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Air Force BRAC Recommendations for Consolidating C-130s: A BRAC Commission Perspective

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Introduction

The Air Force Base Realignment and Closure (BRAC) recommendations for units flying C-130s affected 21 installations and involved 156 aircraft. This article focuses on those recommendations for consolidating a number of tactical airlift C-130 models at Little Rock Air Force Base (AFB). It also describes the rationale behind the recommendations, the methodology used in developing recommendations, and explains why many of the recommendations were rejected by the BRAC Commission.

The 2005 BRAC Commission encountered several problems associated with the Air Force BRAC recommendations. Some of the general problems discussed in this article include:

- Legal conflicts
- Use of incorrect or obsolete data to develop recommendations
- A systematic bias favoring large active duty installations
- Inconsistent use of analytical results.

Problems specific to the consolidation recommendations discussed in this article include:

- The need for $246.7 million in military construction at Little Rock AFB to provide the necessary infrastructure to accommodate the additional aircraft
- Contradiction of tactical airlift organizational principles.

The article concludes by describing the approach taken by the Commission to mitigate problems with the Air Force recommendations. Because the Commission recommended another BRAC round be conducted in 2015[1], the article serves as a record of BRAC "lessons learned" to facilitate acceptance of future Air Force recommendations. It further serves to shed light on the Air Force and BRAC Commission decision making process.

C-130 Consolidation Recommendations

Of the many BRAC recommendations developed by the Air Force, some of the most contentious involved the reorganization of the Tactical Airlift Fleet - especially those recommendations for consolidating C-130s at Little Rock AFB. A total of 77 tactically configured C-130E and H aircraft were recommended for relocation to Little Rock AFB.

Aircraft from Dyess AFB would be realigned by moving 24 C-130H aircraft to make room for B-1 Bombers resulting from the recommended closure of Ellsworth AFB. An additional 25 C-130Es would be removed from Pope AFB to replace 27 C-130Es at Little Rock recommended for retirement. Pope AFB would be realigned and its aircraft replaced by 16 C-130Hs; eight from Yeager Air Guard Station (AGS) and eight from Pittsburgh International Airport (IAP) Air Reserve Station (ARS). The remaining 28 aircraft to be moved to Little Rock would be relocated from other Air Reserve Component (ARC) installations. The number and model of C-130s to be moved from their respective home stations are summarized in the following table.

Table. Air Force BRAC Recommendations Directing Aircraft to Little Rock AFB[2]

Home Station	Number at Installation	Model	Number Recommended for Little Rock AFB
Dyess AFB, TX	32	C-130H	24
Reno-Tahoe IAP AGS, NV	8	C-130H	8
Niagara Falls ARS, NY	8	C-130H	8
Schenectady County Airport AGS, NY	4	C-130H	4
Mansfield-Lahm AGS, OH	8	C-130H	4
General Mitchell ARS, WI	8	C-130H	4
Pope AFB, NC	25	C-130E	25
		Total	**77**

Rationale for Consolidation

Air Force recommendations for consolidating C-130s at Little Rock AFB were justified by lower military values for ARC installations[3] and an effort to "address a documented imbalance in the active/reserve manning mix for C-130s."[4] The primary justification for removing C-130s from many ARC bases was an installation's apparent inability to accommodate the optimal Air National Guard (ANG) or Air Force Reserve (AFR) squadron size of 12 C-130s.[5] The Air Force recommendations indicated that consolidating C-130s at Little Rock AFB would streamline "maintenance and operation of this aging weapon system."[6]

The three models of C-130 currently in the inventory are designated the C-130E, C-130H, and the C-130J. A large portion of these aircraft have reached or are rapidly approaching the end of their operable lifespan. The aging issue is particularly relevant to the C-130E model, of which many in the active inventory are over 40 years old.[7] The primary concern with the C-130E are cracked wing boxes that (according to some sources) may take three years to repair at a cost of $10 million per plane.[8]

The C-130H is a newer model. There are five variants; the C-130H, H1, H2, H2.5, and H3.[9] The differences in variant designation are primarily related to avionics and instrumentation upgrades.[10] Because of these differences, crews trained in the operation of one variant cannot fly a different variant without additional training. Unfortunately, safety issues essentially prevent dual training. Other complicating factors associated with these variants result from different maintenance requirements.[11]

The C-130J was developed as the replacement model for the C-130E.[12] By the end of fiscal year 2004, 37 of these aircraft had been delivered to the Air Force.[13] Little Rock AFB was scheduled to receive 14 C-130Js between fiscal years 2005 and 2011, and an additional 16 between fiscal years 2014 and 2017.[14] However, on 23 December 2004 all Air Force C-130J procurements were terminated by Program Budget Decision (PBD) 753.[15]

Air Force Methodology

In determining which bases to realign or close, the Air Force attempted to emphasize a base's military value, treat all bases equally, and not prejudge a base according to its current mission.[16] The Air Force used several mathematical modeling tools to assist in this process, three of which were developed by the Air Force.[17]

The first tool used in developing the Air Force recommendation was the Web-based Installation Data Gathering and Entry Tool (WIDGET)[18] "used to collect and manage operational and capacity data" from the installations.[19] After being collected by WIDGET, the data were used by the Air Force BRAC Analysis Tool to determine an installation's military value by assigning a unique Mission Capability Index (MCI) value to each of the 154 Air Force installations.[20] A lower MCI value indicated that an installation held less military value for the Air Force. Consequently, an installation having a lower MCI value should be preferentially recommended for closure or realignment.

MCI values were assigned by the BRAC Analysis Tool using a hierarchical approach.[21] The highest level reflected the four BRAC military value selection criteria established by the Office of the Secretary of Defense (OSD).[22] These criteria were assigned weighted values by the Air Force Base Closure Executive Group (BCEG).[23]

The four OSD criteria and their respective BCEG weights are provided below:[24]

- Current/Future Mission (46%)
- Condition of Infrastructure (41.5%)
- Contingency and Mobilization (10%)

- Cost of Operations and Manpower (2.5%).

Installation specific data comprised the second hierarchical level.[25] These data were used to assess the suitability of a particular installation to support each of the following missions:[26]

- Fighter
- Bomber
- Tanker
- Airlift
- Special Operations
- Command, Control, Intelligence/Surveillance/Reconnaissance
- Unmanned Aerial Vehicles
- Space Operations.

As with the OSD criteria, installation specific data for supporting the respective missions also were weighted. Mission specific criteria and their related weighting values were:[27]

- Operating Environment (9.2%)
- Geo-Locational Factors (36.8%)
- Key Mission Structure (33.2%)
- Operating Areas (8.3%)
- Mobility/Surge (4.4%)
- Growth Potential (5.6%)
- Cost Factors (2.5%).

Finally, the Air Force Cueing Tool combined the MCI values with base capacity information, environmental data, and force structure projections to develop various beddown scenarios.[28] The Air Force tested these different scenarios according to military value and cost analyses in an effort to optimize the final recommendations. The various scenarios were managed using a "Scenario Tracker" database.

BRAC Commission Analysis

Members of the BRAC Commission Air Force Team began their analyses immediately after the Department of Defense (DOD) released its recommendations on 13 May 2005. In addition to reviewing the recommendations, analysts had to become familiar with how data were obtained and used. BRAC Commission analysts visited selected installations, attended public hearings, and participated in meetings with Air Force personnel, concerned citizens, and elected officials. This effort led the BRAC Commission staff to identify numerous problems associated with the Air Force BRAC recommendations and specifically, the recommendations consolidating portions of the C-130 fleet at Little Rock AFB. These included:

- Use of incorrect or obsolete data
- Bias towards large active duty installations
- Inadequate discrimination between installations
- Inconsistent use of MCI values

- Creation of additional infrastructure
- Contradiction of tactical airlift organizational principles
- Legal discrepancies.

Using a web-based system enabling installations to submit information is an efficient approach to data collection and management. Unfortunately, much of the collected data were erroneous or outdated. This problem became apparent through visits to installations and meetings with installation or community representatives. Specifically:

Reno-Tahoe IAP AGS was capable of supporting 12 C-130s on existing land rather than only 10 as suggested by the Air Force recommendation.[29]

Since 1995, the Niagara Falls Air Reserve Station (NFARS) has eliminated 100% of excess capacity. A recent agreement with the State of New York reduced annual base operating costs by $450,000.[30]

Wing slots in the hangar wall enabled Mansfield-Lahm Municipal Airport AGS to accommodate more than the eight C-130s indicated by the Air Force recommendations.[31]

General Mitchell Field ARS officials felt that MCI values for their facility were flawed.[32] BRAC staff were informed that the base had eight C-130s, were manned for 12, and could expand to 16 aircraft.[33]

The justification for realigning Pittsburgh IAP ARS was based principally on the major command's capacity briefing that "land constraints prevented the installation from hosting more than 10 C-130 aircraft . . . ."[34] However, space was available for as many as 20 aircraft with no additional military construction (MILCON) required.[35] Additionally, the ramp was not assessed for military value because it did not have a "published" pavement condition number.[36] However, the ramp area has been used as a part of the Pittsburgh IAP taxiway for such heavy aircraft as Boeing 747s, C-5s, and B-52s and is routinely used by C-130s.[37]

The major command's capacity briefing reported that Yeager Airport AGS could not support more than eight C-130s.[38] However, the Wing Commander countered that the unit could actually park 12 C-130s.[39] Further, the base did not receive any military value credit for its hangar since it was constructed to house fighters. The addition of wall slots enabled the hangar to house C-130s for over 25 years.[40]

Although the Air Force effort to develop objective mathematical models to evaluate installations is commendable, further refinement may be necessary. MCI values generated by the BRAC Analysis Tool demonstrate a clear bias in favor of retaining active duty installations. Airlift MCI values ranged from a low of 2.45 to a high of 79.43.[41] The mean MCI value was 44.69 with a standard deviation of 15.76. Of the 78 installations with MCI values greater than the mean, 52 (66.6%) were active duty installations while 26 (33.3%) consisted of ARC installations. The results were reversed for the 76 installations having MCI values below the mean with 59 (77.7%) of the installations belonging to the ARC, while only 17 (22.3%) were active installations.

Additionally, the BRAC Analysis Tool was not sufficiently sensitive to adequately discriminate between most of the installations. Weighting values demonstrate the BCEG placed a much greater emphasis on an installation's mission and condition of infrastructure than on its ability to accommodate contingency and mobilization operations, or its operating and manpower costs. Mission and infrastructure condition accounted for 87.5% of the OSD military value selection criteria. After prioritizing installations according to OSD criteria, they were further ranked according to specific installation attributes. The relative weighting placed 70% of an installation's attribute value on Geo-locational Factors and Key Mission Structure alone. A total of 123 installations (almost 80%) of the installations fell within the standard error, indicating that differences in values could be attributed solely to data discrepancies.

Other problems associated with the Air Force BRAC recommendations included how the modeling results were used. Representatives for Dyess AFB noted that MCI values were applied inconsistently.[42] Justification for closing or realigning these units, and moving their associated aircraft to Little Rock AFB was based partially on lower MCI scores. Had MCI values been consistently applied, the C-130s recommended for Little Rock AFB (MCI value of 63.25) would have been recommended for Dyess AFB (MCI value of 65.95) or Pope AFB (MCI value of 69.99).[43] It then follows that Little Rock AFB should have been recommended for closure.

A recommendation to close Little Rock AFB is further supported by the additional construction necessary to consolidate the C-130s. Analysis of revised estimates confirmed that costs for this construction would have been approximately $246.7 million.

The recommendations directing the consolidation of C-130s at Little Rock AFB also contradicted the following Air Force principle for air mobility bases:

> Our airlift mobility bases must have robust inter-modal transportation infrastructure to mobilize joint, interagency forces and be *geographically separated* [emphasis added] to reduce the likelihood of a single point of failure due to environmental or infrastructure problems. Airlift bases *located near or with primary users can enhance joint training and responsiveness* [emphasis added].[44]

Finally, significant legal and policy concerns were raised as a result of the Air Force BRAC recommendations. These concerns were addressed in a White Paper prepared by the BRAC Commission Deputy General Counsel. Because Air Force BRAC recommendations tended to focus on "moving tails" rather than reducing infrastructure, an early observation was that such a programmatic restructuring could be accomplished outside of the BRAC process.[45] The BRAC Commission Deputy General Counsel also concluded that Air Force recommendations mandating "the placement of specific numbers of certain types of aircraft will place significant [legal] constraints on the operations of the Air Force."[46]

The effort to consolidate a portion of the C-130 fleet at Little Rock AFB appears to have been influenced by PBD 753 and the cancellation of the C-130J procurement program. From 22 September until 17 December 2004, Air Force scenarios divided the C-130s almost equally between Little Rock AFB (36 primary aircraft authorized or PAA) and other locations (31 PAA). With the recommended retirement of 14 C-130Es and the recoding to backup aircraft inventory

(BAI) of another 14 C-130Es, Little Rock AFB effectively received only eight additional aircraft. Following the 23 December 2004 publication of PBD 753, Air Force BRAC scenarios from 6 January until 8 April 2005 had Little Rock AFB receiving 45 additional aircraft versus only 19 at four other installations. Funds for C-130J purchases were later reinstated (although under different acquisition regulations) on 17 May 2005.[47] Reinstatement of these funds would conceivably eliminate the need to consolidate C-130s at Little Rock AFB.

The cumulative C-130 recommendations raised serious concerns for the BRAC Commission. The recommendations to retire a total of 47 C-130Es conflicted with Senate Bill 1043 Section 34 which stated; "[t]he Secretary of the Air Force may not retire any C-130E/H tactical airlift aircraft of the Air Force in Fiscal Year 2006."[48] Accordingly, the BRAC Commission Deputy General Counsel cautioned that all instructions for retiring certain types of aircraft be deleted from the Commission's recommendations "to avoid a potential conflict of laws."[49]

Because the majority of the Air Force recommendations affected Air Force Reserve Command (AFRC) and ANG units, they were categorized by many as a "plane grab" or an attempt by the Air Force to recapitalize its aging airlift fleet at the expense of the ARC.[50] Representatives of Schenectady County Airport AGS and Reno-Tahoe IAP AGS questioned the legality of the Air Force BRAC recommendations. Their arguments centered around Title 10 and Title 32 of the United States Code. Title 32 in particular states that "no change in the branch, organization, or allotment of a [National Guard] unit located entirely within a State may be made without the approval of its governor."[51] In addressing this issue, the BRAC Commission Deputy General Counsel determined "[t]he Commission may not make such a recommendation without the consent of the governor concerned and, where the unit is an organization of the National Guard whose members have received compensation from the United States as members of the National Guard, of the President."[52]

Conclusion

The BRAC Commission Deputy General Counsel also concluded that "[t]he inclusion of actions that conflict with existing legal authority will endanger the entirety of the base closure and realignment recommendations by exposing the recommendations to rejection by the President or Congress or to a successful legal challenge in the courts."[53] Had the BRAC recommendations been signed by the President as originally submitted, the BRAC Commission believed there was a strong possibility that Congress would have enacted a Joint Resolution rejecting the recommendations. Assuming a Joint Resolution was not enacted, the Commission was concerned that the final outcome of the recommendations would have been decided in the courts.

The recommendations for removing aircraft from ANG units were particularly contentious and met with strong resistance from community representatives, elected officials, and the Adjutant Generals of the respective states. A primary issue was that had the Air Force recommendations been approved as written, the end result would have been a significant exodus of experienced ARC personnel.

The complexity of the Air Force C-130 recommendations and the problems associated with the Titles 10 and 32 issues led the Commission to conclude that the Air Force had deviated from the

BRAC selection criteria. The Commission was compelled to develop an executable compromise solution. Rather than directing the movement of specific numbers of aircraft from one installation to another as the Air Force recommended, the Commission distributed aircraft to meet the Primary Aircraft Authorized (PAA) "requirements established by the Base Closure and Realignment recommendations of the Secretary of Defense, as amended by the Defense Base Closure and Realignment Commission."[54] The Commission then recommended the PAA for the appropriate installations.

Another problem was the quality of the data collected through WIDGET. It is unclear what quality control measures were applied. One method for reducing data errors in future BRAC rounds would be to task 10-15 trained individuals to each visit a similar number of installations. These "data collectors" would be tasked with obtaining the necessary information and entering it into WIDGET. They could then peer review data collected and entered by their counterparts. Additional quality assurance measures would require having an independent review for errors or inconsistencies of at least 10% of the installation data entered by each of the data collectors. This would serve to lessen the arguments put forth by the affected communities, while enhancing the BRAC Commission analysts' confidence in the data.

The bias towards large, active duty installations is understandable when one considers that a larger installation is inherently capable of supporting a greater variety of missions. Such an installation would seem to have greater military value to the Air Force. However, this approach lends itself to an "apples and oranges" type of comparison. Obviously, a bomber base with its longer runway and greater infrastructure would be able to support tactical airlift. Alternatively, a small tactical airlift installation could not support the bomber mission without significant additional military construction. But is this the best use of the infrastructure?

Adjustments should be made to the weighting values to increase the sensitivity of the model according to different organizational structures and roles. Rather than evaluating the installations for each of the eight missions individually, it may be advisable to sum the mission results. Breakpoints could then be applied to the total to designate minimum values for each of the mission categories. In this manner, the installations would be grouped by mission and the MCI values would be more closely linked within those categories. This would promote an "apples to apples" type of comparison. Increasing the weighting value for "Cost of Operations and Manpower" would help earmark less efficient installations for realignment or closure. Immediate benefits outside of the BRAC process could be realized as installations improve their infrastructure and operating efficiency in an effort to protect themselves from the next BRAC round.

Notes

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2. Department of Defense, Base *Closure and Realignment Report*, Volume I, Part 2 of 2: Detailed Recommendations (Washington, D.C.: Department of Defense, May 2005).

3. Department of Defense, *Department of the Air Force Analysis and Recommendations BRAC 2005,* Volume V, Part 1 of 2 (Washington, D.C.: Department of Defense, May 2005), 153.

4. Ibid., 185.

4. Ibid., 157.

6. Ibid.

7. Air Force Link "C-130 Hercules" Fact Sheet, http://www.af.mil/factsheets/factsheet.asp?fsID=92.

8. Memorandum of Meeting with Air Force BRAC and C-130 Programming Personnel, 29 July 2005.

9. Personal discussion with Lt Col Brad McRee, BRAC Commission Staff.

10. Ibid.

11. Ibid.

12. Air Force Link "C-130 Hercules" Fact Sheet, http://www.af.mil/factsheets/factsheet.asp?fsID=92.

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14. Little Rock Air Force Base, Draft C-130J Beddown Plan (Staff Study), August 2003.

15. Department of Defense, *Other Secretary of Defense Decisions,* Program Budget Decision 753 (Washington, D.C.: Department of Defense, 23 December 2004).

16. Department of Defense, *Department of the Air Force Analysis and Recommendations BRAC 2005,* Volume V, Part 1 of 2 (Washington, D.C.: Department of Defense, May 2005), 43.

17. Ibid., 45.

18. Ibid., 46.

19. Ibid.

20. Ibid.

21. Ibid., 47.

22. Ibid.

23. Ibid., 46.

24. Department of Defense, *Department of the Air Force Analysis and Recommendations BRAC 2005,* Volume V, Part 2 of 2 (Washington, D.C.: Department of Defense, May 2005), 93.

25. Department of Defense, *Department of the Air Force Analysis and Recommendations BRAC 2005,* Volume V, Part 1 of 2 (Washington, D.C.: Department of Defense, May 2005), 47.

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27. Department of Defense, *Department of the Air Force Analysis and Recommendations BRAC 2005,* Volume V, Part 2 of 2 (Washington, D.C.: Department of Defense, May 2005), 93.

28. Department of Defense, *Department of the Air Force Analysis and Recommendations BRAC 2005,* Volume V, Part 1 of 2 (Washington, D.C.: Department of Defense, May 2005), 48.

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30. Niagara Falls ARS, Commissioner's Briefing Material (Staff Study), 27 June 2005.

31. Base Closure and Realignment Commission, *Base Visit Report for Mansfield-Lahm Municipal Airport Air Guard Station, OH,* 14 June 2005.

32. Base Closure and Realignment Commission, *Base Visit Report for General Mitchell Field Air Reserve Station, WI,* 2 June 2005.

33. Ibid.

34. Pittsburgh IAP ARS, Commissioner's Briefing Material (Staff Study), 21 June 2005.

35. Ibid.

36. Ibid.

37. Ibid.

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39. Ibid.

40. Ibid.

41. Department of Defense, *Department of the Air Force Analysis and Recommendations BRAC 2005,* Volume V, Part 2 of 2 (Washington, D.C.: Department of Defense, May 2005), 70-73.

42. City of Abilene, *Issues for BRAC Staff Consideration* (Staff Study), 28 July 2005.

43. Department of Defense, *Department of the Air Force Analysis and Recommendations BRAC 2005,* Volume V, Part 1 of 2 (Washington, D.C.: Department of Defense, May 2005), 70-73.

44. Department of the Air Force, "Air Force Organizational Principles," 16 Jul 04, White Paper, 4.

45. Daniel Cowhig, Deputy General Counsel, "Discussion of Legal and Policy Considerations Related to Certain Air Force Base Closure and Realignment Recommendations," White Paper - Defense Base Closure and Realignment Commission 2005, 7.

46. Ibid., 4.

47. Senate, *Department of Defense Authorization Act for Fiscal Year 2006,* 109th Congress, 1st Session, 2005, S. Doc. 1043, 19.

48. Ibid.

49. Daniel Cowhig, Deputy General Counsel, "Discussion of Legal and Policy Considerations Related to Certain Air Force Base Closure and Realignment Recommendations," White Paper - Defense Base Closure and Realignment Commission 2005, 12.

50. Governor Jim Doyle, et. al., to Chairman Anthony Principi, letter, 19 July 2005.

51. Title 32 USC, Section 104(c).

52. Daniel Cowhig, Deputy General Counsel, "Discussion of Legal and Policy Considerations Related to Certain Air Force Base Closure and Realignment Recommendations," White Paper - Defense Base Closure and Realignment Commission 2005, 11.

53. Ibid., 6.

54. Defense Base Closure and Realignment Commission, *Report to the President,* Volume 1 (Washington, D.C.: Defense Base Closure and Realignment Commission, September 2005).

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