

Area	Annual Pay for GS9, Step 5
Rest of the United States	*$ 47,340*
Albuquerque, NM	47,340
Huntsville, AL	47,637
Dayton, OH (Wright Patterson AFB)	47,823
Washington, DC-Baltimore, MD	49,145
Boston-Worcester-Lawrence (Hanscom AFB)	50,209
New York and Northern New Jersey	51,268
Los Angeles-Riverside-Orange County, CA	**51,548**

For each DoD civilian employee, the amount over the "Rest of the United States" salary can be considered an "annual tax" on DoD for continuing to beddown missions in more expensive areas. When even a relatively small number of employees are involved, this additional expense can be significant. For example, if only 200 of the more than 1,400 civilian employees were relocated from LA AFB to Kirtland AFB, the annual savings to DoD – *from the difference in civilian locality pay alone* – would be $756,600.[2] When considered over just four of the six-year BRAC 2005 execution window (2005 – 2011), the savings that could be used to offset BRAC costs would be $3,026,400. Moreover, because locality pay reflects the cost of labor in different areas, locations with higher locality pay rates also indicate where contract costs and the price of services are higher; therefore, the higher cost of doing business permeates all aspects of operations and maintenance for installations. For activities like SMC that depend heavily on contract support, this pay dynamic becomes even more pronounced. Finally, since each of the Services are required to achieve net savings by 2011 from their BRAC 2005 recommendations, the power of including civilian locality pay in cost/savings calculations is significant.

Other areas that could house/locate SMC functions are similarly competitive in regards to the sliding scale of BAH for military personnel. Table 5 is a comparison of FY 2005 BAH monthly rates – both with and without dependents – for an enlisted soldier, grade E-5 (COBRA Model "standard enlisted member"), for several areas of the United States:

Table 5: Enlisted BAH Comparison – Grade E-5

Area	Rate with Dependents	Rate without Dependents
Kirtland AFB, NM	$ 956	$ 708
Huntsville, AL	739	582
Peterson AFB, CO	988	681
Wright Patterson AFB, OH	771	662
Los Angeles Air Force Base, CA	**1,630**	**1,392**
Hanscom AFB, MA	1,835	1,325

Since the majority of military personnel assigned to SMC are officers, a comparison of BAH monthly rates – both with and without dependents – for the grade O-3 (COBRA Model "standard officer") is shown in Table 6.

Table 6: Officer BAH Comparison – Grade O-3

Area	Rate with Dependents	Rate without Dependents
Wright Patterson AFB, OH	$ 1,101	$ 911
Peterson AFB, CO	1,187	1,067
Kirtland AFB, NM	1,328	1,032
Huntsville, AL	953	772
Los Angeles Air Force Base, CA	**2,183**	**1,879**

[2] Difference between annual pay in Los Angeles and Albuquerque [$49,631 (Los Angeles) - $45,848 (Albuquerque)] = $3,783/year savings * 200 civilian employees relocated to Albuquerque = $756,000 annual salary savings based on locality pay delta.

Hanscom AFB, MA	2,215	1,857

While the foregoing rates are for only one civilian employee, officer and enlisted grade, they are indicative of the significant differences in the cost of stationing/employing civilian and military members in various parts of the United States. In each case, places such as Kirtland AFB and Redstone Arsenal provide a significant savings per person over assignment to the Los Angeles area.

4. VULNERABILITIES

Cost of Doing Business. As discussed in the foregoing, the relative cost of doing business in Los Angeles is a very significant vulnerability for retention of LA AFB.

Air Force BRAC 1995 Analysis. The primary measure of military value for an installation's functions is how well they support DoD's requirements in that discipline area. In the case of LA AFB, there are a number of powerful competitors that could host SMC more efficiently. Where LA AFB ranks amongst its Air Force competition can best be understood through the BRAC 1995 analysis completed by the Air Force where installations were ranked by category versus the Military Compatibility Indices (MCI) in 2005. A summary of installation grading is displayed in Table 7, followed by a discussion of the Air Force BRAC 1995 process and the most significant evaluation elements in regard to LA AFB.

Table 7: Air Force BRAC 1995 Grading

Base	Operational Evaluation	Functional Evaluation	Facilities and Infrastructure	Contingency and Mobility	Costs and Manpower Implications	Return on Investment	Economic Impact	Community	Environmental Impact
Brooks AFB	R	Y	G -	R +	246/-78	10	1.1%	G -	R +
Hanscom AFB	R	G -	Y +	R +	421/-158	9	0.9%	G -	Y +
Kirtland AFB	*Y +*	*G -*	*Y +*	*Y*	*448/-469*	*6*	*6.6%*	*G -*	*G -*
Los Angeles AFB	**R**	**Y +**	**Y +**	**R +**	**450/-142**	**10**	**0.5%**	**Y**	**G -**
Rome Lab	R	G -	G -	R +	134/112	100 +	6.7%	Y +	Y +
Wright-Patterson AFB	Y +	G -	Y +	G -	1,567/834	499	9.3%	G -	Y +

Air Force Characterization.[3] During the BRAC 1995 process, LA AFB was evaluated in the "Product Centers and Laboratories" subcategory of the "Industrial/Technical Support" category. The bases in this subcategory included Brooks AFB, TX[4]; Hanscom AFB, MA; Kirtland AFB, NM; Los Angeles AFB, CA; Rome Laboratory, NY; and Wright-Patterson AFB, OH. Important attributes of this subcategory were:

- population of highly skilled personnel;
- unique geographical and climatological features;

[3] All information included concerning the BRAC 1995 process is taken from the Department of DoD Base Closure and Realignment Report to the Commission; Department of the Air Force Analyses and Recommendations (Volume V); February 1995; the DoD Base Closure and Realignment Report; March 1995; or the Defense Base Closure and Realignment Commission – Report to the President; 1 July 1995. Note: The flaws in the Air Force BRAC 1995 analysis of Kirtland AFB have not been corrected for this report.

[4] Now the "Brooks City-Base" is no longer an active Air Force installation and is recommended for closure in 2005.

- need for in-house capability and Air Force preeminence in the subject work;
- specialized equipment and facilities; and
- administrative space.

Air Force Analytical Method. All bases in this subcategory were evaluated against the standard BRAC Criteria I – VIII. However, Criterion I (Mission Effectiveness) analysis was split into two parts. Part One, the functional analysis, resulted from evaluation of five measures of merit: Priority, Workload, Personnel, Facilities and Equipment, and Location. Part Two, the operational analysis, measured how well a base could host a small aircraft, bomber, tanker, and airlift mission. Bases without runways automatically received the lowest grade (RED) for the operational portion in recognition of the lack of flexibility they offered for providing support to other Air Force missions. LA AFB has no runway and was graded RED for Criterion I, Part Two.

After the first level analysis, the Air Force placed each of the six installations in the subcategory into one of three "Tiers" (Ranks), with Tier I having the highest relative merit. Three installations were placed in Tier I, two in Tier II, and one in Tier III; Los Angeles AFB was placed in Tier II.

Deficiencies. The fact that the Air Force model weighted certain grading elements more heavily than others for purposes of analysis also places LA AFB at a disadvantage. As previously noted, LA AFB's Operational Evaluation was rated "RED" because the base cannot support a flying mission; the ability to do so was weighted at 70%. Since adding a runway and the necessary support facilities is not possible, there is no way to increase the operational value of the installation based on this requirement.

The base also suffered in the facility area and was rated as poorly as or worse than all others in each facility evaluation element. However, a public-private initiative to consolidate SMC activities into a new building may mitigate these weaknesses. This project is discussed in the "Potential Issue – Air Force" section on page 17.

The final, major deficiency noted in the Air Force BRAC 1995 analysis was in the air quality evaluation – 40% of the overall Criterion I grade. LA AFB tied Wright-Patterson AFB for the lowest rating in this area. Until the Los Angeles basin makes dramatic improvement in its air quality, improving this grade is unlikely.

Air Force Recommendations. Using a determination that there was twice as much laboratory capacity as was needed to satisfy its requirements, the Air Force in BRAC 1995 recommended three installations – half the bases in this category – for closure. While LA AFB was not recommended for closure, it was also not designated as a receiver installation for any of the missions performed at those recommended for closure. In fact, during each of the BRAC 1991, 1993, and 1995 rounds, there were efforts made by the Air Force to either close or significantly realign LA AFB. Ultimately, the Air Force either withdrew its BRAC 1995 recommendations to close three of the subcategory bases or the recommendation was changed by the BRAC Commission. Therefore, none of the excess laboratory capacity was removed from Air Force facilities.

Post BRAC 1995 Actions. Since the end of BRAC 1995, LA AFB has lost personnel and funding "programmatically" as oversight responsibilities have been reassigned to other locations. This suggests the installation is not valued as highly by the Air Force as its other Product Centers and Laboratories.

5. POTENTIAL ISSUES

This section identifies three macro considerations for the relocation of SMC. The following section, "Primary Retention Strategies and Analysis," addresses these, and others, in more detail as a discussion of how the Los Angeles Region and/or State of California are attempting to build arguments for the retention of LA AFB in El Segundo or elsewhere in California. Together, the "Issues" and "Strategies" sections offer significant and timely insight that into "protection" strategies for LA AFB.

Political. Congresswoman Harman has made it clear her intent to "fall on my sword if necessary" to retain LA AFB. This position has been stated to the California Governor's Office and Members of the Congressional Delegation. Even though BRAC is not susceptible to Congressional pressures in the traditional sense, a battle over any decision to close LA AFB can be anticipated. Even if Congresswoman Harman is unsuccessful in retaining SMC in El Segundo, she has already stated her desire to see the missions realigned to Vandenberg AFB, CA. The State is also arguing for the retention of SMC based on the alleged lack of viability of SMC's mission effectiveness elsewhere because ready access to the "intellectual capital" of the California Aerospace Industry would be lost. The popularity of California's current governor within the Republican party and Administration provides another strength to a political compromise that could result in SMC leaving Los Angeles, but remaining in a less expensive area of California.

Air Force. The Air Force may fight to retain SMC in place based on the public-private partnership being used to provide a new facility for SMC, even though the long-term costs to leave SMC in Los Angeles will still be higher. The project is called the Systems Acquisition Management Support (SAMS) Complex. The SAMS Complex is a facility being constructed using a public-private partnership between the Air Force and joint venture composed of Kearny Real Estate, Morgan Stanley Real Estate Fund and the Catellus Development Corporation. The goal is to provide the Air Force a new office complex at a fraction of the cost of traditional acquisition methods by trading rights to develop government land for construction of the facility. Design and construction of the SAMS Complex began in late 2003 and is expected to be completed approximately January 2006. The project is valued between $120 million and $240 million, depending upon the source.

If the decision is made to move SMC missions, Service efforts could attempt to relocate them – or significant parts of them – to the Colorado Springs area (the community actively supports such an action).

Contractor. The Aerospace Corporation could resist efforts to relocate based upon significant financial and personnel investments in its Los Angeles facility. In previous BRAC rounds, many of its engineers and scientists indicated an unwillingness to move; however, the sincerity has never been tested by forcing the issue. Historically, many personnel do relocate when faced with a closure of their installation or relocation of their major customers even though posturing in advance of the decision is otherwise. As

noted previously, there is no requirement for the Aerospace Corporation and SMC to be collocated; so this argument, although compelling to its supporters, should not be overriding.

6. PRIMARY RETENTION STRATEGIES AND ANALYSIS

The information in this section was obtained during the *California Council on Base Support and Retention* ("Council") Public Hearing in Los Angeles on Jan. 12, 2005. The purpose of the hearing was for the Council to take testimony from community groups hosting DoD activities in the Los Angeles region. The following items represent the major points raised – or not – by speakers testifying in support of LA AFB to the Council. Comments in *italics* are those of the author attending the Hearing.

Congresswoman Jane Harmon. The LA AFB portion of the hearing was led by Congresswoman Harmon whose district includes El Segundo. Much of what she said was repeated by others throughout the morning and is captured in following discussion items. During her remarks, Congresswoman Harmon stated Congressman Jerry Lewis' support for LA AFB and implied his new position as the Chairman of the House Appropriations Committee could be helpful in the retention effort. Her bottom line was that LA AFB is a "National Treasure and an Enduring Asset in the Global War on Terrorism (GWOT)" because SMC manages space systems of increasing importance to warfighters. *The management of critical systems is justification for retention of the mission areas, but not location of the management team.*

Critical Missions. The argument presented was that the missions of LA AFB are critical to National Defense and have to be done someplace, and it will be prohibitively expensive to replicate the SMC infrastructure elsewhere since no other place has suitable facilities. *Most of this discussion was focused on the engineering support aspects of LA AFB missions, not the contracting and administrative aspects – that are the majority of mission activity at SMC. The assumption advanced was that contracting/support functions must remain collocated with the personnel managing the technical aspects of the programs. Program management and program support are provided from different locations for other programs so it is difficult to understand why space systems would be unable to use that model.*

Reason for Original Siting Still Valid. SMC was established in 1954 at its current location because that was the "center of the universe for aerospace engineering and space technical expertise" at the time. Southern California remains the center of the aerospace universe...; therefore, SMC must remain in El Segundo. *This notion fails to acknowledge that the embryonic nature of the aerospace industry in 1954 no longer exists and there are other locations with competent scientists and engineers able to support LA AFB missions. It also does not acknowledge the utility of modern communications and computer technology for operating successfully in a "virtual office environment."*

Intellectual Capital – Geographic Proximity. LA AFB, the Aerospace Corporation, private companies (Boeing, Northrop Grumman, etc.) and the academic resources (University of California, Los Angeles, California Polytechnic University, RAND Corporation, Jet Propulsion Laboratory, etc.) must be collocated to ensure success of the LA AFB mission to develop and operate military space systems. *In 1954, there were no other areas of the country with such a robust source of intellectual capital needed for space programs; this is no longer the case. Also, as noted in the foregoing, technologies routinely*

used in 2005 are vastly different from those available 50 years ago. The flaw in an argument of any geographic proximity imperative has been addressed by DoD within the context of BRAC 2005. Mr. Ray DuBois, when acting as the Deputy Secretary of Defense (Installations and Environment), said on the record and was quoted by the media that geographic proximity is not required to enable high technology efforts to be successful. His comments were in response to the same argument being presented by El Segundo during a visit to Picatinny Arsenal, New Jersey. The community suggested there was an imperative for Picatinny Arsenal to be collocated with its technology partners in the Morris County Technology Corridor. Additionally, the idea that graduates of top engineering schools in Southern California will not relocate to other parts of the country for challenging jobs is simply not correct.

The Aerospace Corporation and SMC Must Move Together. It was asserted that, if SMC is relocated, the Aerospace Corporation – a Federally Funded Research and Development Center (FFRDC) that supports it must also move. This requirement will make the cost of closing LA AFB and relocating SMC prohibitively expensive. *There is no requirement to relocate the Aerospace Corporation simply because SMC moves. There are certainly strong reasons to do so, but it is not required. From a facility regeneration standpoint, moving SMC would be much less expensive than moving the FFRDC. The bulk of the expensive facilities are in the FFRDC; LA AFB "space" is primarily administrative, much easier to "find" in excess space of other installations, and far less expensive to build, if needed. Also, the requirement for the Aerospace Corporation to remain a FFRDC has been questioned.*

Relocation Will Lead to Launch Failures. A 100% success rate on launches – 39 with 0 failures – was claimed and it was asserted that only with SMC in El Segundo, can that success continue. The community argues that if anything – location, relationship to the Aerospace Corporation, proximity to private companies and educational institutions – changes, DoD will not be able to enjoy a continued 100% success rate. *While there may have been 39 consecutive, successful launches in recent times, there have also been failures according to the Aerospace Corporation's Annual Report. Moreover, it is difficult to accept that talented and dedicated people elsewhere are unable to take on the missions of SMC, assuming the current workforce will not move.*

Success in the Past Means Success in the Future. Success of previous programs (Global Positioning System, Space Based Infrared Radar, etc.) means SMC will continue to manage successful programs in the future if it is retained in El Segundo. It was also asserted that no other location has, or could assemble, the workforce necessary to make SMC programs successful. *For many reasons, this argument is flawed. It is particularly difficult to accept since there are many space programs – and very difficult, technically challenging non-space programs – that are succeeding with other workforces, in other locations.*

Importance of Space Systems Precludes Relocation. Space systems are increasingly important to warfighters and are saving lives daily in the GWOT; therefore, any disruption to SMC missions puts our troops at risk. *This "could be" a potentially valid argument if LA AFB missions included operation and exploitation of currently deployed space systems. However, SMC is focused on upgrades to systems in operation and design, research, prototyping and testing of future systems. This argument distills to "the importance of space systems increases the importance of LA AFB." This is not correct, the importance*

of space systems means space systems are important and does not mean the installation is vital unless the support of space systems can not be provided elsewhere.

The Workforce Will Not Relocate. It is argued that the scientists, engineers, managers, etc. working at SMC will not relocate from Southern California. To substantiate this assertion, the history of relocating the Space Shuttle Program Office from Huntington Beach, CA, to be closer to the Johnson Space Flight Center, TX, was discussed. Northrop Grumman (NG) initially estimated that 40% of the engineering staff would relocate, but only 20% did so. The consequence of "losing 80% of the intellectual capital" associated with the Space Shuttle Program was responsible for the Columbia tragedy. However, in subsequent testimony, the company representative discussed how NG dealt with the realization that the bulk of its program personnel would not relocate to Texas. He said that NG retained several hundred personnel as part of the program by retaining offices in Huntington Beach from which NG continues to support the Space Shuttle Program in Texas in a "virtual office environment" linked to Southern California. *In effect, the NG representative invalidated the argument that collocation is essential and substantiated that, if an unacceptable number of staff wanted to remain in Southern California, there is an acceptable "workaround" to ensure the programs are not critically wounded*

Program Disruption Will Mean Loss of Space Dominance. A 1990-study prepared by one of the community supporters was used to assert that SMC programs would be disrupted for a 12-month period and that would allow adversaries to "catch up" with the United States causing catastrophic loss of U.S. space dominance. *It would seem programs can be more efficiently and effectively transferred using current technologies than was possible 15-years ago.*

LA AFB's Proximity to the Los Angeles and Long Beach Port Complex is Critical to Homeland Security. The assertion was based on discussion of some initiatives by the Department of Homeland Security (DHS) to develop the ability to track – using GPS technologies – the origin and journey of 11 million containers that enter the U.S. through those ports, as well as all containers entering via other ports – to protect against terrorist acts. It was suggested that LA AFB, since it launched the GPS system, is critical to that effort and the proximity to the ports essential. *Since the GPS has been fielded, there was no definite assertion that LA AFB is involved in the DHS initiative. Also, the type of work done by SMC isn't related to a DHS tracking activity. As discussed in earlier sections, there is no imperative for geographic proximity to support high technology efforts. While the argument does point out the potential vulnerability from containerized, ocean vessel traffic, it fails to support LA AFB's importance or need to be near the ports. In fact, if LA AFB is important to Homeland Security, the counter argument for retention in El Segundo would be that location "in the target box" of Los Angeles – certainly a potential, high value target for terrorists – is a liability and puts its missions at unnecessary risk.*

Space is Different. The community advanced that, "Space is different." Space system programs are more challenging than any other programs. Analysts and decision makers should accept that personnel unfamiliar with space programs cannot understand the relevant issues and imperatives. Since no one besides SMC and its partners are involved with space programs, no one is in a position to make informed decisions about how the program should be conducted. Therefore, the community advocates need to be trusted – as the only real experts in the discipline – to know what is best. We know LA AFB must remain

in LA and operate as it has done successfully since 1954. *That is not an argument many people will accept, and its condescending nature may very well make a lot of decision makers angry.*

7. Notional Cost of Base Realignment Actions (COBRA) Analysis.

Overview. This section discusses a notional COBRA analysis of one potential BRAC scenario for the closure of LA AFB and relocation of a portion of its missions to Kirtland AFB and the remainder to Redstone Arsenal, AL. The Model was developed by DoD for use in evaluating and comparing relative costs of basing decisions to support the BRAC 1988 round. Although the platform and functionality of the Model were modified following each of the BRAC rounds of the 1990s, the Model's underlying purpose and use has remained the same – "evaluating costs, savings and payback periods." It is important to recognize that the Model is designed to estimate the costs and savings associated with possible force structure or re-basing scenarios. It can also be used to compare costs and savings from alternative scenarios for the same installation(s). The purpose of the Model is to provide a consistent method of evaluating possible basing actions. It is not designed to produce budget quality numbers even though several of the reports generated may be formatted to match DoD budget displays.

The Model calculates costs and savings over a 20-year period, or longer if needed. It assumes all activities – transfers, construction, procurement, sales, closures, etc. – will take place within a 6-year window (matches BRAC execution period) and treats all costs/savings in year 7 and beyond as steady-state. The most easily understood output produced is the Return on Investment (ROI) Year. This is the point where savings generated equal the costs incurred to take the action – where the realignment/closure has paid for itself and net savings begin to accrue.

The single, most important issue in understanding this notional analysis is that the "COBRA outputs can – by definition – be no better than the quality of the inputs." Since there is only limited data for the scenario modeled, the results must be considered notional based upon 1) the lack of detailed information available outside DoD and 2) the fact that DoD has updated the COBRA Model for use in BRAC 2005. This analysis was made using the COBRA Model updated in 2000 as the BRAC 2005 Model was not available when the analysis was performed. Much of the data needed to complete "full" modeling is still closely held by DoD (alternative scenario COBRA runs are not available in DoD released materials) and the Services and is not publicly available even though the Secretary of Defense has sent his recommendations to the BRAC 2005 Commission.

As mentioned, this analysis is based on the version of the Model available at the time of analysis – COBRA 2000. This version is significantly updated from that used in BRAC 1995, but still does not include the functionality that is in the BRAC 2005 Model. Of the algorithm deficiencies, the most significant is the inability of COBRA 2000 to automatically calculate the financial implications of civilian salaries in scenarios. In areas of salaries and significant financial elements, the COBRA 2000 "standard factors" have been updated – using the DoD conventions – to provide the best values appropriate to 2005. A series of Excel spreadsheets were used to calculate the implications of varying locality pay and housing allowances with the results input into the Model to ensure the appropriate costs and savings are included in the Model's calculations. These modifications allow the Model used to closely approximate the more precise cost analysis in the BRAC 2005 process.

Analysis.

General Scenario. This scenario involves the relocation of one-third of SMC from LA AFB to Kirtland AFB with the requirement to invest $120 million (part of this could also be located at Redstone Arsenal, but it is not important to overall results which base is chosen for the construction) to properly beddown the missions. The second-third of SMC personnel are assumed to move to Redstone Arsenal, approximately 1,000 miles from Los Angeles with no facility investment and the final-third are eliminated as administrative overhead or personnel performing missions similar to those already supported at Kirtland AFB or Redstone Arsenal. Since LA AFB is a single mission base, the installation will be closed as part of this action. Contractors may relocate, but this has not been assumed.

Timing. Start Action Year: 2008 End Action Year: 2009

Payroll and Housing Allowance Values. In the discussion of pay comparisons, Tables 4 – 6 displayed FY 2005 rates for each of the "standard" civilian, enlisted member and officer designations used by the COBRA Model – GS-9, Step 5; E-5 with dependents; and O-3 with dependents. However, DoD historically "locked" its data sources as those current on the last date of the prior fiscal year for consistency of analysis. Therefore, the FY 2004 rates shown in Table 8 are the values used in the BRAC 2005 COBRA calculations. These are the rates used in this Notional COBRA Analysis.

Table 8: BRAC 2005 COBRA Payroll and Allowance Values

Location	Annual Salary GS9, Step 5	BAH E-5 w Dep	BAH O-3 w Dep
Kirtland AFB	$ 47,340	$ 956	$ 1,328
Redstone Arsenal	47,637	739	953
Los Angeles, CA	**51,848**	**1,630**	**2,183**

Summary. Table 9 on the next page displays the manpower, return-on-investment (ROI) and cost implications of the scenario. The analysis demonstrates that SMC could be economically relocated from LA AFB to a combination of Kirtland AFB and Redstone Arsenal. The ROI period is 1 year meaning, if relocation began in 2008, this action would begin generating savings as early as 2010 and would produce approximately $109.9 million savings during the BRAC execution window (ends in 2011) and about $88.5 million in annual, steady-state savings in 2010 and beyond. Annual savings from the difference in Civilian Locality Pay alone exceed $10.7 million during the execution window and would be approximately $3.6 million annually beginning in 2010. Finally, the 20-Year Net Present Value (NPV) indicates that, over a 20-year period, this action would save DoD nearly $666 million.

Table 9: COBRA Scenario Financial Summary

Personnel Relocated						($ 000)		
Scenario	Officer	Enlisted	Civilian	Total	ROI (Yrs)	Steady-State Savings	1-Time Costs	20-Yr NPV
KIRT 33% 120	1,002	240	946	2,188	1	$ 88,534	$ 163,192	$ (665,623)
^ A negative NPV equals savings over the 20-year period.								

Sensitivity Analysis. One excursion was performed to test a "worst cost" option based on a higher construction requirement and doubled to required investment to $240 million. This did not change the annual, steady-state savings, but did 1) increase the 1-Time Costs to $283.2 million, 2) generate a net cost of $10.1 million through 2011 and 3) increased the ROI period to 3 years (achieved in 2012). Since each of the Services must realize net savings by 2011, this would make the scenario less attractive; however, beginning the relocation in 2007 vice 2008 would recover the net costs earlier in the BRAC execution window and provide net savings of approximately $78.4 million by 2011. Even using this worst cost scenario, DoD would save about $559 million over a 20-year period.

This notional COBRA analysis provides a powerful example of the significance of DoD's requirement to assess "Cost of Operations" at the local level in its BRAC 2005 analysis and the advantage installations in lower cost areas enjoy. It also supports a compelling case for closing LA AFB and relocating the SMC functions to installations in lower cost areas, especially those where mission synergies would further increase operational efficiencies.

8. Military Value Comparison

The Technical Joint Cross Service Group (TJCSG) ranked the Military Value of all Service RDT&E activities/installations for various functions during the BRAC 2005 analysis period. During the course of their analysis the TJCSG identified a number of technologies as having significant importance to future warfighting capabilities. The technologies are:

Advanced Detection and Mitigation of Chemical, Biological, Nuclear, Radiological and Explosive Materials (and Weapons)
Advanced Guided Weapons
Advanced Propulsion
Anti-Materiel Weapons
Directed Energy Weapons
Distributed Netted Sensors
EM Guns and Accelerators
Fast, Survivable Sealift
Hypersonics
Information Warfare
Integrated Warrior
Laser Communication
Network Centric Information Management
Next Generation Stealth Enhanced Vehicles
Non-Lethal Weapons and Effects
Space
Robotics and Autonomous Unmanned Vehicles

The TJCSG included these technologies in their scoring plan for Military Value and awarded additional credit to technical facilities working in these technologies. As can be seen "Space" is one of the future technologies. Based on input from the TJCSG subgroups, the TJCSG developed five attributes for Military Value:

- People – measures intellectual capital through education, experience, certifications, patents, publications and awards;
- Physical environment – measures special features of DoD technical facilities and encroachment;
- Physical structures and equipment – measures the presence of physical structures unique within DoD; and the value, condition, and use of physical structures;
- Operational impact – measures output of the RDAT&E functions through the number and funding of their projects; and size of their staff;
- Synergy – measures factors like working on multiple functions and multiple technical capability areas, proximity to customer, jointness, and dual use.

The TJCSG weighted the Selection Criteria (1-4) and the attributes and the following Table indicates the Military Value ranking for various functions the TJCSG considered important for Kirtland AFB, Redstone Arsenal, Peterson AFB, and Los Angeles AFB.

Table 10: Military Value Ranking of TJCSG Evaluation Elements

Military Value Category	Kirtland AFB	Redstone Arsenal	Los Angeles AFB	Peterson AFB	# of Installations Ranked
Air Platforms					
Research	-	18	-	-	35
Development & Acquisition (D & A)	62	-	-	-	67
Test & Evaluation (T & E)	27	7	-	-	51
Battlespace Environments					
Research	-	11	-	-	25
D & A	11	8	-	-	21
T & E	5	-	-	-	23
Biomedical					
T & E	4	-	-	-	19
Chemical Biological Defense					
Research	19	-	-	-	42
D & A	29	-	-	-	40
T & E	5	17	-	-	39
Ground Vehicles					
Research	-	6	-	-	24
D & A	-	3	-	-	25
T & E	-	11	-	-	27
Human Systems					
Research	-	36	-	-	65
D & A	-	53	-	-	87
T & E	17	14	-	-	49
Information Systems Technology					
Research	25	16	-	-	68
D & A	-	13	81	69	105
T & E	8	23	-	-	72
Materials & Processing					
Research	-	22	-	-	46
D & A	-	8	-	-	43
T & E	41	10	-	-	44
Nuclear Technology					
Research	5	-	-	-	15
D & A	7	20	-	-	21
T & E	12	-	-	-	17
Sea Vehicles					
Research	-	30	-	-	36

Military Value Category	Kirtland AFB	Redstone Arsenal	Los Angeles AFB	Peterson AFB	# of Installations Ranked
Sensors, Electronics & Electronic Warfare					
Research	64	18	55	-	68
D & A	99	10	70	87	103
T & E	30	22	62	-	72
Space Platforms					
Research	2	13	6	18	26
D & A	5	10	1	3	41
T & E	4	16	9	5	27
Weapons Technology					
Research	1	4	-	-	60
D & A	63	1	-	-	78
T & E	27	10	66	-	70

As the Table clearly demonstrates, Los Angeles and Peterson AFBs are both relatively narrowly focused/single function RDT&E installations that have expertise in a limited array of technology synergies needed for future weapon system and platforms RDT&E. Conversely, Kirtland AFB and Redstone Arsenal demonstrate high Military Value in a number of vital RDT&E areas, including a wide spectrum of "Space" technologies. If the National Aeronautics and Space Administration's (NASA) Marshall Space Flight Center – located on 1,800 acres of Redstone Arsenal – and additional Space RDT&E funding, personnel and synergy were to be added to that of Redstone Arsenal, Redstone Arsenal would have a combined Military Value that would far exceed any multi-function RDT&E installation/activity in DoD. Additionally, Redstone Arsenal hosts the Defense Intelligence Agency's Missile and Space Intelligence Agency, the Army's Space and Missile Defense Command and the majority of elements of DoD's Missile Defense Agency (activities recommended for movement to Redstone Arsenal from Northern Virginia leased space in BRAC 2005) that all provide synergy and future requirements for Space functions. The Table clearly indicates that there the Military Value of Kirtland AFB, Redstone Arsenal and possibly other RDT&E installations that afford sufficient intellectual capital and cost efficiency could be maximized by dividing the SMC functions amongst them. The TJCSG's evaluation underscores the ability of DoD to relocate SMC out of the Los Angeles Basin to other installation's performing similar or complementary missions to eliminate unnecessary duplication of mission activity between the Services.

9. Summary

The relocation of SMC missions as part of the BRAC 2005 process offers significant opportunities for DoD to leverage significant, existing synergies with SMC missions at other locations and to reduce costs for space operations RDT&E. LA AFB is a single mission base with no specialized facilities. The installation is in a category of special interest because of excess capacity and failure of the Services to eliminate redundancies between Laboratories in previous BRAC rounds. LA AFB scored poorly in BRAC 1995 and 2005 analysis, with the exception of Space technologies, and has limited – or no – capability to substantively improve those scores based on infrastructure limitations and environmental factors in the Los Angeles Basin. Federal employees and military members assigned to LA AFB receive some of the largest "supplemental income" – in the form of either Civilian Locality Pay or Basic Allowance for Housing, respectively – to offset the very high cost of living in the Los Angeles area. Further, the high, local labor rates and costs of goods and services in the region impact every aspect of SMC's current "cost of doing

business." Since the cost of doing business specific-to-each installation is an element of military value analysis in BRAC 2005 – for the first time – the high costs of retaining SMC in Los Angeles has to be justified on other, mission-imperative needs. While the SMC missions must be performed someplace, there are no compelling reasons to retain them in one of the most expensive operating environments in the country. Modern communications and computer technology permits large, complicated and challenging programs to be successfully supported by diverse organizations and experts in different parts of the world. There is every reason to believe similar success can be achieved with SMC missions with personnel working from Kirtland AFB, Redstone Arsenal and possibly other locations with the support of private companies and educational institutions, some currently located in Southern California.

APPENDIX ONE

ACRONYMS & TERMS

ACRONYMS & TERMS

ACC	USAF Air Combat Command
Aerospace	The Aerospace Corporation
AFB	Air Force Base
AFMC	Air Force Material Command
AFSPC	Air Force Space Command
AMC	USAF Air Mobility Command
AX	Directorate of Systems Acquisition
BAH	Basic Allowance for Housing
BC	Small Business Office
BMD	Ballistic Missile Defense
BRAC	Base Realignment and Closure
CC	Command Section and Command Support
CL	Launch Programs
COBRA	Cost of Base Realignment Actions Cost Model
Council	California Council on Base Support and Retention
Department	Department of Defense
DHS	Department of Homeland Security
DMSP	Defense Meteorological Satellite Program
DoD	Department of Defense
EELV	Evolved Expendable Launch Vehicle
EV	Evolved Expendable Launch Vehicle Systems Office
FFRDC	Federally Funded Research and Development Center
FM	Comptroller
GAO	Government Accountability Office (formerly General Accounting Office)
GP	NAVSTAR Global Positioning System Joint Program Office
GPS	NAVSTAR Global Positioning System
GWOT	Global War on Terrorism
HO	Historian
ICBM	Intercontinental Ballistic Missile
IG	Inspector General
IN	Intelligence
IS	Space-Based Infrared Systems Office
JA	Staff Judge Advocate
LA AFB	Los Angeles Air Force Base
LAX	Los Angeles International Airport
Locality Pay	Federal Civilian Locality Pay
LR	Space Launch and Range Organization
MC	MILSATCOM Joint Program Office
MILCON	Military Construction
MILSATCOM	Military Satellite Communications
NG	Northrop Grumman Corporation

NPV	Net Present Value. The amount of money that must be invested to pay for a COBRA scenario. Negative numbers = savings.
NRO	National Reconnaissance Office
PA	Public Affairs
Partnership	Kirtland Partnership Committee
PK	Contracting
PPSG	Public Private Solutions Group, Inc.
RDT&E	Research, Development, Test & Evaluation
RN	Satellite and Launch Control Systems Program Office
ROI	Return on Investment
SB	Space-Based Radar Joint Program Office
SBIRS	Space-Based Infrared Systems
SBR	Space-Based Radar
SE	Safety
Services	Military Departments
SMC	Air Force Space and Missile Systems Center
SY	Space Superiority System Program Office
TD	Development and Transformation Directorate
TJCSG	Technical Joint Cross Service Group
Tiers	Air Force "Overall Ranks" used in BRAC analysis. Lower number is better.
WX	Defense Meteorological Satellite Program Office