



**STRATEGY  
RESEARCH  
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**APACHE FORCE STRUCTURE FOR A TWO MAJOR  
THEATER WAR STRATEGY**

**BY**

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**Apache Force Structure for a Two Major Theater War Strategy**

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## **ABSTRACT**

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The national military strategy, as outlined in May of 1997, cites the requirement to win two overlapping major theater wars. One of the key systems in our Army's inventory to accomplish this task is the AH-64 Apache helicopter. This helicopter was a key tool used during the most recent successful military operation our nation has undertaken. The AH-64 Apache will continue to be an integral part of our force structure.

This study looks at the current and projected force structure of AH-64 Apache battalions in the Army and their role in future conflicts. It will address performance during recent conflicts, maintenance reliability, and the impact of the AH-64D Longbow helicopter into the Army and its impact on the Army's ability to provide sufficient assets to win two overlapping major theater wars.



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## HISTORY

On 17 January 1990, at 0238L eight AH-64 Apache attack helicopters from the 1st Battalion, 101st Aviation Regiment, 101st Airborne Division (AASLT), fired the first shots of OPERATION DESERT STORM. These helicopters flew hundreds of miles and entered into Iraq to destroy two radar sites. The objective of this mission was to open an air corridor for nearly 100 coalition aircraft to use on their entry to bomb Baghdad and other key sites in Iraq at the outset of the air campaign. Mission success criteria was 100% of the targets destroyed. This mission was extremely successful, destroying both sites simultaneously. This prevented the Iraqi integrated air defense structure from being fully operational. The resulting gap in the Iraqi early warning radar coverage allowed hundreds of sorties to be flown and only one allied aircraft was shot down during the first day of the air war, despite estimates that would have indicated much more damage to the coalition fleet.

On the morning of 24 February, attack helicopters from the 1<sup>st</sup> Battalion, 101<sup>st</sup> Aviation Regiment conducted an air assault security mission for the largest air assault in history, putting the 1st Brigade (+) into Forward Operating Base (FOB) COBRA. This operation began at 0200 and ended at approximately 1430. At sunset on the same day, Apache helicopters from the same attack helicopter battalion launched reconnaissance into the Euphrates River valley in preparation for the air assault of the 3rd Brigade, which occurred the following day. And again on the third day, attack helicopters from 1<sup>st</sup> Battalion, 101<sup>st</sup> Aviation Regiment provided security for the 3rd Brigade while it blocked Highway 8 in the Euphrates Valley. On the final day of the ground war, these same attack helicopters from the 1<sup>st</sup> Battalion led the air assault which inserted the 2nd Brigade to an objective near Basra, while still conducting security for the 3rd Brigade near Ah

Samawah. The other AH-64 Apache helicopter battalions deployed to OPERATION DESERT STORM conducted equally important and successful missions throughout the campaign.

The AH-64 Apache brings many capabilities to the battlefield. Apache attack helicopter units are strategically and operationally mobile organizations that provide the commander the ability for dynamic maneuver and precision firepower; the ability to attack deep to interdict the enemy, or to protect friendly forces close in. These are essential characteristics that enabled them to be integral to the success of the operations in Iraq and Kuwait. As it was in OPERATIONS DESERT STORM and DESERT SHIELD, the AH-64 Apache will be a key ingredient in executing future military operations in support of the national military strategy.

## **PURPOSE**

The purpose of this paper is to determine if the current and projected force structure of AH-64 Apache battalions is sufficient to meet the demands of the national military strategy. The challenge is multifaceted. Before an analysis of the structure can be made, one must answer the fundamental question: what is the national military strategy as it relates to major theater wars? The key documents relating to this are the National Military Strategy of the United States of America, A National Security Strategy for a New Century, and The Quadrennial Defense Review.

In May 1997, the President of the United States published his national security strategy. The President highlighted six major priorities. Several of these priorities directly impact the national military strategy. First, the desire for a peaceful, stable, secure Europe requires a strong military commitment. Second, the United States must look to Asia and insure the security and prosperity of South Korea. Third, the United States must be involved in the peace process, worldwide, especially in the mid-East. Fourth, the United States must counter proliferation of

weapons of mass destruction and terrorism. And finally, the United States must have the diplomatic and military tools to accomplish these priorities.<sup>1</sup>

Of these priorities several impact on the force structure of the Army. Those are the priorities relating to Europe, Korea or North East Asia, the mid-East or South West Asia. Our Army may be called on, at any time, to support these major policy objectives. How will our military be called to meet these challenges? Though some leaders have attempted to discount the need or feasibility for this option, none the less, it remains our challenge. "Our military forces will have the ability to respond to challenges short of war, and in concert with regional friends and allies, to win two overlapping major theater wars."<sup>2</sup>

Having identified the strategy, this paper will identify potential threats to these priorities for a study of requirements. It will focus on North East Asia, and South West Asia as potential regions where adversaries in a two overlapping major theater war scenario may arise. The analysis will include examples of force structure used in OPERATION DESERT STORM as a model for future major theater wars.

Capabilities will be assessed based on existing force structure, and how we are organized and employ AH-64 Apache battalions. It will examine how the national command authorities tailor attack helicopter forces for a conflict and the capabilities of the AH-64 Apache itself. Factors such as maintenance reliability, numbers of Apache battalions, units of employment, mobility of the AH-64 Apache units will be considered. The AH-64D Longbow Apache must also be considered in the analysis, as its combat power is significantly enhanced over the AH-64A Apache.

## MAJOR THEATER WAR

The ultimate test of our nation's Army is the requirement to respond to a crisis, and then fight and win a major theater war. It will require the full participation of our total force both active and reserve components and it will stretch our attack helicopter capabilities to the limit. <sup>3</sup>

"As a global power with worldwide interests, it is imperative that the United States be able to deter and defeat nearly simultaneous, large-scale, cross border aggression in two distant theaters in overlapping time frames, preferably in concert with regional allies. For the time being, we face this challenge in the Arabian Gulf region and in Northeast Asia. However, should these challenges diminish, this capability is critical to maintaining our global leadership role. Lack of such a capability would signal to key allies our inability to defend our mutual interests thus weakening our alliances and coalitions. Because such weakness would not escape the attention of potential adversaries, it might make two simultaneous crises more likely. "<sup>4</sup>

Fighting and winning two overlapping major theater wars poses many challenges. One of the major challenges is halting an enemy short of his objectives in two theaters in close succession. Failure to do so would increase the difficulty of evicting the adversary in subsequent operations. Additionally, failure to halt the enemy's advance would increase cost, increase the time required to accomplish the mission and most likely weaken coalition support. <sup>5</sup>

Compounding this problem is moving directly into a combat operation from an operation such as the one being conducted in Bosnia at this time. Recently, the National Command Authorities have deployed United States forces to several operations other than war. Commanders must maintain unit's combat skills while conducting these operations or our Army's ability to provide an operational capability to combatant commanders will be diminished.

OPERATIONS DESERT SHIELD AND DESERT STORM exemplify these patterns, and therefore may serve as a vehicle for an inductive analysis of our force structure. Future

operations in the region will most likely involve most or all these characteristics. North East Asia also fits the mold of this concept as well.

## A MODEL

As indicated previously, OPERATION DESERT STORM is our most recent war that can be classified as a major theater war. This example will be explored as a model for force tailoring in supporting the two overlapping major theater war strategy.

Of the available attack helicopter battalions in the Army during the OPERATION DESERT STORM time frame, the Army deployed sixteen battalions to the region. Of these sixteen battalions, fifteen were AH-64A Apache battalions and one was an AH1 battalion. An additional OH-58 Kiowa Warrior squadron was deployed to the theater as well. These units participated in a myriad of operations throughout the duration of the conflict. Attack helicopter units were used in the halt phase of the war, allowing the allied forces to build their resources until an offensive capability existed. With the advent of offensive operations, attack helicopters were used in the air campaign to open an air corridor into Iraq for inbound coalition fighters and bombers. Prior to the beginning of the ground campaign, attack helicopters conducted reconnaissance operations. This reconnaissance included avenues of attack for ground operations and locating forward operating bases for the 101<sup>st</sup> Airborne Division (ASSLT). During the actual ground campaign, attack helicopters conducted missions across the spectrum of operations. These included deep attacks to interdict enemy forces, close combat operations in support of ground maneuver, air assault security missions and reconnaissance. "Throughout the fight... Army attack helicopters... hammered the Iraqis."<sup>6</sup>

"Army AH-64 Apache attack helicopters, long vilified by the media and the Government Accounting Office (GAO) for supposedly being unreliable and by the media and GAO for being

ineffective, executed repeated deep strikes into the Iraqi rear, day and night, to destroy vehicles that were attempting to escape from the theater of operations.”<sup>7</sup> In actuality, the AH-64 Apache helicopter performed magnificently and the units equipped with this helicopter maintained readiness rates that exceeded Department of the Army standards. The highest of these readiness rates were realized during January and February of 1991, during the most intense phase of the conflict.<sup>8</sup> See Table 1.

**Apache Readiness**

<u>Month</u>	<u>Mission Capable Rate</u>
Aug 90	78%
Sep	84%
Oct	78%
Nov	79%
Dec	84%
Jan 91	79%
Feb	85%
Mar	84%

Table 1. Apache Mission Capable Rates

Readiness figures, for the attack helicopter units in OPERATIONS DESERT SHIELD and DESERT STORM, indicate that the units maintained an average of over eighty-one percent during these operations. Attack helicopter battalions significantly enhanced the commander’s ability to prosecute the war.

These forces were deployed along with their respective Corps, Divisions and Brigades. See Table 2. The major forces deployed to the theater for the operation were the XVII Airborne Corps, the VII Corps, and elements from V Corps and III Corps.

## **OPERATION DESERT STORM**

### VII Corps

1<sup>st</sup> Armored Division

3<sup>rd</sup> Armored Division

1<sup>st</sup> Cavalry Division

1<sup>st</sup> Infantry Division

### XVIII Corps

101<sup>st</sup> Airborne Division (AASLT)

82<sup>nd</sup> Airborne Division

24<sup>th</sup> Infantry Division

Table 2. Major Forces, OPERATION DESERT STORM

Each major ground organization, corps and division took its organic attack helicopter battalions plus four additional AH-64A Apache battalions. See Table 3 for Aviation forces deployed to OPERATION DESERT STORM.

### **Attack Helicopter Forces**

2-1 Aviation Regiment (AH-64)	1-1 Aviation Regiment (AH-64)
3-1 Aviation Regiment (AH-64)	1-24 Aviation Regiment (AH-64)
2-227 Aviation Regiment (AH-64)	1-82 Aviation Regiment (AH-64)
1-3 Aviation Regiment (AH-64)*	1-101 Aviation Regiment (AH-64)
1-227 Aviation Regiment (AH-64)	3-101 Aviation Regiment (AH-1)
2-6 Cavalry Regiment (AH-64)	2-229 Aviation Regiment (AH-64)
4-229 Aviation Regiment (AH-64)	5-6 Cavalry Regiment (AH-64)*
3-227 Aviation Regiment (AH-64)*	4-17 CAV (OH-58 D KW)
5-229 Aviation Regiment (AH-64)*	

Table 3. Attack Helicopter Forces, OPERATION DESERT STORM.

While primarily used for reconnaissance, air cavalry squadrons do bring operational and limited attack capability to the maneuver commander and have some impact on the level of



capabilities available. However, due to the operational requirements for the squadrons, they do not contribute to the attack operations in the same way AH-64 equipped attack helicopter battalions do. Of particular note in the aviation forces listed, is the fact that attack helicopter forces from V Corps and divisional attack helicopter battalions from units that did not deploy were used in this operation. (\* See Table 3.)

These forces represented over half of the Army's total attack helicopter forces. More importantly, they represented over seventy-three percent of the AH-64 Apache battalions in the force structure at that time and over eighty-three percent of the AH-64 Apache battalions in the Active Component. Today the OPERATION DESERT STORM attack helicopter force represents fifty-two percent of our total Army force. Additionally, the Apache battalion in the 82<sup>nd</sup> Airborne Division has been re-equipped with OH-58 Kiowa Warriors in lieu of the previously existing AH-64 Apaches.

## **FORCE STRUCTURE**

The previous section detailed the attack helicopter forces deployed to South West Asia to participate in OPERATION DESERT STORM. Let us now examine existing force structure. Currently the Army has thirty-three attack helicopter battalions in its force structure. These units are in all components of the Army: Active, Reserve and National Guard. Additionally, all are not configured or equipped in the same manner and all are not trained to the same level of readiness. Of the thirty-three attack battalions, twenty-two are AH-64 Apache battalions, two OH-58 Kiowa Warrior battalions, and nine are AH-1 Cobra battalions.<sup>9</sup>

Of the twenty-two AH-64 Apache Battalions, seventeen are organized as active duty battalions and four are in the National Guard and one is in the Army Reserve. All OH-58 Kiowa

Warrior battalions are active duty battalions. Of the nine AH-1 Cobra battalions, one is an active duty battalion and two are National Guard battalions, and six are Army Reserve battalions.<sup>10</sup>

Attack helicopter battalions are allocated in the Army by major force structure. Each division is authorized a single attack helicopter battalion, with the exception of the 101<sup>st</sup> Airborne Division (AASLT) which is allocated three. Corps units are usually authorized two attack battalions but there are some existing force structure shortfalls. Table 4 lists the current attack helicopter battalions, their unit and component.

<u>Battalion</u>	<u>Unit</u>	<u>Component</u>
1-25 <sup>th</sup> (AH-1)	25 <sup>th</sup> ID	Active
1-211 <sup>th</sup> (AH-1)	40 <sup>th</sup> MD	NG
1-149 <sup>th</sup> (AH-1)	49 <sup>th</sup> AD	NG
1-104 <sup>th</sup> (AH-1)	28 <sup>th</sup> AD	AR
3-134 <sup>th</sup> (AH-1)	34 <sup>th</sup> MD	AR
1-135 <sup>th</sup> (AH-1)	35 <sup>th</sup> MD	AR
1-238 <sup>th</sup> (AH-1)	38 <sup>th</sup> MD	AR
1-142 <sup>nd</sup> (AH-1)	42 <sup>nd</sup> MD	AR
1-150 <sup>th</sup> (AH-1)	29 <sup>th</sup> ID	AR
1-82d (OH-58KW)	82 <sup>nd</sup> Abn	Active
1-10 <sup>th</sup> Aviation (OH-58KW)	10 <sup>th</sup> Mtn	Active
1-501 <sup>st</sup> (AH-64)	1 <sup>st</sup> AD	Active
1-227 <sup>th</sup> (AH-64)	1 <sup>st</sup> CD	Active,
1-1 <sup>st</sup> (AH-64)	1 <sup>st</sup> MD	Active
1-2 <sup>nd</sup> (AH-64)	2 <sup>nd</sup> ID	Active
1-3 <sup>rd</sup> (AH-64)	3 <sup>rd</sup> MD	Active
1-4 <sup>th</sup> (AH-64)	4 <sup>th</sup> MD	Active
1,2,3-101 <sup>st</sup> (AH-64)	101 <sup>st</sup> AASLT	Active
1-285 <sup>th</sup> , 1-151 <sup>st</sup> , 1-183 <sup>rd</sup> (AH-64)	I Corps	NG
8-229 <sup>th</sup> , 1/6 <sup>th</sup> , 3/6 <sup>th</sup> (AH-64)	III Corps	AR, Active, Active
2/6 <sup>th</sup> , 6/6 <sup>th</sup> (AH-64)	V Corps	Active
1-229 <sup>th</sup> , 3-229 <sup>th</sup> , 1-130 <sup>th</sup> (AH-64)	XVIII Corps	Active, Active, NG
1-111 <sup>th</sup> , 7-6 <sup>th</sup>	not aligned	NG, NG

Table 4. Current Attack Helicopter Battalions and Component

## FORCES FOR THE NATIONAL MILITARY STRATEGY

In order to keep the paper in an unclassified mode, two OPERATION DESERT STORM models will be used to allocate forces instead of classified force listings for either of the regions identified in the National Military Strategy of the United States. The national security strategy clearly states that the United States has a responsibility in Europe. Even during OPERATION DESERT STORM, we did not abandon our commitments there. Currently, attack helicopter units are deployed to Bosnia. These units could be removed from the theater and deployed to a major theater of war, but that is problematic for two reasons. First, it is highly likely that they will require training for combat operations after conducting operations other than war for an extended period of time. Secondly, there will still exist a requirement for their capabilities in Bosnia. With the recent announcement by the President, it is quite likely that the United States Army will have an attack helicopter battalion in that region indefinitely. Even though the national military strategy says we may disengage from areas that are not in our vital interests, this must figure into the force equation.

In an analysis of the forces required for the two major theater wars, we see that by applying the DESERT STORM model, each major theater requires the equivalent operational capability of seventeen attack helicopter battalions/squadrons. As stated before, this is 15 Apache battalions, 1 Cobra battalion and one Kiowa Warrior battalion. Doubling this number for two major theater wars brings the subtotal to 34 battalions in raw numbers. In the Balkans or a similar region, there is a probability that another battalion would be employed or that it would take too long to disengage it, train and redeploy it to another theater. This brings the total requirement for attack helicopter battalions to thirty-four or thirty-five battalions. On sheer numbers, the force structure is short a minimum of one battalion and maybe two. This shortfall is exacerbated by

several factors. These major factors are equipment and training disparities. Again, applying the DESERT STORM model, the Army has a requirement for thirty AH-64 Apache battalions. It only has twenty-two in its current inventory. This leaves an operational shortfall, as AH-1 and OH58 KW units are not nearly as capable as the AH-64 units. Specific shortfalls include the ability to interdict the enemy deep, volume of precision fires, and battlefield survivability.

While the Commanche may help offset this shortfall, it is needed to fix armed reconnaissance shortfalls first. The current world and national situation make it likely that no more attack helicopter forces will be fielded. To address this shortfall in capability, the United States Army developed and is fielding the AH-64D Longbow Apache. Let us now assess what the AH-64D Longbow Apache provides to offset this shortfall.

### **Longbow Apache**

Up to this point, this paper has only considered AH-64 Apache battalions employing AH-64A model attack helicopters and in some cases in OPERATION DESERT STORM, an AH1 equipped battalion. Beginning in FY 98, AH-64D Longbow Apache helicopter battalions will be integrated into the field Army. Due to this important change in the Army's force structure, one must assess the relative effectiveness of the AH-64D Longbow Apache in relation to the effectiveness of the AH-64A Apache, and its impact on the warfighting Commanders in Chief's ability to execute the national military strategy.

In August 1995, the Training and Doctrine Command (TRADOC) Analysis Center, White Sands Missile Range (TRAC-WSMR) published its Longbow Milestone III, Cost and Operational Effectiveness Analysis (COEA). The scope of this analysis was to conduct a cost effectiveness analysis of different alternative helicopter mixes in heavy attack helicopter battalions. The study used North East Asia and South West Asia as a basis for theaters of operations. Multiple

scenarios used various environmental conditions such as day or night and fair or adverse weather. Additionally, actual unit missions were modeled across the spectrum of missions from units in a defensive scenario to the conduct of a deep attack.<sup>11</sup>

The warfighting force structure used during the analysis was similar to our standing Army. Heavy divisions were allocated one attack helicopter battalion. Corps units were allocated two additional attack helicopter battalions. A mission ready rate of 75% was used for division level units and 100% mission ready rate was used for corps level operations. Similar weapons loads were used on the various attack helicopters based on the technological capabilities of the respective airframes.<sup>12</sup> The primary comparison during this study was between the AH-64 Longbow Apache and the AH-64A Apache helicopter.<sup>13</sup>

The AH-64D Longbow provides a significant performance increase over the AH-64A Apache. The most significant improvement is in survivability and lethality. The other significant performance improvements are an increased situational awareness, fire and forget missiles, low scan times, high rate of fire and increased operational envelope.<sup>14</sup>

In a typical North East Asia scenario, the AH-64D Longbow showed a 69% increase in performance effectiveness at a range of seven kilometers. Based on the figures in this scenario, the AH-64A Apache helicopter equipped battalion kill ratio varied from almost 20:1, to a low of approximately 2:1. In comparison, the AH-64D Longbow helicopter equipped battalion remained consistent at approximately 30:1 over the spectrum of test ranges in varying conditions.<sup>15</sup> In this scenario, the AH-64D Longbow helicopter provides a quantum leap in capability for the division and corps commander executing national policy.

In similar simulations run in a South West Asia scenario, the AH-64D Longbow equipped helicopters enjoyed similar performance effectiveness increases. In this scenario, the AH-64A Apache helicopter equipped battalions achieved a ratio of approximately 20:1 at a range of five kilometers. However, this ratio was drastically reduced when the range was decreased from five kilometers to two kilometers. The resultant ratio at this range was only 2:1. The AH-64D Longbow achieved ratios of 66:1 and 56:1 respectively.<sup>16</sup>

While only two of the many scenarios used in the study are cited, similarly large performance increases were realized in all variations of scenarios used. The primary reason for this increased effectiveness can be attributed to the AH-64D Longbow advantage of the Fire Control Radar. This Fire Control Radar allowed the AH-64D Longbow crews to achieve "faster target acquisition, better distribution of fires, and a greater rate of fire."<sup>17</sup> With the AH-64D Longbow on the battlefield, division and corps commanders are better able to go deep and interdict threat forces...<sup>18</sup> Table 5 shows the findings of the study in reference to the effectiveness of the AH-64D Longbow equipped helicopter battalions in division and corps scenarios.

### **Findings: SWA (Operational Effectiveness Analysis)**

#### **Corps and Division**

Longbow Increases Deep Operations Capability

Increased Survivability for Attack Helicopter Battalions and Overall Force

Longbow Improves Battle Management

Adverse Weather has Less Effect on Longbow

Increase Fielding of Longbow Improves Effectiveness

Table 5. South West Asia Findings

In all South West Asia scenarios, the AH-64D Longbow equipped helicopter battalions showed a significant improvement in effectiveness over the AH-64A Apache equipped helicopter battalions. These included: rate of target acquisition, rate of fire, range of acquisition, robustness in adverse weather conditions, information and target handoff capability and survivability. Results in the North East Asia scenarios are completely consistent with the South West Asia scenario, except that the gains achieved at the corps level were much less. The major factor in the reduction of effectiveness in that scenario was the major role played by air forces and artillery in the deep battle during that variation.<sup>19</sup>

None the less, the cited Cost and Operational Effectiveness Analysis clearly indicates a performance increase with the advent of the AH-64D Longbow equipped attack helicopter battalion. The realized effectiveness increase affects the ability of our Army to execute the national military strategy both directly and indirectly.

The direct impact can be realized in the increased combat power available to division and corps commanders. These increases are both in survivability and lethality. "Longbow increases the division and corps commanders' capability to interdict Threat forces deep, reducing the opportunity for the Threat to reinforce and increases the opportunity for the Blue Force to maintain its momentum."<sup>20</sup> However, due to the methods by which we allocate forces to battle and the way we doctrinally fight AH-64 Apache battalions, we may not realize the full potential of the Longbow Apache.

Another consideration in reducing the number of attack helicopters in our formations is losses. A key analysis tool is the Loss Exchange Ratios (LER). LERs are defined as the number of kills achieved by the AH-64 Apache to the number of AH-64 Apaches losses. The LER ratio is

equivalent to the AH-64D Longbow LERs normalized to the AH-64A LERs. In one instance during the IOTE, the AH-64D lost no aircraft and the resultant ratio would be meaningless, as any number divided by zero is infinity. In this case though, there were 11.5 AH-64D Longbow kills for zero losses (after normalization). The comparable LER ratio for the AH-64A Apache in this scenario was 7.5:1.02. When one compares all the analysis in the COEA and the IOTE studies, the AH-64D Longbow measures out between three and four times more effective than the AH-64-A Apache helicopter.<sup>21</sup> This is a significant increase in combat capability available to the commander and also may indicate the commander can do more with less.

The battalion is the basic fighting unit of attack helicopter organizations. The battalion's entire structure is based on this premise. All key functions (command, staff, crewing, maintaining and sustainment) are organized to fight as a battalion. There are many key military occupational specialties (MOS) that are low density. The findings of the COEA show that a Longbow Apache company has the operational capability of a current Apache battalion (and therefore greater than that of an AH-1 or OH-58 KW battalion / squadron). However, the cited factors preclude the move to using the company as the basic unit of combat for attack helicopter units.

## **RECOMMENDATION**

If the Army were to fund low cost initiatives to allow the Army Reserve attack helicopter battalions to deploy as companies, we would add 12 battalion equivalents to our force structure. This could provide a potential solution to the force structure shortfall. Much work would need to be done in resourcing, organizing, and training to deploy as companies (battalion equivalents with AH-64D) but the capability gained at relatively low cost would be significant.



## CONCLUSIONS

Currently, the United States does not have the operational capability to resource the requirements of the national military strategy. Based on the OPERATION DESERT STORM model, this would require the capabilities of thirty AH-64 Apache battalions, two OH-58 KW battalions, and two AH-1 Cobra battalions, with the potential for an additional attack helicopter battalion in an operation other than war. As indicated in the Force Structure section, the Army does not have this capability with a shortfall of eight Ah-64 Apache battalions. While it does have an excess of seven AH-1 battalions, these units do not have the operational capability to replace AH-64 Apache battalions one for one.

The introduction of the AH-64D Longbow, brings additional operational capability to our Army. Figures provided in the analysis of the COEA show that the AH-64D Longbow Apache to be in the area of three times as effective as the AH-64A Apache is on the battlefield. On the surface, this might appear to solve the shortfall in attack helicopter forces. However, there are major constraints when applying this force due to the way the Army currently allocates and employs attack helicopter forces during a conflict. Though beyond the focus of this paper, to realize the full potential of the AH64D Longbow Apache, consideration must be given to the method by which we allocate attack helicopter battalions to major maneuver forces. Additionally, we must reconsider the basic unit of employment of Longbow Apaches. It may be time for the company to be the basic unit as opposed to the battalion. However, this will require significant review of doctrine and organization. Until the method for this is adjusted, we will not realize the full added benefits of the increased operational capability provided by the AH-64D Longbow Apache and the Army cannot meet the requirements of the national military strategy.

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## ENDNOTES

- <sup>1</sup> William J. Clinton, A National Security Strategy for a New Century (The White House, Washington, DC, 1997), i-ii.
- <sup>2</sup> Ibid., 5.
- <sup>3</sup> Ibid., 12.
- <sup>4</sup> John M. Shalikashvili, National Military Strategy of the United States of America (1997), 15, 16.
- <sup>5</sup> Ibid., 16.
- <sup>6</sup> Thomas D. Dinackus, OPERATION DESERT STORM Allied Ground Forces Order of Battle, 2<sup>nd</sup> ed. (Alexandria, VA: 1996), 6.
- <sup>7</sup> Ibid.
- <sup>8</sup> Tim Neuman, Office of the Apache Program Manager, telephone interview by author, 30 March 1998.
- <sup>9</sup> Steve Mauro, LTC, DAMO -FDV, telephone interview by author, 30 March 1998.
- <sup>10</sup> Ibid.
- <sup>11</sup> Department of the Army, Longbow Milestone III Cost and Operational Effectiveness Analysis (FT Monroe, VA: Training and Doctrine Command, August 1995) iii.
- <sup>12</sup> Ibid., 4.
- <sup>13</sup> Ibid., 8.
- <sup>14</sup> Ibid., 22.
- <sup>15</sup> Ibid., 30.
- <sup>16</sup> Ibid., 36.
- <sup>17</sup> Ibid., 42.
- <sup>18</sup> Ibid., 46.
- <sup>19</sup> Ibid., 98.
- <sup>20</sup> Ibid., 51.
- <sup>21</sup> Ibid., 88.



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