

DCN 5941

Executive Summary

Of the Key Field AGS BRAC Presentation

The Department of Defense proposal to realign KC-135Rs from the 186th Air Refueling Wing to McGhee Tyson, General Mitchell, and Bangor substantially deviates from BRAC criteria by negatively impacting training and readiness and incurring costs that far exceed the projected savings over the 20 year payback period.

As support aircraft, tankers should be based as close as practical to the units they refuel. This USAF Principle of Optimal Proximity was not followed in the DoD tanker basing plan. In the proposal, tankers were arbitrarily moved away from the Southeast with the end result that there were twelve times more tankers per customer in the Midwest than were left in the Southeast.

This disproportionate ratio, or gap in Southeastern tanker coverage, will dramatically increase the fuel and flight hour costs of refueling in the region. Performing missions currently flown from Key Field out of Tinker, Knoxville, or Seymour Johnson would more than double the amount of transit time per sortie. And time spent in transit isn't readiness—it's waste. The best way to control the cost of air refueling training is to place support elements in optimal proximity to their mission.

Using the DoD-defined range of 250 miles, Key Field is within Optimal Proximity to more receivers than any other Guard, Reserve, or Active Duty tanker base in the country. Key Field has modern infrastructure specifically designed for the refueling mission and would cost less to robust than the bases receiving its aircraft.

Leaving twelve tankers at Key Field, or increasing the numbers of aircraft assigned would save money and help fill the gap in Southeastern tanker coverage for training and homeland defense.

DCN 5941

Recommendation

DOD BRAC 2005 Recommendation

Key Field Air Guard Station, MS

Recommendation: Realign Key Field Air Guard Station, Mississippi. Distribute the 186th Air Refueling Wing's KC-135R aircraft to the 128th Air Refueling Wing (ANG), General Mitchell Air Guard Station, Wisconsin (three aircraft); the 134th Air Refueling Wing (ANG), McGhee Tyson Airport Air Guard Station, Tennessee (three aircraft); and 101st Air Refueling Wing (ANG), Bangor International Airport Air Guard Station, Maine (two aircraft). One aircraft will revert to backup aircraft inventory. The 186th Air Refueling Wing's fire fighter positions move to the 172d Air Wing at Jackson International Airport, Mississippi and the expeditionary combat support (ECS) will remain in place.

Justification: Receiver locations General Mitchell (86) and McGhee Tyson (74) ranked higher in military value rating for the tanker mission than Key Field (92). Bangor (123) also received aircraft within this recommendation. Military judgment argued for the increased unit size at Bangor because of its critical role as host base for Northeast Tanker Task Force support to the transatlantic air bridge. Key Field's newer KC-135R aircraft help replace McGhee Tyson's older, higher maintenance KC-135E models, and help robust the unit size. The remainder of Key Field's realigned aircraft help increase the squadron size at General Mitchell and maintain critical backup aircraft inventory levels. Bangor, McGhee Tyson, and General Mitchell gain additional KC-135 aircraft to their maximum available capacity, increasing both effectiveness and unit capability. Key Field's ECS remains in place to support the Air Expeditionary Force and to retain trained, experienced Airmen.

Payback: The total estimated one-time cost to the Department of Defense to implement this recommendation is \$11.0 million. The net of all costs and savings to the Department during the implementation period is a cost of \$6.9 million. Annual recurring savings after implementation are \$.9 million, with a payback expected in 13 years. The net present value of the cost to the Department over 20 years is a savings of \$2.5 million.

Economic Impact on Communities: Assuming no economic recovery, this recommendation could result in a maximum potential reduction of 339 jobs (175 direct jobs and 164 indirect jobs) over the 2006-2011 period in the Meridian, Mississippi Metropolitan Statistical economic area, which is 0.62 percent of economic area employment. The aggregate economic impact of all recommended actions on this economic region of influence was considered and is at Appendix B of Volume I.

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

Environmental Impact: There are potential impacts to air quality; land use constraints or sensitive resource areas; noise; and wetlands that may need to be considered during the implementation of this recommendation. There are no anticipated impacts to cultural, archeological, or tribal resources; dredging; marine mammals, resources, or sanctuaries; threatened and endangered species or critical habitat; waste management; or water

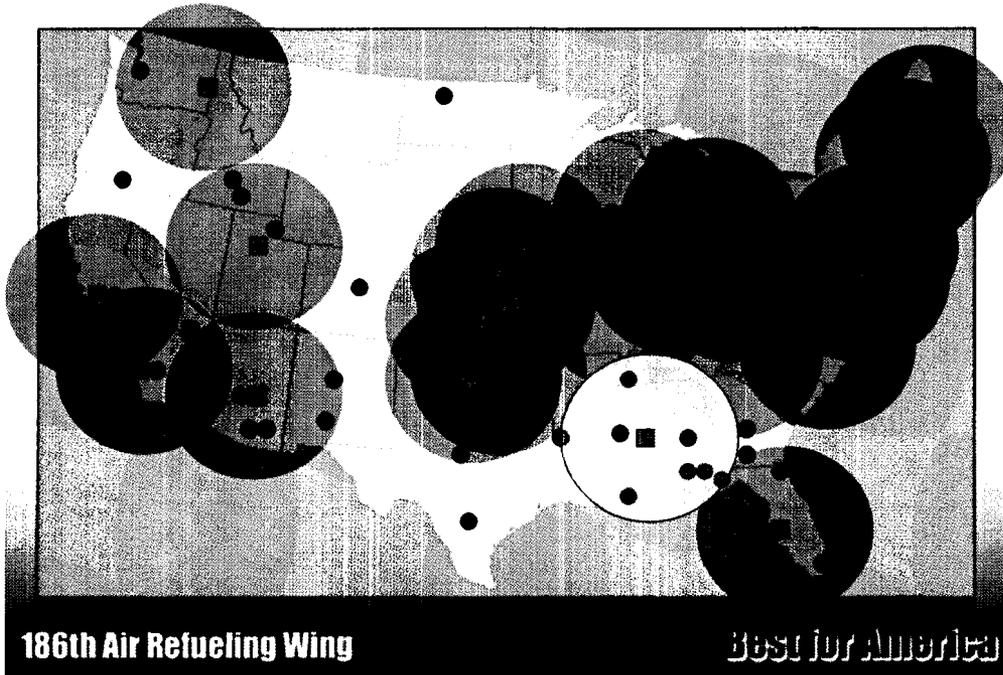
resources. Impacts of costs include \$134 thousand in costs for environmental compliance and waste management. These costs were included in the payback calculation. There are no anticipated impacts to the costs of environmental restoration. The aggregate environmental impact of all recommended BRAC actions affecting the installations in this recommendation have been reviewed.

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KEY FIELD AGS

Meridian MS

The 186th ARW -- Best for America



The Argument against Realignment



Supporting Documentation

14 July 2005
New Orleans LA

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Key Field AGS - Argument against Realignment

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Testimony



TAB #1 Testimony Script - 22 July 2005

These documents support the public testimony given before the BRAC Commission on 22 July. The italicized tab references refer to the appropriate indices within this tab. More detailed discussions are included in subsequent tabs.

Key Field AGS BRAC Presentation

Today we will show that the Air Force tanker basing proposal substantially deviates from BRAC criteria (*Tab 1, Index 2*), how much these deviations will cost, and then offer a simple solution to fix it.

Much of this presentation will focus on air refueling **training** for **pilots of receiver aircraft**. Properly basing tankers to efficiently support this training saves money and enhances readiness. The Air Force calls this **Optimal Proximity**.

I. Let's open with a practical, customer-oriented approach to tanker basing. If you were deciding where to place a tanker force, you'd **first want to know where the receivers, or customers are**, how many there are, and what their requirements will be. This chart shows the location and total number of Active Duty Air Force, Guard, and Reserve fighters, bombers, and airlift proposed in the DOD plan. (*Tab 1, Index 17*)

Then you would place your tankers in **optimal proximity** to those receivers. (*Tab 1, Index 7*) DOD defined optimal proximity as airspace within 250 miles of your base. (*Tab 1, Index 3*) This blue ring shows how much range is covered by that distance. Ideally, you'd like to take off, climb to altitude, and start refueling. Any additional time spent in transit isn't training—it's driving. It isn't readiness—it's waste. **That's why proximity matters.**

In a perfect world, you'd distribute your tankers to provide complete coverage with minimal overlap and the number of tankers in any geographic location would match the receiver requirements. Even though we don't live in a perfect world, we should still strive for efficiency. But here's what the Department of Defense proposed as their tanker basing plan. Notice here, that some regions not only have inefficient, overlapping coverage but also far too many tankers for their small number of customer training requirements; while still other areas were not covered at all. (*Tab 1, Index 15*) Nationally, you can see that the ratio of tankers to customers is 1: 5.5. (*Tab 1, Index 15*)

Now we'll break down the DOD plan by region. (*Tab 1, Index 5*)

In the Northeast the ratio is 1 tanker for every 2.5 customers.

In the Midwest, the ratio is 1 tanker for every 1.4 receivers.

In the Northwest, the ratio is 1: 4.2.

In the Southwest, the ratio is 1 tanker for every 9 receivers.

But here in the Southeast, the ratio is 1:17.7. In other words, there are **twelve** times more tankers per receiver in the Midwest than there are in the Southeast.

Compounding this southeastern tanker-to-receiver imbalance, is the DOD proposal to **increase** the number of refueling customers by 12% (*Tab 1, Index 17*) to make use of the Gulf Coast training areas. This decision follows Air Force Basing Principle #1 that once again emphasizes **proximity to training areas**. (*Tab 1, Index 7*)

In the DOD proposal, many Southeast receiver units will robust and Eglin Air Force Base has been chosen as the home of Joint Strike Fighter training for the Air Force, Navy and Marines. You'll also notice that carrier battle groups will be using Gulf Coast ranges and airspace for training now that Vieques Puerto Rico is closed. Though we do not specifically discuss the increased Navy/Marine Corps air refueling requirements in the region, they **should** be a factor in **any** tanker basing plan.

Currently, tankers are based at Key Field, Birmingham, Warner Robbins, Knoxville, Seymour Johnson, and MacDill to service this region. But here's what the DOD proposed. Instead of increasing the number of tankers in this region to support a **12% growth** in receivers, there's a **23% loss** in air refueling assets. (*Tab 1, Index 16*)

This gap in coverage substantially deviates from BRAC Criteria by negatively impacting training and operational readiness. Even during time of war, most units' resources are spent on training and readiness. Since 9/11, approximately 70% of our unit's funding was used on training, and that's where we should demand efficiency. We will deploy wherever and whenever for contingencies, but contingencies are unpredictable.

TRAINING...that is the one area where we can predict and control costs. This is where we **must** apply the Air Force principles of optimal proximity.

II. In addition to the geographical flaws in DOD's tanker basing proposal, their plan substantially deviates from Military Value Criteria #4, "the cost of operations and manpower implications". (*Tab 1, Index 2*)

Let's focus on some of the costs that were not considered in the proposal to realign Key Field.

The first and largest is the fact that the shortage of tankers in the Southeast will dramatically increase the number of flight hours and the amount of fuel burned per sortie to the coastal training areas. According to the Systems Program Office at Tinker Air Force Base, the cost of operating a KC-135R is \$9,000 an hour. (*Tab 1, Index 8*) Flying missions from bases that are twice as far away as Key Field will average at least one extra flight hour per sortie. (*Tab 1, Index 9*) Remember, this extra transit time isn't readiness—it's waste.

Last year, Key Field tankers flew 360 local training sorties. 360 sorties times an extra hour per sortie equals 3.2 million dollars per year or 64 million dollars over the 20 year payback period. That's a big number, but the actual cost savings in the future will be even greater due to the addition of Joint Strike Fighters and carrier battle group training in the region.

Even if the next closest tanker unit at MacDill could absorb half of our requirements, who would fulfill the hundreds of sorties flown each year by Birmingham and Warner Robbins? Simply put, four more tankers at MacDill will not offset the loss of **29** tankers in Mississippi, Alabama, and Georgia.

By comparison, the DOD plan estimated that consolidating Key Field tankers to larger bases would save only 2.5 million dollars over twenty years. The fact that the projected savings will **never** exceed the costs is a Substantial Deviation of Final Selection Criteria #4 and 5. *(Tab 1, Index 2)*

But even more important than fuel or flight hour costs, realigning Key Field tankers would mean the loss of most of its combat experienced aircrew and maintenance personnel.

Our average pilot has over 4300 flight hours and 13 years of aviation experience. Our average boom operator has 11 years and 2600 hours of experience. And our average maintenance technician has worked on aircraft for 16 years. While the Air Force assumed that Guard pilots would follow their realigned aircraft, only 11 of our 38 pilots fly for the airlines. The rest live and work in our local community and it is unlikely they would travel to Milwaukee or Bangor for a part-time job at their own expense. Since it costs over 4 million dollars to train a pilot, *(Tab 1, Index 14)* the loss of just one of our 38 pilots would nullify the DOD's projected 2.5 million dollar savings over the 20 year payback period.

In addition to the costs of fuel, flight hours, and manpower losses, let's look at military value ratings. We believe the process used to arrive at Military Value ratings asked the wrong questions which led to illogical conclusions.

For instance, when scoring infrastructure, the DOD data call asked, "How many square yards of apron do you have?" But what they really needed to know was, "How much **contiguous** ramp space do you have *(Tab 1, Index 10)* and **how many** tankers *(Tab 1, Index 11)* can you taxi in, out, and park?" No consideration was given to a ramp **specifically designed** for the tanker and its mission.

In BRAC data calls, Proximity to Airspace Supporting Mission, accounted for **39%** of the **total** tanker MCI score; **three times more** than any other single factor. Bases were awarded maximum points for refueling tracks within 250 miles. These refueling **tracks** are primarily used by **heavy aircraft**. *(Tab 1, Index 3)* But **no** credit was given for fighter refueling airspace even though **two-thirds** of our customers are fighters.

The data call should have asked, "How many **customers** *(Tab 1, Index 4)* are within optimal proximity and how many **other** tanker units already serve the same area." *(Tab 1, Index 3)*

Had they asked those questions they would have found that **Key Field is in optimal proximity to more receivers than any other Guard, Reserve, or Active Duty tanker base in the country**. *(Tab 1, Index 5)*

III. The weakness in the DOD tanker basing proposal and the costs associated with it are clear. The solution is as well.

Not only is Key Field closer to more receivers than any other tanker base in the nation, (Tab 1, Index 4 & 5) but today...

Twelve KC-135s can taxi in and out of our ramp, requiring no towing or runway crossings, and five more can be parked on site. *(Tab 1, Index 11)*

If "Right Sizing" is what the Air Force wants, you could fly three more jets to Key Field tomorrow morning and have an operational 12 aircraft squadron by tomorrow afternoon **at minimal cost.** *(Tab 1, Index 11)*

The Air Force priced the total cost to robust our facility to the supposed Optimal Squadron Size of 16 jets at 11 million dollars. Compare that to the 27, 32, and 45 million dollars it's going to cost to robust the bases where our jets are being realigned. *(Tab 1, Index 13)*

Our lease is one dollar a year through 2047, we have no encroachment, no noise complaints and plenty of room to grow as depicted here. *(Tab 2 Index 2 Appendix5 &6)*

Our full visual, full-motion simulator, one of only four in the Air National Guard, would cost in excess of 3 million dollars to relocate. This additional cost was **not** included in the COBRA computations, and **is** a substantial deviation of Criteria 4 and 5, exceeding the projected 20 year savings. *(Tab 2 Index 2 Appendix3)*

Two KC-135s can park side by side fully enclosed in our two bay hangar, which is the only one of its kind in the Air National Guard. *(Tab 2 Index 2 Appendix1)*

Our Fuel Cell/Corrosion Control Facility won the American Consulting Engineers Council Award given by the Air Force's Chief Engineer. *(Tab 2 Index 2 Appendix2)*

Key Field's fire station was designed to support the increased number of firefighters and equipment necessary for large aircraft emergencies. *(Tab 2 Index 2 Appendix2)*

We **have** the right sized facilities but more importantly, we have them in the right **location** at the right price, and we welcome a visit from your Commission. Keeping tankers at Key Field **would** improve readiness and training; help fill the gap in the Southeast and save money.

Conclusion: That's why we ask,

-Is it practical to serve your customers from **further** away at a **greater** cost.

- To have **so much** overlap in some regions of the country while others are left with no training or Homeland Defense coverage at all?

-Is it reasonable to move jets from a base specifically designed for the tanker to send to other bases that do not even have room to park them and cost more to robust?

-And does it make sense to risk losing hundreds of maintenance technicians and dozens of combat experienced aircrews on a plan where the savings will **never** exceed the costs?

These deviations from BRAC criteria are costly, they are unnecessary and they are avoidable.

We need **more** tankers in the Southeast, not fewer and **Optimal Proximity does matter. Proximity basing enhances readiness and saves money.** Now is the time to make a difference in the cost of training and preparation for the next war. That, Commissioners, is why we respectfully ask you to remove Key Field from the realignment list.

Thank you and we now welcome your questions.

Final Selection Criteria

Department of Defense Base Closure and Realignment

In selecting military installations for closure or realignment, the Department of Defense, giving priority consideration to military value (the first four criteria below), will consider:

Military Value

1. The current and future mission capabilities and the impact on operational readiness of the total force of the Department of Defense, including the impact on joint war fighting, **training and readiness.**
2. The availability and condition of land, facilities, and associated airspace (including training areas suitable for maneuver by ground, naval or air forces throughout a diversity of climate and terrain areas and staging areas for the use of the Armed Forces in **homeland defense missions**) at both existing and potential receiving locations.
3. The ability to accommodate contingency, mobilization, surge and future total force requirements at both existing and potential receiving locations to support operations and training.
4. The **cost of operations and the manpower** implications.
5. The extent and timing of potential costs and savings, including the number of years, beginning with the date of completion of the closure or realignment, **for the savings to exceed the costs.**
6. **The economic impact on existing communities** in the vicinity of military installations.
7. The ability of the infrastructure of both the existing and potential receiving communities to support forces, missions and personnel.
8. The environmental impact, including the impact of costs related to potential environmental restoration, waste management and environmental compliance activities.

(General Comments with these criteria by the DoD included on next page)

These comments of the Secretary of Defense attached to the Final Selection Criteria were intended to guide the interpretation of those criteria and the execution of decisions regarding closures and realignments. In the decision to realign Key Field AGS, however, this guidance was not followed, particularly because the data call process did not facilitate discrimination among installations to provide accurate comparisons of military value along with the costs and benefits associated with its realignment. Examples of this deviation are shown in Index 3 and Index 10 of this Tab.

Department of Defense Selection Criteria for Closing and Realigning Military Installations Inside the United States

[Federal Register: February 12, 2004 (Volume 69, Number 29)]

DEPARTMENT OF DEFENSE
Office of the Secretary

SUMMARY: The Secretary of Defense, in accordance with section 2913(a) of the Defense Base Closure and Realignment Act of 1990, Public Law 101-510, as amended, 10 U.S.C. 2687 note, is required to publish the final selection criteria to be used by the Department of Defense in making recommendations for the closure or realignment of military installations inside the United States.

(1) General Comments

(b) Public Law 101-510 directs DoD to evaluate all installations equally. The Department has issued guidance to all DoD Components instructing them to treat all installations equally.

(2) Military Value Comments

(a) A majority of comments received dealt with the military value criteria. In the aggregate, military value refers to the collection of attributes that determine how well an installation supports force structure, functions, and or missions.

(c) Selection criteria must facilitate discriminating among various military installations, assessing the value of each and comparing them against each other to see which installations offer the greatest value to the Department. Criteria one through three compare the respective assets of different military installations against each other, valuing those with more of those assets more highly than those without those assets. By valuing the installations with more of these assets higher, the Department ``preserves'' these valuable assets set out in the criteria.

(j) Some commentators noted that, in some areas of the country, expanding civilian use of adjacent lands is encroaching upon military properties and has impacted critical training requirements and

preparations for deployments. Some said that installations located in rural regions with access to large areas of operational airspace over

land and water as well as direct ingress/egress routes from water to land will be key to future military operational and training requirements. The issue of encroachment is captured by criterion two which requires the Department to consider the availability and condition of land, facilities and associated airspace.

(k) Monetary resources are an inextricable component of military value because all equipment, services, and military salaries are dependent on the availability of this resource. Therefore, the extent to which one installation can be operated at less cost than another is worthy of consideration, particularly for business operations, although the importance of this will vary depending on the function involved.



Formula 1245 (Optimal Range Computation) Mission Tanker

| | |
|-------------|--|
| Criterion | Current / Future Mission |
| Attribute | Geo-locational Factors |
| Formula | #1245 |
| Label | Proximity to Airspace Supporting Mission (ASM) |
| Effective % | 39.10% |

Question: If installation has no runway or no active runway, or no serviceable, suitable runway then score 0 pts. See section 1 "9 "Shared" for details.

For each airspace:

If the Airspace, Route Designator does not start with AR, get 0 points, See OSD # 1245, column 1 for this data.

Otherwise, if the distance to the airspace is >, 850 miles, get 0 points, See OSD # 1245, column 2 (Nil A means more than 850 NM.)

Otherwise, if the distance to the airspace = 850 miles, get 10 points,

Otherwise, if the distance to the airspace = 250 miles, get 100 points.

Otherwise, pro-rate the distance to the airspace from 250 miles to 850 miles on a 100 to 10 point scale. This is the base raw total.

Once you have a base raw total, find the highest, and the lowest, non-zero raw total across all bases.

If the raw total = 0, the score = 0.

Else, if the raw total = the highest raw total, tile score = 100,

Else, if the raw total = the lowest, non-zero raw total, the score = 10,

Else, pro-rate tile raw total between the lowest non-zero raw total and the highest raw total on a 10 to 100 scale.

Source FLIP AP-IA: FLIP AP-IB; IFR Supp; Falcon View or other certified flight planning software.



Why Formula 1245 is an Inaccurate Discriminator

39.1% of the overall MCI score was based on Air Space Supporting Mission, and airspace within 250 miles of a base was given the maximum of 100 points. Using that range to determine optimal proximity to mission makes sense, but the fact that only airspace beginning with the designator AR was counted for this mission does not. Heavy aircraft refuel on AR tracks, but fighter aircraft, which account for two-thirds of our receivers, use Military Operating Areas (MOAs) and Warning areas instead of AR tracks. Omitting fighters from this formula skews the military value rating number.

(Analysis Continued Next Page)

Shared Refueling Airspaces Including MOAs and Warning Areas

| Base | Number of Airspaces Located within 250 NM | | |
|--------------------------|---|--------------------------|---------------------------|
| | Unique to Base | Shared with 1 Other Base | Shared with 2 Other Bases |
| Key Field AGS | 27 | 23 | 34 |
| General Mitchell IAP AGS | 15 | 8 | 15 |
| Bangor IAP AGS | 0 | 21 | 15 |
| Birmingham IAP AGS | 0 | 16 | 42 |
| Sioux Gateway AGS | 0 | 9 | 10 |
| Scott AFB | 0 | 3 | 19 |
| McGhee Tyson AGS | 0 | 1 | 27 |

Source: OSD Question 1245

In addition, the data call did not assign credit for unique refueling airspaces, or those within 250 miles of a base that are not covered by another tanker base. Nor did it ensure that all spaces had tanker coverage. This information is necessary to minimize inefficient overlap.

(Effect of this omission on MCI score shown on following page)



Omitting fighter aircraft and unique refueling airspaces from the BRAC computations led to Key Field receiving only 24 out of 39 possible points in what was the most heavily weighted category of the entire rating system. This fact alone would have ranked Key Field above all three receiving bases in military value and would have enabled the DoD to see that Key Field is closer to more receivers and their refueling airspaces than any other tanker base in the country.

MCI Score Sheets

| Criterion | Max Points | Key Field | General Mitchell | McGhee Tyson | Bangor | Birmingham | Scott | Sioux City |
|--|---------------|--------------|------------------|--------------|--------------|--------------|--------------|--------------|
| ATC Restrictions to Operations | 6.90 | 6.90 | 6.90 | 6.90 | 6.90 | 6.90 | 6.90 | 6.90 |
| Proximity to Airspace Supporting Mission | 39.10 | 24.31 | 23.09 | 24.26 | 11.62 | 24.50 | 27.57 | 27.60 |
| Fuel Hydrant Systems Support Mission Growth | 4.15 | 1.52 | 1.94 | 1.94 | 2.21 | 2.21 | 1.94 | 1.66 |
| Ramp Area and Serviceability | 7.89 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.97 | 0.00 |
| Runway Dimension and Serviceability | 9.55 | 7.64 | 7.34 | 6.69 | 9.01 | 9.55 | 7.64 | 6.68 |
| Hangar Capacity - Large Aircraft | 3.32 | 0.91 | 0.90 | 0.88 | 0.88 | 0.88 | 1.08 | 0.86 |
| Level of Mission Encroachment | 2.08 | 2.07 | 2.08 | 2.08 | 1.96 | 2.08 | 1.91 | 1.85 |
| Installation Pavements Quality | 14.53 | 3.63 | 7.26 | 7.26 | 3.63 | 5.45 | 10.89 | 5.45 |
| Fuel Dispensing Rate to Support Mobility and Surge | 3.85 | 1.18 | 0.55 | 2.03 | 2.00 | 1.18 | 2.22 | 0.75 |
| Ability to Support Large-Scale Mobility Deployment | 1.65 | 1.24 | 1.65 | 0.00 | 1.24 | 1.65 | 0.41 | 1.24 |
| Attainment / Emission Budget Growth Allowance | 1.35 | 1.35 | 0.81 | 0.81 | 1.35 | 0.81 | 0.81 | 1.35 |
| Buildable Acres for Industrial Operations Growth | 1.58 | 0.00 | 0.00 | 0.15 | 0.00 | 0.15 | 0.24 | 0.04 |
| Buildable Acres for Air Operations Growth | 1.58 | 0.19 | 0.00 | 0.18 | 0.28 | 0.00 | 0.20 | 0.00 |
| Area Cost Factor | 1.25 | 0.94 | 0.66 | 1.07 | 0.72 | 1.15 | 0.45 | 0.82 |
| Utilities cost rating (U3C) | 0.13 | 0.08 | 0.06 | 0.08 | 0.00 | 0.06 | 0.09 | 0.08 |
| BAH Rate | 0.88 | 0.61 | 0.56 | 0.74 | 0.62 | 0.49 | 0.57 | 0.85 |
| GS Locality Pay Rate | 0.25 | 0.25 | 0.20 | 0.25 | 0.25 | 0.25 | 0.24 | 0.25 |
| Total MCI Points | 100.04 | 52.82 | 54.00 | 55.32 | 42.67 | 57.31 | 65.13 | 56.38 |

Reference: USAF BRAC 2005 Base MCI Score Sheets - mci scoresheet all bases compare order.pdf

Tanker to Receiver Ratio by Base
Compiled using BRAC 2005, 250NM Data Call Radius

| Base | # Tankers | # Rcvrs w/in 250 NM | Rcvrs for each tanker |
|------------------|-----------|---------------------|-----------------------|
| Key Field | 9 | 363 | 40.3 |
| Andrews D.C. | 8 | 287 | 35.9 |
| Phoenix | 10 | 336 | 33.6 |
| March | 12 | 312 | 26.0 |
| Seymour Johnson | 16 | 335 | 20.9 |
| Tinker | 12 | 214 | 17.8 |
| Salt Lake City | 8 | 132 | 16.5 |
| Lincoln | 8 | 98 | 12.3 |
| Sioux City | 8 | 98 | 12.3 |
| MacDill | 16 | 192 | 12.0 |
| McGhee Tyson | 12 | 139 | 11.6 |
| Forbes | 12 | 128 | 10.7 |
| Pittsburgh | 16 | 140 | 8.8 |
| McGuire KC-10 | 30 | 238 | 7.9 |
| Gen Mitchell | 12 | 94 | 7.8 |
| Pease | 12 | 80 | 6.7 |
| Travis KC-10 | 24 | 156 | 6.5 |
| Selfridge | 12 | 76 | 6.3 |
| Grissom | 16 | 94 | 5.9 |
| Altus | 24 | 141 | 5.9 |
| Scott | 12 | 66 | 5.5 |
| Rickenbacker | 18 | 86 | 4.8 |
| Bangor | 12 | 56 | 4.7 |
| McConnell | 48 | 125 | 2.6 |
| Fairchild | 30 | 60 | 2.0 |

| Rank | Base | # Tankers/Command | Recvr Location | # | Type | Total | T/R Ratio |
|------|-----------|-------------------|----------------|-----------|--------------------------------|-------|-----------|
| 1 | Key Field | 9 | ANG | 8 | C-5 | 363 | 40.3 |
| | | | Barksdale | 73 | B-52, A-10 | | |
| | | | Jackson | 8 | C-17 | | |
| | | | New Orleans | 24 | F-15 | | |
| | | | Hurlburt | 40 | M/AC-130 | | |
| | | | Tyndall | 96 | F-15, F-22 | | |
| | | | Eglin | 96 | F-16, F-15, A-10, MC-130, JASF | | |
| | | | Montgomery | <u>18</u> | F-16 | | |
| | | | | 363 | | | |



| Rank | Base | # Tankers/Command | Recvr Location | # | Type | Total | T/R Ratio |
|------|-----------|-------------------|----------------|-----------|-----------|-------|-----------|
| 23 | Bangor | 12 ANG | Burlington | 18 | F-16 | 56 | 4.7 |
| | | | Westover | 14 | C-5 | | |
| | | | Barnes | <u>24</u> | A-10 | | |
| | | | | 56 | | | |
| 24 | McConnell | 48 AD | Tulsa | 24 | F-16 | 125 | 2.6 |
| | | | Tinker | 24 | E-3 | | |
| | | | Altus | 15 | C-17 | | |
| | | | Offutt | 22 | R/WC-135 | | |
| | | | Whiteman | <u>40</u> | A-10, B-2 | | |
| | | | | 125 | | | |
| 25 | Fairchild | 30 AD | McChord | 42 | C-17 | 60 | 2.0 |
| | | | Boise | <u>18</u> | A-10 | | |
| | | | | 60 | | | |

Data Source: Headquarters U.S. Air Force
 "State by State Installation View" Power Point Brief 7/2/2005

| Rank | Base | # Tankers/Command | Recvr Location | # | Type | Total | T/R Ratio |
|------|--------------|-------------------|----------------------------------|-----------|-----------|-------|-----------|
| 19 | Grissom | 16 AFR | Selfridge | 18 | A-10 | 94 | 5.9 |
| | | | Toledo | 24 | F-16 | | |
| | | | Madison | 18 | F-16 | | |
| | | | Ft. Wayne Wright Patterson | 24 | F-16 | | |
| | | | | <u>10</u> | C-5 | | |
| | | | 94 | | | | |
| 20 | Altus | 24 AD | Tulsa | 24 | F-16 | 141 | 5.9 |
| | | | Tinker | 24 | E-3 | | |
| | | | Altus | 15 | C-17 | | |
| | | | Dyess | 54 | B-1 | | |
| | | | Carswell | <u>24</u> | F-16 | | |
| | | | 141 | | | | |
| 21 | Scott | 12 ANG | Whiteman | 40 | A-10, B-2 | 66 | 5.5 |
| | | | Memphis | 8 | C-5 | | |
| | | | Des Moines | <u>18</u> | F-16 | | |
| | | | 66 | | | | |
| 22 | Rickenbacker | 18 ANG | Selfridge | 18 | A-10 | 86 | 4.8 |
| | | | Toledo | 24 | F-16 | | |
| | | | Ft Wayne Wright Patterson | 24 | F-16 | | |
| | | | | 10 | C-5 | | |
| | | | EWV Shepherd | <u>10</u> | C-5 | | |
| | | | 86 | | | | |



| Rank | Base | # Tankers/Command | Recvr Location | # | Type | Total | T/R Ratio |
|------|---------------|-------------------|---------------------|-----------|-----------|-------|-----------|
| 15 | Gen. Mitchell | 12 ANG 40 | Selfridge | 18 | A-10 | 94 | 7.8 |
| | | | Madison | 18 | F-16 | | |
| | | | Toledo | 24 | F-16 | | |
| | | | Ft. Wayne Wright | 24 | F-16 | | |
| | | | Patterson | <u>10</u> | C-5 | | |
| | | | | 94 | | | |
| 16 | Pease | 12 ANG | Burlington | 18 | F-16 | 80 | 6.7 |
| | | | Westover | 14 | C-5 | | |
| | | | Barnes | 24 | A-10 | | |
| | | | McGuire | 12 | C-17 | | |
| | | | Stewart | <u>12</u> | C-5 | | |
| | | | | 80 | | | |
| 17 | Travis | 24 AD | Travis | 28 | C-5, C-17 | 156 | 6.5 |
| | | | Moffett Field | 9 | MC-130 | | |
| | | | Fresno | 24 | F-16 | | |
| | | | Klamath Falls | 24 | F-15 | | |
| | | | Edwards | <u>71</u> | Test | | |
| | | | | 156 | | | |
| 18 | Selfridge | 12 ANG | Selfridge | 18 | A-10 | 76 | 6.3 |
| | | | Toledo | 24 | F-16 | | |
| | | | Ft. Wayne Wright | 24 | F-16 | | |
| | | | Patterson | <u>10</u> | C-5 | | |
| | | | | 76 | | | |



| Rank | Base | # Tankers/Command | Recvr Location | # | Type | Total | T/R Ratio |
|------|------------|-------------------|----------------------------------|-----------|------------|-------|-----------|
| 12 | Forbes | 12 ANG | Des Moines | 18 | F-16 | 128 | 10.7 |
| | | | Offutt | 22 | R/WC-135 | | |
| | | | Whiteman | 40 | A-10, B-2 | | |
| | | | Tulsa | 24 | F-16 | | |
| | | | Tinker | <u>24</u> | E-3 | | |
| | | | | 128 | | | |
| 13 | Pittsburgh | 16 ANG | Andrews | 24 | F-16 | 140 | 8.8 |
| | | | EWV Shepherd | 10 | C-5 | | |
| | | | Martin State | 18 | A-10 | | |
| | | | Selfridge | 18 | A-10 | | |
| | | | McGuire | 12 | C-17 | | |
| | | | Toledo | 24 | F-16 | | |
| | | | Ft. Wayne Wright Patterson | 24 | F-16 | | |
| | | | | <u>10</u> | C-5 | | |
| | | | 140 | | | | |
| 14 | McGuire | 30 AD | Langley | 72 | F-15, F-22 | 238 | 7.9 |
| | | | Andrews | 24 | F-16 | | |
| | | | EWV Shepherd | 10 | C-5 | | |
| | | | Martin State | 18 | A-10 | | |
| | | | Dover | 28 | C-5, C-17 | | |
| | | | Atlantic City | 24 | F-15 | | |
| | | | McGuire | 12 | C-17 | | |
| | | | Stewart | 12 | C-5 | | |
| | | | Barnes | 24 | A-10 | | |
| | | | Westover | <u>14</u> | C-5 | | |
| | | | 238 | | | | |



| Rank | Base | # Tankers/Command | Recvr Location | # | Type | Total | T/R Ratio |
|------|--------------|-------------------|------------------|-----------|------------|-------|-----------|
| 8 | Sioux City | 8 ANG | Joe Foss | 18 | F-16 | 98 | 12.3 |
| | | | Des Moines | 18 | F-16 | | |
| | | | Offutt | 22 | R/WC-135 | | |
| | | | Whiteman | <u>40</u> | A-10, B-2 | | |
| | | | | 98 | | | |
| 9 | Lincoln | 8 ANG | Joe Foss | 18 | F-16 | 98 | 12.3 |
| | | | Des moines | 18 | F-16 | | |
| | | | Offutt | 22 | R/WC-135 | | |
| | | | Whiteman | <u>40</u> | A-10, B-2 | | |
| | | | | 98 | | | |
| 10 | MacDill | 16 AD | Jacksonville | 24 | F-15 | 192 | 12.0 |
| | | | Homestead | 24 | F-16 | | |
| | | | Moody | 48 | A-10 | | |
| | | | Tyndall | <u>96</u> | F-15, F-22 | | |
| | | | | 192 | | | |
| 11 | McGhee Tyson | 12 ANG | Wright Patterson | 10 | C-5 | 139 | 11.6 |
| | | | Shaw | 72 | F-16 | | |
| | | | McEntire | 24 | F-16 | | |
| | | | Montgomery | 18 | F-16 | | |
| | | | Robins | <u>15</u> | E-8 | | |
| | | | | 139 | | | |



| Rank | Base | # Tankers/Command | Recvr | Location | # | Type | Total | T/R Ratio |
|------|--------------------|-------------------|-------|-------------------------------|-----------|------------|-------|-----------|
| 5 | Seymour Johnson | 16 | AD | EWV Sheperd | 10 | C-5 | 335 | 20.9 |
| | | | | Andrews | 24 | F-16 | | |
| | | | | Langley Seymour Johnson | 72 | F-15, F-22 | | |
| | | | | | 87 | F-15 | | |
| | | | | Shaw | 72 | F-16 | | |
| | | | | McEntire | 24 | F-16 | | |
| | | | | Charleston | <u>46</u> | C-17 | | |
| | | | | | 335 | | | |
| 6 | Tinker | 12 | AFR | Tulsa | 24 | F-16 | 214 | 17.8 |
| | | | | Tinker | 24 | E-3 | | |
| | | | | Altus | 15 | C-17 | | |
| | | | | Barksdale | 73 | B-52, A-10 | | |
| | | | | Dyess | 54 | B-1 | | |
| | | | | Carswell | <u>24</u> | F-16 | | |
| | | | | | 214 | | | |
| 7 | Salt Lake City | 8 | ANG | Mountain Home | 42 | F-15 | 132 | 16.5 |
| | | | | Hill | 72 | F-16 | | |
| | | | | Boise | <u>18</u> | A-10 | | |
| | | | | | 132 | | | |



| Rank | Base | # Tankers/Command | Recvr Location | # | Type | Total | T/R Ratio |
|------|-----------|-------------------|-------------------------------|-----------|------------------------|-------|-----------|
| 2 | Andrews | 8 AFR | Atlantic City | 24 | F-15 | 287 | 35.9 |
| | | | McGuire | 12 | C-17 | | |
| | | | Stewart | 12 | C-5 | | |
| | | | EWV Shepherd | 10 | C-5 | | |
| | | | Martin State | 18 | A-10 | | |
| | | | Dover | 28 | C-5, C-17 | | |
| | | | Langley | 72 | F-15, F-22 | | |
| | | | Andrews Seymour Johnson | 24 | F-16 | | |
| | <u>87</u> | F-15 | | | | | |
| | | 287 | | | | | |
| 3 | Phoenix | 10 ANG | Luke | 100 | F-16 | 336 | 33.6 |
| | | | Tucson | 61 | F-16 | | |
| | | | Nellis | 109 | A-10, F-15, F-16, F-22 | | |
| | | | Davis Monthan | <u>66</u> | A-10 | | |
| | | 336 | | | | | |
| 4 | March | 12 AFR | Edwards | 71 | Test | 312 | 26.0 |
| | | | Fresno | 24 | F-16 | | |
| | | | Nellis | 109 | A-10, F-15, F-16, F-22 | | |
| | | | Luke | 100 | F-16 | | |
| | | | March | <u>8</u> | C-17 | | |
| | | 312 | | | | | |



Tanker to Receiver Ratio; CONUS and Region

This post-BRAC CONUS table lists every tanker base, Active, Guard, and Reserve, in the nation and shows the number of receivers within their DoD defined Optimal Proximity range of 250 miles. Key Field has been inserted into the table to show where it would rank were it allowed to remain in place. It's notable that although Key Field didn't receive maximum points in Air Space Supporting Mission (see Index 2), it's in optimal proximity to more receivers than any other tanker base in the country.

CONUS

| Base | # Tankers | # Rcvrs w/in 250 NM | Rcvrs for each tanker |
|------------------|-----------|---------------------|-----------------------|
| Key Field | 9 | 363 | 40.3 |
| Andrews D.C. | 8 | 287 | 35.9 |
| Phoenix | 10 | 336 | 33.6 |
| March | 12 | 312 | 26.0 |
| Seymour Johnson | 16 | 335 | 20.9 |
| Tinker | 12 | 214 | 17.8 |
| Salt Lake City | 8 | 132 | 16.5 |
| Lincoln | 8 | 98 | 12.3 |
| Sioux City | 8 | 98 | 12.3 |
| MacDill | 16 | 192 | 12.0 |
| McGhee Tyson | 12 | 139 | 11.6 |
| Forbes | 12 | 128 | 10.7 |
| Pittsburgh | 16 | 140 | 8.8 |
| McGuire KC-10 | 30 | 238 | 7.9 |
| Gen Mitchell | 12 | 94 | 7.8 |
| Pease | 12 | 80 | 6.7 |
| Travis KC-10 | 24 | 156 | 6.5 |
| Selfridge | 12 | 76 | 6.3 |
| Grissom | 16 | 94 | 5.9 |
| Altus | 24 | 141 | 5.9 |
| Scott | 12 | 66 | 5.5 |
| Rickenbacker | 18 | 86 | 4.8 |
| Bangor | 12 | 56 | 4.7 |
| McConnell | 48 | 125 | 2.6 |
| Fairchild | 30 | 60 | 2.0 |



This same information presented by region.

| REGION | Base | # Tankers | # Rcvrs w/in 250 NM | Rcvrs for each tanker |
|------------------|-------------------|------------------|----------------------------|------------------------------|
| Northeast | Andrews D.C. | 8 | 287 | 35.9 |
| | Pittsburgh | 16 | 140 | 8.8 |
| | McGuire (KC-10's) | 30 | 238 | 7.9 |
| | Pease | 12 | 80 | 6.7 |
| | Bangor | 12 | 56 | 4.7 |
| Mid-West | Lincoln | 8 | 98 | 12.3 |
| | Sioux City | 8 | 98 | 12.3 |
| | Forbes | 12 | 128 | 10.7 |
| | Gen Mitchell | 12 | 94 | 7.8 |
| | Selfridge | 12 | 76 | 6.3 |
| | Grissom | 16 | 94 | 5.9 |
| | Scott | 12 | 66 | 5.5 |
| | Rickenbacker | 18 | 86 | 4.8 |
| McConnell | 48 | 125 | 2.6 | |
| Northwest | Fairchild | 30 | 60 | 2.0 |
| Southwest | Phoenix | 10 | 336 | 33.6 |
| | March | 12 | 312 | 26.0 |
| | Tinker | 12 | 214 | 17.8 |
| | Salt Lake City | 8 | 132 | 16.5 |
| | Travis KC-10 | 24 | 156 | 6.5 |
| | Altus | 24 | 141 | 5.9 |
| Southeast | Key Field | 9 | 363 | 40.3 |
| | Seymour Johnson | 16 | 335 | 20.9 |
| | MacDill | 16 | 192 | 12.0 |
| | McGhee Tyson | 12 | 139 | 11.6 |

Data Source: Headquarters U.S. Air Force
 "State by State Installation View" Power Point Brief 7/2/2005

Southeast Receiver Training Requirements

| Location | Type Receiver | # Aircraft | # Aircraft Commanders | Minimum Calendar Year AR Events Aircraft Commander (1) | Minimum Calendar Year AR Events Location (1) | | |
|----------|------------------|--------------------|-----------------------|--|--|-------------|--------------------------------------|
| AL | Montgomery ANG | F-16 | 18 | 34 | 3 | 102 | Continuation Training |
| FL | Eglin AFB | A-10, F-15/E, F-16 | 27 | 48 | 2 | 96 | Test Squadrons -180 day currency |
| " | Eglin AFB | MC-130 | 19 | 30 | 3 | 90 | 2AC per msn |
| " | Homestead AFB | F-16 | 24 | 48 | 4 | 192 | Continuation Training |
| " | Hurlburt AFB | AC/MC-130 | 40 | 60 | 3 | 180 | 2AC per msn |
| " | Jacksonville ANG | F-15 | 24 | 48 | 3 | 144 | Continuation Training |
| " | Tyndall AFB | F-15, F-22, JSF | 146 | 292 | 4 | 1168 | Continuation Training & Upgrade trng |
| GA | Moody AFB | A-10 | 48 | 96 | 2 | 192 | Continuation Training |
| " | Robins AFB | E-8 | 15 | 30 | 9 | 270 | Continuation Training |
| LA | Barksdale AFB | A-10 | 24 | 48 | 2 | 96 | Continuation Training |
| " | Barksdale AFB | B-52 | 39 | 80 | 4 | 320 | Continuation Training |
| " | Barksdale AFB | B-52 (RTU) | 10 | 64 | 13 | 832 | Upgrade trng (2AC/sortie) |
| " | New Orleans ANG | F-15 | 24 | 48 | 4 | 192 | Continuation Training |
| MS | Jackson ANG | C-17 | 8 | 36 | 5 | 180 | Continuation Training (3AC/sortie) |
| NC | Seymour Johnson | F-15E | 87 | 174 | 3 | 522 | Continuation Training |
| SC | Charleston AFB | C-17 | 46 | 216 | 5 | 1080 | Continuation Training (3AC/sortie) |
| " | McEntire ANG | F-16 | 24 | 48 | 3 | 144 | Continuation Training |
| " | Shaw AFB | F-16 | 72 | 144 | 3 | 432 | Continuation Training |
| TN | Memphis ANG | C-5 | 8 | 12 | 6 | 72 | Continuation Training (3AC/sortie) |
| VA | Langley AFB | F-15, F-22 | 72 | 144 | 4 | 576 | Continuation Training |
| WV | Shepherd ANG | C-5 | 10 | 28 | 6 | 168 | Continuation Training (3AC/sortie) |
| | | | 785 | 1728 | | 7048 | |

1.7.1 Air Force Basing Principles

A principle is an enduring, fundamental tenet that describes an operational or physical characteristic that has or produces military value. The 11 Air Force basing principles are:

1. *Maintain squadrons **within operationally efficient proximity** to DoD-controlled airspace, ranges, MOAs, and low-level routes*
2. *Optimize the size of our squadrons --in terms of aircraft model, aircraft assigned, and crew ratios applied (e.g., same MDS's)*
3. *Retain enough capacity to base worldwide Air Force forces entirely within the United States and its territories*
4. *Retain aerial **refueling bases in optimal proximity** to their missions*
5. *Better meet the needs of the Air Force by maintaining/placing ARC units in **locations that best meet the demographic and mission requirements** unique to the ARC*
6. *Ensure joint basing realignment actions (when compared to the status quo) increase the military value of a function, or decrease the cost for the same military value of that function.*
7. *Ensure long-range strike bases provide flexible strategic response and strategic force protection*
8. *Support the AEF construct by keeping two geographically separate munitions sites*
9. *Retain enough surge capacity to support deployments, evacuations, and base repairs*
10. *Consolidate and/or co-locate older fleets*
11. *Ensure global mobility by retaining two air mobility bases and one 'additional wide-body capable base on each coast*

1.7.2 Air Force Basing Imperatives

The five Air Force basing imperatives are:

1. *Ensure unimpeded access to polar and equatorial earth orbits*
2. *Land-based strategic deterrent infrastructure as outlined by the Strategic Arms Reduction Treaty (START)*
3. *Ensure continuity of operations by maintaining airfield capabilities within the NCR to support the POTUS, Special Airlift Missions, and foreign dignitary visits. ..*
4. *Provide **air sovereignty basing** to meet the site protection and response time criteria stipulated by USNORTHCOM and USPACOM...*
5. *Support global response by U.S. forces by keeping sufficient sovereign U.S. mobility bases along deployment routes to potential crisis areas.*

These principles are sound, but the Air Force didn't appear to follow them in their recommendations to realign Key Field. Emphasis on decreasing costs and optimal proximity basing were not adhered to in this case. Additionally, there was no study to determine what exactly constituted "optimal squadron size" as it related to the refueling mission. The gap in tanker coverage also deviated from the fourth basing imperative as it relates to site protection for the Southeast (Houston, New Orleans).



KC-135 System Program Office, Tinker AFB OK Flying Hour Cost Information

This correspondence gives the source and amount of the cost per flight hour used in the computations within the BRAC testimony.

Page 1 of 1

Ziemba Craig M Major 153ARS

From: Wilson Aaron K CoI 186LG/CC

Sent: Friday, June 03, 2005 11 :47 AM

To: Ziemba Craig M Maj 153ARS

Subject: Operating cost

Craig,

According to the System Program Office (SPO) at Tinker, Mr. John Booth, DSN 336-2529, The FY-04 cost per flying hour for a KC-135R was \$8,513. We recently received a first time ever mid-year increase in fuel pricing (30%) which increased the cost per hour by an average of \$600. $10,000 \text{ lb per hr divided by } 6.7 \text{ lb per gallon} \times \$1.34 = \$2000 \times 30\% = \600 . \$8,513 plus \$600 puts us over \$9,000 per hour.

AK

//SIGNED//

AARON K. WILSON, COL, MSANG
186LG/CC

While not exhaustive, this representative sample demonstrates the additional flight time and fuel expended to service Key Field's common refueling areas from the next closest tanker bases. These figures are based on PFPS Form 200 flight plans (available on request). **On average, Key Field is at least one hour closer** to the coastal refueling areas than the next closest post-BRAC tanker base.

Refueling Area Comparison Chart

| <u>Base</u> | <u>Fuel Required</u> | <u>Flt Time</u> | <u>Difference</u> |
|----------------------|------------------------|-----------------|-------------------|
| <u>AR 302</u> | | | |
| Key Field | 14,365 lbs./2,113 gal. | 1+21 | 0/0 |
| McGhee Tyson | 24,384 lbs./3,650 gal. | 2+47 | 1,537 gal./1+26 |
| Macdill | 26,448 lbs./3,889 gal. | 2+59 | 1,776 gal./1+38 |
| Tinker | 27,209 lbs./4001 gal. | 3+06 | 1,888 gal./1+45 |

Eagle G

| | | | |
|--------------|------------------------|------|-----------------|
| Key Field | 14,066 lbs./2,069 gal. | 1+13 | 0/0 |
| McGhee Tyson | 21,624 lbs./3,180 gal. | 2+24 | 1,111 gal./1+13 |
| Macdill | 20,291 lbs./2984 gal. | 2+12 | 915 gal./+59 |
| Tinker | 26,418 lbs./3,885 gal. | 3+02 | 1816 gal./1+49 |

W-151

| | | | |
|--------------|------------------------|------|-----------------|
| Key Field | 13,993 lbs./2,058 gal. | 1+14 | 0/0 |
| McGhee Tyson | 19,651 lbs./2,890 gal. | 2+04 | 832 gal./+50 |
| Macdill | 19,438 lbs./2,856 gal. | 2+04 | 798 gal./+50 |
| Tinker | 29,963 lbs./4,406 gal. | 3+30 | 2,348 gal./2+16 |

Pine Hill MOA

| | | | |
|--------------|------------------------|------|-----------------|
| Key Field | 12,797 lbs./1,882 gal. | 1+06 | 0/0 |
| McGhee Tyson | 18,437 lbs./2,711 gal. | 1+55 | 829 gal./+49 |
| Macdill | 19,936 lbs./2,932 gal. | 2+10 | 1,050 gal./1+04 |
| Tinker | 23,754 lbs./3,493 gal. | 2+41 | 1,611 gal./1+35 |

Fla A

| | | | |
|--------------|------------------------|------|-----------------|
| Key Field | 14,129 lbs./2,078 gal. | 1+18 | 0/0 |
| McGhee Tyson | 17,235 lbs./2,535 gal. | 1+47 | 457 gal./+29 |
| Macdill | 15,050 lbs./2,213 gal. | 1+25 | 135 gal./+07 |
| Tinker | 29,355 lbs./4,317 gal. | 3+24 | 2,239 gal./2+06 |

Parking Capacity Comparison

Key Field can park more aircraft than 2 of the 3 bases our aircraft are being sent to.

Table 1.

| UNIT | Available KC-135R Parking Locations |
|--------------------------|--|
| Key Field AGS | 13 |
| General Mitchell IAP AGS | 11 |
| Bangor | 19 |
| McGhee Tyson | 10 |

(Source: Tab_2._Mil_Value_and_Capacity_Supporting_Information_USAF_0077V3_(437c5).pdf)

Given that these units cannot accommodate the 12 aircraft proposed to be appropriated to them by the 2005 BRAC, additional construction would be needed for ramp area as seen in Table 2.

Table 2.

| Unit | Additional Aircraft ramp space needed for 12 KC-135R (Square Yards) | Total Military Construction Cost for Additional Ramp |
|--------------------------------|---|---|
| Key Field AGS | 0 | \$0 |
| McGhee Tyson AGS | 28,545 | \$3,486,000 |
| General Mitchell IAP AGS | 3,753 | \$569,000 |
| Bangor | 0 | \$283,00 |
| Total Ramp MILCON Costs | | \$4,338,000 |

Source: Tab_3._COBRA_Run_USAF_0077V3_(437c5)
 Tab_3._COBRA_Run_USAF_0121V4_(318.3c2)
 Tab_3._COBRA_Run_USAF_0083v2_(421c2)
 Tab_3._COBRA_Run_USAF_0117V3_(420c4)
 Tab_3._COBRA_Run_USAF_0084V2_(435c5)
 Tab_3._COBRA_Run_USAF_0080V3_(436c5)

Curiously, although Key Field's ramp is right-sized for the refueling mission, parks more aircraft, and would cost less to robust, it received no points in the MCI computations. The data call did not facilitate discrimination or comparison because it used large active duty bases with multiple missions as the basis to score Air National Guard bases. Key Field has three times the ramp area as Sioux City but received the same low score. The failure to differentiate occurred with hangar space as well. (See Tab2 Index 2 Appendix D2 - 6)

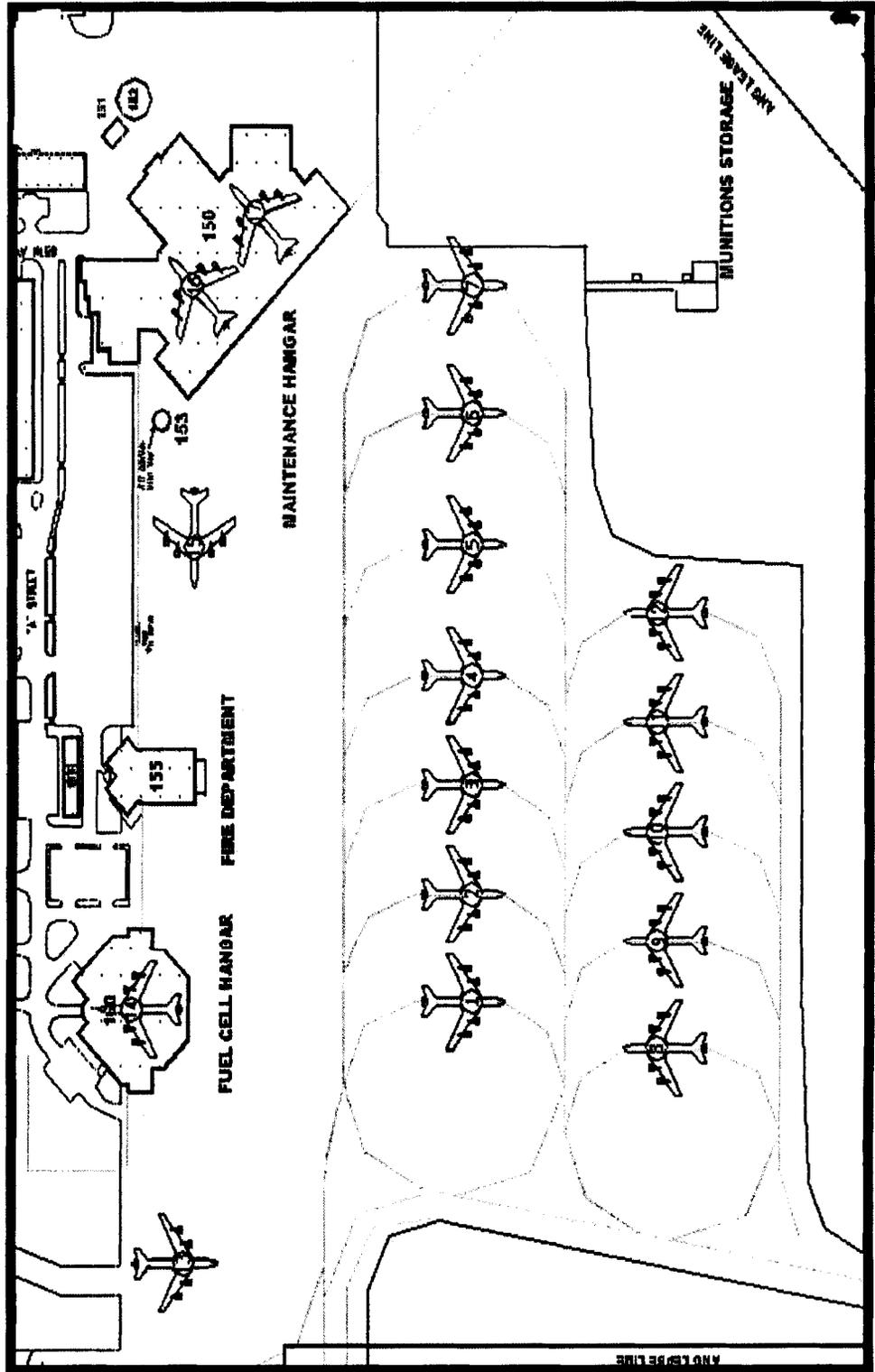
MCI Score Sheets

| Criterion | Max Points | Key Field | General Mitchell | McGhee Tyson | Bangor | Birmingham | Scott | Sioux City |
|--|---------------|--------------|------------------|--------------|--------------|--------------|--------------|--------------|
| ATC Restrictions to Operations | 6.90 | 6.90 | 6.90 | 6.90 | 6.90 | 6.90 | 6.90 | 6.90 |
| Proximity to Airspace Supporting Mission | 39.10 | 24.31 | 23.09 | 24.26 | 11.62 | 24.50 | 27.57 | 27.60 |
| Fuel Hydrant Systems Support Mission Growth | 4.15 | 1.52 | 1.94 | 1.94 | 2.21 | 2.21 | 1.94 | 1.66 |
| Ramp Area and Serviceability | 7.89 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.97 | 0.00 |
| Runway Dimension and Serviceability | 9.55 | 7.64 | 7.34 | 6.69 | 9.01 | 9.55 | 7.64 | 6.68 |
| Hangar Capacity - Large Aircraft | 3.32 | 0.91 | 0.90 | 0.88 | 0.88 | 0.88 | 1.08 | 0.86 |
| Level of Mission Encroachment | 2.08 | 2.07 | 2.08 | 2.08 | 1.96 | 2.08 | 1.91 | 1.85 |
| Installation Pavements Quality | 14.53 | 3.63 | 7.26 | 7.26 | 3.63 | 5.45 | 10.89 | 5.45 |
| Fuel Dispensing Rate to Support Mobility and Surge | 3.85 | 1.18 | 0.55 | 2.03 | 2.00 | 1.18 | 2.22 | 0.75 |
| Ability to Support Large-Scale Mobility Deployment | 1.65 | 1.24 | 1.65 | 0.00 | 1.24 | 1.65 | 0.41 | 1.24 |
| Attainment / Emission Budget Growth Allowance | 1.35 | 1.35 | 0.81 | 0.81 | 1.35 | 0.81 | 0.81 | 1.35 |
| Buildable Acres for Industrial Operations Growth | 1.58 | 0.00 | 0.00 | 0.15 | 0.00 | 0.15 | 0.24 | 0.04 |
| Buildable Acres for Air Operations Growth | 1.58 | 0.19 | 0.00 | 0.18 | 0.28 | 0.00 | 0.20 | 0.00 |
| Area Cost Factor | 1.25 | 0.94 | 0.66 | 1.07 | 0.72 | 1.15 | 0.45 | 0.82 |
| Utilities cost rating (U3C) | 0.13 | 0.08 | 0.06 | 0.08 | 0.00 | 0.06 | 0.09 | 0.08 |
| BAH Rate | 0.88 | 0.61 | 0.56 | 0.74 | 0.62 | 0.49 | 0.57 | 0.85 |
| GS Locality Pay Rate | 0.25 | 0.25 | 0.20 | 0.25 | 0.25 | 0.25 | 0.24 | 0.25 |
| | | | | | | | | |
| Total MCI Points | 100.04 | 52.82 | 54.00 | 55.32 | 42.67 | 57.31 | 65.13 | 56.38 |

Reference: USAF BRAC 2005 Base MCI Score Sheets - MCI scoresheet all bases compare order.pdf



Key Field Existing Capacity





In determining Optimal Squadron Size for tankers, the Air Force had no study to establish their assumption that 16 jet squadrons were more efficient than those with 8 or 9 aircraft. This table looks at three performance areas and shows that contrary to the Air Force's assumption, squadrons with 8 or 9 tankers, like Key Field, compare quite favorably with squadrons with 16 or 18, like McGuire and Rickenbacker.

Costs to Robust to 16 Aircraft

In accordance with the theoretical optimal sized squadron of 16 PAA, Key Field ANGB has a significantly lower cost to robust than any of the units receiving its aircraft. Some ANG units, listed in Table 3 as “Partial”, are classified as partial squadrons that *cannot be expanded to 16 PAA*.

Table 3.

| Unit | Cost to Robust to Optimal Squadron Size 16 KC-135R Aircraft (million) |
|----------------------------|---|
| Key Field AGS | \$11.0 |
| Bangor IAP AGS | \$27.6 |
| McGhee Tyson Airport AGS | \$32.7 |
| General Mitchell IAP AGS | \$45.1 |
| Niagara Falls IAP ARS | Cannot be expanded to 16 PAA |
| Phoenix Sky Harbor IAP AGS | Cannot be expanded to 16 PAA |
| Portland IAP AGS | Cannot be expanded to 16 PAA |
| Scott AFB | Cannot be expanded to 16 PAA |
| Sioux Gateway APT AGS | Cannot be expanded to 16 PAA |

(Source: Tab_2_Mil_Value_and_Capacity_Supporting_Information_USAF_0077V3_(437c5).pdf)

Bangor IAP AGS, McGhee Tyson AGS, and General Mitchell IAP AGS will receive aircraft from the realignment of Key Field AGS's nine KC-135R aircraft even though the cost to robust these units to the optimal KC-135 squadron size is significantly higher than that of Key Field. In addition, several units *will never* have the ability to robust to 16 aircraft should the need arise in the future.

Also it was noted that under the 2005 Air Force BRAC proposal Phoenix Sky Harbor will remain at an unacceptable squadron size of 10 aircraft and Sioux Gateway AGS will remain at an unacceptable squadron size of 8 aircraft, both of which violate the *Air Force's own acceptable squadron size criteria* of 12 PAA.

We've included this somewhat dated report on military pilot retention to show that the cost to train one pilot, even seven years ago was over 4 million dollars. In the case of the decision to realign Key Field, the loss of just one pilot exceeds the total projected savings over the 20 year payback period.

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CRS Report for Congress

Military Pilot Retention: Issues and Options

September 11, 1998

Michael C. Ryan
National Defense Fellow
Foreign Affairs and National Defense Division



Congressional Research Service • The Library of Congress

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Military Pilot Retention: Issues and Options

Issue

Retention of pilots by the Air Force, Navy, and Marine Corps is again becoming a problem. According to service officials, all relevant indicators are down and the services expect a continuing exodus of fully-trained, combat-ready, experienced aviators for the foreseeable future. The combination of high operational tempos that affect on their quality of life, coupled with perceptions of erosion in both career opportunities and benefits, are stressing pilots and their families at a time when rewarding opportunities offered by the major airlines are increasing dramatically. The result is that approved separations of pilots are up over last year, and many aviators are declining both incentive pay and assignments that would extend their commitment to serve on active duty.¹ To counter these trends, the services asked, and in November 1997 the Congress approved, increased aviation pay and bonuses as monetary incentives for pilots to remain on active duty.² This paper will review the issues involved and the options available. As the Air Force is the largest employer of military pilots, this paper will focus on the Air Force and will note differences in the Navy and Marine Corps situation and approaches where applicable.

Why is it important to retain pilots?

As perceived by the armed services, it is important to retain experienced aviators due to the high cost of training pilots, the important role of flying experience in leading and employing combat air forces, and an increased use of air assets in operations since the end of the Cold War.

Some believe "Pilots are not special, just expensive."³ Others see military pilots as an invaluable asset. It costs more to train a pilot than it does to train anyone else in the Air Force. [According to Air Force personnel officials, the average training cost, measured in both time and money, for a trained and experienced pilot, for all

¹For details of these trends and source references, see Table 1 and Figure 1. Unless otherwise stated, the Office of the Air Force Deputy Chief of Staff for Personnel provided the statistics and information regarding Air Force pilot retention used in this paper.

²Public Law 105-85, sections 615-616.

³Brackett, David, Lieutenant Colonel, USAF. National Defense Fellow, Harvard. Commentary in *Air Force Times* "How the Air Force Can Keep Pilots." 30 June, 1997.



CRS-2

aircraft in the Air Force, is \$4.3 million.⁴ The cost to train and provide a needed level of operational experience to pilots in four representative aircraft are:

| Airlift | Bomber | Fighter | Fighter |
|----------------|---------------|---------------|--------------|
| C-141B: \$3.4M | B-52H: \$6.1M | F-15C: \$6.5M | F-16: \$3.0M |

These costs represent the total amount required to train and develop a pilot to the point where he or she is a fully-qualified, combat-ready, experienced aviator.⁵ According to the Air Force, replacing these optimally "seasoned" pilots requires nine years of operational flying; therefore, a long-lead time is required to recover an equivalent capability when large numbers of pilots leave the service. Skeptics question the scope of this cost calculation model.

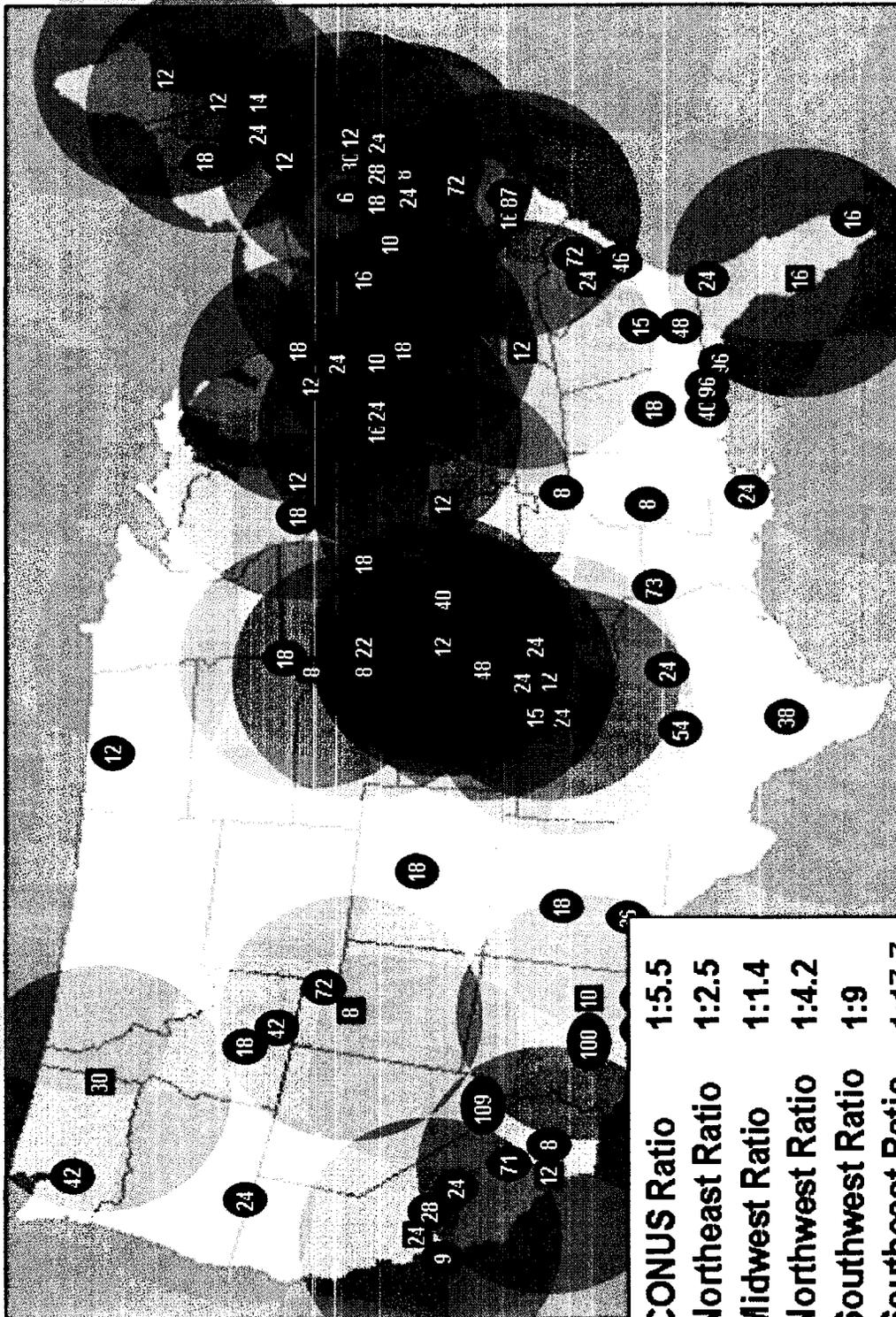
In addition to flying, pilots fill many military positions that serve to broaden them professionally and prepare them for leadership positions. This is a necessary process for developing leaders, but it also serves a role in combating cyclical drops in retention. In the past, the services enjoyed a large excess of pilots that were assigned throughout the military. These pilots could share their operational perspectives and learn the various mission-support aspects of their service. This large surplus enabled the services in general, and the Air Force in particular, to ride out periods of reduced retention. The post-Cold War draw-down eliminated this buffer and effectively removed one tool for combating cyclical drops in retention.⁶

President Clinton's National Security Strategy of Engagement, from which is derived the National Military Strategy, actively involves the military in a wide range of operations that depend to a large degree on speed, responsiveness, flexibility, and precision. The requirement to deploy air forces on short notice and at a much higher rate than during the Cold War has increased the peacetime importance of pilots.

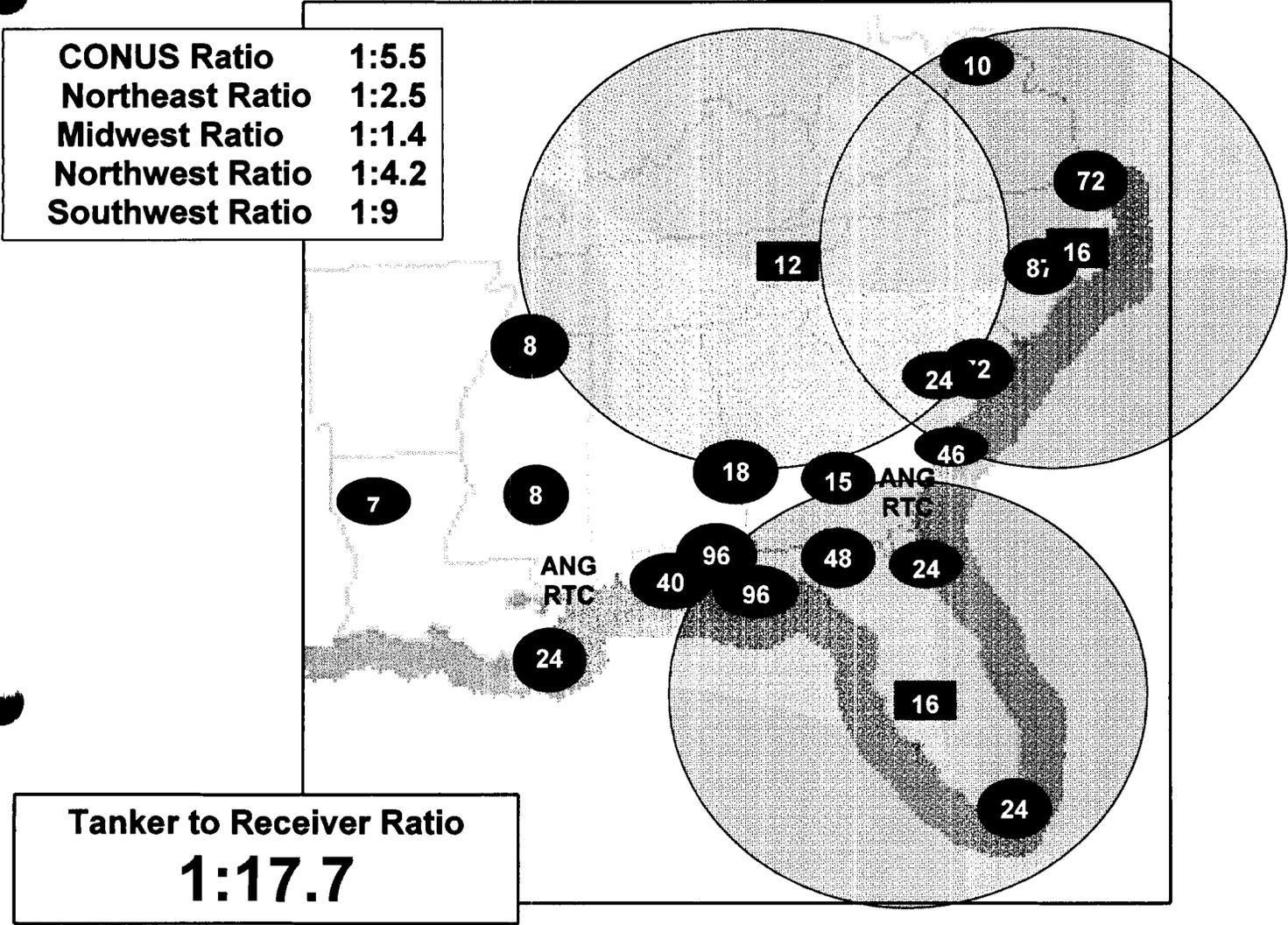
⁴ To arrive at this estimation, the Air Force uses a computation called "The Pilot Cost Model." In March 1997, the average cost derived using this model was \$4.3 million. The model uses flying hour and training costs associated with pilot development (one year to earn wings and 8 years flying experience). These costs include aircraft operation per flight hour estimates, the cost of physically conducting aircraft operations, the direct and indirect costs of staffs that support flying operations, and academic/student costs. The calculations do not include pay and allowances for pilots, pay for temporary duty away from home station, or any other personnel costs. Since the last calculation in March 1997, the Air Force has updated the model to account for changes in Air Force operating procedures and increases in operating costs. The increased attrition of pilots has also contributed to a change in the model as more replacements than anticipated required training. As of publication of this paper, the Air Force has revised its estimate of the average per pilot training cost upward from \$4.3 million to 5.9 million.

Data provided by the office of the AF Deputy Chief of Staff for Personnel, May 1997.

⁵ In 1989, there were 21,750 pilots in the Air Force compared to 14,774 in 1996. During this seven year period the pilot inventory dropped 32% while the inventory of all Air Force officers dropped only 27%. Annual production of new pilots dropped from 1541 in 1989 to 480 in 1995 (a 70% decline), but rose to 523 in 1996 and 662 in 1997. Detailed information of Air Force pilot demographics can be found on the Air Force Personnel Center's web site at <http://www.afpc.af.mil/demographics>.



Data Source: Headquarters U.S. Air Force "State by State Installation View" Power Point Brief 7/2/2005



While the DoD plan reduces the number of tankers in the Southeast by 23%, the number of receivers in the same region will increase by 12 %.

Southeast Region Total Aircraft Pre- and Post BRAC

| | | | <u>PRE-BRAC</u> | <u>POST-BRAC</u> |
|-------------|--------|-----------------|-----------------|------------------|
| Alabama | F-16 | Montgomery | 15 | 18 |
| Arkansas | F-16 | Fort Smith | 15 | 0 |
| Florida | F-16 | Eglin | 14 | 14 |
| | A-10 | Eglin | 2 | 2 |
| | F-15 | Eglin | 56 | 8 |
| | F-15E | Eglin | 3 | 3 |
| | F-22 | Eglin | 1 | 0 |
| | MC-130 | Eglin | 20 | 19 |
| | F-16 | Homestead | 15 | 24 |
| | AC-130 | Hurlburt | 23 | 23 |
| | MC-130 | Hurlburt | 10 | 17 |
| | F-15 | Jacksonville | 15 | 24 |
| | F-15 | Tyndall | 61 | 48 |
| | F-22 | Tyndall | 21 | 48 |
| | F-35 | Eglin | 0 | 50 |
| Georgia | A-10 | Moody | 0 | 48 |
| | E-8 | Robins | 15 | 15 |
| Louisiana | A-10 | Barksdale | 15 | 24 |
| | B-52 | Barksdale | 49 | 49 |
| | F-15 | New Orleans | 15 | 24 |
| | A-10 | New Orleans | 15 | 0 |
| Mississippi | C-17 | Jackson | 8 | 8 |
| N Carolina | A-10 | Pope | 36 | 0 |
| | F-15E | Seymour Johnson | 87 | 87 |
| S Carolina | C-17 | Charleston | 48 | 46 |
| | F-16 | McEntire | 15 | 24 |
| | F-16 | Shaw | 72 | 72 |
| Tennessee | C-5 | Memphis | 4 | 8 |
| Virginia | F-15 | Langley | 0 | 24 |
| | F-22 | Langley | 38 | 48 |
| | F-16 | Richmond | 15 | 0 |
| W Virginia | C-5 | Sheperd | 0 | 10 |
| | | TOTALS | 703 | 785 |

Data Source: Headquarters U.S. Air Force
"State by State Installation View" Power Point Brief 7/2/2005

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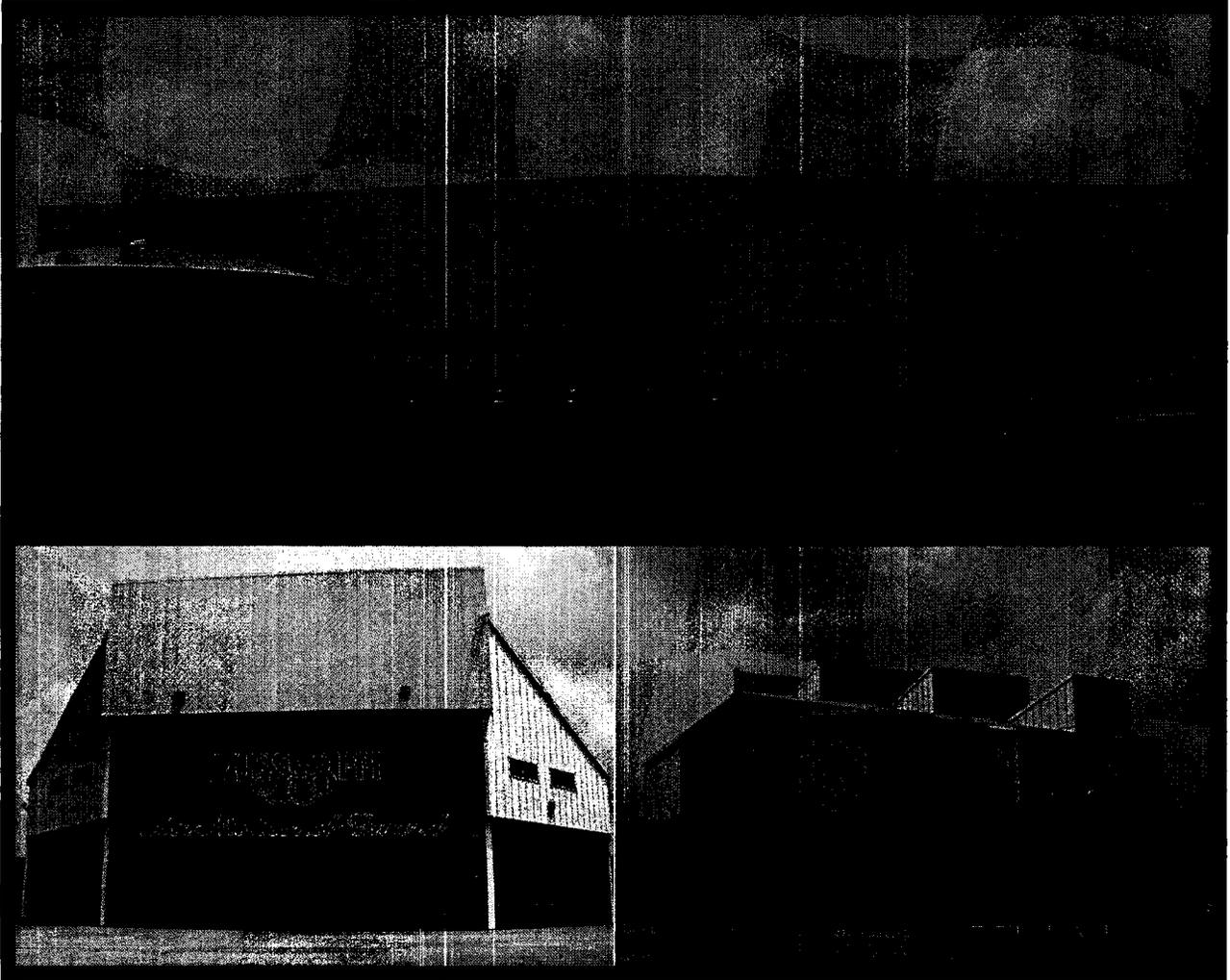
MCI Scoring



TAB #2 Evaluation of MCI Scoring Failures

This tab provides an in-depth analysis of failures in the military value rating process for Air National Guard tanker bases.

Evaluation of MCI Scoring Failures



Evaluation of MCI Scoring Failures

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Infrastructure Review

The United States Air Force determined each of its installation's Military Value from four criteria based on each of the Air Force Missions: Fighter, Bomber, Airlift, Tanker, C2ISR, SOF/CSAR, and Space. The criteria and Tanker specific weightings of each of the criteria are as follows:

- #1 Current and Future Mission (46.0%)
- #2 Condition of Infrastructure (41.5%)
- #3 Contingency, Mobilization, Future Forces (10.0%)
- #4 Cost of OPS / Manpower (2.5%)

Key Field AGS's Tanker Military Value was determined to be 92nd out of 158 bases evaluated by these criteria. The most significant factor in this low military value ranking was the evaluation of the condition of Key Field AGS's infrastructure. This assessment was made from several parameters to include installation pavements quality, ramp area, runway dimensions, hangar space and fuel hydrant system. This purpose of this index is to question the BRAC infrastructure evaluation process and determine if it accurately reflected Key Field AGS's infrastructure strengths.

According to the Department of the Air Force Analysis and Recommendations, Table 1, Volume V, Part 1 of 2, page 2, the optimal KC-135 optimal size squadron is 16 aircraft with 12 aircraft as an acceptable squadron size. Under the BRAC recommendations no Air National Guard KC-135 unit other than Rickenbacker IAP AGS is set to operate more than 12 aircraft. Key Field AGS currently operates 9 aircraft and by the Air Force's own evaluation has the capacity to park up to 13 aircraft on available ramp space. In comparison, two of the units receiving Key Field AGS's nine KC-135R's have fewer available parking spaces as shown in Table 1.

Table 1. KC-135R Parking Spaces

| Base | Available KC-135R Parking Locations |
|--------------------------|--|
| Key Field AGS | 13 |
| General Mitchell IAP AGS | 11 |
| McGee Tyson AGS | 10 |

Source: Tab 2. Mil Value and Capacity Supporting Information USAF

Given that these units cannot accommodate the 12 aircraft proposed to be appropriated to them by the 2005 BRAC, additional construction would be needed for ramp area. The ramp MILCON costs for receiving KC-KC135R bases are provided in Table 2.

Table 2. Ramp MILCON Costs

| Base | Additional Aircraft ramp space needed for 12 KC-135R (Square Yards) | Total Military Construction Cost for Additional Ramp |
|--------------------------|--|---|
| Key Field AGS | 0 | \$0 |
| General Mitchell IAP AGS | 3,753 | \$569,000 |
| McGhee Tyson AGS | 28,545 | \$3,486,000 |

Source: Tab 3. COBRA Run USAF – Appendix B

In accordance with the optimal sized squadron of 16 PAA, Key Field AGS has a significantly lower cost to robust than any of the units receiving its aircraft. The Air Force estimates are shown in Table 3. It is also noted that some ANG units cannot be expanded to 16 PAA.

Table 3. Robust Costs

| Base | Cost to Robust to Optimal Squadron Size 16 KC-135R Aircraft (million) |
|---|--|
| Key Field AGS (Losing Aircraft) | \$11.0 |
| Birmingham IAP AGS (Losing Aircraft) | \$22.8 |
| Bangor IAP AGS (Gaining Aircraft) | \$27.6 |
| McGhee Tyson AGS (Gaining Aircraft) | \$32.7 |
| General Mitchell IAP AGS (Gaining Aircraft) | \$45.1 |
| Phoenix Sky Harbor IAP AGS (Gaining Aircraft) | Cannot be expanded to 16 PAA |
| Scott AFB (Gaining Aircraft) | Cannot be expanded to 16 PAA |
| Sioux Gateway AGS (No Change) | Cannot be expanded to 16 PAA |

Source: Tab 2. Mil Value and Capacity Supporting Information USAF – Appendix C

Bangor IAP AGS, McGhee Tyson AGS, and General Mitchell IAP AGS will all receive aircraft from the realignment of Key Field AGS nine KC-135R aircraft even though the cost to robust these units to the optimal KC-135 squadron size is significantly higher than that of Key Field. In addition, four KC-135R units do not have the ability to robust to 16 aircraft should the need arise in the future. Also it was noted that under the 2005 Air Force BRAC proposal Phoenix Sky Harbor will remain at an unacceptable squadron size of 10 aircraft and Sioux Gateway AGS will remain at an unacceptable squadron size of 8 aircraft, both of which violate the Air Force's own acceptable squadron size criteria of 12 PAA.

Further analysis of the hangar space and apron area data submitted to DoD, which is posted on the defense link website gives more insight into the current infrastructure of Key Field AGS as shown in Table 4.

Table 4. Hangar and Ramp Area

| Base | Available Hangar Space (SF) | MCI Points Received for Hangar Space | Serviceable Ramp Area (SY) | MCI Points Received for Aircraft Ramp Area |
|--------------------------|------------------------------------|---|-----------------------------------|---|
| Key Field AGS | 80,420 | 0.91 | 146,726 | 0.00 |
| General Mitchell IAP AGS | 67,195 | 0.90 | 93,543 | 0.00 |
| Bangor IAP AGS | 51,444 | 0.88 | 166,178 | 0.00 |
| McGhee Tyson AGS | 49,860 | 0.88 | 144,734 | 0.00 |
| Sioux Gateway AGS | 29,280 | 0.86 | 49,760 | 0.00 |

Source: OSD Question 19 and Question 8, USAF BRAC 2005 Base MCI Score Sheets – Appendix D

A very significant factor in a base's ability to maintain KC-135 aircraft is the availability of hangar space. However, available hangar space was a relatively low weighted factor in the Tanker MCI evaluation at 3.32% of the overall score. Additionally the process for scoring available hangar space was extremely skewed due to the fact that every base's hangar space was pro-rated against Tinker AFB's hangar space (2,272,134 SF). As can be seen from Table 5, Key Field AGS has 51,140 SF (64%) more hangar space that met the BRAC criteria than Sioux Gateway AGS, but only received 0.05 MCI points above Sioux Gateway for this critical and expensive infrastructure component. In addition to the size of Key Field AGS's hangar space, the dimensionality of the maintenance and fuel cell hangars is an important aspect that was overlooked in the BRAC criteria. All applicable hangars at McGhee Tyson AGS, Bangor IAP AGS, Sioux Gateway AGS, and General Mitchell IAP AGS have cut-outs in the hangar doors for the tail of the aircraft due to inadequate depth to fully enclose a KC-135 aircraft or the hangars were originally designed for a different aircraft. In contrast, the maintenance hangar at Key Field can fully enclose two KC-135R aircraft parked side-by-side and the fuel cell hangar can fully enclose one KC-135R aircraft. Hangar capacity and dimensionality are very significant infrastructure assets possessed by Key Field that were given little consideration in the BRAC Tanker MCI analysis. Photographs of Key Field AGS maintenance and fuel cell hangars are shown in Appendix A.

Another fallacy in the Tanker MCI calculation was the evaluation of aircraft ramp area. The criteria set 168,000 square yards as the minimum ramp area that would receive MCI points which precluded most Air National Guard units from receiving any credit for ramp area even though they possessed sizable ramps. The 168,000 SY minimum ramp area criteria also allowed bases with extremely small ramps such as Sioux Gateway AGS to receive the same credit (0 points) as bases with three times the ramp area. The issue of setting 168,000 sq. yd. as the minimum ramp area that would receive points was addressed in the published 22 November 2004 minutes of the Air Force Base Closure Executive Group (BCEG). As seen on the presentation slides from this meeting, several key fallacies were identified with using such a large minimum requirement for ramp space at tanker units:

- Low scores at bases performing the mission
- Does not include lead MAJCOM requirement to only provide space for 75% of PAA
- Overstates apron requirement for bases with 'right-sized' physical infrastructure

Although these problems with the ramp area criteria were identified, the evaluation criteria were not changed for the BRAC MCI calculation. The claimed 'advantage' to using 168,000 SY criteria was that it would compare all bases equally. However, this objective was obviously not accomplished given that units with one-third the ramp area of other units received identical scores in this area even though they

will require additional MILCON money as shown in Table 2 or they will not receive the acceptable squadron of 12 PAA much less the optimum squadron of 16 PAA as shown in Table 3.

Also as with hangar area, dimensionality of the aircraft parking ramp was not taken into account. Bases such as Key Field AGS with ramp dimensionality that permits aircraft to taxi in and taxi out to their parking spaces were not given enhanced ratings versus bases with constricted ramps, such as McGhee Tyson AGS, where aircraft must be shut down and towed or backed into their parking spaces. This is illustrated by aerial photographs of these two ramps shown on page A-6 of Appendix A. As shown in Table 4, McGhee Tyson AGS reported ramp space similar to Key Field AGS. However, McGhee Tyson AGS requires \$3.5 million in MILCON for additional ramp space (Table 2).

In the same slides from the 22 November 2004 minutes the Air Force BCEG discussed several problems with the evaluation Installation Pavements Quality, the single most heavily weighted infrastructure item in the Tanker MCI calculation. Once again, 50% of the points earned in Installation Pavements Quality are based on ramp area with the minimum ramp area to receive points set at 168,000 square yards. The remaining 50% of the points earned in this item are based on pavement classification of the runway. The Air Force BCEG discussed the following problems with the criteria used to classify runway pavements:

- Quality of Data between Air Force owned airfields and commercial airports
- Age of pavement reports – some are over 15 years old
- Accuracy of data for FAA controlled airports
- No Air Force Civil Engineering Support Agency (AFCESA) pavement reports for FAA airports
- FAA controlled airports may have lower scores due to assumptions in the Airfield Suitability Restrictions Report (ASRR) which automatically defaults to a sub-grade strength of Class C when the actual sub-grade strength is unknown

Once again, even though these factors were identified by the AF BCEG as potential fallacies in the determination of installation pavement quality scores, the Tanker MCI evaluation criteria were not modified. Key Field AGS which is an FAA controlled airport received low ratings on installation pavement quality due to a combination of these factors:

- Key Field AGS has never had an AFCESA pavement survey
- The pavement survey date shown on Key Field's AMC Form 174 is 1978 and there is no supporting information for the strength data shown in the AMC ASRR to substantiate Key Field's PCN of 52
- The AMC ASRR lists Key Field AGS sub-grade strength as class 'C' even though no engineering testing data could be located to validate this rating

Key Field AGS runway has undergone several pavement overlays since 1978 which according to the FAA Advisory Circular 150/5380-6A strengthen pavement and would potentially increase Key Field's runway PCN. Conversely, some PCN values used for bases do not correspond to data in the AMC ASRR. OSD question 9 column 4 shows a PCN value of 55 for Sioux Gateway AGS, whereas the AMC ASRR (sources for OSD question 9) lists the same runway's PCN at 37 as shown in Appendix I. This discrepancy in pavement strengths results in an inflated MCI value for Sioux Gateway AGS, but more importantly provides a clear example of the inaccuracy in the process used by the Air Force for evaluating airfield pavements among different units.

The BRAC process did not consider other important infrastructure criteria such as the availability of a full motion simulator. For example, Bangor IAP AGS and McGhee Tyson AGS do not currently have KC-135 simulators. Replacement cost for the flight simulator building is over \$2.3 million dollars as indicated in the MILCON estimates in Appendix E. This estimate does not reflect costs for the actual simulator equipment.

In addition, the BRAC process did not adequately address expansion issues. Key Field ANGB can be easily modified to accommodate twenty KC-135R aircraft within the existing lease lines as shown in the

Key Field Air National Guard Master Plan on page A-7 of Appendix A. Some of the short range facilities shown in this figure have already been completed including the KC-135R full motion flight simulator and the Aerospace Dining Facility. This proposed expansion within Key Field's existing lease further solidifies Key Field ANGB's ability to easily expand into an optimal KC-135R squadron of 16 PAA with taxi-in / taxi-out capability.

Expansions of this nature at other units are either not possible or will be extremely expensive due to encroachment into residential areas and competition with other airport tenants (carriers and shippers). There are inconsistencies with the reporting of Level of Mission Encroachment (OSD questions 1208 and 1209) versus published FAA Part 150 and noise surveys summarized in Appendix F. These studies show encroachment concerns at Birmingham IAP AGS, General Mitchell IAP AGS, and McGhee Tyson AGS which would require millions of dollars for relocation of residential areas to settle noise encroachment issues. However, all three of these bases reported no encroachment concerns in OSD questions 1208 and 1209 which allowed them to receive maximum points in this area (see page D-6, Appendix D).

Key Field AGS Expansion Capabilities

Encroachment

One area not fully addressed by BRAC that is particularly important to Air National Guard bases is the competition for land (growth areas) at civilian airports. For example, The Aviation Related Development Plan for McGhee-Tyson Airport dated April 2001 indicates the need for increased space for the expansion of existing and the development of new hangars and vehicle parking facilities for FBO operations; segregation of cargo operations from general aviation operations; and the establishment of corporate aviation facilities separate from the FBO operations. In addition, needs for Air Cargo improvements include the expansion of the Airborne Express building; provisions of space for the U.S. Postal Service cargo activities currently provided on the general aviation apron; the reservation of land for the long-term future expansion of the FedEx and UPS facilities, and improvement of facilities for air carrier cargo and freight forwarder operations. It also states that the aircraft Maintenance/Repair/Overhaul (MRO) industry is rapidly expanding, and the market is demanding of facilities to meet the shortages that exist. The needs of this sector of the airport uses are a high priority with three prospective new tenants desiring the accommodation of land for new facilities at the Airport. The plan goes further to state that military operations at the airport are not expected to expand during the next several years.

This situation exists at other international airports such as General Mitchell IAP and Birmingham IAP. However, Key Field is not an international airport and does not serve as a hub for FedEx, UPS, or other commercial shipping companies. Therefore, the base is not competing for land against commercial carriers. The Meridian Airport Authority has readily granted changes to the DoD lease allowing the National Guard access to additional land as required. One such lease amendment completed this year was to add a Ground Control Approach Radar Site. Presently, another amendment is being prepared to acquire land for a new Vehicle Maintenance facility and a new base entrance. The competition for airport land may be directly related to the type of aircraft operations at an airport. Therefore a better assessment would be to study the percentage of military and civilian air traffic at each airport. As shown in Table 5, Meridian Regional Airport / Key Field AGS has the highest percentage of military operations of non co-located KC-135 Air National Guard units at a civilian airport. Out of 70,383 total flight operations within the Meridian Regional Airport airspace, only 18,950 (27%) were civilian air traffic. The high volume of military air traffic is a direct correlation of the Joint Service use of Key Field AGS for training flights by Naval Air Station Meridian, Columbus Air Force Base, Company G 185 Aviation MSARNG and Presidential Support Aircraft. The low volume of civilian air traffic provides military aircraft unimpeded access to runways and airspace for takeoffs, landings, and touch-and-goes.

Table 5. Airport Operations

| Base | Airport Operations based on 12 Months Preceding the Survey Date | | | | Survey Date |
|--------------------------|---|----------|----------|--------------|-------------|
| | Total | Military | Civilian | Military (%) | |
| Key Field AGS | 70,383 | 51,433 | 18,950 | 73% | 12/31/2003 |
| Sioux Gateway AGS | 31,604 | 3,821 | 27,783 | 12% | 5/31/2004 |
| McGhee Tyson AGS | 142,076 | 15,743 | 126,333 | 11% | 5/20/2004 |
| Birmingham IAP AGS | 159,399 | 8,460 | 150,939 | 5% | 3/31/2004 |
| Bangor IAP AGS | 61,704 | 2,460 | 59,244 | 4% | 7/30/2004 |
| General Mitchell IAP AGS | 211,418 | 4,318 | 207,100 | 2% | 12/31/2003 |

Source: GCR & Associates with data derived from the National Flight Data Center – Appendix G

Another important and possibly misinterpreted aspect in the Air Force BRAC process is the value of maintaining ANG flying units in small communities such as Meridian, MS. Even though DoD gathered economic data on each region affected by the BRAC process (summarized in Appendix J), it does not appear that the data was used in the decision making process. For example, the Region of Influence (ROI) for Key Field has one of the highest unemployment percentage trends and one of the lowest per capita income rates of KC-135 tanker bases. The high unemployment rate means that a workforce is readily available to support expansion. The low per capita income would suggest a high retention rate for well paying professions, such as full time technician positions, as well as contribute to the strength of the unit as people look for ways to supplement their income. One indicator of this is the fact that the 186th Air Refueling Wing located at Key Field AGS has averaged over 100% for the past ten years.

The BRAC process attempted to evaluate geographic locations of units using a formula that assigned points based on the distance to Airspace Supporting Missions. The fallacy of this evaluation is that it did not take into account that several bases receive credit for the same airspace (bases located close to one another each received credit for the same airspace) and that credit was given only to those airspaces beginning with an AR designator. This does not provide credit for those bases that provide training support to fighter aircraft that may refuel in other airspaces that are not designated AR nor for unique airspaces. By reevaluating data in OSD question 1245 to include all airspaces, it can be seen in Table 6 that Key Field AGS has several unique (not within 250 NM of another tanker base) airspaces in its operating area. Other bases would have to fly longer distances (greater operating costs) to fulfill the training requirements of the fighter aircraft receiving units.

The COBRA analysis appears to have penalized bases that have missions in addition to air-refueling. The recurring annual savings based on sustainment, operational, and recapitalization costs appear to be based on a set percentage of the entire base and not just the flying mission (See Appendix K). Also it would penalize bases for having flight simulators since a simulator would add to the operating and sustainment costs as well as the Installation PRV which directly influences recapitalization costs. Therefore bases without flight simulators would appear better than those with simulators. For example, sustainment costs for bases that were losing their flying mission were not based on historical SRM funds or on sustainment data published in the DoD Facilities Pricing Guide. Normally, these costs would be accessed against the maintenance hangars, shop areas, and operations buildings using published information (aircraft maintenance hangar sustainment costs are \$2.00 per sf) not the base as a whole. This same skewed methodology was applied for annual operational and recapitalization costs. Using this methodology, the Air Force estimated annual recurring savings of \$1.4 million dollars at Key Field AGS.

This same methodology would yield an annual recurring savings of \$2.1 million dollars at McGhee-Tyson AGS. Why would McGhee-Tyson AGS have recurring costs 50% higher than Key Field AGS for performing the same mission especially when according to the Air Force's analysis, McGhee-Tyson requires an additional \$3.5 million MILCON for ramp construction and does not have the hangar space for large aircraft that is possessed by Key Field AGS?

The data collecting process used by WIDGET did not provide enough detail on key questions to allow a comparative analysis for bases. For example, OSD Question 1214 on sustained fuel dispensing rate did not specify that bases must evaluate their receiving rate and 8-hour settling time in addition to their pump rate. This was a problem later recognized by the Fuels Policy team but it appears no action was taken to correct the data that had been submitted by units. Similar problems existed with OSD Question 1241 on the installation's parking MOG for C-17s. Two tanker units reported data that exceeded their ability to park KC-135Rs (could park more transient C-17s than KC-135Rs). Obviously, these units either assumed all their KC-135Rs had vacated the ramp or that they could use parking areas not owned by their unit. In either case, these units assumed something different than the other tanker units and therefore received a more favorable evaluation under BRAC. These inconsistencies lead to the conclusion that the BRAC data gathering process was not uniform and therefore the results cannot be assumed to be correct.

Summary

Since 1994, over \$28 million dollars have been spent on projects solely on the conversion and sustainment of the KC-135R mission at Key Field ANGB (see Appendix H for cost breakdowns). The pictures in Appendix A are intended to provide a quick visual summary of some of the key pieces of infrastructure that exist at Key Field that were designed entirely around the KC-135R aircraft. Key Field AGS has the 'right sized' infrastructure assets that were built to operate a 12 PAA squadron of KC-135R aircraft. In fact in the mid 1990's Key Field AGS possessed and operated 11 KC-135Rs. Over the years, two of the aircraft were transferred to other units as they converted to KC-135Rs. Although Key Field AGS did not receive any credit for ramp area, the

Air Force evaluated Key Field AGS as being able to park 13 aircraft and Key Field AGS can readily park 12 aircraft with taxi in and taxi out capability. Key Field AGS can expand to an optimum squadron of 16 KC-135R aircraft within its existing lease for a fraction of the costs associated with other bases that have the ability to expand. Key Field AGS has exceptional hangar facilities specifically designed for KC-135R aircraft for which it received very little credit. The runway at Key Field AGS has undergone structural improvements which were not taken into account and most likely has a higher PCN than was used in its evaluation. There were multiple fallacies in the data gathering process and some bases received points in areas such as encroachment and pavement quality where official Air Force or FAA reports conflict with the data submitted. Key Field AGS's low Military Value ranking was a direct result of the inaccurate and non-representative infrastructure data gathering and analytical methods used by the Air Force and did not warrant the minimal rating it received in Condition of Infrastructure (Military Value Criteria #2) from the Tanker MCI evaluation.

In addition, Key Field AGS is located in a geographical region that not only provides support to the fighter aircraft community but has a readily available workforce that has been supportive of the military and the Air National Guard. Based on fallacies identified in the recurring sustainment, recapitalization, and base operating costs, it is obvious that the Air Force inaccurately evaluated the economic savings associated with moving the tanker flying operations from Key Field AGS. Also, the Air Force did not account for the costs associated with the additional flying hours for another base to absorb the sorties that were flown in the Gulf of Mexico. These inconsistencies alone exceed the estimated \$2.5 million savings resulting from the proposed realignment of Key Field AGS.

**Appendix B
MILCON Costs**

| Base | FAC | Title | UM | Key Field | | Birmingham | | Niagara | | March ARB | | Beale AFB | | Grand Forks | | Receiving Base | |
|-------------------------------------|------|----------------------------------|----|--------------|--------------------|--------------|--------------------|--------------|------------------|--------------|--------------------|--------------|--------------------|--------------|--------------------|----------------|--------------------|
| | | | | New MIICon | Costs | New MIICon | Costs | New MIICon | Costs | New MIICon | Costs | New MIICon | Costs | New MIICon | Costs | MIICon | Costs |
| McGhee Tyson | 1131 | Aircraft, Apron, Surfaced | SY | 7,127 | \$870,000 | 9515 | \$1,162,000 | | | 2388 | \$292,000 | 9515 | \$1,162,000 | | | 28,545 | \$3,486,000 |
| McGhee Tyson | 1251 | POL Pipeline | MI | 0 | \$132,000 | 0 | \$132,000 | | | 0 | \$66,000 | 0 | \$132,000 | | | 0 | \$462,000 |
| McGhee Tyson | 1262 | POL Pump Station | SF | 137 | \$101,000 | 184 | \$136,000 | | | 47 | \$35,000 | 184 | \$136,000 | | | 552 | \$408,000 |
| McGhee Tyson | 4111 | Bulk Liquid Fuel Storage | BL | 100 | \$7,000 | 134 | \$9,000 | | | 34 | \$2,000 | 134 | \$9,000 | | | 402 | \$27,000 |
| | | | | | | | | | | | | | | | | | \$4,383,000 |
| General Mitchell | 1131 | Aircraft Apron, Surfaced | SY | 3753 | \$569,000 | | | | | | | | | | | 3,753 | \$569,000 |
| General Mitchell | 1251 | POL Pipeline | MI | 0 | \$246,000 | | | | | | | | | | | 0 | \$246,000 |
| General Mitchell | 1262 | POL Pump Station | SF | 275 | \$252,000 | | | | | | | | | | | 275 | \$252,000 |
| General Mitchell | 4111 | Bulk Liquid Fuel Storage | BL | 200 | \$17,000 | | | | | | | | | | | 200 | \$17,000 |
| | | | | | | | | | | | | | | | | | \$1,084,000 |
| Bangor | 1411 | Airfield Fire and Rescue Station | SF | | | | | 800 | \$283,000 | | | | | | | 800 | \$283,000 |
| Pease | 1131 | Aircraft, Apron, Surfaced | SY | | | | | | | 7506/15400 | \$2,572,000 | | | | | #VALUE! | \$2,572,000 |
| Pease | 1251 | POL Pipeline | MI | | | | | | | 1 | \$479,000 | | | | | 1 | \$479,000 |
| Pease | 1262 | POL Pump Station | SF | | | | | | | 549 | \$489,000 | | | | | 549 | \$489,000 |
| Pease | 4111 | Bulk Liquid Fuel Storage | BL | | | | | | | 400 | \$33,000 | | | | | 400 | \$33,000 |
| Pease | 8721 | Fence and Wall | LF | | | | | | | 1250 | \$66,000 | | | | | 1,250 | \$66,000 |
| Pease | 1211 | Aircraft Fueling Facility | GM | | | | | | | 0 | \$90,000 | | | | | 0 | \$90,000 |
| | | | | | | | | | | | | | | | | | \$3,729,000 |
| Scott | 1131 | Aircraft, Apron, Surfaced | SY | | | | | | | | | | | 3753 | \$627,000 | 3,753 | \$627,000 |
| Scott | 1251 | POL Pipeline | MI | | | | | | | | | | | 0 | \$271,000 | 0 | \$271,000 |
| Scott | 1262 | POL Pump Station | SF | | | | | | | | | | | 275 | \$278,000 | 275 | \$278,000 |
| Scott | 1464 | Aircraft Blast Deflector | EA | | | | | | | | | | | 6 | \$388,000 | 6 | \$388,000 |
| Scott | 4111 | Bulk Liquid Fuel Storage | BL | | | | | | | | | | | 6438 | \$604,000 | 6,438 | \$604,000 |
| Scott | 6100 | General Administrative Building | SF | | | | | | | | | | | 4080 | \$1,019,000 | 4,080 | \$1,019,000 |
| | | | | | | | | | | | | | | | | | \$3,187,000 |
| Totals by contributing bases | | | | Total | \$2,194,000 | Total | \$1,439,000 | Total | \$283,000 | Total | \$4,124,000 | Total | \$1,439,000 | Total | \$3,187,000 | | |

Reference: Tab 3. COBRA Run USAF

**Appendix C
Cost to Upgrade to 16 PAA**

| Base | BRAC Result | PAA Used | Total Acft # | Sqdn Equiv In Place | Sqdn 1 (\$mil) |
|------------------------------------|-------------|----------|--------------|---------------------|----------------|
| McConnell ANG | No Change | 16 | 9 | 0.5625 | \$0.0 |
| Forbes Field AGS | Gain | 16 | 8 | 0.5 | \$6.6 |
| March ARB | Restructure | 16 | 8 | 0.5 | \$7.6 |
| Selfridge ANGB | Gain | 16 | 8 | 0.5 | \$9.3 |
| Seymour Johnson AFB | Gain | 16 | 8 | 0.5 | \$9.6 |
| Key Field AGS | Lose | 16 | 9 | 0.5625 | \$11.0 |
| Fairchild AFB | No Change | 16 | 38 | 2.375 | \$12.1 |
| Fairchild ANG | Lose | 16 | 9 | 0.5625 | \$15.8 |
| Pease International Trade Port AGS | Gain | 16 | 9 | 0.5625 | \$17.7 |
| Beale AFB | Lose | 16 | 8 | 0.5 | \$22.5 |
| Birmingham IAP AGS | Lose | 16 | 8 | 0.5 | \$22.8 |
| Bangor IAP AGS | Gain | 16 | 8 | 0.5 | \$27.6 |
| McGee Tyson APT AGS | Gain | 16 | 8 | 0.5 | \$32.7 |
| Gen Mitchell IAP AGS | Gain | 16 | 9 | 0.5625 | \$45.1 |
| Salt Lake City IAP AGS | No Change | 16 | 8 | 0.5 | \$45.9 |
| Andrews AFB | No Change | 16 | 8 | 0.5 | P |
| Eielson AFB | No Change | 16 | 8 | 0.5 | P |
| Hickam AFB | Gain | 16 | 8 | 0.5 | P |
| Lincoln MAP AGS | No Change | 16 | 8 | 0.5 | P |
| March ANG | No Change | 16 | 9 | 0.5625 | P |
| Niagara Falls IAP ARS | Close | 16 | 8 | 0.5 | P |
| Phoenix Sky Harbor IAP AGS | Gain | 16 | 8 | 0.5 | P |
| Portland IAP AGS | Lose | 16 | 8 | 0.5 | P |
| Robins AFB | Lose | 16 | 12 | 0.75 | P |
| Scott AFB | Gain | 16 | 8 | 0.5 | P |
| Sioux Gateway APT AGS | Gain | 16 | 8 | 0.5 | P |
| Altus AFB | No Change | 16 | 24 | 1.5 | X |
| Grand Forks AFB | Lose | 16 | 36 | 2.25 | X |
| Grissom ARB | No Change | 16 | 16 | 1 | X |
| MacDill AFB | Gain | 16 | 33 | 2.0625 | X |
| McConnell AFB | Restructure | 16 | 58 | 3.625 | X |
| McGuire ANG (KC135R) | No Change | 16 | 16 | 1 | X |
| McGuire AFB (KC-10) | No Change | 12 | 30 | 2.5 | X |
| Pittsburgh IAP AGS | No Change | 16 | 16 | 1 | X |
| Rickenbacker IAP AGS | No Change | 16 | 18 | 1.125 | X |
| Tinker AFB | Gain | 16 | 24 | 1.5 | X |
| Travis AFB (KC-10) | No Change | 12 | 24 | 2 | X |

Notes: X – Squadron currently (2006) in place
P – Partial squadron that cannot be expanded

Reference: Tab 2. Mil Value and Capacity Supporting Information USAF

Appendix D
MCI Infrastructure Scoring

| | Page |
|------------------|-------------|
| Hangar Area | D-2 |
| Ramp Area | D-4 |
| MCI Score Sheets | D-6 |

Hangar Area

| Hangar Information | | | | | | |
|---------------------------|---------------------------|--|----------------------------------|----------------------|--|------------------------------------|
| Base | Service Facility Cat Code | Service Facility Condition Code ¹ | Facility Size (GSF) ² | Total Square Footage | Largest Door Opening Width (FT) ³ | Nose Dock (Aircraft Tail Cut out?) |
| Tinker AFB | | | | | | |
| 81 | 211116 | 2 | 145276 | 2,272,134 | 250 | |
| 81 | 211157 | 1 | 17643 | | 142 | |
| 81 | 211116 | 1 | 37899 | | 146 | |
| 81 | 211116 | 1 | 357550 | | 150 | |
| 81 | 211116 | 2 | 265247 | | 158 | |
| 81 | 211152 | 2 | 32724 | | 158 | |
| 81 | 211159 | 1 | 153404 | | 158 | |
| 81 | 211116 | 1 | 110289 | | 158 | |
| 81 | 211159 | 1 | 46500 | | 158 | |
| 81 | 211179 | 1 | 25200 | | 160 | |
| 81 | 211111 | 1 | 234000 | | 164 | |
| 81 | 211116 | 1 | 132215 | | 170 | |
| 81 | 211179 | 1 | 39627 | | 170 | |
| 81 | 211173 | 2 | 63103 | | 190 | Yes |
| 81 | 211159 | 2 | 38527 | | 200 | |
| 81 | 211159 | 1 | 54510 | | 211 | |
| 81 | 211116 | 1 | 164893 | | 215 | |
| 81 | 211111 | 2 | 221147 | | 229 | |
| 81 | 211159 | 2 | 132380 | | 232 | Yes |
| Scott AFB | | | | | | |
| 17 | 211111 | 1 | 116453 | 229,199 | 239 | Yes |
| 17 | 211111 | 2 | 27980 | | 160.09 | Yes |
| 17 | 211179 | 1 | 27840 | | 160 | Yes |
| 17 | 211111 | 1 | 56926 | | 161 | Yes |
| Birmingham IAP AGS | | | | | | |
| 101 | 211179 | 2 | 20100 | 48,100 | 160 | |
| 101 | 211111 | 2 | 28000 | | 160 | |
| Sioux Gateway AGS | | | | | | |
| 126 | 211179 | 1 | 29280 | 29,280 | 152 | Yes |

Table continued on next page

Hangar Area (continued)

| Hangar Information | | | | | | |
|---------------------------------|----------------------------------|---|---|-----------------------------|---|---|
| Base | Service Facility Cat Code | Service Facility Condition Code ¹ | Facility Size (GSF) ² | Total Square Footage | Largest Door Opening Width (FT) ³ | Nose Dock (Aircraft Tail Cut out?) |
| Bangor IAP AGS | | | | | | |
| 131 | 211179 | 2 | 23487 | 51,444 | 161 | Yes |
| 131 | 211111 | 3 | 27957 | | 142 | Yes |
| Key Field AGS | | | | | | |
| 137 | 211111 | 1 | 52297 | 80,420 | 306 | |
| 137 | 880221 | 1 | 28123 | | 162.5 | |
| McGhee Tyson AGS | | | | | | |
| 159 | 211111 | 1 | 22686 | 49,860 | 160 | Yes |
| 159 | 211179 | 1 | 27174 | | 160 | Yes |
| General Mitchell IAP AGS | | | | | | |
| 169 | 211111 | 1 | 33177 | 67,195 | 195.33 | Yes |
| 169 | 211179 | 2 | 18213 | | 146.6 | Yes |
| 169 | 211159 | 1 | 15805 | | 146.6 | Yes |

Criteria for Hangar Capability:

¹ Service Facility Condition Code must be 1, 2, or 3² Largest door opening width must be 131 ft or greater³ Facility square footage must be at least 6000 sf

Reference: OSD Question 19

Ramp Area

| Ramp Information | | | |
|---------------------------|------------------------|-----------------------------------|------------------------|
| Org | Ramp Identifier | Serviceable Ramp Area (SY) | Total Area (SY) |
| Tinker AFB | | | |
| 81 | WWYK51115 | 190867 | 1244749 |
| 81 | WWYK51116A | 113537 | |
| 81 | WWYK51116B | 113537 | |
| 81 | WWYK51116C | 113537 | |
| 81 | WWYK51117A | 188669 | |
| 81 | WWYK51117B | 188668 | |
| 81 | WWYK51119A | 65492 | |
| 81 | WWYK51119B | 65491 | |
| 81 | WWYK51121 | 15979 | |
| 81 | WWYK51820 | 84972 | |
| 81 | WWYK51989 | 104000 | |
| Scott AFB | | | |
| 17 | A02B | 8689 | 300652 |
| 17 | A07B | 11821 | |
| 17 | A08B | 42083 | |
| 17 | A09B | 37560 | |
| 17 | A10B | 15497 | |
| 17 | A12B | 40814 | |
| 17 | A13B | 1555 | |
| 17 | ANG 03C | 1111 | 142633 |
| 17 | ANG 04C | 2500 | |
| 17 | ANG 05B | 137778 | |
| 17 | ANG 06B | 1244 | |
| Birmingham IAP AGS | | | |
| 101 | A11B | 78117 | 99898 |
| 101 | A01B | 9685 | |
| 101 | T09A | 8070 | |
| 101 | T08A | 4026 | |
| Sioux Gateway AGS | | | |
| 126 | 1001 | 49760 | 49760 |

Table continued on next page

Ramp Area (continued)

| Ramp Information | | | |
|---------------------------------|------------------------|-----------------------------------|------------------------|
| Org | Ramp Identifier | Serviceable Ramp Area (SY) | Total Area (SY) |
| Bangor IAP AGS | | | |
| 131 | 2310 | 97182 | 166178 |
| 131 | 2315 | 68996 | |
| Key Field AGS | | | |
| 137 | 1520 | 83423 | 146726 |
| 137 | 1506 | 48875 | |
| 137 | 1512 | 14428 | |
| McGhee Tyson AGS | | | |
| 159 | A10B | 55611 | 144734 |
| 159 | A03B | 30307 | |
| 159 | A02B | 20119 | |
| 159 | A01C | 13371 | |
| 159 | A06B | 10000 | |
| 159 | A09B | 6509 | |
| 159 | A04B | 5000 | |
| 159 | A07C | 3817 | |
| General Mitchell IAP AGS | | | |
| 169 | 72001 | 93543 | 93543 |

Reference: OSD Question 8

MCI Score Sheets

| Criterion | Max Points | Key Field | General Mitchell | McGhee Tyson | Bangor | Birmingham | Scott | Sioux City |
|--|------------|-----------|------------------|--------------|--------|------------|-------|------------|
| ATC Restrictions to Operations | 6.90 | 6.90 | 6.90 | 6.90 | 6.90 | 6.90 | 6.90 | 6.90 |
| Proximity to Airspace Supporting Mission | 39.10 | 24.31 | 23.09 | 24.26 | 11.62 | 24.50 | 27.57 | 27.60 |
| Fuel Hydrant Systems Support Mission Growth | 4.15 | 1.52 | 1.94 | 1.94 | 2.21 | 2.21 | 1.94 | 1.66 |
| Ramp Area and Serviceability | 7.89 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.97 | 0.00 |
| Runway Dimension and Serviceability | 9.55 | 7.64 | 7.34 | 6.69 | 9.01 | 9.55 | 7.64 | 6.68 |
| Hangar Capacity - Large Aircraft | 3.32 | 0.91 | 0.90 | 0.88 | 0.88 | 0.88 | 1.08 | 0.86 |
| Level of Mission Encroachment | 2.08 | 2.07 | 2.08 | 2.08 | 1.96 | 2.08 | 1.91 | 1.85 |
| Installation Pavements Quality | 14.53 | 3.63 | 7.26 | 7.26 | 3.63 | 5.45 | 10.89 | 5.45 |
| Fuel Dispensing Rate to Support Mobility and Surge | 3.85 | 1.18 | 0.55 | 2.03 | 2.00 | 1.18 | 2.22 | 0.75 |
| Ability to Support Large-Scale Mobility Deployment | 1.65 | 1.24 | 1.65 | 0.00 | 1.24 | 1.65 | 0.41 | 1.24 |
| Attainment / Emission Budget Growth Allowance | 1.35 | 1.35 | 0.81 | 0.81 | 1.35 | 0.81 | 0.81 | 1.35 |
| Buildable Acres for Industrial Operations Growth | 1.58 | 0.00 | 0.00 | 0.15 | 0.00 | 0.15 | 0.24 | 0.04 |
| Buildable Acres for Air Operations Growth | 1.58 | 0.19 | 0.00 | 0.18 | 0.28 | 0.00 | 0.20 | 0.00 |
| Area Cost Factor | 1.25 | 0.94 | 0.66 | 1.07 | 0.72 | 1.15 | 0.45 | 0.82 |
| Utilities cost rating (U3C) | 0.13 | 0.08 | 0.06 | 0.08 | 0.00 | 0.06 | 0.09 | 0.08 |
| BAH Rate | 0.88 | 0.61 | 0.56 | 0.74 | 0.62 | 0.49 | 0.57 | 0.85 |
| GS Locality Pay Rate | 0.25 | 0.25 | 0.20 | 0.25 | 0.25 | 0.25 | 0.24 | 0.25 |
| | | | | | | | | |
| Total MCI Points | 100.04 | 52.82 | 54.00 | 55.32 | 42.67 | 57.31 | 65.13 | 56.38 |

Reference: USAF BRAC 2005 Base MCI Score Sheets - MCI scoresheet all bases compare order.pdf

Appendix E MILCON Cost Estimates

Simulator Building

The following information is from *DoD Facilities Pricing Guide, Version 6.0, March 2004*.

1721 Flight Simulator Facility. A facility designed to house flight simulators and other flight training devices. Equipment located in these facilities is not real property and is not included in this Facility Analysis Category. Construction cost factor - \$182.30 SF

Use of Construction Cost Factors

Construction cost factors form the basis of calculating plant replacement value in a consistent manner across DoD. Plant replacement value represents the cost to design and construct a notional facility to replace an existing facility at the same location. The standard DoD algorithm for calculating plant replacement value is:

Plant Replacement Value = Facility Quantity⁷ x Construction Cost Factor x Area Cost Factor⁸ x Historical Records Adjustment⁹ x Planning and Design Factor¹⁰ x Supervision Inspection and Overhead Factor¹¹ x Contingency Factor¹²

Construction cost factors can also support new construction cost estimates with the addition of allowance for site preparation, earthwork, landscaping, and related factors.

Notes:

⁷ The application of cost factors to existing real property records could lead to large errors if the inventory and units of measure are not first screened and validated, as is done in the DoD Facilities Sustainment Model. These errors and conversions primarily involve facility categories that are measured in terms of capacity (miles, feet, kilovolts, kilowatts, gallons, thousands of gallons per day, millions of BTU per hour, etc.).

⁸ A geographic location adjustment for costs of labor, material, and equipment, published in Part 2 of this pricing guide.

⁹ An adjustment to account for increased costs for replacement of historical facilities or for construction in a historic district; the current value of the factor is 1.05 (a 5% increase).

¹⁰ A factor to account for the planning and design of a facility; the current value of this factor is 1.09 (a 9% increase) for all but medical facilities and 1.13 (a 13% increase) for medical facilities.

¹¹ A factor to account for the supervision, inspection, and overhead activities associated with the management of a construction project; the current value of the factor is 1.06 (a 6% increase) for facilities in the continental US (CONUS) and 1.065 (a 6.5% increase) for facilities outside of the continental US (OCONUS).

¹² A factor to account for construction contingencies; the current value of the factor is 1.05 (a 5% increase).

Area Cost Factor for Meridian, MS – 0.94

Area Cost Factor for Hickam AFB, HI – 1.66

Based on information in the COBRA Analysis for Grand Forks, Hickam AFB is projected to receive a Flight Simulator Facility that is 9,144 SF at a MILCON cost of \$4,089,000. This cost is calculated using the formula highlighted above. The only difference in the construction costs between Meridian and Hickam would be in the Area Cost Factor and the 0.5% increase in supervision costs (Note 11) for OCONUS projects. Therefore, the simulator cost for Meridian would be \$4,089,000 x (0.94/1.66) x (0.995) = \$2,303,881. In the first section you will note that this does not include the equipment (simulator) in the building. I do not have any data on what it would cost to disassemble, pack, move, and reassemble the simulator.

According to the Real Property records the Flight Simulator at Key Field was constructed in 2000 at a cost of \$1,835,694. The square footage of the building is 6,935 SF. Therefore actual 2000 construction costs for the building was \$264.70 SF vs. the \$251.96 SF (\$2,303,881 / 9,144 SF) indicated above. Therefore there is a possibility the construction costs could escalate above the \$2.3 million estimated in the previous paragraph. Again, these estimates are for facility costs only and do not include the actual simulator.

POL Upgrades for 12 PAA

It is estimated that it will cost \$591,502 MILCON to upgrade the POL infrastructure at Key Field to support a 12 PAA squadron. This estimate is generated from data in several COBRA reports. It does assume that we located all the MILCON costs for General Mitchell and McGhee-Tyson as we only reviewed data on the bases that were losing aircraft to these two bases. For example, McGhee-Tyson will be receiving aircraft from Birmingham AGS, March ARB, Key Field AGS, and Beale AFB; therefore we reviewed COBRA reports from these bases as indicated in the attached spreadsheet. The estimate is based on the assumption that the key difference between us and McGhee-Tyson and General Mitchell is the number of refueling pits. Both McGhee-Tyson and General Mitchell each have eight pits whereas Key Field has five pits.

Following is the process used to estimate the POL MILCON costs:

Adjusting the POL upgrade MILCON costs for McGhee-Tyson by the Area Cost Factor to reflect costs at Key Field yields - $\$897,000 \times (0.94 / 0.87) = \$969,172$

Doing the same for General Mitchell yields - $\$515,000 \times (0.94 / 1.08) = \$448,240$

I believe that the increased costs for the POL upgrades to McGhee-Tyson are due to the linear nature of the ramp layout. Since the aircraft are spread out linearly, additional POL pipeline is required as well as additional pump capacity to maintain pressure over a greater distance. It is possible that a separate POL distribution loop would be installed to support the ramp infrastructure upgrades which would account for the additional pipeline and pump capacity. This is an assumption since McGhee-Tyson and General Mitchell reported similar numbers for refueling pits and bulk fuel storage. Therefore, I am going to base the POL upgrade costs on General Mitchell's cost analysis since the parking layout is similar to Key Field's ramp (multiple rows of parking).

General Mitchell POL upgrade MILCON costs follow:

POL Pipeline - \$246,000 or adjusting to Key Field - $\$246,000 \times (0.94 / 1.08) = \$214,111$

Pump Station - \$252,000 or adjusting to Key Field - $\$252,000 \times (0.94 / 1.08) = \$219,333$

Bulk Liquid Fuel Storage - \$17,000 or adjusting to Key Field - $\$17,000 \times (0.94 / 1.08) = \$14,796$

Noting that General Mitchell has eight pits to Key Field's five pits, the POL Pipeline cost should be adjusted by a ratio of 8/5's which would equal $\$214,111 \times (8/5) = \$342,577$. The Pump Station and Bulk Liquid Fuel Storage costs would not be adjusted since they are similar. Therefore the estimate to upgrade the Key Field POL infrastructure would be $\$342,577 + \$219,333 + \$14,796 = \$591,502$. This value is between the adjusted costs of \$448,240 for General Mitchell and \$969,172 for McGhee-Tyson.

Appendix G
Airport Flight Operations

| Base | Total Operations | Military Operations | Civilian Operations | % Military Operations | Operations for 12 mo's ending: |
|--------------------------|-------------------------|----------------------------|----------------------------|------------------------------|---------------------------------------|
| Bangor IAP AGS | 61,704 | 2,460 | 59,244 | 4% | 7/30/2004 |
| Birmingham IAP AGS | 159,399 | 8,460 | 150,939 | 5% | 3/31/2004 |
| Key Field AGS | 70,383 | 51,433 | 18,950 | 73% | 12/31/2003 |
| McGhee-Tyson APT AGS | 142,076 | 15,743 | 126,333 | 11% | 5/20/2004 |
| General Mitchell IAP AGS | 211,418 | 4,318 | 207,100 | 2% | 12/31/2003 |
| Scott AFB | 30,097 | 21,237 | 8,860 | 71% | 12/31/2004 |
| Sioux Gateway APT AGS | 31,604 | 3,821 | 27,783 | 12% | 5/31/2004 |

Reference: GCR & Associates with data derived from the National Flight Data Center

Appendix H
Key Field Infrastructure Costs
(primarily conversion to KC-135R)

| KC135R Direct Costs | | | |
|--|-------------|----------------------|---------------------|
| Facility (Construction Costs) | Date | Original Cost | Today's Cost |
| Flight-Line Oil Water Separators | 1994 | \$32,400 | \$42,550 |
| Maintenance Hangar (150) | 1994 | \$10,424,290 | \$13,690,044 |
| Fuel Cell Hangar (160) | 1994 | \$4,268,708 | \$5,606,022 |
| Flight-Line/Apron Expansion | 1998 | \$3,944,240 | \$4,709,980 |
| Fuels Management Hydrant System | 1998 | \$2,983,673 | \$3,562,927 |
| Runway Extension (MCCA) | 2000 | \$3,923,248 | \$4,434,621 |
| Simulator (135) | 2000 | \$1,835,694 | \$2,074,966 |
| HEF Upgrade (150) | 2005 | \$629,090 | \$629,090 |
| Total | | \$28,041,343 | \$34,750,201 |
| Indirect Costs | | | |
| Facility (Construction Costs) | Date | Original Cost | Today's Cost |
| Fuel Management Tanks, Unloading Docks | 1987 | \$2,002,565 | \$3,431,589 |
| Operations Building (308) | 1989 | \$1,056,736 | \$1,659,672 |
| Operations Addition (308) | 1994 | \$799,644 | \$1,050,159 |
| Medical Clinic (404) | 1991 | \$956,384 | \$1,367,139 |
| Civil Engineering (600) | 1991 | \$1,171,811 | \$1,675,089 |
| Fire Department (155) | 1995 | \$1,443,417 | \$1,843,804 |
| Communications (603) | 1997 | \$1,751,853 | \$2,124,385 |
| POL Building (127) | 1998 | \$63,000 | \$75,231 |
| Dining Facility (204) | 2000 | \$2,740,969 | \$3,098,239 |
| Renovation (203) | 2002 | \$577,966 | \$625,377 |
| Flightline Fence/Perimeter Lighting | 2004 | \$164,984 | \$170,000 |
| Munitions Storage Area | 2005 | \$117,141 | \$117,141 |
| HQ Renovation (300) | 2005 | \$2,158,695 | \$2,158,695 |
| Base Streets/Storm Drains | 2005 | \$861,245 | \$861,245 |
| ROSC Addition | 2005 | \$1,540,287 | \$1,540,287 |
| Total | | \$17,406,696 | \$21,798,051 |

Note: Today's Costs are based on the inflation rate calculated from the Consumer Price Index (CPI-U) which is compiled by the Bureau of Labor Statistics and is based upon a 1982 Base of 100 source: <http://www.inflationdata.com/inflation/>

Reference: 186 ARW Real Property Records

**Appendix I
Airfield Information**

I-1

| Airfield Information | | Primary Runway Information | | | | Aircraft WBC ¹ | | | | | Survey Date ² |
|--------------------------|------|----------------------------|-------|--------|------|---------------------------|--------------|-------|------|-----|--------------------------|
| Base | ICAO | Length | Width | PCN | ELEV | C-130 | C-141/KC-135 | KC-10 | C-17 | C-5 | |
| Bangor IAP AGS | KBGR | 11440 | 200 | 71RBWT | 192 | 175 | 345 | 593 | 585 | 840 | 87 |
| Birmingham IAP AGS | KBHM | 10000 | 150 | 70FC | 644 | 175 | 345 | 593 | 573 | 840 | 98 |
| General Mitchell IAP AGS | KMKE | 9690 | 200 | 70RCWT | 723 | 175 | 345 | 593 | 585 | 840 | 78 |
| Key Field AGS | KMEI | 10004 | 150 | 52FC | 297 | 175 | 308 | 498 | 459 | 811 | 78 |
| McGhee-Tyson APT AGS | KTYS | 9008 | 150 | 67RC | 981 | 175 | 345 | 593 | 585 | 840 | 75 |
| Scott AFB | KBLV | 10000 | 150 | 67RCWT | 459 | 175 | 345 | 593 | 585 | 840 | 93 |
| Sioux Gateway APT AGS | KSUX | 9002 | 150 | 37RC | 1098 | 156 | 241 | 414 | 422 | 671 | 86 |

Notes:

¹ Aircraft WBC: WBC columns indicate the strength of the primary runway in thousands of pounds for the following select aircraft: Single Tandem (ST) = C-130, Twin Tandem (TT) = C-141/KC-135, Single Belly Twin Tandem (SBTT) = KC-10, Triple Tandem (TRT) = C-17, and Twin Delta Tandem (TDT) = C-5. For example, TT260 means a C-141B can operate up to 260,000 LBS without coordination and approval from the airfield manager. Aircraft WBC is translated from published LCN/PCN information by HQ AMC/A36AS. An authorized source is required to relate LCN/PCN to aircraft gross weight. Planners should only use the ST/TT/SBTT/TRT/TDT figures given in GDSS

² Airfield Surveys: Airfield surveys are conducted at airfields when information available from other sources is questionable or insufficient to determine airfield suitability, and required at airfields under consideration for C-5 operations that do not have commercial 747, 777, AN124, or AN225 traffic. Surveys may be conducted prior to contingency operations where sufficient information is not available through USDAO. The survey date (SD) column in Section One of Part One indicates the last year an AMC Tanker Airlift Control Element (TALCE) performed an airfield survey with an AMC Form 174 on file at TACC/XOP.

Reference: AMC Airfield Suitability and Restrictions Report - 28 April 2005

**Appendix J
Economic Data**

| | Unemployment Percentage Trend | | | | | | | | | | | | | |
|--------------------------|-------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 |
| United States | 5.60 | 6.83 | 7.50 | 6.91 | 6.09 | 5.59 | 5.40 | 4.94 | 4.51 | 4.21 | 3.99 | 4.74 | 5.79 | 5.79 |
| Bangor IAP AGS | 5.68 | 7.92 | 6.97 | 7.67 | 7.85 | 6.08 | 5.30 | 5.88 | 4.51 | 4.27 | 3.70 | 4.11 | 4.50 | 6.11 |
| Birmingham IAP AGS | 5.46 | 5.96 | 6.37 | 6.17 | 4.55 | 4.59 | 3.51 | 3.75 | 3.08 | 3.36 | 3.32 | 3.75 | 4.66 | 4.63 |
| General Mitchell IAP AGS | 4.26 | 5.03 | 4.81 | 4.45 | 4.56 | 3.45 | 3.44 | 3.58 | 3.31 | 3.09 | 3.79 | 4.67 | 5.96 | 6.12 |
| Key Field AGS | 7.38 | 8.23 | 7.93 | 5.77 | 6.08 | 5.62 | 5.90 | 5.64 | 6.06 | 6.56 | 6.76 | 6.30 | 8.58 | 7.66 |
| McGhee-Tyson APT AGS | 4.48 | 5.01 | 4.90 | 4.36 | 3.68 | 3.84 | 3.79 | 4.02 | 3.21 | 2.92 | 2.63 | 3.02 | 3.19 | 3.54 |
| Scott AFB | 6.14 | 7.12 | 6.30 | 6.45 | 4.88 | 4.83 | 4.63 | 4.26 | 4.39 | 3.72 | 3.77 | 4.87 | 5.77 | 5.97 |
| Sioux Gateway APT AGS | 4.25 | 4.67 | 4.10 | 3.15 | 3.23 | 3.06 | 3.65 | 3.40 | 2.94 | 2.58 | 2.84 | 3.26 | 4.04 | 5.03 |

| | Per Capita Income x \$1,000 | | | | | | | | | | | | | |
|--------------------------|-----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 |
| United States | 26.96 | 27.48 | 27.42 | 26.87 | 27.35 | 27.18 | 27.53 | 27.86 | 28.35 | 29.04 | 30.35 | 30.86 | 31.89 | 31.72 |
| Bangor IAP AGS | 22.74 | 22.87 | 22.16 | 21.63 | 21.96 | 22.02 | 22.31 | 22.26 | 22.65 | 23.18 | 24.17 | 24.43 | 25.24 | 26.19 |
| Birmingham IAP AGS | 24.21 | 25.08 | 25.37 | 25.28 | 25.82 | 25.81 | 26.55 | 27.20 | 27.49 | 28.02 | 29.10 | 29.55 | 30.33 | 30.86 |
| General Mitchell IAP AGS | 28.85 | 29.38 | 29.08 | 28.58 | 29.28 | 29.42 | 30.04 | 30.54 | 31.07 | 32.11 | 33.85 | 34.43 | 34.96 | 34.99 |
| Key Field AGS | 19.27 | 19.96 | 19.93 | 19.86 | 20.19 | 20.35 | 20.94 | 21.07 | 21.41 | 21.85 | 22.26 | 22.01 | 22.50 | 22.89 |
| McGhee-Tyson APT AGS | 24.90 | 24.73 | 25.09 | 24.87 | 25.48 | 25.66 | 25.83 | 26.09 | 26.01 | 26.42 | 27.65 | 27.78 | 28.67 | 28.59 |
| Scott AFB | 28.24 | 28.60 | 28.49 | 27.96 | 28.67 | 28.57 | 29.20 | 29.60 | 29.94 | 30.92 | 32.17 | 32.37 | 33.22 | 32.91 |
| Sioux Gateway APT AGS | 23.28 | 23.54 | 23.74 | 23.46 | 24.62 | 23.92 | 24.82 | 25.45 | 26.85 | 26.62 | 27.80 | 27.44 | 27.73 | 27.77 |

Reference: Tab 4 Economic Impact (EIT Run) USAF



Appendix K COBRA Data

The COBRA Sustainment/Recapitalization/Base Operations Support/Housing Change Report generates a recurring annual savings based on a unit losing aircraft and associated support. The question is why do these costs vary significantly from unit to unit if they are losing approximately the same number of personnel and aircraft? Because of the small cost savings associated in enclaving Air National Guard Units (\$2.5 million for Key Field) it is extremely important that the COBRA data accurately reflects costs associated with the flying mission. However, it appears that the Air Force based cost estimates on the entire base which for Key Field includes a tenant (238 ASOS), the State HQ, ROSC, C26 Counterdrug mission and other functions that are not related to the air refueling mission.

Sustainment costs should be related to the costs reflected in the DoD Facility Pricing Guide for facilities directly affected by the flying mission i.e. hangars, maintenance shops, operations, apron, etc. It should not reflect costs associated with tenants or other nonflying functions. According to the COBRA document these costs are generated using OSD's Facility Sustainment Model. It appears that the recurring sustainment savings are based on all facilities of the base and not only those affected by the flying unit (sustainment costs vary from \$1.2 million at Birmingham to \$3.6 million at Bangor).

Recapitalization costs appear to be a direct percentage (0.8624%) of the Installation PRV. Therefore the more nonflying missions (infrastructure) that exist at a base the more it will be penalized in the COBRA analysis (generates a false recurring savings). For example Key Field has infrastructure not related to the refueling wing such as a ROSC, a tenant (238ASOS), and the C26 counterdrug mission. However, recapitalization cost savings were based on the entire base's value and not on the flying portion. These costs vary from \$0.75 million at Birmingham to \$2 million at Bangor.

For example, air refueling units at Key Field and Birmingham have similar infrastructures and manning documents. Both units are losing all their aircraft; however, the recurring sustainment /recapitalization/base operations costs vary greatly. The total recurring cost savings from Key Field in these areas would be \$1,366,000 whereas the cost savings from Birmingham would be \$1,032,000 for a difference of \$334,000 per year. Expanding this idea to McGhee-Tyson the recurring savings would be \$2,101,833 per year for moving their aircraft and leaving the remainder of the base in an enclave status. Basically, using the Air Force COBRA Model, the cost savings from moving KC-135s from McGhee-Tyson would more than pay for any necessary upgrades at Key Field and Birmingham to receive a 12 PAA (2 bases for one).

Supplemental Information from Air Force COBRA Analysis

The recurring savings from sustainment is based on a decrease of approximately 48% of the estimated sustainment costs for the installation. The annual sustainment costs for various bases follow:

| Base | Sustainment Costs (per year) | Sustainment Savings (48% decrease) |
|--------------------------|---|---|
| Key Field AGS | \$1,685,757 | \$805,865 ¹ |
| McGhee-Tyson AGS | \$2,445,788 | \$1,173,978 ² |
| General Mitchell IAP AGS | \$1,527,355 | \$733,130 ² |
| Bangor AGS | \$3,606,519 | \$1,731,129 ² |
| Birmingham AGS | \$1,243,365 | \$596,948 ¹ |

The same methodology is used in calculating recurring savings in Base Operations Support (decrease of 5%) and Recapitalization (decrease of 48%).

| Base | Base Operating Costs (per year) | Base Operating Savings (5% decrease) |
|--------------------------|------------------------------------|---|
| Key Field AGS | \$2,829,000 | \$147,814 ¹ |
| McGhee-Tyson AGS | \$5,770,745 | \$288,537 ² |
| General Mitchell IAP AGS | \$5,638,251 | \$281,912 ² |
| Bangor AGS | \$4,795,061 | \$239,753 ² |
| Birmingham AGS | \$1,243,365 | \$101,833 ¹ |

| Base | Recapitalization Costs (per year) | Recapitalization Savings (48% decrease) |
|--------------------------|--------------------------------------|--|
| Key Field AGS | \$863,944 | \$412,574 ¹ |
| McGhee-Tyson AGS | \$1,332,017 | \$639,368 ² |
| General Mitchell IAP AGS | \$1,134,313 | \$544,470 ² |
| Bangor AGS | \$1,989,892 | \$955,148 ² |
| Birmingham AGS | \$706,739 | \$333,117 ¹ |

Notes:

¹ Data from Air Force COBRA Analysis

² Estimated using Air Force COBRA Analysis



Photographs and Figures

Appendix 1 through 6



Building 150, Maintenance Hangar

Construction Completed: 1994

Cost of Construction: \$10,424,290

Photograph 1: Exterior of Maintenance Hagar, Bldg 150

HEF Fire Suppression System Upgrade

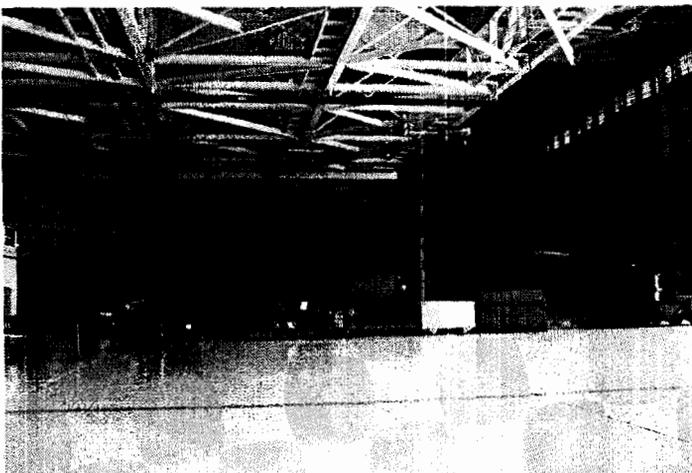
Date of Upgrade: 2005

Cost of Construction: \$629,090



Photograph 2: East Side of Bldg 150

Maintenance Bay



Two KC-135R aircraft can be parked side by side in the Maintenance Bay.

Building 150 has sufficient depth that allows the exterior doors to be closed with the aircraft completely enclosed within.

Photograph 3: KC-135R parked in 1/2 of Bldg 150 Maintenance Bay



Building 160, Fuel Cell Maintenance Hangar

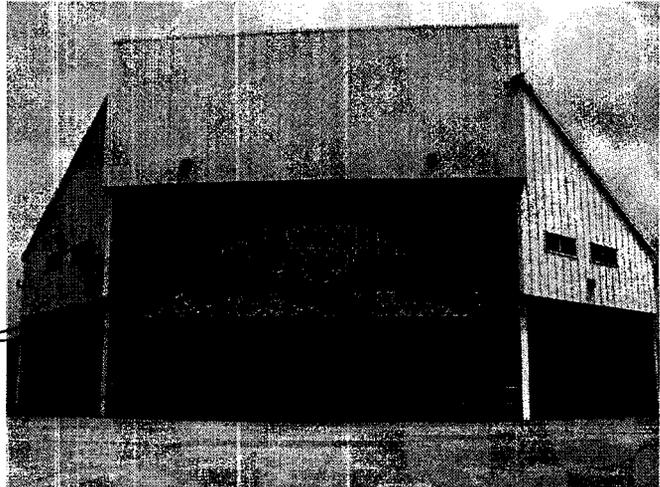
Construction Completed: 1994

Cost of Construction: \$4,268,708

Structurally Unique Architecture:

Cantilever Roof

Supports lift to allow KC-135 to enter and then lower to permit full enclosure



Photograph 4: South End of Fuel Cell Hangar,

Bldg 160



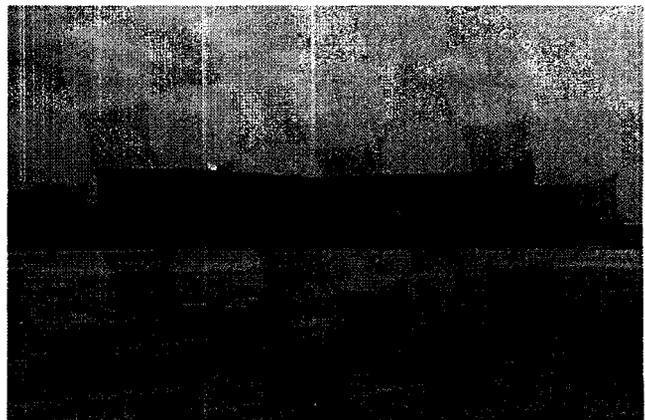
The Structural Maintenance Painting Facility is also attached to Building 160

Photograph 5: North End of Fuel Cell Maintenance Hangar

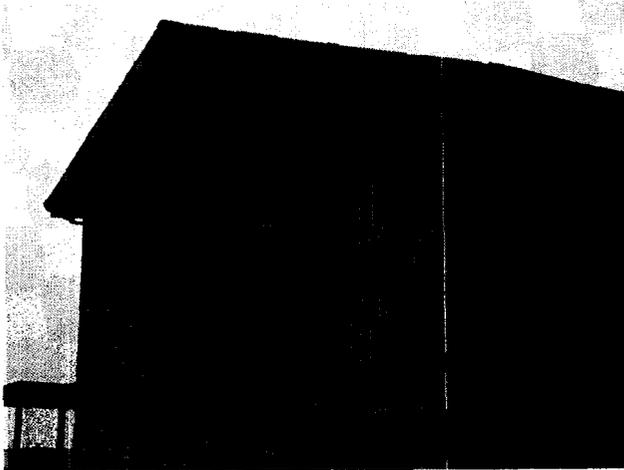
Building 155, Fire Department

Construction Completed: 1995

Cost of Construction: \$1,443,417



Photograph 6: 186 ARW Fire Station



Building 135, KC-135R Flight Simulator

Construction Completed: 2000

Cost of Facility Construction: \$1,835,694

Photograph 7: North Side of Building 135



Photograph 8: South Side of Building 135



**Building 300, 186 ARW
Headquarters**

Renovation Completed: 2005

Cost of Renovation: \$2,158,695

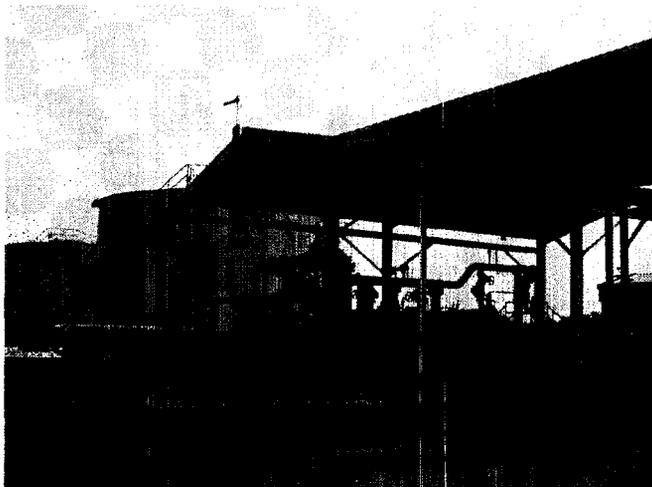
Photograph 9: 186th Air Refueling Wing Headquarters

Fuels Management Facilities



Photograph 10: Two 210,000 gal JP-8

Fuel Tanks



Fuels Management Hydrant System

Construction Completed: 1998

Construction Cost: \$2,983,673

Photograph 11: Fuels Management Hydrant System

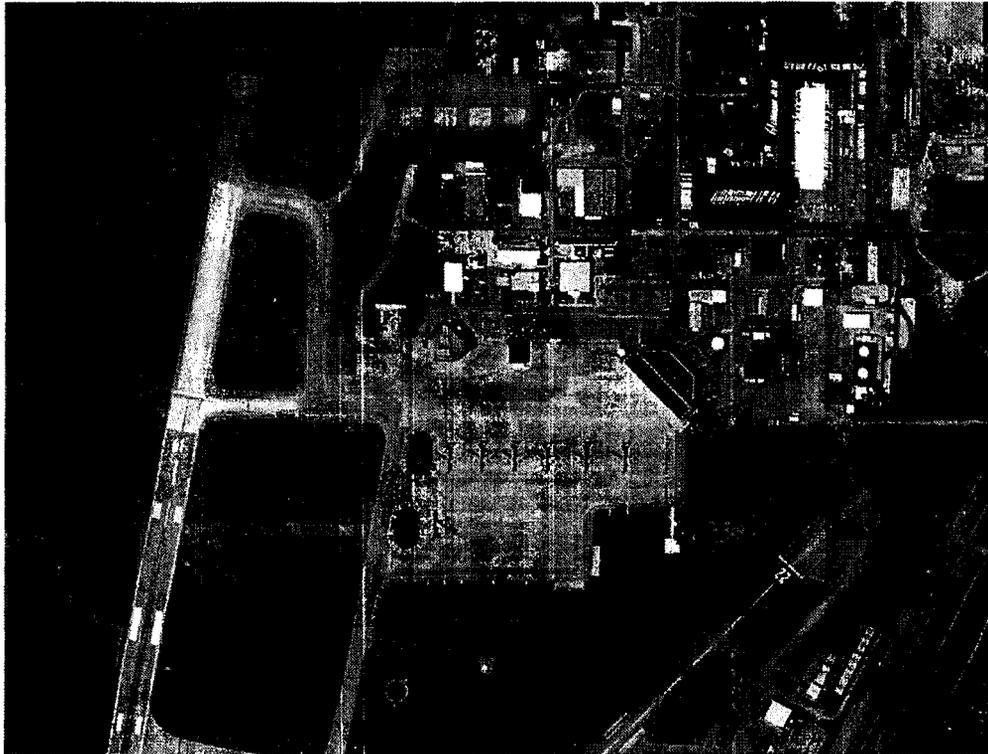
Building 204, Dining Facility

Construction Completed: 2000

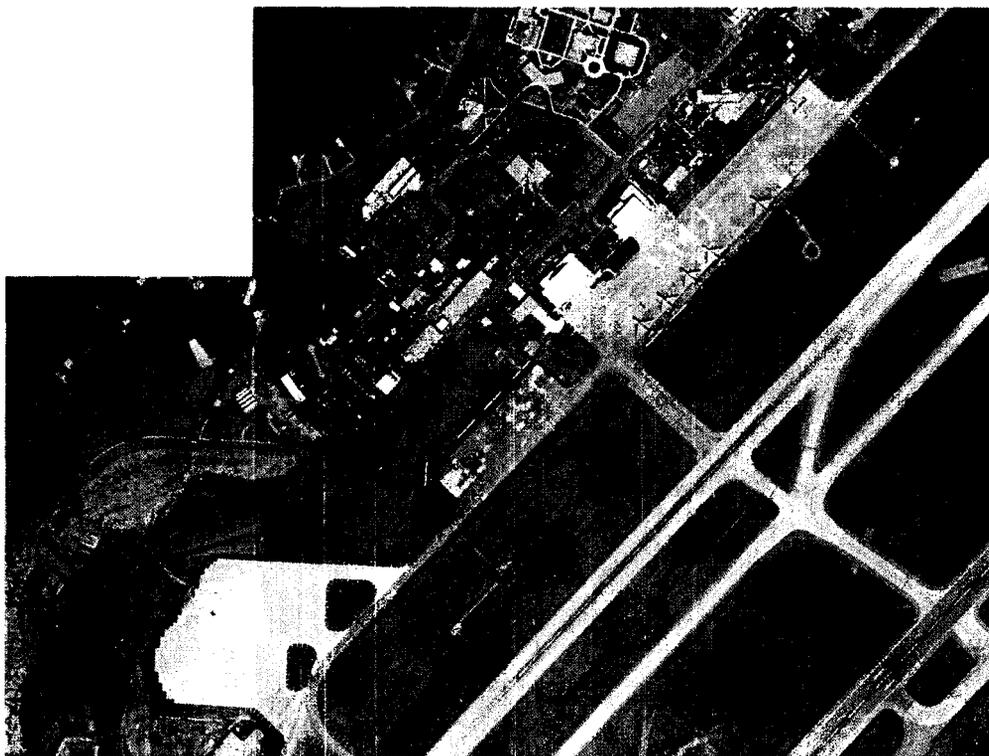
Construction Cost: \$2,740,969



Photograph 12: Building 204, Dining Facility



Photograph 13: Aerial Photo of Key Field AGS



Photograph 14: Aerial Photograph of McGhee Tyson AGS



KEY FIELD AIR NATIONAL GUARD

Exhibit 1.14m Long-Range Facility Siting Plan

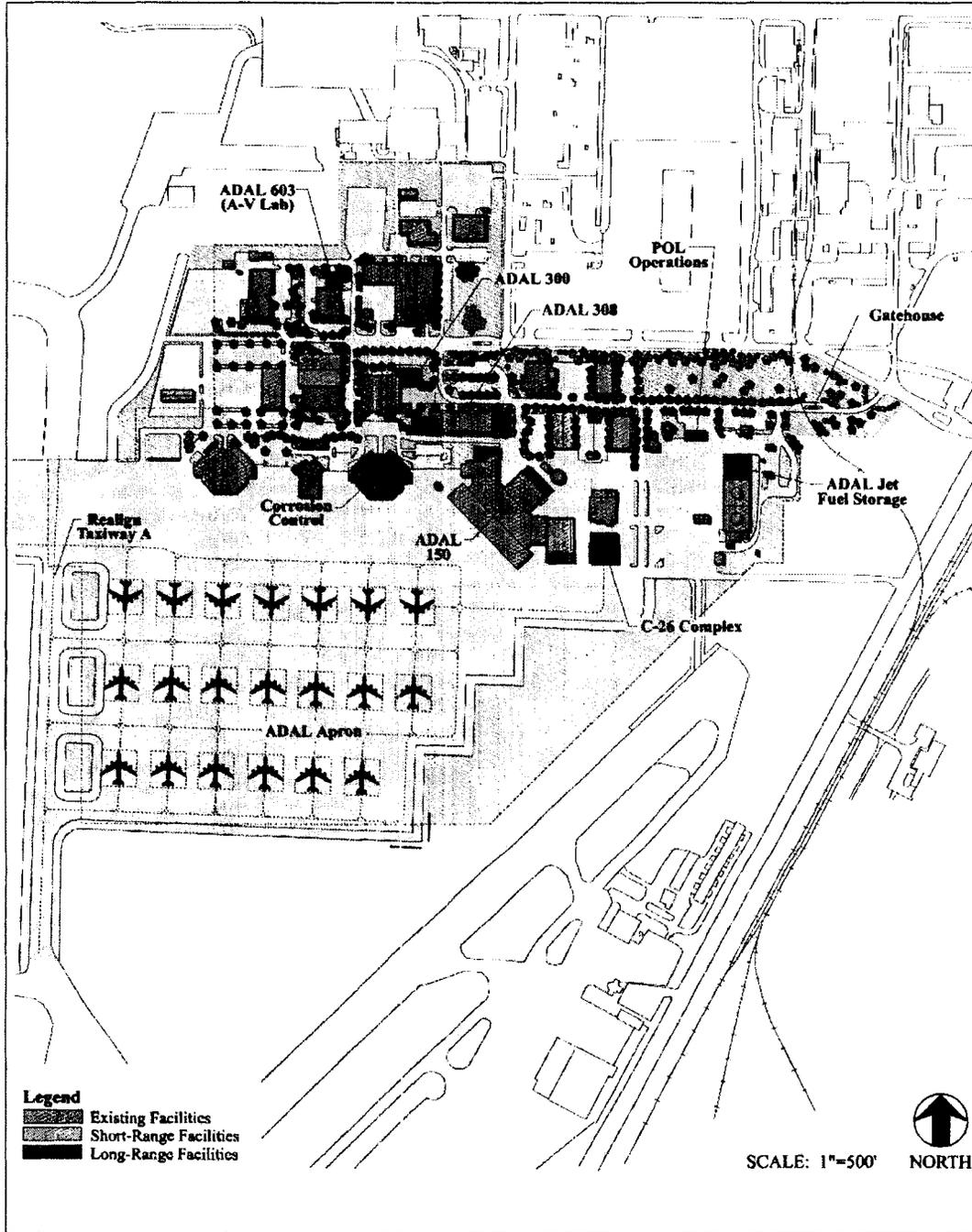


Figure 1: Key Field AGS Master Plan Future Expansion Capability

DCN 5941



TAB #3 Economic Impact

This tab provides demographic, income, and unemployment information which shows that an Air National Guard job is a valued commodity in rural Mississippi and is part of the reason why our unit strength has consistently remained over 100%.

Even though the county population is 77,000, double that number live within a 30 minute commute. Though Meridian is small, its Naval Air Station provides a steady source of experienced pilots and aircraft maintenance personnel that would enable Key Field to robust to 12 or 16 aircraft.

Area Demographics; Meridian MS

Date: 07/01/05

Current Geography Selection: (3

Selected) 35, 50, 65 mile radii: 1901 FRONT ST, MERIDIAN, MS 39301

Your title for this geography: 35_50_65 mile radii Meridian

Current Index Base: Entire US

Lat: 32.364218 **Long:** -88.696206

City: Meridian city **Pop:** 37,637

County: Lauderdale County **Pop:** 77,582

Zip: 39301 **Pop:** 26,543

Demographic Detail Comparison Report

| | 35 Miles: | 50 Miles: | 65 Miles: |
|---|-------------|-------------|-------------|
| 2004 Demographics | | | |
| Total Population | 154,817 | 267,087 | 445,095 |
| Total Households | 60,662 | 103,632 | 171,247 |
| Female Population | 80,859 | 139,342 | 231,260 |
| % Female | 52.2% | 52.2% | 52.0% |
| Male Population | 73,959 | 127,745 | 213,835 |
| % Male | 47.8% | 47.8% | 48.0% |
| Population Density (per Sq. Mi.) | 40.2 | 34.0 | 33.5 |
| Race and Ethnicity | | | |
| American Indian, Eskimo, Aleut | 1.0% | 2.2% | 1.5% |
| Asian or Pacific Islander | 0.3% | 0.2% | 0.2% |
| Black | 40.5% | 39.9% | 40.6% |
| Hawaiian/Pacific Islander | 0.0% | 0.0% | 0.0% |
| White | 57.3% | 56.7% | 56.5% |
| Other | 0.3% | 0.4% | 0.6% |
| Multi-Race | 0.5% | 0.6% | 0.5% |
| Hispanic Ethnicity | 1.1% | 1.4% | 1.8% |
| Not of Hispanic Ethnicity | 98.9% | 98.6% | 98.2% |
| Household Income: | | | |
| Average Household Income | \$39,612 | \$38,647 | \$38,374 |
| Median Household Income | \$30,244 | \$29,577 | \$29,308 |
| Per Capita Income | \$15,726 | \$15,155 | \$14,912 |

Current year data is for the year **2004**, 5 year projected data is for the year **2009**. More About Our Data.

Demographic data © 2004 by Experian/Applied Geographic Solutions.

Traffic Count data © 2004 by GDT. All rights reserved.

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Key Field AGS Economic Data Unemployment - Per Capita Income Statistics

| | Unemployment Percentage Trend | | | | | | | | | | | | | |
|--------------------------|-------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 |
| United States | 5.60 | 6.83 | 7.50 | 6.91 | 6.09 | 5.59 | 5.40 | 4.94 | 4.51 | 4.21 | 3.99 | 4.74 | 5.79 | 5.79 |
| Bangor IAP AGS | 5.68 | 7.92 | 6.97 | 7.67 | 7.85 | 6.08 | 5.30 | 5.88 | 4.51 | 4.27 | 3.70 | 4.11 | 4.50 | 6.11 |
| Birmingham IAP AGS | 5.46 | 5.96 | 6.37 | 6.17 | 4.55 | 4.59 | 3.51 | 3.75 | 3.08 | 3.36 | 3.32 | 3.75 | 4.66 | 4.63 |
| General Mitchell IAP AGS | 4.26 | 5.03 | 4.81 | 4.45 | 4.56 | 3.45 | 3.44 | 3.58 | 3.31 | 3.09 | 3.79 | 4.67 | 5.96 | 6.12 |
| Key Field AGS | 7.38 | 8.23 | 7.93 | 5.77 | 6.08 | 5.62 | 5.90 | 5.64 | 6.06 | 6.56 | 6.76 | 6.30 | 8.58 | 7.66 |
| McGhee-Tyson APT AGS | 4.48 | 5.01 | 4.90 | 4.36 | 3.68 | 3.84 | 3.79 | 4.02 | 3.21 | 2.92 | 2.63 | 3.02 | 3.19 | 3.54 |
| Scott AFB | 6.14 | 7.12 | 6.30 | 6.45 | 4.88 | 4.83 | 4.63 | 4.26 | 4.39 | 3.72 | 3.77 | 4.87 | 5.77 | 5.97 |
| Sioux Gateway APT AGS | 4.25 | 4.67 | 4.10 | 3.15 | 3.23 | 3.06 | 3.65 | 3.40 | 2.94 | 2.58 | 2.84 | 3.26 | 4.04 | 5.03 |

| | Per Capita Income x \$1,000 | | | | | | | | | | | | | |
|--------------------------|-----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 |
| United States | 26.96 | 27.48 | 27.42 | 26.87 | 27.35 | 27.18 | 27.53 | 27.86 | 28.35 | 29.04 | 30.35 | 30.86 | 31.89 | 31.72 |
| Bangor IAP AGS | 22.74 | 22.87 | 22.16 | 21.63 | 21.96 | 22.02 | 22.31 | 22.26 | 22.65 | 23.18 | 24.17 | 24.43 | 25.24 | 26.19 |
| Birmingham IAP AGS | 24.21 | 25.08 | 25.37 | 25.28 | 25.82 | 25.81 | 26.55 | 27.20 | 27.49 | 28.02 | 29.10 | 29.55 | 30.33 | 30.86 |
| General Mitchell IAP AGS | 28.85 | 29.38 | 29.08 | 28.58 | 29.28 | 29.42 | 30.04 | 30.54 | 31.07 | 32.11 | 33.85 | 34.43 | 34.96 | 34.99 |
| Key Field AGS | 19.27 | 19.96 | 19.93 | 19.86 | 20.19 | 20.35 | 20.94 | 21.07 | 21.41 | 21.85 | 22.26 | 22.01 | 22.50 | 22.89 |
| McGhee-Tyson APT AGS | 24.90 | 24.73 | 25.09 | 24.87 | 25.48 | 25.66 | 25.83 | 26.09 | 26.01 | 26.42 | 27.65 | 27.78 | 28.67 | 28.59 |
| Scott AFB | 28.24 | 28.60 | 28.49 | 27.96 | 28.67 | 28.57 | 29.20 | 29.60 | 29.94 | 30.92 | 32.17 | 32.37 | 33.22 | 32.91 |
| Sioux Gateway APT AGS | 23.28 | 23.54 | 23.74 | 23.46 | 24.62 | 23.92 | 24.82 | 25.45 | 26.85 | 26.62 | 27.80 | 27.44 | 27.73 | 27.77 |

Reference: Economic Impact (EIT Run) USAF

Another important and possibly misinterpreted aspect in the Air Force BRAC process is the value of maintaining ANG flying units in small communities such as Meridian, MS. Even though DoD gathered economic data on each region affected by the BRAC process (summarized in Appendix J), it does not appear that the data was used in the decision making process. For example, the Region of Influence (ROI) for Key Field has one of the highest unemployment percentage trends and one of the lowest per capita income rates of KC-135 tanker bases, meaning that the economic impact of realigning Key Field is substantial. The high unemployment rate means that a workforce is readily available to support expansion. The low per capita income leads to a high retention rate for well paying professions, such as full time technician positions, as well as contribute to the strength of the unit as people look for ways to supplement their income. One indicator of this is the fact that the 186th Air Refueling Wing located at Key Field AGS has averaged over 100% for the past ten years.

DCN 5941

DCN 5941

186th Air Refueling Wing



TAB #4 Recruiting, Retention, Strength

Even after being deployed for two wars in the last three years and maintaining an AEF rotation, unit manning at the 186th has remained over 100%.

Retention Comparison

| FACILITY | Gaining/ (Losing)/ No Change | Unit Strength, Total Percentage Manned* | | | | | 5 Yr Avg | Population*** | Median Household Income** | Housing Value** |
|-------------------------------|---------------------------------------|---|--------------|--------------|--------------|-------------|----------|---------------|---------------------------------|--------------------|
| | | 1999 | 2000 | 2001 | 2002 | 2003 | | | | |
| General Mitchell IAP AGS | 4 | 104.1 | 107.1 | 105.5 | 107.0 | 104.9 | 105.7 | 1,689,572 | 45,901 | 134,800 |
| McGhee/Tyson APT AGS | 4 | 102.9 | 104.0 | 106.7 | 108.2 | 105.2 | 105.4 | 669,441 | 36,874 | 98,700 |
| Rickenbacker IAP AGS | 0 | 96.4 | 104.0 | 103.6 | 108.1 | 105.6 | 103.5 | 1,540,157 | 44,782 | 120,900 |
| Lincoln MAP AGS | 0 | 100.6 | 100.9 | 103.1 | 104.9 | 98.9 | 101.7 | 250,291 | 41,850 | 105,900 |
| Key Field AGS | -8 | 97.2 | 103.2 | 101.8 | 104.1 | 99.5 | 101.2 | 117,954 | 29,759 | 63,007 |
| Fairchild AFB | -8 | 99.0 | 100.0 | 99.2 | 102.9 | 99.9 | 100.2 | 536,808 | 37,308 | 113,200 |
| Phoenix Sky Harbor IAP AGS | 2 | 97.6 | 95.1 | 101.6 | 103.1 | 103.1 | 100.1 | 3,251,876 | 44,752 | 127,900 |
| Niagara Falls IAP ARS | -8 | 96.1 | 101.6 | 101.0 | 100.5 | 98.7 | 99.6 | 1,170,111 | 38,488 | 89,100 |
| March ANG | -9 | 102.8 | 93.4 | 100.2 | 103.0 | 98.2 | 99.5 | 1,545,387 | 42,404 | 138,500 |
| Birmingham IAP AGS | -8 | 96.8 | 101.8 | 103.2 | 100.6 | 94.9 | 99.5 | 870,082 | 39,278 | 99,400 |
| Bangor IAP AGS | 4 | 99.2 | 99.9 | 97.1 | 101.3 | 96.5 | 98.8 | 144,919 | 34,274 | 82,400 |
| Pittsburgh IAP AGS | 0 | 97.4 | 95.8 | 96.8 | 99.1 | 97.9 | 97.4 | 2,372,048 | 37,467 | 86,100 |
| Scott AFB | 4 | 111.9 | 84.3 | 92.4 | 98.3 | 97.8 | 96.9 | 593,325 | 44,437 | 99,400 |
| McGuire AFB | -16 | 93.8 | 97.5 | 95.8 | 100.3 | 96.5 | 96.8 | 934,310 | 47,536 | 121,200 |
| Sioux City APT AGS | 0 | 97.8 | 100.2 | 95.4 | 92.9 | 92.5 | 95.8 | 103,877 | 38,563 | 77,100 |
| Forbes ANG | 4 | 96.2 | 93.8 | 94.0 | 94.9 | 96.3 | 95.0 | 186,583 | 40,988 | 81,600 |
| Salt Lake City IAP AGS | 0 | 98.4 | 93.9 | 92.9 | 94.9 | 93.1 | 94.6 | 1,178,116 | 48,594 | 151,400 |
| Pease Int'l Tradeport AGS | 3 | 96.1 | 94.4 | 89.2 | 92.2 | 93.2 | 93.0 | 576,334 | 52,154 | 198,600 |
| McConnell ANG | -9 | 86.1 | 91.1 | 92.0 | 93.0 | 93.4 | 91.1 | 538,297 | 42,651 | 83,100 |
| Eieison AFB | 0 | 93.6 | 93.3 | 83.1 | 82.7 | 80.3 | 86.6 | 84,733 | 53,654 | 103,400 |

* DoD question 1256

**DoD question 1401

***DoD question 1414

Area Demographics; Meridian MS

Date: 07/01/05

Current Geography Selection: (3

Selected) 35, 50 ,65 mile radii: 1901 FRONT
ST, MERIDIAN, MS 39301

Your title for this geography: 35_50_65
mile radii Meridian

Current Index Base: Entire US

Lat: 32.364218 **Long:** -88.696206

City: Meridian city **Pop:** 37,637

County: Lauderdale County **Pop:** 77,582

Zip: 39301 **Pop:** 26,543

Demographic Detail Comparison Report

| | 35 Miles: | 50 Miles: | 65 Miles: |
|---|-------------|-------------|-------------|
| 2004 Demographics | | | |
| Total Population | 154,817 | 267,087 | 445,095 |
| Total Households | 60,662 | 103,632 | 171,247 |
| Female Population | 80,859 | 139,342 | 231,260 |
| % Female | 52.2% | 52.2% | 52.0% |
| Male Population | 73,959 | 127,745 | 213,835 |
| % Male | 47.8% | 47.8% | 48.0% |
| Population Density (per Sq. Mi.) | 40.2 | 34.0 | 33.5 |
| Race and Ethnicity | | | |
| American Indian, Eskimo, Aleut | 1.0% | 2.2% | 1.5% |
| Black | 40.5% | 39.9% | 40.6% |
| White | 57.3% | 56.7% | 56.5% |
| Other | 0.3% | 0.4% | 0.6% |
| Multi-Race | 0.5% | 0.6% | 0.5% |
| Hispanic Ethnicity | 1.1% | 1.4% | 1.8% |
| Not of Hispanic Ethnicity | 98.9% | 98.6% | 98.2% |
| Household Income: | | | |
| Average Household Income | \$39,612 | \$38,647 | \$38,374 |
| Median Household Income | \$30,244 | \$29,577 | \$29,308 |
| Per Capita Income | \$15,726 | \$15,155 | \$14,912 |
| Business and Employment: | | | |
| Number of Employees | 58,062 | 90,832 | 152,536 |
| Number of Establishments | 5,197 | 8,230 | 13,726 |

Current year data is for the year **2004**, 5 year projected data is for the year **2009**. More
About Our Data.

Demographic data © 2004 by Experian/Applied Geographic Solutions.

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DCN 5941



TAB #5 Climate Survey, Diversity Information

Climate surveys show what is evident in the performance of the 186th. The citizen soldiers at Key Field believe in and practice teamwork. Equal Opportunity Climate Assessments demonstrate that the 186th ARW is above the ANG average in all categories studied.



186 ARW Equal Opportunity Climate Assessments conducted Apr 03, Sep - Oct 04.
 Participation rate was 55.5% in 186 ARW, 53% average for all ANG units.

| | <u>% Favorable</u> | <u>% Unfavorable</u> |
|--|--------------------|----------------------|
| | 186 ARW / ANG Avg | 186 ARW / ANG Avg |
| Job Environment..... | 83.1 / 79.0 | 10.6 / 12.9 |
| Positive motivation, pride..... | 81.8 / 79.5 | 10.9 / 12.0 |
| Peer relationships..... | 88.6 / 85.1 | 4.3 / 6.3 |
| Unit leadership..... | 84.0 / 81.3 | 6.1 / 8.2 |
| Perception of freedom to address concerns..... | 73.9 / 74.2 | 8.4 / 9.5 |
| Fair treatment/discrimination/ sexual harassment..... | 81.7 / 80.8 | 8.1 / 8.8 |

Military Equal Opportunity (MEO) and Human Relations Advisor Activities

- No MEO complaints in FY 05
- No MEO complaints in FY 04
- Last formal complaint was prior to FY 99
- 92% of 186 ARW have completed HRA training through the **16 hour course** (best in ANG)
- 85 - 90% of Wing personnel trained in Human Relations Education, Prevention of Sexual Harassment and Drug and Alcohol Abuse Awareness

Statistics provided by Capt Jason Brookins,
 186 ARW Military Equal Opportunity Officer
 Comm. (601)484-9498 / DSN 778-9498