



Utah Defense Alliance Study

To

Examine the Feasibility of Moving Utah
Air Guard Units from the Salt Lake City
Airport to Hill Air Force Base



BusinessDevelopment, Inc.

40 YEARS OF
WINNING



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Executive Summary

The analysis which follows, illustrates the significance of relocating the Utah Air National Guard Units from the Salt Lake City International Airport to Hill Air Force Base. The analysis substantiates the matter is vital to the survival of both entities. The primary consequences of not relocating the Utah Air National Guard to Hill AFB include the following:

1) Utah Will Lose \$104 Million in Annual Federal Funding

The Utah Air National Guard's only opportunity to accommodate the new KC-46A aircraft and associated flying mission is to transition its operations to Hill Air Force Base. If the Utah Air National Guard is unable to receive the new KC-46A aircraft, the 151st Air Refueling Wing will ultimately lose its annual federal funding. This loss of funding equates to \$1 Billion over a 10 year period.

2) Utah Will Lose an Opportunity to Protect Its Largest Employer

Over 23,000 military, civilian, and contractor personnel are employed by Hill Air Force Base. The impact of Hill Air Force Base on Utah's economy is over \$3.5 Billion. Relocating the Utah Air National Guard to Hill Air Force Base will increase the base's military value, thereby strengthening its position in the event of another Base Realignment and Closure (BRAC). Low military value has been the primary criteria for base closure and realignment in the previous five rounds of BRAC.

3) Utah Will Lose Significant Costs Savings From Efficiencies and Synergies

The Utah Air National Guard 151st Air Refueling Wing is a vital element to the Hill Air Force Base 388th and 419th Fighter Wing missions. Relocating the Utah Air National Guard to Hill Air Force Base will provide significant taxpayer savings over the next 20 years through recognized efficiencies and economies of scale.

The survival of the Utah Air National Guard is contingent upon the 151st Air Refueling Wing receiving the KC-46A aircraft and mission. The award of the KC-46A to the Utah Air National Guard is possible only if the move has been completed by July 2017. The myriad of actions and funding required to complete this transition will require a minimum of three years. It is imperative the strategy and subsequent plans to migrate the Utah Air National Guard to Hill Air Force Base be completed prior to the 2014 Utah Legislative General Session which commences 27 January 2014.



Background and Methodology

The following analysis which “Examines the Feasibility of Moving the Utah Air National Guard (ANG) Units from the Salt Lake City Airport to Hill AFB (HAFB)” was conducted by LSI over a 120 day period from 6 May 2013 to 31 August 2013. We have compiled all of the data requested by the Utah Defense Alliance (UDA) necessary to complete the analysis.

During the past 120 days, we have worked with key members of the United States Air Force (USAF), the Utah ANG, the State of Utah, multiple Utah state agencies, and Industry representatives to obtain and analyze the information aligned with the eight Critical Study Components (CSC) requested by the UDA. LSI interviewed a diverse population of Subject Matter Experts (SME) from all areas and professional disciplines to complete the study.

Throughout the entire process, all participants overwhelmingly agreed with the logic in moving the Utah ANG to HAFB. The Study formulates comprehensive recommendations to assist the ultimate decision makers in determining the best way forward for moving the Utah ANG to HAFB. Each CSC has been thoroughly researched and reviewed to ensure the most complete and accurate information is presented. Additionally, the LSI team used a systematic process to ensure all stakeholders had a voice in the outcome of the study.

Table 1 below illustrates a summary of principle individuals contacted and interviewed during the course of the engagement. We also met with numerous other SMEs which are not listed in the table.



Contact	Agency	Technical Competence
Col Samuel H. Ramsay III	Utah ANG 151 st Air Refueling Wing Commander	ANG SME
Col Jack M. Wall	Utah ANG 151 st Mission Support Group Commander	ANG SME
Maj Gen Jefferson S. Burton	Adjutant General, Utah National Guard	NG SME
Maureen Riley	Executive Director, Salt Lake City Department of Airports	SLC Airport SME
Allen McCandless	Director, Planning and Capitol Programming, Salt Lake City Department of Airports	SLC Airport SME
Alvin L. Stewart	Superintendent of Airport Operations, Salt Lake City Department of Airports	SLC Airport SME
Craig Blackhurst	Vice President, Cardo EM-Assist	Environmental SME
Dave Jett	Program Manager, Cardo Tec	Environmental SME
Joel Workman	President, AQS	Environmental SME
Paige Walton	Senior Scientist, Program Manager, AQS	Environmental SME
Mike Richmond	Executive Director, Commerce Real Estate Solutions	Real Estate SME
John Taylor	Director of Corporate Services, Commerce Real Estate Solutions	Real Estate SME
Don L. Enlow	Vice President, Coldwell Banker Commercial	Real Estate SME
Chris Conabee	Managing Director, Corporate Recruitment and Business Services, State of Utah Governor's Office of Economic Development	State of Utah SME
Maj Gen H. Brent Baker, Sr	Commander, Ogden Air Logistics Complex	HAFB SME
Col Kathryn Kolbe	Commander, 75 th Air Base Wing, Hill Air Force Base	HAFB SME
Kelly D. Capener	Director, Business Operations, Ogden Air Logistics Complex	HAFB SME
Harry "Buddy" Breismaster	Director, 75 th Air Base Wing Civil Engineering Group	HAFB CE SME
Mike Pitts	Planner, 75 th Air Base Wing Civil Engineering Group	HAFB CE SME
Krista Hailey	Planner, 75 th Air Base Wing Civil Engineering Group	HAFB CE SME
Paul Waite	75 th Air Base Wing Civil Engineering Group	HAFB CE, ANG SME
Paul Newman	Backman Title Services	Real Estate Title SME
Col Bryan Radliff	419 th Fighter Wing Commander	Air Force Reserve SME
Maj Chris Buckner	Utah ANG 151 st Air Refueling Wing Civil Engineering Commander	ANG SME
Col Dar Craig	Utah ANG 151 st Air Refueling Wing Vice Wing Commander	ANG SME
Lt Col Thomas Wolfe	388 th Fighter Wing Operations Officer	388 th FW SME
Rick Mayfield	Executive Director, MIDA	Military Real Estate SME
Paul Morris	General Counsel, MIDA	Military Real Estate SME
Todd Brightwell	Sr. Vice President, Business Development, EDC Utah	Economic Development SME
Wilf Sommerkorn	Director Planning division, Community and Economic Development Department, Salt Lake City Corporation	Economic Development SME

Table 1- Representative Listing of Air Force, National Guard, State of Utah, Local and Industry Agencies and Representatives Contacted

Table 2 below provides a summary of the core LSI team who compiled the information and data required to complete the study. LSI's core team brings an average of 30 years individual experience to this engagement.



Staff Member	Experience	Technical Competence
Sean Slatter	LSI CEO/President	Hill AFB/Utah ANG SME and Economist
Gene Hathenbruck	Former Hill AFB SES	Project Manager/Hill AFB SME
Morris Goodrich	Former Hill AFB SES	Hill AFB SME
Gen. (ret.) Mike Newton	Former Hill AFB AG	Hill AFB/ANG SME
Col. (ret.) Mike Barnes	Former Hill AFB GS-15/ANG O-6	Hill AFB/Utah ANG SME
Col. (ret.) Steve Aylor	Former Hill AFB O-6	Hill AFB SME
Terry W. Morris	Former Hill AFB GS-15	XP Hill AFB SME
Col. (ret.) Kelvin Findlay	Former Chief of Staff Utah ANG	Utah ANG SME
Col. (ret.) Richard Workman	Former ANG 191st Commander	Utah ANG SME
Kori Ann Edwards	LSI Senior Vice President	Hill AFB SME and Economist
Sen. Todd Weiler	Utah State Senator	Utah Legal/Political Liaison

Table 2- Listing of LSI ANG Study Staff Members, Experience and Technical Competence

Although not listed above, LSI also utilized the expertise of former OO-ALC Commanders, Directors of Plans and Programs, Air Base Wing Commanders, and Utah ANG Commanders.

The following information provides the reader background information on subjects relevant to the analysis:

1. Hill Air Force Base, the Ogden Air Logistics Complex, and HAFB Tenants
2. Utah Air National Guard and the 151st Air Refueling Wing
3. KC-46A Aircraft and Mission

Hill AFB and Ogden Air Logistics Complex Overview

Over 23,000 Utah jobs are resident at HAFB, Utah. HAFB is the largest single site employer in the State of Utah. The \$960 Million payroll and presence of the installation projects tremendous growth into the Utah economy with over \$3.5 Billion in economic impact for the state. HAFB is home to many operational and support missions, with the host organization being the 75th Air Base Wing (75th ABW).

75th ABW

The 75th ABW provides readiness and installation support for all the organizations located at HAFB. The 75th ABW is responsible for mission support, civil engineering, medical, airfield operations, command post, explosive ordnance disposal, public affairs, financial management of \$400 Million and ground operations for the installation and the Utah Test and Training Range.

Covering more than 6,650 acres, the base itself includes 228 miles of roads, 28 miles of railroads, 1,475 buildings and 11 aircraft hangars. The 13,500-foot runway accommodates any aircraft in the USAF inventory.



In a typical year, locally based and transient aircraft will log more than 50,000 takeoffs and landings.

Ogden Air Logistics Complex (OO-ALC)

The Ogden Air Logistics Complex at HAFB is one of three Air Logistics Complexes under the Air Force Sustainment Center (AFSC).with expertise in world-class, comprehensive sustainment of air and space systems. The OO-ALC provides worldwide engineering and logistics management for the F-16 Fighting Falcon, A-10 Thunderbolt II, F-22 Raptor, C-130 Hercules and the Minuteman III Intercontinental Ballistic Missiles (ICBM) and a myriad of components, landing gear, software, and composites.

Other Tenant Organizations

Other large organizations at HAFB are the 388th and 419th Fighter Wings, and more than 50 smaller associate units. A brief overview of the Fighter Wing tenants is provided below.

388th Fighter Wing

The 388th Fighter Wing delivers combat capability to deploy, employ, and sustain F-16s worldwide. With more than 2,000 military and civil service professionals, the wing consists of eight squadrons which maintain and operate 48 primary assigned F-16CM aircraft and maintain the Utah Test and Training Range.

419th Fighter Wing

The 419th Fighter Wing is Utah's only Air Force Reserve unit. Its nearly 1,200 Airmen train for worldwide mobility to perform a wide variety of F-16 missions and expeditionary combat support. Members are trained in a number of specialties to include operations, maintenance, civil engineering, security forces, medical, and transportation.

Utah Air National Guard Overview

The Utah ANG Base is an Air Mobility Command (AMC) installation and is home to the Utah ANG.



The host organization, the 151st Air Refueling Wing (ARW), aggressively extends global reach, power and humanitarian support for the state of Utah and the nation. The installation is also home to several associate units that also provide capabilities and support to the state and nation.

Personnel and Resources

The authorized strength for the Utah ANG for the current fiscal year is approximately 1,450 members (Utah jobs).

Mission

The Utah ANG has both a federal and state mission. The dual mission, a provision of the U. S. Constitution, mandates each guardsman holding membership in the National Guard of his or her state and also in the National Guard of the United States.

Federal Mission

The Utah ANG's federal mission is to maintain well-trained, well-equipped units available for prompt mobilization during war and provide assistance during national emergencies (such as natural disasters or civil disturbances). During peacetime, the combat-ready units and support units are assigned to most Air Force Major Commands (MAJCOMS) to carry out missions compatible with training, mobilization readiness, humanitarian and contingency operations such as Operation Enduring Freedom in Afghanistan. Air National Guard units may be activated in a number of ways as prescribed by public law.

The Air National Guard provides almost half of the USAF's tactical airlift support, combat communications functions, aero medical evacuations and aerial refueling. Additionally, the Air National Guard has total responsibility for air defense of the entire United States.

State Mission

When the Utah ANG units are not mobilized or under federal control, they report to the Governor of the State of Utah, the honorable Gary R. Herbert. The Adjutant General of the Utah National Guard is Maj. Gen. Jefferson Burton. Under state law, the Air National Guard provides protection of life, property and preserves peace, order and public safety.



These missions are accomplished through emergency relief support during natural disasters such as floods, earthquakes and forest fires; search and rescue operations; support to civil defense authorities; maintenance of vital public services and drug interdiction.

151st Air Refueling Wing

The 151st Air Refueling Wing is the single largest component of the Utah ANG and provides personnel to fly, maintain, and support a KC-135R aerial refueling unit. The unit flies training missions in the western United States and frequently deploys to worldwide locations in support of on-going combat operations. The unit is strategically located in the center of the Western United States providing the Department of Defense (DoD) a mission with unique outreach capability. The 151st ARW is the primary refueling unit for the training needs of HAFB's 388th and 419th Fighter Wings. This training ensures that the HAFB fighter pilots are trained and proficient in Air Refueling (A/R) procedures and ready for war. The HAFB based fighters account for 30-40% of the air refueling activities of the Utah ANG each month. All other bases around the western US (over a dozen) account for the other 60%. The 151st ARW is conversely the primary A/R unit for Hill AFB. Other A/R units from the Western US come occasionally, but the Salt Lake unit is primary because of location and availability.

The 151st ARW KC-135 fleet is aging, with some aircraft as old as 56 years. The Air Mobility Command (AMC) will be replacing a portion of the KC-135 fleet beginning in 2018 with KC-46A and retiring the KC-135.

The 151st ARW Utah ANG was not a contender for the new KC-46A in the first competitive round in 2013. If the 151st ARW Utah ANG stays at Salt Lake City International Airport it will not meet the strategic basing criteria to compete for the KC-46A in the remaining two rounds. Without this replacement Utah ANG's current flying mission may be phased out. The future survival of the Utah ANG and maintaining this Federal Military income to the State depends on the 151st ARW Utah ANG transitioning to the new KC-46A.



KC-46A Overview

The KC-46A is a derivative of the Boeing 767 airliner. The KC-46 program is the first of a 3-phase effort to replace the aging KC-135 and KC-10 tanker fleets. The first phase (KC-46A) will begin to recapitalize the KC-135 fleet which has been the mainstay of Air Force air refueling for more than five decades. Compared to the KC-135R, the KC-46A has more refueling capacity, enhanced air refueling capabilities, improved efficiency, and increased cargo and aeromedical evacuation capabilities. The KC-46A is expected to produce better mission-capable rates and less maintenance downtime than the KC-135 Platform.



The KC-46A is a wide body, multi-role tanker that promises to revolutionize the air mobility mission. It can refuel all U.S., allied and coalition military aircraft compatible with international aerial refueling procedures, any time, on any mission, and can carry passengers, cargo and patients. The ability to detect, avoid, defeat and survive threats using multiple layers of protection will allow the KC-46A to operate safely in medium-threat environments. Boeing has a contract with the USAF to deliver 179 KC-46A Tankers.

KC-46 General Characteristics

Crew: 3 (2 pilots, 1 boom operator) basic crew; 15 permanent seats for additional air crew members. Capacity: seating for up to 114 people, 18 463L pallets, or 58 patients (24 litters, 34 ambulatory)

Payload: 65,000 lb
Length: 165 ft 6 in
Wingspan: 157 ft 8 in
Height: 52 ft 1 in
Empty weight: 181,610 lb
Max. takeoff weight: 415,000 lb
Powerplant: 2 x PW4062

Fuel Capacity: 212,299 lb
Max. Transfer Fuel Load: 207,672 lb
Performance
Max. speed: 570 MPH
Cruise speed: 530 MPH
Range: 6,385 Miles
Service ceiling: 40,100 ft



KC-46A Basing Criteria

In April 2012, the USAF released the KC-46A Basing Criteria outlining requirements for hosting the KC-46A mission. Basing selection will be conducted in multiple rounds. Pease Air Guard Station, NH was selected as the preferred alternative for the first Air National Guard KC-46A main operating base (MOB 2). Forbes AGS, KS; Joint Base McGuire-Dix-Lakehurst, NJ; Pittsburgh IAP AGS, PA; and Rickenbacker AGS, OH; were selected as reasonable alternatives. Final selection will be announced in early 2014. Table 3 summarizes the basing criteria requirements and associated points for hosting the KC-46A mission:

KC-46A Basing Criteria	
A/R Receiver Demand Model	25 pts
Airfield/Airspace Availability	5 pts
Fuels Dispensing	4 pts
Fuels Storage	2 pts
Fuels Receipt	2 pts
Potential to establish an Association	2 pts
Mission Total	40 pts
Air Quality	3 pts
Environmental Impact	2 pts
Noise	2 pts
Encroachment	2 pts
Land Use	1 pt
Environmental Total	10 pts
Hangar	12 pts
Runway	4 pts
Ramp	12 pts
BOS Capability	4 pts
Squadron Ops Facility & Aircraft MX Unit	4 pts
ATS Facility	2 pts
Fuselage Trg Facility	1 pt
Communications Infrastructure	1 pt
Capacity Total	40pts
Area Construction Cost Factor	1 pt
Area Locality Costs	9 pts
Costs Total	10 pts
Overall Total	100 pts

Table 3 – KC-46A Basing Criteria



The Utah ANG based at the Salt Lake City Airport was not considered in Round 1 because it did not meet all the minimum requirements outlined in the Basing Selection Criteria. There are two fundamental challenges the Utah ANG faces in the basing selection process: the footprint of the KC-46 air refueling tanker, and the pre-requisite of hosting an active associate unit. To accommodate any follow-on air refueling tanker at SLC Airport, the Utah ANG will need to tear down existing hangers and operations facilities, expand the ramp, and build new facilities. This cost is nearly equal to the cost of the critical phases of re-locating to Hill AFB. To competitively host an active associate unit, the Utah ANG needs to be aligned as closely as possible to the housing and support functions of an active duty base. Although only 2 points are given for an Active Duty Association, the weight of those 2 points are critical. Without them, the ANG has no chance to compete for the KC-46 mission. Re-locating to Hill AFB will best address both these challenges. A detailed presentation of the Air Force Basing Criteria can be accessed under Attachment A of this document.

The next round is to identify Air Force Reserve led Active Association Selection. This round is scheduled to begin Fall of 2015 with candidate selection in the Winter of 2016. Selections announcements will be made in Spring 2016. A decision has been made that the Utah ANG will not participate in this Second round of Basing Selection.

The next Basing Selection Round that the Utah ANG will participate in will begin in the Fall of 2018. It is imperative that the Utah ANG transition to HAFB be completed no later than July 2017. The Active Duty Association (defined below) must be established before the basing criteria is finalized for the Utah ANG to be considered a strong competitor for basing selection. Further rounds will be determined in three year increments based on Boeing's aircraft production delivery schedules.

Active Duty Association

An Active Duty Association (termed Active Associate) is an augmentation to an ANG unit of active duty personnel. This augmentation comprises approximately 200 personnel, 30% of which are flying personnel, and 70% maintenance personnel. They augment the ANG unit in order to better utilize the flying resources of the ANG unit. They can more than double the utilization rates of the ANG units aircraft. This is particularly important as follow-on aircraft (F-22, F-35, C-17, and KC-46) come on line. The expense of these aircraft require much greater utilization rates than a typical Guard unit can achieve. The active duty personnel in this augmentation are supported by the ANG unit. However, many of the support requirements needed by these AD personnel are not typically dealt



with by the Guard (housing, full time medical, BX/Commissary, etc.), and so being near or on an active duty base helps support these requirements.

Critical Study Component (CSC) Summary

The following is an overview of the eight Critical Study Components (CSC) addressed in the Utah ANG relocation to HAFB feasibility study. Additional details can be found under each respective CSC section.

CSC #1 Bed-down plan analysis: The original bed-down plan was completed in September 2012 by HAFB’s 75th Air Base Wing Civil Engineering Group (75th ABW/CE) with an initial cost estimate of \$399 Million.

LSI, HAFB and the Utah ANG developed a minimum requirement phased approach bed-down plan that meets all Utah ANG critical needs to compete. Phase 1 and 2 includes KC-46A compatible hangers, ramp and all associated operations and maintenance infrastructure. LSI’s estimated cost of the revised bed-down plan is \$168 Million, which represents the minimum investment required for initial relocation.

Additional phases such as Phase 3 and 4 includes moving the headquarters, support, and other infrastructure needs for an additional cost of \$79 Million.

Phase	Revised Bed-Down
Phase 1	\$ 60.5 Million
Phase 2	\$ 107.6 Million
Subtotal (Critical)	\$168.1 Million
Phase 3	\$ 37.7 Million
Phase 4	\$ 41 Million

Table 4 – Revised Bed-Down Estimated Costs

CSC #2 Environmental: LSI engaged two experienced environmental companies to provide an assessment of the environmental requirements associated with the Utah ANG move to HAFB. LSI also reviewed the current Utah ANG lease and determined there are only minimal costs associated with environmental responsibilities.

Seven of the ten ongoing Utah ANG remediation programs required by the Utah Department of Environmental Quality (DEQ) are complete. The remaining three programs are funded by the National Guard Bureau (NGB) and should complete within the next 2-3 years. While there are no additional remediation costs, upon sale or lease of the property there would be an \$89,822 cost to fund a facilities condition assessment. No additional remediation is required at HAFB.



Remediation	Utah ANG
Environmental Assessment (EA)	\$0
Installation Restoration Programs (IRP)	\$0
Facility Condition Assessment (FCA)	\$89,822
Total	\$89,822

Table 5- Utah ANG Remediation Costs

CSC #3 Reuse analysis: Commercial use of the property is the preferred option. It is estimated that reuse of the facilities will generate existing Utah ANG revenues of \$80 Million or an annual lease of \$3.0 Million.

CSC #4 Title search: LSI verified the Salt Lake City Corporation is the fee owner of the property occupied by the Utah ANG. Additionally, the title search found no judgments, federal tax liens or bankruptcies on the subject property.

CSC #5 Base operating efficiencies: LSI identified 13 operational benefits by moving the Utah ANG to HAFB. These efficiencies include the following: joint pre/post aircrew briefings, utilization of maintenance personnel, equipment sharing, additional taxiways and alternate runway, training, personnel and family support, housing- billeting and dining hall, medical facilities, expanded access to the East Gate, and Civil Engineers (Prime Base Engineer Emergency Force BEEF).

CSC #6 Mission synergies: The analysis correlates mission synergies which include: improvements in refueling and cargo missions, supportability active duty association, nuclear response, force protection and anti terrorism. LSI estimates the cost savings of base operating efficiencies and mission synergies to be \$ 1 Billion over the next 20 years.

CSC #7 HAFB’s ability to accommodate the Utah ANG mission and day to day operations: LSI interviewed key USAF leaders across the base and determined that HAFB’s current infrastructure will more than accommodate the Utah ANG mission and operations. While there are no significant mission impacts, there may be minimal impact to grounds and facilities.

CSC #8 Impact on the Utah ANG personnel: The study concluded that there will be no overall detrimental impact to personnel by migrating the base location from Salt Lake City Airport to HAFB. Current demographics indicate that in the short run only one third of the Utah ANG personnel would see an increase in commute.

CSC #9 Funding: *Currently there is no funding source for the Utah ANG move to HAFB. LSI added a critical study component #9 to address this issue.*



This component focused on similar moves in Illinois, Arizona and Tennessee where the funding source was from reuse from the State or the National Guard Bureau (NGB). In most cases funding was from other sources outside the federal government. Based on current data collected for this study, the only viable sources for funding the move of the Utah ANG from the Salt Lake Airport to HAFB is the State of Utah, Salt Lake City, and Salt Lake County.

In summary, the analysis concludes that the UDA provide the support needed to immediately begin building a strategy and plan to move the Utah ANG to HAFB.



Critical Study Components

CSC #1 Bed-Down Plan Analysis:

The Study will include a review of the baseline bed-down plan and cost analysis to validate it meets all the ANG needs and reflects the most cost effective alternative. The study report will include recommendations for improving/revising the baseline plan.

LSI analyzed the initial bed-down plan developed in September of 2012 by the 75th Air Base Wing (ABW) Civil Engineering (CE) and the Utah ANG (a copy of this document is provided for reference under Attachment B of this document). This plan initial included all possible facilities, pavements, and other amenities that might be required with the relocation. The plan is comprehensive, and meets the needs of all concerned. However, funding considerations were not a major factor in this initial document.

We have provided a complete overview of the cost to move the Utah ANG to HAFB under Attachment C of this document. The cost of the initial relocation bed-down plan was valued at \$399 Million. The general assessment of Utah state leaders and military commanders, this plan is too costly and therefore unachievable. We have summarized these initial cost estimates below in Table 6.



Initial Bed-Down Cost Breakdown	
Facilities	
Hangars (2)	\$ 33Million
Headquarters Building	\$ 18 Million
Operations and Services Building	\$ 50 Million
Composite Maintenance Complex	\$ 19 Million
Flights Simulator and other Training Buildings (2)	\$ 61 Million
Add-ons to Existing Facilities (5)	\$ 24 Million
Tenant Unit Facilities (4)	\$ 28 Million
Facilities Total	\$233 M
Airfield and Pavements	
Ramp and Associated Infrastructure	\$ 66 Million
Taxiway – North	\$ 8 Million
Taxiway – South	\$ 21 Million
West Side Air Freight Ramp	\$ 8 Million
Parking Lots and Roads	\$ 13 Million
Golf Course Relocation of 4 Holes	\$ 1 Million
Airfield and Payments Total	\$117 Million
Utilities	
Upgrade Water Infrastructure	\$11 Million
Fuel Hydrant System and Storage Tanks	\$ 20 Million
Communication Hub	\$ 7 Million
Other Utility Upgrades	\$ 2 Million
Utilities Total	\$40 Million
Other Construction Items	
Commercial East Gate Upgrades	\$ 4 Million
Raising the Radar Tower	\$ 5 Million
Other Construction Items Total	\$9 Million
Bed Down Plan Total	\$ 399 Million

Table 6 – Initial Bed-down Plan Costs

Following our review of the initial bed-down plan costs, LSI worked to develop a more cost effective alternative. LSI met with the bed-down development team and asked them to rethink, scale back, and rework the bed-down plan costs without affecting the mission. Table 7 below provides a summary of LSI’s revised bed-down plan in a phased approach. A detailed overview of the LSI plan can be accessed under Attachment D of this document.



LSI's Revised Bed-Down Cost Breakdown (Phased Approach)	
Phase 1 - Pavements (3-5 Years)	
Ramp and Associated Infrastructure	\$ 52 Million
Taxiway – North	\$ 8 Million
Phase 1 Total	\$60 Million
Phase 2 – Operations and Maintenance (3-5 Years)	
Hangars (2)	\$ 33 Million
Operations and Services Building	\$ 35 Million
Composite Maintenance Complex	\$ 11 Million
Upgrade Utility Infrastructure	\$ 13 Million
Communications Hub	\$ 6 Million
Roads and Parking Lots	\$ 5 Million
Raising the Radar Tower	\$ 5 Million
Phase 2 Total	\$108 Million
Phase 3 – Headquarters Building and Fuel System (4-6 Years)	
Headquarters Building	\$ 18 Million
Fuel Hydrant System and Storage Tanks	\$ 20 Million
Phase 3 Total	\$38 Million
Phase 4 – Tenant Units and Facility Add Ons (5-10 Years)	
169 th Intelligence Building	\$ 10 Million
130 th Engineer Installation Building	\$ 6 Million
109 th Air Control (Co-locate with 729 th ACS)	\$ 9 Million
Add Ons to Existing Facilities (3)	\$15 Million
Phase 4 Total	\$40 Million
Bed-Down Plan Total	\$ 246 Million

Table 7 – LSI's Revised Bed-down plan

Phases 1 and 2 of the revised plan are mandatory for the initial Utah ANG stand-up at HAFB. These phases include the construction of KC-46A hangers, ramp and all associated operations and maintenance infrastructures. We have estimated that the overall investment for this infrastructure to be \$168.1 Million.

Savings realized in changes made from the initial bed-down plan to LSI's revised bed-down plan include: decreasing the size of the ramp to accommodate 8 aircraft rather than 12 aircraft (\$14 Million), initially eliminating Taxiway South (\$21 Million), decrease square footage of the operations and services building by 70K square feet (\$15 Million), decrease square footage requirement of the maintenance complex (\$8 Million).



Additional cost saving may be recognized by delaying raising the radar tower (\$5 Million).

Phases 3 & 4 includes an investment in the headquarters building, support functions, and other infrastructure requirements at an additional cost of \$78 Million. This cost could be further reduced by using existing HAFB facilities to accommodate the Utah ANG headquarters and support personnel instead of building a new headquarters building (potential savings of \$7 Million).

LSI's revised bed-down plan includes several follow-on Projects (Phase 5) that are not critical to the transition. Further details on the above assessment can be found under Attachment D of this document.

Other Considerations

LSI identified three other options which will require additional analysis:

1. Utilize the former 419th complex as a bed-down location
2. Utilize OO-ALC A-10 and F-16 maintenance hangars and fund new facilities
3. Utilize OO-ALC C-130 maintenance hangar

CSC #2 Environmental Analysis:

Environmental remediation costs at the Salt Lake City Airport site have not been addressed in the baseline plan. A description of any remediation required, along with associated costs, will be included in the study.

LSI engaged two contractors with extensive experience in a variety of environmental assessments for both commercial and government entities. After a careful review of the credentials, past performance, and breadth of environmental experience, LSI selected Cardno Tec to assist in the performance of this study component. See Attachment E for a fact sheet of Cardno Tec's capabilities, experience, and additional details on the analysis. Table 8 below summarizes the required remediation and associated costs of migrating the Utah ANG units to HAFB.



Remediation	Utah ANG
Environmental Assessment (EA)	\$0
Installation Restoration Programs (IRP)	\$0
Facility Condition Assessment (FCA)	\$89,822
Total	\$89,822

Table 8 - Remediation

Cardno Tec has extensive experience with remediation including a recent similar project at the Boise Idaho Airport. The company was also awarded a contract to conduct an environmental analysis for bedding down the KC-46A for Air Mobility Command (AMC) and the Guard Bureau. Cardno Tec has completed similar environmental studies for the F-22 and F-35 of which HAFB was one of the bases they considered. Additionally, the contractor is already working an environmental assessment for the Utah ANG at the SLC Airport.

Cardno Tec has supported the 151st ARW, to achieve site closure at ERP Site 10. The company is certified by the Utah Department of Environmental Quality (Utah DEQ) to conduct petroleum investigations through their Underground Storage Tank (UST) Branch. Cardno Tec has conducted multiple environmental investigations and studies at the 151st ARW, Utah ANG at the Salt Lake City International Airport and in the surrounding region. These projects validate experience that is directly applicable to the evaluation of ERP and CRP sites for life-cycle planning through project closeout. See Figure 1 below for detailed Salt Lake City site remediation.



The Environmental Restoration Program (ERP), Title 10. USC 2701 is the Department of Defense (DoD) program for all services that establish the scope, regulatory agency and level of effort for the identification and remediation of contaminated sites on DoD land. The IRP is the base level implementation of the ERP. Under this program the Utah ANG in conjunction with the State of Utah have identified ten (10) IRP sites at the Salt Lake City Airport Utah ANG site as illustrated in Figure 1. Sites 1, 3, 4, 5, 6, 7, and 9 are closed. No further action is required. Sites 2 and 8 which have been combined (2/8) and site 10, are still undergoing remediation.

The National Guard Bureau (NGB) has recently awarded a new contract for continuation of the remediation of sites 2/8 and 10 and to support a Project Closure Order (PCO). The concern with site 2/8 is buried solvents, while the concern with site 10 is underground fuel spillage. The remediation on sites 2/8 and 10 will continue until a PCO is filed, at which time the State of Utah may require some site sampling in order to approve the PCO.

The estimated time to closure of the two sites is unknown. However, based on estimates from the Utah ANG environmental office it could be two or more years. Site closures which are based on compliance with regulatory agency requirements is most often a negotiated settlement, sometimes based on reuse or extent of realistic remediation actions. In some cases efforts may range from partial remediation to 100%, which will determine the worst case/best case cost estimates.

In summarizing the IRP program, out of the ten (10) IRP sites, seven are closed. The remaining sites (2/8 and 10) are under contract to complete the remediation and close the sites. There is a possibility of some additional sampling the State may require. Although the future funding of these two sites are unknown, it is likely the sites may be closed under the current funded NGB contract. Consequently, there are no anticipated additional costs to close the remaining IRP sites.

Prior to reuse of the Utah ANG site, an FCA must be performed on each of the facilities. The assessment determines what needs to be fixed or replaced in order for the facility to meet environmental standards. The assessment also includes determining the condition of the underground utilities which could also add to the FCA costs if repairs or improvements were required.

The cost is calculated at approximately 30 cents per square foot. Applying this per square foot amount to those buildings at Utah ANG identified as requiring corrections under Attachment F, the cost is estimated at \$89,822. This cost would be required upon sale or lease of the property to fund a facilities condition assessment.



Additionally, Cardno Tec assessed the environmental impact of moving the 151st Air Refueling Wing to Hill Air Force Base. A map of the active remedial actions at HAFB is below as Figure 2. It is the opinion of Cardno Tec that under the National Environmental Policy Act (NEPA) the move may only require an Environmental Assessment (EA) as opposed to an Environmental Impact Statement (EIS). This cost of an assessment is estimated at \$275,000 - \$350,000.

The cost range is for planning purposes, since the range is based on the level of effort for public interest and involvement in moving the Utah ANG to HAFB, and the extent of air quality analysis. However, HAFB is already an Environmental Protection Agency (EPA) Superfund site. Any environmental remediation costs would be funded by the EPA. There would be no cost to HAFB. In addition, the Utah ANG HAFB facility site plan could require an update to the HAFB Facility Master Plan. These two actions would be the only environmental costs required unless Utah ANG built any of its facilities on an IRP site at HAFB.

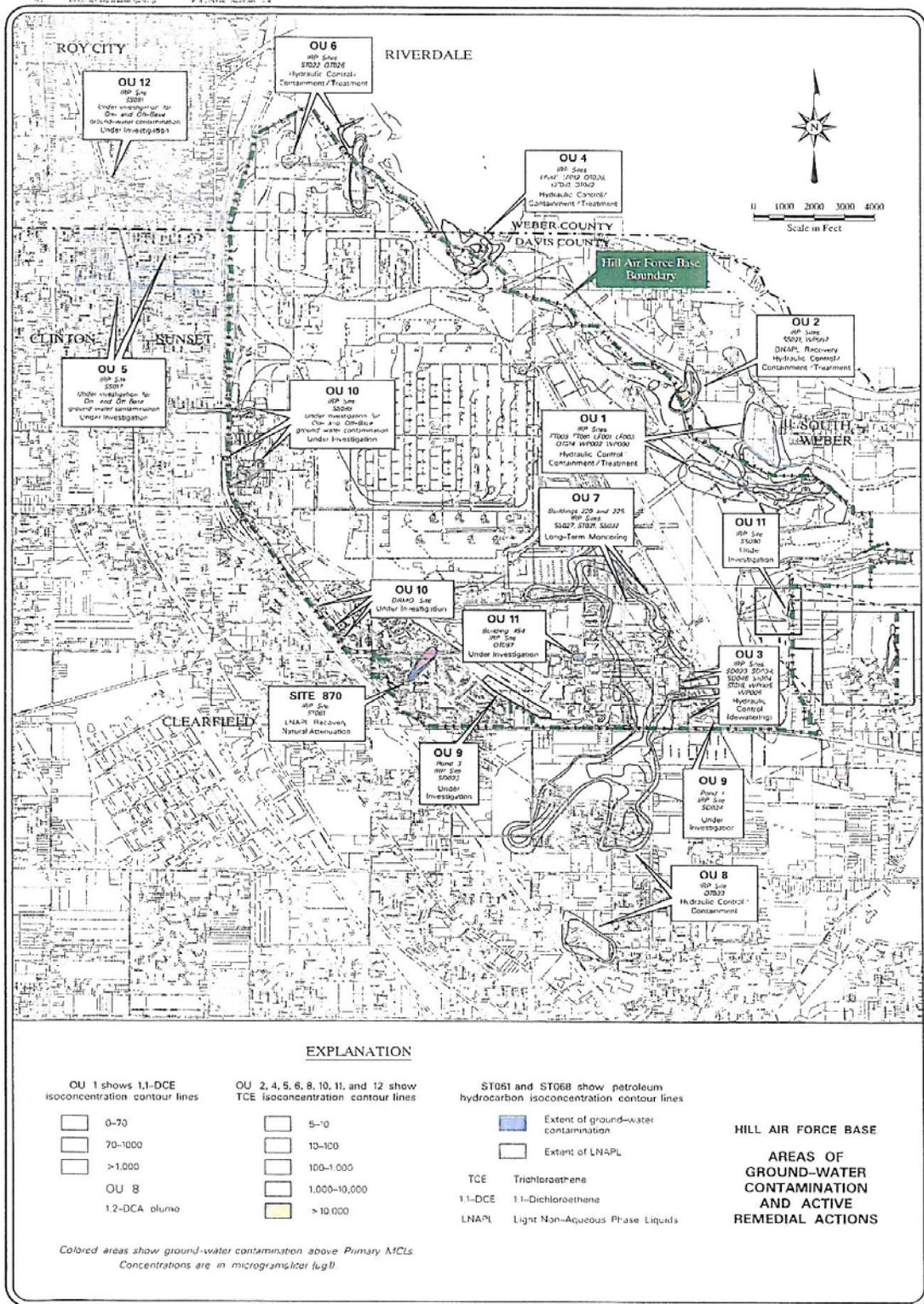


Figure 2. Active remedial actions at HAFB



(CSC #2 Continued)

LSI also reviewed the current Utah ANG lease included under Attachment G of this document to determine if it specifically addressed environmental responsibility. Paragraph 18 of the lease addresses restoration of premises to pre-lease conditions. Paragraph 20 addresses maintenance, sanitation, cleanliness of property and use of pesticides. Paragraph 28 discusses use of Lead Based Paint in accordance with Public Law 91-695 (42 United States Code 4831). The environmental paragraphs of this lease are standard on most leases and have a minimal impact to environmental cost.

CSC #3 Reuse Analysis:

The study will include an analysis of reuse options for the land and facilities currently occupied by ANG organizations at the Salt Lake City Airport site. This analysis will be focused on determining if reuse could generate revenue to offset the cost of relocation.

The reuse of the Salt Lake City Airport site will generate long term revenue to offset the cost of relocating the Utah ANG to HAFB. LSI engaged two Salt Lake City real estate companies to assist in the analysis of reuse options for the land and facilities at the Utah ANG site. Mr. Mike Richmond, Executive Director at Commerce Real Estate Solutions and Mr. Don Enlow, Vice President Coldwell Banker Commercial are two of the leading agents in the area for evaluating commercial property for rent, lease, or sale.

Both real estate companies agree the land and buildings could be sold for approximately \$80 Million and leasing the site would generate revenue from \$2,870,000 to \$3,800,000 annually as seen in Table 9.

Should the decision be made to move Utah ANG, it is also a recommendation from Coldwell and Commerce Real Estate Solutions, a developer or specialist in handling this kind of property be engaged to refine the reuse options and maximize the revenue. LSI can provide the required expertise to assist in the selection process of a developer or specialist and work with them to transfer the study information.

Land and Buildings	Low Range	High Range
Sale	\$70 Million	\$90 Million
Annual Leasing	\$2.8 Million	\$3.8 Million

Table 9 – Sale and Leasing



Potential Reuse Options

The scenarios were identified during the data gathering and interview process on reuse options.

Major General Burton, Commander Utah National Guard, indicated that it is his preference is to move the Army Guard Blackhawk and Cobra Helicopter Squadrons from the West Valley City site to the Utah ANG. This option could be accomplished using the current lease arrangement and is also preferred by Maureen Riley, Executive Director, Salt Lake City Department of Airports.

Reuse potential of the West Valley site will require an additional study. The Airport Authority Director emphasized any use of the Guard site such as leasing, renting or sale would have to be coordinated with the Federal Aviation Administration (FAA). The FAA has specific guidelines and rules for rates and the use of fair market value for any properties within the confines of the airport. There are also different guidelines based on the use of the site for flying operations versus commercial use. In either case they would have to work with FAA to comply with their rules on any reuse of the Guard site. Ms. Riley emphasized Salt Lake City owned the property and any reuse decision must be approved by their office.

A subsequent meeting with John Buckner, Airport Properties Specialist also confirmed a preference for general or corporate aviation, Fixed Based Operator (i.e. Allegiant Air, Aircraft Maintenance, or Repair and Overhaul (MRO)). Mr. Buckner also mentioned that Boeing has the first right of refusal on 150 acres to the North and may eventually want to expand to the South into the Guard site. Also, L3 Communications and the Federal Aviation Administration are adjacent to the Utah ANG site and may have an interest in expanding their operations.

Discussions with the Governor's Office of Economic Development (GOED) and EDC Utah expressed desires to continue the development of what is being called, "Aviation Alley" and recruiting from the full-spectrum of aerospace and aviation industry.



Utah ANG Facility Value Assessment

As part of Mike Richmond's assessment he reviewed the Utah ANG lease, a listing and breakout of buildings and lands with square footages, and performed a personal tour of the Guard facility. He concluded the design and layout of the buildings are very specific to the current use. All buildings are well maintained and appear to be in good condition, based on the age and use. It is the special design of many of the existing facilities that make it challenging to form an opinion of value and determine a likely specific user.

The current wide variety of uses adds subjectivity and complicates the assignment. Division of the space to multiple users based on location and function of the building on the property likely extends the marketing and absorption of the property, adding further subjectivity to any value estimate.

Commerce Real Estate Solution's opinions are based on their experience in the market with general commercial real estate and price ranges for similar improvements in the local market. Additionally, the price estimate provided does not account for any expense or absorption discounting of the contributing buildings. The fact that the property is within the secured airport boundaries and has access to the runways and tarmac is unique and challenging to measure a premium or discount for location. Portions of improvements are specific to this location and are not typically developed other than for a specific user. Therefore, they are providing a range in the estimate.

As the site is currently developed there are approximately 56 structures or buildings on the site, one of which was recently renovated and repurposed. Additionally, there are some structures and equipment specifically designed and constructed on site that are unique to the jet servicing use that are non-commercial in nature. For purposes of this analysis they have made the determination that the small structures specific to the Utah ANG's use would have limited or no appeal to other users and have not included them in the final estimate. The cost to remove these small structures has not been deducted from the final estimate. Two specific areas are special purpose in nature to the airport location, the new Fire Crash/Rescue Station Building and the Jet Fueling Equipment and supporting structures, are included in the final estimate as per reported PRV on the schedule provided by LSI.



Numerous items associated with general site improvements such as underground utilities and perimeter fencing are included in the estimate of the site contributory value and are not addressed individually.

There are 22 significantly larger structures or buildings on site that are similar to buildings in general use by the market. These include general office buildings, warehouse and shop buildings as well as the two hanger buildings that have general appeal similar to warehouse buildings.

For purposes of this estimate, we have analyzed these buildings as if they were available for sale or use in the local market. The fact that they are situated on the airport property could be viewed as a positive factor by some market participants and as a negative factor by others. For this analysis they have compared these buildings to recent comparables in the local market and estimated a market price range. The range in price accounts for the subjectivity of the location and the fact that not all buildings were available for interior inspection. Further, the interior build-out and finish is very specific to the current use and its applicability to general market use creates some additional subjectivity.

Based on Commerce Real Estates Solution’s analysis the total property would have a value in exchange of between \$70 Million and \$90 Million. These totals are arrived at based upon a range of value per the following Table 10. It is pointed out that these estimates assume fee ownership and that the property could be conveyed by title but would remain as part of the Airport.

Component	Low Range	High Range
Land	\$20 Million	\$30 Million
Special Purpose Airport Structures	\$28 Million	\$28 Million
Buildings	\$22 Million	\$32 Million
Total	\$70 Million	\$90 Million

Table 10 – Sale of Existing Utah ANG Facilities

The likely users for this type of property would be companies with sizable operations that are currently located in this submarket similar to, L3 Communications, Boeing, and FAA. Other industries that could have an interest would be companies requiring access to the runway such as courier companies like FedEx, UPS, DHL and others. The actual letter of consultation from Commerce Real Estates Solutions can be found in Attachment H.



Coldwell Banker Commercial, Mr. Don Enlow's underscored the reality that the Utah ANG buildings and facilities were built specifically for the operations of the Utah ANG. Some of the buildings could easily be converted to use in the private sector. Other buildings would need to be retrofitted and remodeled to at a substantial cost to fit the needs of a private sector user.

The aircraft hangers, fuel depot, and maintenance facilities for aircraft would have a very limited and specific appeal to companies engaged in the travel, cargo, logistics, and other air related fields.

In our opinion, there are numerous scenarios that could take place regarding the redevelopment of the Utah ANG site:

- A developer could acquire the entire site and create a mixed used office, office/warehouse and aviation specific business park. McClellan Park in Northern California is a prime example of this concept. McClellan Park is the conversion of the former McClellan Air Force Base in California.
- The city could enter into an agreement with a developer to engage in a joint venture wherein the developer negotiates a long term lease on the property. The developer would agree to redevelop the site, and to share the lease proceeds from present and future development over the life of the agreement. An example of this concept is the agreement between the City of Ogden and the Boyer Company, at what is commonly known as Business Depot Ogden (BDO)

There are also various other hybrid scenarios combining the two methods above that could be used to develop the site.

Mr. Enlow emphasized the evaluation methods regarding the comprehensive value of the property are incredibly complicated and wide ranging. Many developers have a set formula of what they must achieve regarding a rate of return on their investment and development activities. Some developers will set their value based on what they believe it will cost to redevelop the site, and then discount for financing, holding costs, lease up timing, and the time value of money.

All developers will do their best to calculate the risk/ benefit ratio of a project. That risk/benefit ratio can be tempered based on incentives and contractual assurances they may receive from the city, state or other entities.



Sales and lease comparables of buildings sold in the Salt Lake Valley, along with listed properties of similar types in the marketplace can provide a general value for land and buildings. The comparable sales information and listing information provided would then have to be adjusted for financing, redevelopment and tenant improvement costs, lease up timing, and the time value of money associated with redevelopment of this site.

There are very few industrial buildings that have sold in the Salt Lake market area that have the same basic features of the buildings at the Utah ANG facility. Most office warehouse buildings in the Salt Lake Valley have an office warehouse ratio of 10% office 90% warehouse. The buildings at the Salt Lake City Airport have a much larger office to warehouse ratio. There are numerous “added value” items that could create additional value, such as the fuel depot, though because there is such a narrow focus of tenants that could use these facilities it is difficult to include that value in a market analysis.

The total acreage of the land for the property is approximately 135 acres. More than 80 percent of the land is completely improved with the other 20 percent being partially improved or close to available utilities. The likely land value for property in this area of the Salt Lake Valley with similar zoning would be in the \$6.50 to \$9.00 per square foot (SF) improved depending on if the land was to be used for office or industrial use. The unimproved land would be in the \$5.00 a SF range.

Based on Coldwell Banker Commercial estimates the total square footage of the 135 acres is 5,880,600 SF. The likely range of the improved and unimproved land value would be between \$40 Million and \$43 Million.

The total square footage of all the usable/leasable building structures on the property per the information that was provided by Utah ANG is approximately 491,408 SF. The makeup of the buildings is office, office/warehouse, and special purpose buildings (hangars, fire station etc.) Comparable Office/ Warehouse buildings have sold in the value for between \$40.00 and \$60.00 per square foot. Comparable “C” office buildings have sold in the market for \$70 to \$90 per square foot. Some buildings have sold for higher prices depending on where they are located in the Salt Lake Valley.

The value of the special purpose buildings is difficult to generate based on market comparables as there are no sale or lease comparables for these types of buildings. After going over this analysis with Mr. Enlow both parties concluded the best evaluation because of all the variables is to take an average of comparable values in order to establish a market value for the buildings.



Applying this methodology the market value of the buildings at the Utah ANG site is \$27 Million to \$36.8 Million.

In the case of leasing, Mr. Enlow estimated lease amounts for comparable industrial buildings are in the \$4.20 to \$6.00 PSF NNN annually.

The “NNN” signifies the square foot price is net without insurance, taxes, and maintenance. Lease amounts for comparable office buildings would most likely fall from \$7.50 to \$9.50 a SF NNN. Also, any total amounts of value based on the stated comparable pricing would have to be discounted based on numerous factors associated with this site. These factors would involve financing costs, associated leasing and timing costs, tenant improvement costs, and others costs that may be associated with the redevelopment of the property. In addition, the estimated redevelopment and marketing time would be 12-30 months. Applying an average price per SF between the mixed of industrial and office buildings at the Utah ANG site results in an estimated annual lease amount of \$2.8 Million to \$3.8 Million.

Mr. Enlow summarizes his review by stating the subject property has incredible potential for future redevelopment and the site would provide numerous financial and logistical benefits to the future development of the airport, the City of Salt Lake and the State of Utah. The full text of Coldwell Banker Commercial analysis is at Attachment I.

MIDA Tax Bonding

Another option for reuse development and funding the Utah ANG move could be through The Military Installation Development Authority (MIDA). Rick Mayfield, MIDA Executive Director, and Paul Morris, MIDA General Counsel provided the following information on ways MIDA can assist through issuance of bonds paid for by property tax revenues.

The Military Installation Development Authority (“MIDA”) is a state authority created by the Utah Legislature to assist in and support the development of military land in Utah. One of the ways its does this is by creating a project area, that includes military land, and using new taxable investments within the project area to capture the increased property taxes to financially support military mission development. MIDA has already created the Falcon Hill Project Area and used this financing mechanism to support Hill Air Force Base and the construction of its new Security Forces Building.



MIDA may be able to provide some of the funding for the move of the Utah ANG to HAFB by amending the Falcon Hill Project Area or creating a new project area that includes the existing National Guard location in Salt Lake City. Because the existing facility is government owned it does not generate any property taxes. If it became part of a MIDA project area then any new for-profit user of the facilities would pay property taxes. MIDA is allowed to capture 75% of the property taxes for 25 years and use that as collateral to issue bonds. The bond proceeds could then be used to support the move of the National Guard to Hill. For example, \$90 Million of taxable value could generate about \$12 Million in bond proceeds.

CSC #4 Title Search Analysis:

The study will include a title search to verify current ownership of the land currently occupied by the Utah ANG organizations.

A comprehensive title search was completed by Bachman Title Services 167 East 6100 South, Suite 100, Murray, Utah 84017. The full title search report can be accessed under Attachment J of this report. The title search validates that the Salt Lake City Corporation is the fee owner of the property occupied by the Utah ANG and found no judgments, federal tax liens and bankruptcies. However, there are 43 exceptions in the Title Search Support Summary in Attachment K that list easements, mergers, quick claim deeds, right of ways, and utility leases that have some affect but no claim on the property. LSI was also able to obtain a Warranty Deed included in Attachment L attesting there have been no conveyances of the land within the past 24 months.

CSC #5 Base Operating Efficiency Analysis:

The study will include an evaluation of any base operating efficiencies which may be associated with co-location of ANG operations with existing flying and support operations at Hill Air Force Base.

Migrating the Utah ANG to HAFB provides numerous base operating efficiencies both by augmentation of current HAFB flying and support operations to significant improvements in current Utah ANG flying and support operations. Table 11 outlines the co-location efficiencies identified during the study. Both Utah ANG and HAFB resources provided input.



Flying Operations	Support Operations
<ol style="list-style-type: none"> 1. Joint mission planning 2. Joint pre/post aircrew briefings 3. Utilization of maintenance personnel 4. Equipment sharing 5. Additional taxiways and alternate runway 	<ol style="list-style-type: none"> 6. Security forces, force protection 7. Civil Engineers (Prime Base Engineer Emergency Force (BEEF)) 8. Expanded access-East Gate 9. Medical facilities 10. Morale, Welfare and Recreation (MWR) 11. Housing, billeting and dining hall 12. Personnel and family support 13. Training

Table 11– 13 Base operating efficiencies

In discussions with the senior leadership of the 388th FW, the 419th FW, and the 151st ARW, it was agreed that the benefits of having the 151st ARW co-located at HAFB will greatly enhance the logistics and mission interoperability between fighter operations and tanker operations. The planning and execution of daily missions is greatly enhanced by using face to face discussions and briefings rather than phone or internet interactions. In the maintenance arena, although the weapons systems and supporting equipment are different, there exists the potential for some equipment sharing (i.e. support equipment) and maintenance best practices that lead to increased aircraft availability and sortie rates. The seasoned experience of Utah ANG maintenance personnel is a benefit to the maintenance needs of the fighter wings as well as the Air Logistics Complex (ALC).

It has long been identified that having a single runway to support HAFB operations is a mission inhibitor. Anytime there is construction around or on the runway, the flying missions are restricted and each time an aircraft takes the barrier, all follow on aircraft are diverted which adds to the logistics and cost of the flying missions. If and when the Utah ANG moves to HAFB a larger, longer east side taxiway will be required. Although a taxiway of this caliber is in the HAFB long range strategic plan, this taxiway will come sooner and qualify as an emergency runway which can be used during construction and for contingency operations.

The support operations at HAFB can be improved for the Utah ANG and HAFB in the areas of Security Forces, Civil Engineering, particularly in the areas of Prime BEEF capabilities, expanded access – East Gate, medical facilities, AAFES, commissary, base housing, billeting, human resource management, financial management, dining facilities, training, force protection, family support, and logistics. There may be also benefits to finance, communications functions, and recruiting cooperation.



A significant benefit to the medical community may also be realized through medical expertise and available manning as well as the unique capabilities of the 151st CERFP Squadron.

The East Gate of HAFB is currently closed. Locating the Utah ANG at HAFB will provide the needed security personnel to operate the gate on a permanent basis. This will provide an additional base access point that will alleviate the traffic load on all the base gates, particularly the main south gate during morning and evening rush hour traffic. Additionally, the use of the East Gate by the Utah ANG provides an easy base access close to their facilities and centralizes the whole operation so they have a sense of familiarity, ownership, and camaraderie particularly during the transition from the Salt Lake City Airport site. Utah ANG security forces also add to the overall security of the runway and ramp environment.

The Utah ANG Civil Engineer (CE) Squadron can complement the 75th ABW/CE enterprise. Collocation will provide HAFB with an additional contingency force, a force that HAFB does not currently have that of Prime BEEF. Prime BEEF is available for local emergencies or other contingencies in addition to state and federal needs. The added CE personnel, with proper Letters of Agreement (LOA), could assist with Base projects and work orders, furnish coverage during weekends or annual training events, augment valuable fire fighting needs, give additional Explosive Ordnance Disposal (EOD) expertise, and provide additional Equipment and Emergency Management (EM) capability.

The Utah ANG logistics personnel are a positive augmentation to current HAFB support functions. These functions include finance, IT, communications, legal, mobility, Defense Enrollment Eligibility Reporting System (DEERS) workstations, Career Development Course (CDC) testing, Honor Guard, and medical, especially during times of surge activities to include deployments. The added expertise and varied experience levels could help each of these functions service members better and quicker.

The additional Utah ANG personnel will provide a broader customer base to fully utilize HAFB's dining hall facilities and local restaurants. Collocation of the Utah ANG, a state resource, at HAFB, will result in better joint cooperation and coordination during times of natural disasters.

Within the security arena and the Security Forces, depending on the outlook of the NGB, there is a probability that some of the security needs of the Utah ANG can be filled with the existing HAFB Security forces.



Unit Type Code (UTC) requirements and manning needs for Team Hill will have to be considered as manning requirements change. Security requirements peculiar to the 151st ARW are the increased weapons system protection requirements of the KC-135, particularly within the nuclear support mission.

Civil Engineering requirements of the Utah ANG will exist with new facilities, roads, and aircraft ramp. It is planned that the existing 75th Air Base Wing/CE resources will meet some of these requirements. However, the Utah ANG can contribute to the fire support for the whole base. The Utah ANG will also benefit by streamlining HAZMAT procedures, HAZMAT Pharmacy Operations, and environmental requirements by eliminating duplication.

Utah ANG will benefit from the following medical services: Airman Clinic, Alcohol and Drug Abuse Program, Hearing Conservation Center, Clinical Laboratory, Dental Clinic,

Family Medicine Clinic, Flight Medicine Clinic, Immunization Clinic, Mental Health Center, Optometry Clinic, Pharmacy, Radiology, and Women's Health Services.

The Utah ANG has separate and different finance systems, appropriations, and funding flows from that of the Active Duty Air Force. The Utah ANG is not anticipating significant savings in financial manpower. However, savings in many areas of annual base expenditures may be realized. Much of the annual costs for Environmental (\$70,000), Real Property Agreement (\$1 Million +), and Security (\$500,000) can be absorbed into the existing Hill programs. It is estimated that approximately \$20,000 per year will be saved by the Utah ANG using HAFB billeting for lodging for those who attend drill weekends. Further savings will be realized for annual training support, although the number is harder to estimate. Kitchen support (KP) contracts for the Utah ANG drill requirements run approximately \$31,000 per year. These costs may be reduced dramatically with the ability to use HAFB dining facilities.

A great benefit to the Utah ANG will be in the area of Morale, Welfare, and Recreation (MWR). Utah ANG personnel in Salt Lake have very little MWR support and benefit from HAFB's full service MWR. This will also apply to AAFES commissary and Base Exchange. In addition to the many described benefits of the Utah ANG moving to HAFB, having the Utah ANG as a new Team Hill member to participate in out of the box thinking discussions and the development of co-operative solutions will be one of the biggest long term efficiencies realized by the move.



CSC #6 Mission Synergy Analysis:

The study will include an evaluation of any mission synergies which may be associated with co-location of ANG operations with existing flying and support operations at Hill Air Force Base.

The projected synergies gained by the existing flying and support operations at HAFB and Utah ANG through the re-location are depicted in Table 12 Mission Synergies.

Flying Operations	Support Operations
Joint training scenarios and exercises	Augmented training
Joint Operational Readiness Inspections (ORIs)	Maintenance
Tailored organic air refueling	Emergency response
Local airlift and joint deployments	Resource utilization
Nuclear response	
Cost of missions	

Table 12 – Mission Synergies

Synchronizing the planning and execution of combined flying operations face to face has proven to be more efficient and effective in performing the mission. Both units being at HAFB ensures recurring training scenarios are safe, real time, and productive. This is especially beneficial to the upcoming F-35 buildup and training in the next 3-4 years. Also, if a tanker has a delayed take off it is readily apparent by the fighters across the runway and they can delay to save fuel and range time. Weather considerations will be easier to communicate and account for with the multiple types of weapons systems operating out of the same site. Even though the Fighter Wing and the Tanker Wing are under different Major Commands (MAJCOMS), joint Exercises and ORI's could be planned in co-ordination and executed together. This saves resources and expenditures for each of the local units involved as well as the evaluating agencies. Deployments can be planned with better clarity of destination, purpose, mission goals, training scenarios, and airlift and air refueling requirements. More realistic training is accomplished through such cooperative efforts.

One possible issue is the Salt Lake Airport Utah ANG site is the primary divert base for Hill in the event of weather or the Hill runway closing. This happens on average 6-8 times each year. Utah ANG personnel are trained and facilities are uniquely suited to accommodate these diversions. Although the Salt Lake Airport is usable without the support of the Utah ANG, new Letters of Agreement would have to be made.



The 151st ARW has unique experience and capabilities in support operations. For example the 151st Life Support team will augment the fighter wings in Survival, Evasion, Resistance, and Escape (SERE) training requirements. The Utah ANG maintenance team is well known for its depth and breadth. This experience base will add to the expertise and effectiveness of Team Hill. Contributions to the existing support operations at HAFB will be attained in cooperative training, better utilization of personnel and equipment, particularly with transient support and greater capacity for emergency responses.

In addition to the benefits to the existing flying and support operations, there are also numerous advantages for the 151st ARW. There are substantial savings in the cost of flying missions due to shorter taxi times, wait times for takeoff, wait times for departure flow, and flow times into arrival sequence. More specifically savings are in fuel, engine life, airframe and component wear and tear. For example, approximately \$9M in flying time saving, \$2M for planned infrastructure expenditures, and \$16M savings for redevelopment, tax revenue, economic impact efficiencies, \$5M from efficiencies and economies of scale for consolidation of like support/operation functions.

A significant benefit is in the nuclear support and peacetime alert missions of the 151st ARW. The closer proximity, access to, and a longer runway will increase takeoff gross weights, facilitate offload capability and provide quicker entry into the departure airspace. Cargo and organic rapid deployment missions will be enhanced by the combined resources and ramp space at HAFB.

The occasional Medivac mission is also improved because the HAFB clinic is closer to the runway, while at Salt Lake Airport they have to transport a patient downtown.

HAFB's geographical location and perimeter fence provides excellent encasement and standoff distances to all phases of Utah ANG activity. As a result, the Force Protection and Anti Terrorism profiles of the Utah ANG will be superior. Other areas that the 151st ARW will see improvements are in personnel support, finance, and CE.

LSI estimates the cost savings of base operating efficiencies and mission synergies to be \$ 1 Billion over the next 20 years.



CSC #7 HAFB/ANG Mission Accommodation Analysis:

The study will include an evaluation of the ability of Hill Air Force Base to accommodate the ANG missions within the parameters of existing or planned base support capabilities. Describe any projected impact on current or planned base missions.

LSI interviewed HAFB/75ABW/CC, OO-ALC/CC, 388 Senior Staff, and 419FW/CC personnel to determine if moving Utah ANG will impact any of the current Hill mission assignments.

All those interviewed indicated that while some impacts were inevitable, they did not foresee any major obstacles or cost impacts to HAFB missions due to the move. All agreed that HAFB has the capacity to easily accommodate any of the Utah ANG missions. There are no major mission impacts anticipated although, there may be some minimal impacts to the following areas: grounds and facilities maintenance, housing, ramp space, flying sorties, air space, tower use, surface traffic, utilities, fuels, and support services. Table 13 below identifies the potential impact, problem and mitigation.

Impact	Problem	Mitigation
Grounds and Facilities Maintenance	Additional facility and grounds maintenance	151 st can accomplish most of this
Housing	Additional tenant load	Utah ANG will have minimal need for base housing
Ramp Space	Additional aircraft at HAFB	Utah ANG will build their own ramp
Flying Sorties/ Tower Use	Additional Tanker Flying Sorties	Minimal impact – 4 Sorties per day average
Air Space	Additional requirements with KC-46A	Minimal impact – years in the future
Surface Traffic	Additional tenant load	Opening East Gate – Utah ANG’s population is less than 2% of HAFB.
Utilities	Additional facility load	Utah ANG will be absorbing these costs
Fuels	Additional Aircraft and vehicles	Utah ANG will be absorbing these costs
Support Services	Additional tenant load	Utah ANG will assist in manning requirements

Table 13 – HAFB Accommodation Impacts

Building on the proposed bed-down site will generate additional ramp, facilities and surrounding grounds, and parking lots which will need upkeep, maintenance, and winter snow removal. However, the Utah ANG will accomplish most of these requirements and the net impact on Hill’s existing forces will be minimal.

With the exception of the Active Association, which includes about 200 personnel, the Utah ANG has little need of Hill’s housing resources. Utah ANG personnel are permanent and long term. With few exceptions they will continue to live off base in the various communities. There will be a percentage of the added Active Duty Associate personnel that will require base housing use.

The 151st ARW will bring with it 8 KC-135 aircraft. These aircraft will be housed at the specific ramp site in the bed-down plan. In this scenario, the only time the Utah ANG may require additional ramp space on the main side of the base will be for occasional airlift support that the Utah ANG aircraft cannot handle. If other bed-down sites are chosen as the location of the Utah ANG, the ramp space will have to be a part of the overall consideration for that site.

Flying the Utah ANG's traditional sortie load out of HAFB will increase the sortie support load of Hill Base Ops and Ground and Tower Control. However, the normal sortie rate is small; normally no more than 4 sorties per day, Monday thru Thursday. HAFB's runway and traffic pattern currently serve as the 151st ARW primary transition location; much of the increase in sortie load due to the move is already accounted for and handled in Hills routine. There will be a very small load increase. However, when the Utah ANG transitions to the KC-46A the sortie rate will approximately double. This will be due to the increase usage rates the KC-46A will require. Additionally, 24 hour operations will be a growing requirement that Hill will have to address. This requirement will affect Base operations, Ground and Tower Control, airfield lighting requirements, and security. Nighttime noise increases due to 24 hour operations will also have to be considered.

There will be little increase in airspace requirements from what is currently experienced. However, when the Utah ANG transitions to the KC-46A, airspace requirements will increase as the sortie rate increases. Although the addition of the Utah ANG population to Hill will increase traffic volume, the percentage is minimal. The Utah ANG full time force is 425 which is approximately two percent of the Hill AFB total population. Operation of the East Gate will easily relieve any added traffic loads. The additional 1000 traditional Guardsman who will work at Hill AFB during drill weekends will have an even smaller impact due to lighter traffic loads on weekends, particularly Sundays.

The addition of Utah ANG population and new facilities will require an increase load on utilities. However, these costs will be borne by the Utah ANG, and the infrastructure will be a part of the bed-down costs. Hill's overall fuel requirements will also increase. The cost of this increase will be absorbed by Utah ANG.

Finally, there will be an increased load on the support and MWR functions of HAFB. The Utah ANG will support nearly all of its finance, personnel, logistics, and other miscellaneous support needs, but there will be occasional use of HAFB's services. The largest support services increase will be in the dining requirements by the Utah ANG, particularly during drill weekends and the usage of Hill's medical facilities. However, Utah ANG will provide most of the personnel to service these needs.



CSC #8 Personnel Impact Analysis:

The study will address projected impacts of the change in location on ANG personnel currently performing duties at the Salt Lake City airport site. Also describe any projected impact on recruiting future ANG members at the new location.

The total number of Utah ANG members is approximately 1,450. Currently about 400 of the Utah ANG personnel commute from residence south and east of Salt Lake (SL) County, 600 reside in Salt Lake County, and 450 personnel commute from north of Salt Lake County shown below in Figure 3. Commute time would be impacted for those living in SLC and South of the airport however over time attrition will mitigate much of this impact as new recruits move closer to HAFB.

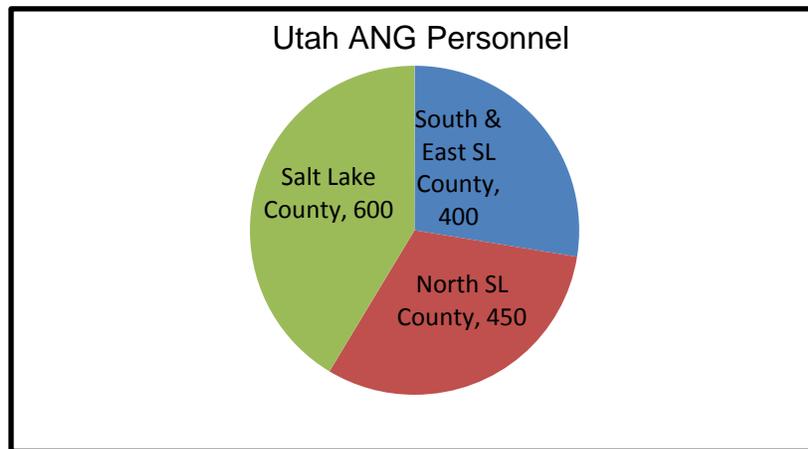


Figure 3 – Utah ANG Personnel

Recruitment will actually see positive impacts due to the significantly improved infrastructure benefits HAFB provides. Very few impacts to recruiting have been identified. Because of distances, recruiting from Utah County and south would likely decrease. However, recruiting from areas north like Box Elder and Cache counties as well as southern Idaho may increase. It is also believed that a significant increase in the recruiting of prior service personnel may be experienced. This would be a benefit to the Air Force as a whole as more personnel leaving the active service will be exposed to and see the benefits of moving to the Utah ANG as opposed to leaving the service all together.

Currently there are some concerns that have been expressed by Utah ANG personnel. The primary concern is the possible fragmentation of the Utah ANG, particularly the 151st ARW, as they move to HAFB.



Secondly the Utah ANG may lose much of its community connection in Salt Lake County because they would no longer have a separate Air National Guard presence after merging onto HAFB. However, HAFB has a much better community outreach program which would offset any concerns. Finally, the Utah ANG may lose, over time, some of its identity as a State Militia and as a fundamentally different defense component than the Active Duty or the Reserves. Leadership will need to work to mitigate a majority of these concerns.

One of the primary criteria for selecting a KC-46A base is the unit must have the potential to establish an active duty association. An active duty association is a 200 active duty personnel augmentation to the total compliment of the Utah ANG. If Utah ANG remains at the Salt Lake City Airport, it is unlikely it will qualify for an association due to lack of infrastructure. As indicated above, without the association the Utah ANG will not have one of the major selection criteria for basing KC-46A.

CSC #9 Funding Source:

In performing this study, LSI determined a need for study component #9 because the feasibility of the move is not possible without a funding source.

LSI asked the Air Force (HAFB), NGB, and Air Mobility Command (AMC) if any of these organizations had programmed or reserved funds to pay for the move. The answer in all cases was “no”. Based on LSI’s research, the most viable option for funding the Utah ANG move to HAFB is for Salt Lake City, Salt Lake County, or the State of Utah to fund the move. It would be ideal if income from the reuse of the Guard site could be used to pay back the State or City. Since the City owns the property, however, they are under no obligation to refund any income to the State. LSI’s conclusion for the State, City, or County to fund the move is based on similar moves in the States of Illinois, Tennessee, and Arizona. The following are examples of how this option has worked in other States.

Chicago O’ Hare ANG move to Scott AFB

The 1993 Base Realignment and Closure (BRAC) Commission recommended the closure of O’Hare Air Reserve Station as proposed by the municipal government of the City of Chicago and the transfer of both the Illinois Air National Guard’s 126th Air Refueling Wing (126 ARW) and its KC-135 aircraft, and the Air Force Reserve Command’s 928th Airlift Wing (928 AW) and its C-130 aircraft to new facilities to be constructed at Scott AFB, Illinois; with much of the associated costs borne by the City of Chicago. They paid the Defense Department \$102.7 Million for the military side of O’Hare International Airport.



According to the Air Force, the reporting of reimbursements received from Chicago for the cost of moving an Air National Guard unit from O'Hare International Airport to Scott Air Force Base, Illinois was from increased proceeds from land sales and property leases. The United Airlines headquarters now built on the facility is the first of many such developments. The Air Force benefited from the closure of O'Hare due to the relocation of the Air National Guard unit at no cost to the government to new facilities at Scott AFB. In exchange, O'Hare International Air Port received property that potentially could bring greater economic value to Chicago. Over 225 new jobs have been created.

Phoenix ANG move Across the Airport

Due to the expansion of Phoenix Sky Harbor Airport, plans were approved for construction on a new base in 1995. Today, the new Phoenix Air Guard base is complete. The \$128 Million project includes 275,000 square feet of facilities, pavement, infrastructure and aircraft runway surfacing.

Memphis ANG move Across the Airport

The Air National Guard moved from its 103-acre location in a land swap with FedEx, which paid \$77 Million. The new 118-acre facility is constructed on the southeast corner of the airport. The 164th Airlift Wing of the Tennessee Air National Guard dedicated its new \$245 Million facility on September 6, 2008. The move was made possible by a historic land exchange agreement between the Air National Guard, FedEx and the Memphis-Shelby County Airport Authority.

Summary of Funding Options

It would be ideal to fund the entire move upfront. However, since the move is a multimillion dollar cost the city, county, or state would most likely need to accumulate funds over a period of time. Should the city, county, or state be able to fund the Utah ANG move, the recommendation is to do it in a phased approach over 3-5 years.

The options of phasing are to appropriate enough money to fund the entire move 3-5 years from now and build when the funds are available in full or incrementally build each year as the funds become available. If the ideal option is not a possibility then LSI's recommendation is to incrementally fund and build so the Utah ANG is positioned at HAFB in time to compete for the basing of the KC-46 in 2018.

An additional option is to utilize MIDA to assist funding the move through issuance of bonds paid for by property tax revenues (see CSC#3). It is important to the State from a revenue perspective that the Utah ANG transitions to the KC-46.



If they do not, the current mission may cease and the State will lose approximately \$104 Million a year in federal funding illustrated in Table 14.

Utah ANG Funding		
Federal Funded Military Payroll		
	FY 2011	Estimates FY 2012
Drill Status Guardsman	\$29,280,906.00	\$29,280,906.00
Active Guard Reserve (AGR)	\$13,950,836.00	\$13,950,836.00
Air Technicians	\$24,893,969.00	\$24,893,969.00
Total Assigned Payroll	\$68,125,711.00	\$68,125,711.00
Federal Funded Operating Costs		
	FY 2011	Estimates FY 2012
Operating Costs	\$24,765,321.00	\$32,508,640.00
Personnel Costs (Other than Payroll)	\$2,912,143.00	\$2,735,200.00
Total Annual Appropriated Funds	\$27,677,464.00	\$35,243,840.00
State Funding		
	FY 2011	Estimates FY 2012
State Employees	\$3,137,885.00	\$3,137,885.00
Military Construction, Operations and Maintenance		
	FY 2011	FY 2012
Military Construction	\$8,860,000.00	\$0
Operations and Maintenance	\$455,671.00	\$522,000.00
Subtotal	\$9,315,671.00	\$522,000.00
Total	\$108,256,731.00	\$107,029,436.00

Table 14- Utah ANG Funding

The Utah ANG has programmed into its long term master plan the need to allocate funding for KC-46A or other follow on tanker compatibility. This requirement includes approximately \$62M to expand the existing ramp, demolish existing hangars and operations facilities, and to construct new facilities that are KC-46A compatible with the proper runway setbacks (due to the increased size of the KC-46A over the KC-135 as illustrated in Figure 4).

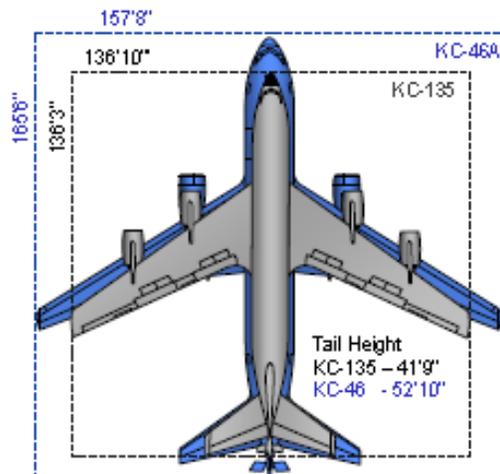


Figure 4 – KC-46A/KC-135 Size Comparison



Future follow on tankers such as the Airbus version will be larger. These improvements will eliminate the current Utah ANG Airfield waivers. However, the KC-46A Basing

Criteria released April 2012 includes the mandatory requirement for an Active Duty Association which cannot be supported at the current site.

Even if the Utah ANG made this investment they would still not be competitive for the KC-46A mission and the State of Utah will eventually lose the ANG flying mission and associated federal funding of \$104M annually.

The survival of the Utah Air National Guard is contingent upon the 151st Air Refueling Wing receiving the KC-46A aircraft and mission. The award of the KC-46A to the Utah Air National Guard is possible only if the move has been completed by July 2017. The myriad of actions and funding required to complete this transition will require a minimum of three years. It is imperative the strategy and subsequent plans to migrate the Utah Air National Guard to Hill Air Force Base be completed prior to the 2014 Utah Legislative General Session which commences 27 January 2014.

Follow On Recommendations

LSI recommends that the UDA **support** the Utah ANG relocation to HAFB. The recommended move will require significant follow on activities that need to begin immediately.

The first step is to obtain statements of support from the leadership at HAFB and Utah ANG. Next, is to begin early discussions with key legislative leaders in the Utah House and Senate, as well as the chairs of certain appropriation committees. In addition, support should be sought from the Northern Utah Chamber Coalition, which encompasses four different chamber of commerce organizations. Some legislators from northern Utah who are in positions to assist with funding requests include Rep. Brad Dee, House Majority Leader, Sen. Stuart Adams, Senate Majority Whip, Sen. Lyle Hillyard, Executive Appropriations Chair, Rep. Brad Wilson, House Executive Appropriations Vice Chair, and Sen. Jerry Stephenson, Senate Executive Appropriations Vice Chair.

Also, preliminary discussions with the Governor's offices, GOED, Salt Lake City and the Airport Authority should begin immediately. The emphasis of these meetings will be to reinforce the concepts that the futures of both Utah ANG and HAFB are tied to the relocation.



In addition, the failure to move Utah ANG to HAFB will place Utah at a significant disadvantage in future BRACs and will likely lead to the loss of significant funding for the Utah ANG. These discussions will ultimately lead to the development of a funding strategy.

Since federal funds are not available to support the relocation, all of the costs will have to be borne by Salt Lake City, Salt Lake County, and/or the State of Utah. Due to the significant amount of money at stake, it is very likely that the move will need to be funded over a period of 3 to 5 years.

Governor Gary Herbert is required to propose a budget for the July 2014 – June 2015 fiscal year in early December 2013. (Salt Lake City also operates on a July 1 – June 30 fiscal year, and its budget is usually finalized in May or June of each year.) It would be ideal if the Governor's proposed budget included funding for the relocation of the Utah ANG to HAFB. Accordingly, an immediate meeting should be scheduled with Kristen Cox, who recently replaced Ron Bigelow as the Governor's budget director.



Glossary of Acronyms

AAFES – Army and Air Force Exchange Services
ABW – Air Base Wing
AFB – Air Force Base
AFR – Air Force Reserve
AFSC – Air Force Sustainment Center
ALC – Air Logistics Complex
AMC – Air Mobility Command
ANG – Air National Guard
A/R – Air Refueling
ARW – Air Refueling Wing
BRAC – Base Relocation and Closure
CDC - Career Development Course
CE – Civil Engineering
CSC – Critical Study Component
DEERS - Defense Enrollment Eligibility Reporting System
DEQ - Department of Environmental Quality
DoD – Department of Defense
EOD- Explosive Ordnance Disposal
EIS – Environmental Impact Statement
EPA - Environmental Protection Agency
ERP – Environmental Restoration Program
FAA - Federal Aviation Administration
FCA – Facility Condition Assessment
FW – Fighter Wing
GOED - Governor’s Office of Economic Development
HAFB – Hill Air Force Base
ICBM – Intercontinental Ballistic Missile
IRP- Installation Restoration Program
MAJCOMS- Major Commands
MIDA - Military Installation Development Authority
MOB – Main Operating Base
MRO - Maintenance, Repair and Overhaul
MWR – Morale, Welfare, and Recreation
NEPA - National Environmental Policy Act
NGB – National Guard Bureau
ORI- Operational Readiness Inspection
PCO - Project Closure Order



Prime BEEF - Base Engineer Emergency Force
RFQ – Request for Qualifications
SERE - Survival, Evasion, Resistance, and Escape
UDA – Utah Defense Alliance
UST -Underground Storage Tank
UTC - Unit Type Code