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## EXECUTIVE SUMMARY

19 August 2015

(U) TRADE SPACE FOR APACHES. (U) The Army National Guard (ARNG) is supportive of the Aviation Restructure Initiative (ARI) plan with the exception of the removal of AH-64 equipped Attack Reconnaissance Battalions (ARBs). One of the foundations of the ARI plan is to provide more lift (UH-60s) to the ARNG for homeland support, yet, the ARNG is unaware of any capabilities based assessment that warrants placing more UH-60 aircraft in the ARNG. The ARI plan, in terms of ARNG ARB/ AH-64 capability, will reach a point of irreversibility on or about 1 October 16. At this point, the ARNG will not have AH-64 infrastructure and depth to sustain any National Defense needs. For the ARNG to retain an ARB capability, the Army must reassess attack and reconnaissance requirements through the normal Total Army Analysis (TAA) process. The TAA process is the official Army process used for determining force structure. However, ARI relied on the Training and Doctrine Analysis Center (TRAC) modeling to determine Combat Aviation Brigade (CAB) demand.

### Considerations:

- How adequate is the TRAC modeling demand analysis?
- How does ARI affect overall force mix discussions?
- What are the risks associated with replacing one capability for another?

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INFORMATION PAPER

19 August 2015

SUBJECT: Army National Guard (ARNG) Trade Space for Apaches

1. Purpose: To determine what trade space there is in the Headquarters Department of the Army (HQDA) and ARNG proposals regarding the ARNG Attack Reconnaissance Battalions (ARBs) in the Aviation Restructure Initiative (ARI) discussion.

2. Summary: One of the foundations of the ARI plan is to provide more lift (UH-60s) to the ARNG for homeland support, yet, the ARNG is unaware of any capabilities based assessment that warrants placing more UH-60 aircraft in the ARNG. Although difficult, the ARNG is supportive of the ARI plan with the exception of the removal of AH-64 equipped ARBs. The ARNG can certainly utilize the UH-60s, but not at the expense of eight ARBs. The ARBs keep the ARNG on even par with Active Component (AC) aviation with the only difference being the Gray Eagle unmanned aerial vehicle. The ARI plan, in terms of ARNG ARB / AH-64 capability, will reach a point of irreversibility on or about 1 October 16 (Fiscal Year (FY) 17). The ARNG at this point will not have AH-64 infrastructure and depth to sustain any national defense needs. For the ARNG to retain an ARB capability, the Army must reassess attack and reconnaissance requirements through the normal Total Army Analysis (TAA) process. Even though the TAA process is used for determining the future Army force, ARI relied on the Training and Doctrine Analysis Center (TRAC), Fort Leavenworth, KS modeling to determine Combat Aviation Brigade (CAB) demand. The TRAC Leavenworth had sensitivities that under certain conditions would produce a smaller total Army AH-64 capability that might not have any sustaining capability. The TAA with varying modeling scenarios and adjustments in CAB / ARB doctrine, organization, training and materiel could justify ARBs in the ARNG.

3. Background:

a. The HQDA and the Office of the Secretary of Defense (OSD) approved the ARI plan that removes all eight ARBs from the ARNG and transfers all ARNG AH-64 Apaches to the Active Component (AC). The HQDA does not recognize a need for an ARB force mix that retains six ARNG ARBs as proposed by the Chief of the National Guard Bureau (CNGB) in December 2013. In addition to keeping six of eight ARNG ARBs, the CNGB alternative converts the other two ARBs to an Assault Helicopter Battalion (AHB) design. The two ARB to AHB conversions are a common element to both the HQDA ARI plan and CNGB alternative, and will occur in FY16. Implementing the full HQDA ARI plan eliminates 4,011 ARNG spaces. These reductions are applied under both the 335K and 315K ARNG force reduction scenarios. Any change to the ARB force defined by ARI would likely impact the Total Army and the ARNG's 335K/315K force programming.

b. Prior to ARI, the ARNG did not provide any indication to HQDA that there was a requirement for additional utility rotary wing aircraft in the ARNG. However, HQDA in a

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November 2013 presentation to the state Adjutants General indicated that one of the ARI purposes was to increase UH-60 lift in the ARNG. Likewise, HQDA did not indicate to the ARNG that additional UH-60 lift was needed for either combat operations or domestic operations. The ARNG did indicate to HQDA the intent to remain a fully integrated and interchangeable force organized with formations like the AC, such as Combat Aviation Brigades (CAB) that included AH-64 aircraft. The only exception would have been the assignment of Gray Eagle to only AC CABs.

4. Focus: This paper provides an initial assessment through the doctrine, organization, training, materiel, personnel, leadership and education, and facilities (DOTMPLF) capabilities determination process. Further, this paper identifies trade space and resources needed to support the retention of six ARNG ARBs, and recognizes shortfalls that may require additional resourcing.

a. Doctrine (Minor Impact):

(1) If the ARNG retains ARBs, the US Army Aviation Center of Excellence (USAACE) would need to revert back to doctrinal efforts before ARI development and implementation. The USAACE doctrinal updates occurring pre ARI in or around June 2013 accounted for ARNG ARBs. The US Army Training and Doctrine Command (TRADOC) initiated a new doctrinal manual series construct that streamlines aviation into one overarching manual with subordinate tactics, techniques, and procedures publications. ARNG ARBs would have a doctrinal role as an element of a CAB in future unified land operations (ULO). The ARNG ARBs have a well-documented doctrinal role and mission execution in recent conflicts in Iraq and Afghanistan.

(2) ARI preserves a 24 ship AH-64 ARB design in the AC. Army attack aviation organizational designs have changed a number of times over the last 20 to 30 years so it may be worth a relook to see if the 24 ship design for the Air Reconnaissance Squadron (ARS) is ideal, particularly given the growing and evolving role of Unmanned Aircraft Systems (UAS). USAACE would have to conduct this doctrinal review to determine if a 3 x 6 or 3 x 7 design for the ARI ARSs would be feasible and effective. The 3 x 6 design describes three troops of six Apaches each per troop, plus four Shadow UAS air vehicles. A reduced number of AH-64s in the ARS would mean a reduced number of total personnel authorizations for crews, mechanics and other support personnel.

b. Organization (Moderate Impact):

(1) The ARNG accepts the ARI force reductions, except the loss of all AH-64 ARBs. The ARI non-ARB loss equates to approximately 1,400 aviation personnel authorizations, which includes mission command, an air cavalry squadron, aviation support (maintenance) battalion, and other aviation force structure. The 1,400 spaces represent about a four percent loss in ARNG aviation force structure. This four percent loss parallels the total ARNG reduction in force structure from 350K to 335K spaces. In addition to the 1,400 ARNG loses, implementation of ARI will cause the inactivation of all eight ARNG ARBs while activating four new AHBs. The net loss for this portion of ARI is roughly 2,600 spaces.

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(2) The six ARNG ARBs retained under the CNGB alternative plan represent approximately 2,400 personnel authorizations along with 144 aircraft authorizations. The ARBs, if retained, would remain part of an ARNG Expeditionary CAB (ECAB) or potentially align to an AC CAB, which would create a multi-component aviation brigade. The six ARBs plus the increased Aviation Intermediate Maintenance (AVIM) support could be as high as 2,700 spaces. This ARB structure has not been incorporated within the ARNG 335K or 315K force files via a “billpayer” strategy. Given two ARB-to-AHB conversions are programmed in FY16 regardless of which ARI plan is implemented, two of the four AHBs with their associated AVIM support (approximately 880 spaces) are available as billpayers. Under that scenario, the ARNG would be short roughly four ARBs worth of modified table of organization and equipment (MTOE) authorizations or about 1,820 personnel spaces (see Table 1).

(3) The process used to identify those remaining 1,820 spaces is the Total Army Analysis (TAA) process. TAA has long been the acknowledged and proven mechanism for explaining and defending Army force structure based on doctrine and analysis flowing from strategic guidance and joint force requirements. The current TAA process is near completion, the next opportunity to identify the ARNG Modified Table of Organization and Equipment (MTOE) billpayer structure or trade space is FY16. The HQDA would have to approve the retention of six ARNG ARBs as a TAA input. The TAA process results would identify which other ARNG MTOE or Table of Distribution and Allowances (TDA) structure would be lost in the 335K ARNG force or 315K ARNG force.

**Table 1**

	<b>Pre ARI</b>	<b>Post ARI total loss</b>	<b>% loss</b>	<b>Six ARBs</b>	<b>2 AHB billpayers</b>	<b>Deficit</b>
ARNG	350,000	15K	4			
AVN	31,000	4K	13	2700	880	1820

c. Training (Moderate Impact):

(1) The state Adjutants General made significant efforts to ensure their ARBs are manned, trained, and equipped to meet a demanding mission set. Similar to the organization capability explained previously, the ARNG is short about four rotary wing battalion’s worth of training resources and operational tempo (OPTEMPO) funding in the current budget if it were to retain six ARBs.

(2) The four additional ARNG AHBs are in the current budget program at an annual cost per battalion in peak training year four (T4) of Army Force Generation (ARFORGEN) of approximately \$9.0M in OPTEMPO (flying hours). An ARB in the same peak year of T4 costs roughly \$13.0M in OPTEMPO. If two ARBs convert to AHBs and six ARBs remain (foregoing the third and fourth programmed AHB), the additional annual OPTEMPO cost would be approximately \$60M. It is unlikely that HQDA would add \$60M to the annual ARNG air OPTEMPO budget (at least in the POM years), so the currently funded air OPTEMPO level in those years would have to be

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spread across 35 flight battalions rather than the 31 flight battalions programmed under ARI. This would mean approximately a 15 percent cut in air OPTEMPO which would mean approximately a 15 percent cut in flying hours per aircrew per month. For example, the average hours per ARNG aircrew per month in FY17 would be reduced from 7.3 hours to 6.3 hours. Overall unit readiness would suffer and the unit proficiency level would slip from the “company minus” proficiency band to the “platoon plus” band.

(3) While annual training costs would increase with the net retention of four ARNG flight battalions (six ARBs retained minus two AHBs), the one-time costs to convert ARNG AH-64 pilots and mechanics to UH-60 skills would be reduced substantially – approximately \$60M or \$70M. This would be a one time savings for the CNGB alternative plan.

### d. Materiel (Moderate Impact):

(1) According to HQDA, the materiel requirements for the CNGB alternative would cost between \$2B and \$5B more than the ARI plan depending on how robust the Army Float/Spare account must be. The ARI plan sets aside 115 of the 690 AH-64Es in the end-state fleet for the float account. The CNGB plan sets aside 64 of a 701 AH-64E fleet for the float account. The CNGB plan provides four more manned and deployable ARBs (24 vice 20) by taking risk in the float account rather than the operational force. The CNGB’s alternative plan would cost approximately \$220M to convert 11 AH-64Ds to AH-64Es over the next 10 years. The most radical HQDA assessment retains a very robust AH-64 float account and procures 115 “new build” AH-64Es for ~\$5B while not converting any of the available AH-64Ds to AH-64Es. A more reasonable Army option would convert the 40 available AH-64Ds and buy 30 more “new builds” for ~\$2B over the next 15 years. This option still provides 24 operational ARBs and balances the risks in the float account and operational force. Other Army aviation procurements would have to be adjusted over the next 10 to 15 years to make room for additional AH-64 conversions and “new builds”, but the UH-60 multi-year production would not be lost, as stated to Congress by proponents of the HQDA’s ARI plan.

(2) The HQDA plans to equip all AC ARBs and Heavy ARSs with AH-64Es. If the ARNG retained six ARBs, each battalion would initially be equipped with a mix of AH-64D Block I and II aircraft. The “D” model still has a viable role in the foreseeable future to support operational requirements. The ARNG can wait on AH-64 modernization until the AC is fully equipped with AH-64Es. Further, the ARNG would seek a reasonable cascade or modernization strategy accepting AC “E” models displaced by a future attack reconnaissance platform or additional “E” models if more modernization funds became available. Cost savings can also be realized through under-equipping ARNG ARBs with 20, 18, or 16 aircraft within a rotational readiness model.

e. Leadership and Education (Minor Impact): Full implementation of ARI will require changes in leader training to ensure ARNG battalion and brigade leaders receive continuing education on Apache and UAS operations. ARNG leaders will move through their careers without routine contact with Apaches and UAS in ARNG ECABs, so without a focused effort, knowledge of Apache and UAS operations will quickly atrophy.

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ARNG leaders would be at a distinct disadvantage when placed in a leadership or staff role that required expertise in ULO.

f. Personnel (Moderate Impact): In accordance with established Army policy, regulations, and federal law, full time support (FTS) resources are distributed to improve readiness and mobilization planning and preparation. A total of six AH-64 equipped ARB MTOEs earn a requirement of approximately 1,080 FTS spaces or 180 per battalion. The two AHBs not yet authorized by MTOE, would earn approximately 252 FTS spaces, 126 per battalion. FTS for these two AHBs could off- set a small part of the FTS requirements for the six ARBs (1,080 - 252 = 828). An estimated 65% funding level for FTS would result in 538 spaces requiring funding. In theory, an Army decision to retain six ARNG ARBs would include the FTS funding to support the readiness of the ARNG ARBs. Whether the ARNG total FTS funding was increased or left at the programmed ARI levels, ARNG G-1 would build the FTS voucher based on MTOE authorizations and spread any FTS funding shortfalls across the entire ARNG. Since the ARNG personnel End Strength (ES) will be capped at a specific level regardless of what reductions are made in the ARNG aviation force, the ARNG pay and allowances costs will be unchanged, and therefore is not a trade space consideration.

g. Facilities (No impact): The ARNG has the necessary ARNG Aviation Support Facilities (AASF), to house and sustain the AH-64 aircraft in the CNGB alternative and would incur no additional costs. The UH-60 and AH-64 footprints are similar, therefore, the space demand is interchangeable within the AASF capacity.

### 5. Trade Space Considerations:

a. As identified above, the resources associated with the third and fourth AHBs programmed for the ARNG could potentially off-set the various costs of two ARBs in the event ARNG retains six ARBs. The other four ARBs would require further off-sets to “fund” the resources needed to own and operate six ARBs under the current Army sizing and budgeting constraints. Exchanging capability by battalion sets is an approach to determine trade space. Resources for MTOE spaces, FTS, OPTEMPO, facilities, and modernization currently existing or programmed for the four new AHBs can be shifted to help retain six ARNG ARBs.

b. A Multi-Component CAB as outlined in the CNGB's alternative is a feasible option to better meet Army aviation requirements and incorporates some of the six ARNG ARBs. The ARNG's AHB structure was the least used capability in past 12 years of conflict, yet the HQDA ARI plan adds more AHB structure while reducing attack/reconnaissance structure (AH-64 and OH-58D units) by 46%. A broader relook at future capabilities, rather than specific organizations and airframes might result in a different outcome regarding flight battalions.

c. Standardization in organizational design is a long-established and beneficial approach. The HQDA ARI plan portrays like aviation brigades in battalion alignment stacks. However, the common practice is for aviation capabilities to be task organized not stacked. AC brigade HQs command ARNG flight battalions and vice versa. A collective training event regimen in the future could allow the Army's brigade HQs the

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scenarios and experience needed to effectively assemble in task organizations to best conduct aviation missions. The affordability of AH-64 new build "E" procurements or additional "D" to "E" conversions can be addressed through prudent sizing of the float account, interim equipping strategies, or permanent organizational design changes.

6. Conclusion: The TAA process can account for six ARNG ARBs or other combinations of aviation attack and non-attack structure. The ARNG unilaterally identifying specific trade space among other capabilities to squeeze six ARBs within a 335K framework is not the best method for a balanced force structure mix. Additionally, it does not account for the benefits and risks for the Total Army. Replacing one capability / structure for another may pose risk to other Army requirements, e.g., transportation, chemical, logistics, or Brigade Combat Teams. The ARNG is prepared to develop a complete an ES plan that retains six ARNG ARBs within the broader context of the next TAA. The TAA decisions set the conditions for the Program Objective Memorandum build that supports the full array of resources needed for all Army units. The ARI plan pulls from the ARNG the established combat element of combat aviation maneuver and adds combat support and combat service support elements. The considerations above along with programmed resources offer a gateway to alternatives for the ARNG to be a combat, combat support and combat service support aviation force like the AC.

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