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May 21, 2007

The Honorable Solomon P. Ortiz  
Chairman  
The Honorable Jo Ann Davis  
Ranking Member  
Subcommittee on Readiness  
Committee on Armed Services  
House of Representatives

Subject: *Defense Infrastructure: Full Costs and Security Implications of Cheyenne Mountain Realignment Have Not Been Determined*

The Department of Defense (DOD) built the Cheyenne Mountain Operations Center<sup>1</sup> located near Colorado Springs, Colorado, in the early 1960s to withstand a multimegaton-yield-weapon strike and to provide protection against chemical and biological warfare. The mission of the Cheyenne Mountain Directorate is to monitor, process, and interpret air, missile, and space events that could threaten North America or have operational effects on U.S. forces or capabilities. This mission is conducted at five major centers—the Command Center, Air Warning, Missile Correlation, Operations Intelligence Watch, and Space Control—all currently located within Cheyenne Mountain. Elements of United States Strategic Command (USSTRATCOM)<sup>2</sup> and Air Force Space Command<sup>3</sup> are also located in Cheyenne Mountain. The Air Force’s modernization of the attack warning systems within Cheyenne Mountain will cost more than \$700 million from fiscal years 2000 through 2006.<sup>4</sup>

Peterson Air Force Base, also located in Colorado Springs, Colorado, is the headquarters of United States Northern Command (USNORTHCOM) and the North American Aerospace Defense Command (NORAD). NORAD is a binational U.S. and Canadian organization staffed by both U.S. and Canadian personnel. The Commander of USNORTHCOM is also the Commander of NORAD and he currently has command

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<sup>1</sup>The Cheyenne Mountain Operations Center is now known as the Cheyenne Mountain Directorate. It is one of several tenants that compose the Cheyenne Mountain Air Force Station near Colorado Springs, Colorado.

<sup>2</sup>USSTRATCOM conducts the missile warning mission for North America.

<sup>3</sup>Air Force Space Command conducts the space control mission for North America.

<sup>4</sup>GAO, *Defense Acquisitions: Further Management and Oversight Changes Needed for Efforts to Modernize Cheyenne Mountain Attack Warning Systems*, GAO-06-666 (Washington, D.C.: July 6, 2006).

of two fixed command centers.<sup>5</sup> The NORAD and USNORTHCOM Command Center is located at Peterson Air Force Base and conducts air, land, maritime, and homeland defense operations, as well as defense support of civil authorities. The command center in Cheyenne Mountain is a NORAD and USNORTHCOM command center that provides air, missile, and space warning, characterization, and assessment for NORAD, USNORTHCOM, and USSTRATCOM as well as command and control for the ground-based mid-course missile defense program.

DOD officials have stated that they no longer need to continue operating in this hardened facility considering that the threat of an intercontinental ballistic missile strike in today's environment is low. In July 2006, the former Commander of NORAD and USNORTHCOM<sup>6</sup> announced plans to move certain functions from Cheyenne Mountain and create an integrated command center at Peterson Air Force Base, which he projected at that time would save between \$150 million and \$200 million per year. Additionally, USSTRATCOM announced plans to relocate its missile warning mission from Cheyenne Mountain to Schriever Air Force Base, Colorado, and Air Force Space Command is in the process of moving the Space Control Center from Cheyenne Mountain to Vandenberg Air Force Base, California. NORAD and USNORTHCOM officials told us that after these functions have been moved, Cheyenne Mountain will be used as an alternate command center, a continuity of operations relocation facility, and a training center.

You asked us to determine (1) the estimated costs, savings, and benefits associated with moving functions from Cheyenne Mountain to other locations; and (2) how DOD evaluated the security implications associated with moving the functions, and what these implications are. On March 13, 2007, we provided your office with a briefing on our preliminary observations regarding the proposed relocation. This report summarizes the results of that briefing and provides updated information as a result of additional work we have performed since that time.

To determine the costs, savings, and benefits associated with the proposed relocation of functions from Cheyenne Mountain, we reviewed and analyzed reports and studies conducted by NORAD and USNORTHCOM, Sandia National Laboratories<sup>7</sup> and Lockheed Martin<sup>8</sup> on the costs and implications of relocating functions from Cheyenne Mountain, and we interviewed NORAD and USNORTHCOM officials to identify the expected benefits of the relocation. We also interviewed USSTRATCOM and Air Force Space Command officials to identify the costs, savings, and benefits associated with the relocation of their functions from Cheyenne Mountain. We also interviewed USNORTHCOM and Air Force budget analysts to determine how the cost estimates were developed and validated. Based on these interviews, we believe that the cost data are sufficiently reliable for our purposes. To determine the security implications of the relocation and how they were evaluated by DOD, we reviewed

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<sup>5</sup>The Commander also has a mobile consolidated command center based at F.E. Warren Air Force Base, Wyoming.

<sup>6</sup>The new NORAD and USNORTHCOM Commander was sworn in on March 23, 2007.

<sup>7</sup>Sandia National Laboratories, a federally funded research center, was tasked to study the security implications of four options for moving missions from Cheyenne Mountain to Peterson Air Force Base.

<sup>8</sup>Lockheed Martin conducted this study under contract with the Electronic Systems Center. The Electronic Systems Center, a component of Air Force Materiel Command, manages the development and acquisition of electronic command and control systems for the Air Force.

vulnerability assessments and risk assessments conducted by USNORTHCOM and a security analysis conducted by Sandia National Laboratories for the proposed relocation of NORAD and USNORTHCOM functions, and we discussed these assessments and others that are ongoing and their potential effect on operations with NORAD, USNORTHCOM, and Air Force Space Command officials, and the Joint Staff. We conducted our review from January 2007 through May 2007 in accordance with generally accepted government auditing standards.

## Summary

NORAD and USNORTHCOM could not provide documentation to support the \$150 million to \$200 million savings projected by the former Commander from moving functions from Cheyenne Mountain to Peterson Air Force Base. As of April 2007, NORAD and USNORTHCOM officials have identified at least \$41.7 million in onetime costs and \$5.5 million in recurring costs related to the move; however, the full costs will not be determined until the completion of ongoing security assessments. NORAD and USNORTHCOM officials stated that they expect increased unity of effort and operational efficiencies as a result of the integration. Although there is no requirement for it, NORAD and USNORTHCOM have not done an analysis of the operational effects—both positive and negative—of the move. In fiscal years 2006 and 2007, NORAD and USNORTHCOM allocated \$26.7 million for conducting studies, purchasing needed equipment related to the relocation, and renovating the command center at Peterson Air Force Base. Renovation of the command center is scheduled to begin in June 2007 and be completed in December 2007. NORAD and USNORTHCOM officials are planning to allocate \$15 million in fiscal year 2008 to purchase the remaining equipment for the integrated command center and program management support. Additional costs will likely be incurred based on the results of ongoing studies related to security requirements. Moreover, Air Force Space Command officials estimate that it will cost about \$13 million to move their functions to Vandenberg Air Force Base, but USSTRATCOM has not yet developed a cost estimate for relocating their functions from Cheyenne Mountain to Schriever Air Force Base.

The Commander of NORAD and USNORTHCOM decided to accept the risk of integrating the command centers based on initial risk and vulnerability assessments, but the full security implications will not be known until ongoing security assessments are completed and a protection level is designated for the integrated command center.<sup>9</sup> While initial security assessments provided information on vulnerabilities based on current and projected threats, further assessments were needed to evaluate the cost of hardening computer terminals against electromagnetic pulse and to evaluate the physical security requirements of protecting the integrated command center. Before the Air Force can designate a protection level for the new command center, the Commander of NORAD and USNORTHCOM must decide whether key computer terminals will move to Peterson Air Force Base or remain in Cheyenne Mountain. According to NORAD and USNORTHCOM officials, this decision will be made after a study on electromagnetic pulse hardening requirements

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<sup>9</sup> The Air Force must designate a protection level for the functions moving into the integrated command center pursuant to Air Force Instruction 31-101, *The Air Force Installation Security Program* (Mar. 1, 2003).

is completed in late May 2007. Moreover, a System Effectiveness Assessment, scheduled for completion in September 2007, will provide information on the physical security needed to protect the Cheyenne Mountain systems that may be replicated at Peterson Air Force Base. According to NORAD and USNORTHCOM officials, it could take up to 24 months to obtain the resources needed to meet the designated protection level requirements. If requirements for the designated protection level cannot be met because of funding and resource constraints, waivers will be needed to begin operations or specific systems may remain in Cheyenne Mountain.

We believe Congress should consider restricting DOD's authority to use funds to renovate all proposed locations to accept functions designated to move out of Cheyenne Mountain until such time as all security analyses are complete, the full costs of the move are determined, and DOD provides Congress with an analysis of the operational effects of the proposed realignments.

## **Background**

Currently, there is a NORAD and USNORTHCOM command center located at Peterson Air Force Base and a NORAD and USNORTHCOM command center located inside Cheyenne Mountain. Command staff are presently located in each of the separate command centers. Cheyenne Mountain's mission is to monitor, process, and interpret air, missile, and space events that could threaten North America or have operational effects on U.S. forces or capabilities, using air, ground, and space-based sensors that link to the complex's computer systems located more than 2,000 feet under ground. This mission is conducted at five major centers within Cheyenne Mountain—the Command Center, Air Warning, Missile Correlation, Operations Intelligence Watch, and Space Control—by approximately 658 people, including support personnel. These personnel belong to NORAD, USNORTHCOM, USSTRATCOM, and Air Force Space Command, as shown in table 1.

**Table 1: Realignment of U.S. Military and Civilian Personnel in Cheyenne Mountain**

| Command                                     | Number of personnel   |                       |                                   |                                 | Positions eliminated |
|---------------------------------------------|-----------------------|-----------------------|-----------------------------------|---------------------------------|----------------------|
|                                             | Currently in mountain | Remaining in mountain | Moving to Peterson Air Force Base | Moving to other Air Force Bases |                      |
| NORAD <sup>a</sup>                          | 112                   | TBD                   | TBD                               | 0                               | 0                    |
| Northern Command (USNORTHCOM) <sup>b</sup>  | 42                    | 24                    | 18                                | 0                               | 0                    |
| Strategic Command (USSTRATCOM) <sup>c</sup> | 81                    | TBD                   | 17                                | TBD                             | TBD                  |
| Air Force Space Command                     | 160                   | 0                     | 12                                | 138                             | 10                   |
| Air Force Space Command support personnel   | 263                   | 263                   | 0                                 | 0                               | 0                    |
| <b>Total<sup>d</sup></b>                    | <b>658</b>            | <b>TBD</b>            | <b>TBD</b>                        | <b>TBD</b>                      | <b>TBD</b>           |

Source: USNORTHCOM, NORAD, USSTRATCOM, Air Force, and GAO calculation.

Notes: TBD = to be determined.

<sup>a</sup>NORAD has not yet determined the number of personnel that are remaining in the mountain and those moving to Peterson Air Force Base.

<sup>b</sup>USNORTHCOM positions remaining in Cheyenne Mountain are for Nuclear Command and Control.

<sup>c</sup>NORAD and USNORTHCOM have formally requested that USSTRATCOM transfer 17 positions to Peterson to support NORAD’s correlation of potential missile and space threats to North America.

<sup>d</sup>Contractor personnel are not included in the table. There are also 28 Canadian personnel currently working in Cheyenne Mountain.

No final decisions have been made as to how many personnel will remain in the mountain, move to Peterson Air Force Base, or move to other locations. There are also approximately 500 contractors in Cheyenne Mountain providing support to each of the major centers. It has not been determined how many of these contractors will be retained in the mountain after the relocation.

During a series of major exercises conducted in 2005, the Commander of NORAD and USNORTHCOM attempted to direct planning, operations, and command and control from two separate command centers. In the course of the exercises, the Commander identified shortcomings in unity of effort due to the geographic separation of the command centers and negatively affecting critical, time-sensitive decisions. As a result, in late 2005, the Commander of NORAD and USNORTHCOM directed a senior command official to analyze options for correcting these shortcomings and to determine the limitations and costs of duplicating Cheyenne Mountain capabilities within the NORAD and USNORTHCOM Command Center at Peterson Air Force Base. This analysis concluded that it would be cost-prohibitive to duplicate Cheyenne Mountain capabilities at Peterson Air Force Base. The Commander then tasked the official to analyze options to “replicate,” rather than duplicate, capabilities of the two command centers in a single location.<sup>10</sup> This analysis considered the following four options: a single command center at Peterson, a single command center at Cheyenne

<sup>10</sup>USNORTHCOM officials told us that in this context, replicating capabilities means leaving computer servers, equipment, and infrastructure in the mountain and digitally sending the information to the NORAD and USNORTHCOM Command Center at Peterson. Duplicating capabilities would involve moving the servers, equipment, and infrastructure.

Mountain, a Net-centric battle cab, or two separate command centers. The analysis concluded that a single command center at Peterson Air Force Base was the only option that provided the physical space required and strengthened unity of effort between the commands.

In February 2006, the NORAD and USNORTHCOM Commander ordered a study to determine how best to establish a NORAD and USNORTHCOM Command Center at Peterson Air Force Base and place the Cheyenne Mountain Directorate in “warm standby” status. The completed study<sup>11</sup> outlined a plan to move the air warning, missile correlation, and command center functions out of Cheyenne Mountain but to leave the core computer systems there, from which they would transmit their data to Peterson Air Force Base. The Air Force must designate a protection level for the functions moving into the integrated command center. The protection level system identifies specific requirements for each security level and recognizes that the users must accept varying degrees of risk. If resources are not available to meet the assigned protection level requirements, the Commander must request waivers from the security requirements until corrections can be made.<sup>12</sup> Renovation of the integrated command center at Peterson is scheduled to begin in June 2007 and be completed in December 2007. Full operational capability is planned for May 2008.

Once the functions and their associated personnel are moved, NORAD and USNORTHCOM officials told us that they plan to use Cheyenne Mountain as an alternate command center that could become fully functional within approximately 1 hour, with adequate warning, if a threat situation so dictated. Additionally, the nuclear command and control function for USNORTHCOM will remain in the mountain and the computer systems remaining will be used to train and certify personnel.

According to Joint Staff officials, the Commander of NORAD and USNORTHCOM has the authority under Title 10 of the United States Code to make decisions affecting his command—including changing the location of command and control—as long as he performs his mission as described in the Unified Command Plan. Our review of Title 10 confirms that a commander of a combatant command, unless otherwise directed by the President or the Secretary of Defense, has the authority to perform such command functions as organizing commands and forces within that command as he considers necessary to carry out the missions assigned to the command.<sup>13</sup> According to USNORTHCOM officials, the Commander of NORAD and USNORTHCOM consulted with the Chairman of the Joint Chiefs of Staff, the Secretary of Defense, and the Canadian Chief of Defence Staff about his plan to move certain functions out of Cheyenne Mountain, and he received their verbal concurrence. Moreover, the Secretary of Defense stated in a February 2006 memo to the Commander of NORAD and USNORTHCOM that he liked the Commander’s approach to place the mountain in “warm standby” and achieve a range of cost savings.

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<sup>11</sup>U.S. Northern Command, *The NORAD-USNORTHCOM Transformation Analysis Report* (Colorado Springs, Colo.: July 2006).

<sup>12</sup> Air Force Instruction 31-101, *The Air Force Installation Security Program*, §6.3.2 (Mar. 1, 2003).

<sup>13</sup>10 U.S.C. §164.

USSTRATCOM and Air Force Space Command also have functions in Cheyenne Mountain that are moving to other locations. USSTRATCOM has about 81 people in Cheyenne Mountain for its missile warning mission. Of these 81 people, NORAD and USNORTHCOM have formally requested that USSTRATCOM transfer 17 positions to Peterson to provide some missile warning continuity, while an undetermined number of personnel will move to Schriever Air Force Base in early 2008. Likewise, Air Force Space Command officials told us that they are in the process of moving about 138 people in the space control center and unified space vault to Vandenberg Air Force Base. This move is scheduled to be completed by October 2007.

### **No Savings Result from Proposed Relocation and Estimated Costs Have Not Been Fully Determined**

NORAD and USNORTHCOM could not provide documentation to support the \$150 million to \$200 million savings projected by the previous Commander by moving functions from Cheyenne Mountain to Peterson Air Force Base. As of April 2007, NORAD and USNORTHCOM officials have identified \$41.7 million in onetime and \$5.5 million in recurring costs related to the move so far; however, the full costs will not be determined until the completion of ongoing security assessments. NORAD and USNORTHCOM officials stated that they expect the relocation to result in increased unity of effort and, consequently, improved operational efficiencies. Although there is no requirement for it, NORAD and USNORTHCOM have not done an analysis of the operational effects—both positive and negative—of the move. While Air Force Space Command has identified approximately \$13 million in costs to move its mission to Vandenberg Air Force Base, USSTRATCOM has not yet determined the costs to move its mission to Schriever Air Force Base.

#### NORAD and USNORTHCOM Relocation

NORAD and USNORTHCOM do not know the full costs of moving functions from Cheyenne Mountain to Peterson Air Force Base because two security assessments that will determine the recommended security upgrades are still underway. As of April 2007, NORAD and USNORTHCOM have identified about \$41.7 million in onetime costs needed to integrate the two command centers at Peterson Air Force Base, comprising

- \$8.1 million in fiscal year 2006 for various studies related to the relocation and for purchasing equipment needed to replicate some computer systems;
- \$18.6 million in fiscal year 2007 for renovating the existing command center at Peterson Air Force Base to accommodate the functions being relocated from Cheyenne Mountain, for additional study costs, and for completing computer purchases; and
- \$15 million for fiscal year 2008 to complete communications and systems equipment purchases and program management support.

In addition, NORAD and USNORTHCOM officials estimate that approximately \$5.5 million will be needed annually to operate and maintain the computer systems and to provide help desk support once the integrated command center is operational.

There are no short-term cost savings from relocating functions from Cheyenne Mountain. However, NORAD and USNORTHCOM officials stated that certain transformational benefits, such as increased unity of effort and improved operational efficiencies and effectiveness, are the main reasons for integrating the command centers. Specifically, officials stated that having one unified command center will increase the situational awareness across all NORAD and USNORTHCOM missions and will provide a single voice to decision makers. However, officials noted that they have not done an analysis of the operational effects—both positive and negative—of the move. Furthermore, the officials stated that they have not thus far effectively communicated and documented the anticipated benefits and plan to improve communications both within the command and with outside entities.

#### Air Force Space Command Relocation

The projected cost for relocating the Space Control Center and the Unified Space Vault from Cheyenne Mountain to the Joint Space Operations Center at Vandenberg Air Force Base, California, is approximately \$13 million. Of this amount, \$4.5 million was allocated in fiscal year 2006 for studies, renovation of facilities, and relocation of equipment to Vandenberg, and \$5.4 million was allocated in fiscal year 2007 for training, temporary duty to Vandenberg, and relocation of equipment. An additional \$2.9 million has been requested to complete the move, but at the time of our review, Air Force Space Command officials did not know from which fiscal year these additional funds would be allocated. Moreover, costs for any needed security upgrades at Vandenberg have not yet been determined, pending a security assessment that is scheduled to be completed in August 2007. According to Air Force Space Command officials, the first phase of the equipment move has been completed, and the equipment is operating at Vandenberg. The remaining equipment is scheduled to be moved by October 2007. Air Force Space Command officials expect that the relocation will enable them to reduce future costs for systems modernization and maintenance and for contractor operations. Moreover, these officials stated that the space mission does not require “hardening” from nuclear attack and does not have to be located in Cheyenne Mountain.

#### U.S. Strategic Command Relocation

The costs to relocate the missile warning mission from Cheyenne Mountain to Schriever Air Force Base, Colorado, have not yet been developed. According to USSTRATCOM officials, an ongoing site survey scheduled for completion in late May 2007 will determine the security requirements, and a subsequent engineering study will develop the estimated costs of the planned relocation. USSTRATCOM decided to move its missile warning mission to get away from the mountain’s legacy computer systems and acquire a more modern net-centric system using distributed nodes.

#### **Security Implications and Associated Risks of the Proposed Relocation Have Not Been Fully Determined**

After reviewing initial risk and vulnerability assessments conducted by USNORTHCOM in early 2006, the Commander accepted the risk of integrating the two command centers, but the full security implications and the associated risks of the proposed relocation will not be known until at least September 2007, following



the completion of ongoing security assessments and the designation of a protection level for the new command center. An electromagnetic pulse hardening assessment, a physical security assessment of the NORAD and USNORTHCOM headquarters building, and the designation of a protection level for the new command center are in progress. If the protection level designation requirements cannot be met for replicating the desired systems due to resource or funding constraints, waivers will be needed to proceed with the planned integration or specific systems may remain in Cheyenne Mountain.

### Initial Security Assessments

In January 2006, USNORTHCOM conducted a classified risk assessment<sup>14</sup> on the NORAD and USNORTHCOM headquarters building at Peterson Air Force Base. As a result of this risk analysis, NORAD and USNORTHCOM have taken some steps to mitigate known vulnerabilities to the headquarters building from potential threats, which exist regardless of the command center integration. For example, NORAD and USNORTHCOM have limited the access to backup generators and the garage of the headquarters building. Additionally, in March 2006, USNORTHCOM conducted a classified risk assessment<sup>15</sup> that compared the vulnerability of the Cheyenne Mountain Operations Center to the NORAD and USNORTHCOM headquarters building. After seeing these initial security assessments based on current and projected threats, the NORAD and USNORTHCOM Commander deemed that the risk incurred by integrating the two command centers was acceptable.

USNORTHCOM also contracted with Sandia National Laboratories to determine the security implications of moving assigned missions to Peterson Air Force Base. Sandia's December 2006 classified report<sup>16</sup> analyzed four different options for moving the missions. Sandia's report recommended replicating some of the computer systems in Cheyenne Mountain because this solution would require a lower protection level than moving all computer systems and would cost less. However, a USNORTHCOM official told us that the Commander is still considering other options and additional security assessments are ongoing.

### Ongoing Security Assessments

Two security assessments related to moving functions from Cheyenne Mountain to Peterson Air Force Base are underway. First, Sandia National Laboratories is assessing the cost associated with hardening computer terminals used to track air, missile, and space events, and examining the methods needed to protect those terminals against man-made and natural threats. The results of this assessment, which is scheduled to be completed in May 2007, will enable the NORAD and USNORTHCOM Commander to assess the feasibility of moving these terminals. Second, according to an Air Force Space Command official, the Air Force is conducting a Systems Effectiveness Assessment that will determine the effectiveness

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<sup>14</sup>U.S. Northern Command, *Risk Assessment Report* (Peterson Air Force Base, Colo.: January 2006).

<sup>15</sup>U.S. Northern Command, *Cheyenne Mountain Operations Center/Building 2 Vulnerability Assessment against Terrorist Attacks* (Peterson Air Force Base, Colo.: March 2006).

<sup>16</sup>Sandia National Laboratories, *Phase 2: Security Assessment Results and Conceptual Security Designs for North American Aerospace Defense Command and United States Northern Command*, (Albuquerque, N.Mex.: December 2006).

of the security system at NORAD and USNORTHCOM headquarters to detect, delay, deny, and neutralize a threat; however, the assessment will not specifically examine procedures for protecting against a chemical/biological attack. After the completion of this assessment, the leadership will be able to develop an actionable plan with cost estimates to build a system to protect the building at those levels through the conceptual design process. USNORTHCOM officials expect the results of this assessment in September 2007.

According to a USNORTHCOM official, a complete protection level study has never been conducted on the NORAD and USNORTHCOM headquarters building. USNORTHCOM is in the process of completing a Protection Level Designation Matrix that includes information on the threat to the headquarters building and its significance to the United States' warfighting capability. This tool will help the Department of the Air Force determine a protection level for the building. An Air Force Space Command official said that if NORAD and USNORTHCOM cannot meet the protection level requirements for the integrated command center due to resource or funding constraints, they will have to request waivers and develop a mitigation strategy. He added that it could take up to 24 months to get the completed security system in place if it was fully funded.

According to the Deputy Director of Operations of the NORAD and USNORTHCOM Command Center, the renovation of the command center is not dependent upon the decision regarding the appropriate protection level. This official stated the protection level requirements are focused on external vulnerabilities and address issues such as cameras, bollards for stand-off distances, and additional security forces personnel. Nonetheless, one component of the renovation will depend on the results of the ongoing electromagnetic pulse hardening assessment, but this will affect only two of the many systems in the command centers. The Deputy Director of Operations stated that he does not anticipate having to delay the renovation to await any report results but will incorporate all accepted recommendations into the renovation of the integrated command center. He said that the contractor has been given the authority to proceed with renovation on June 11, 2007. It is scheduled for completion in December 2007.

## **Conclusions**

The proposed realignment of functions from Cheyenne Mountain represents a major transformation for NORAD and USNORTHCOM. Without benefit of an analysis of operational effects of the proposed moves, the completed security assessments, and final protection level designation to inform him, it is unclear what level of risk the Commander is accepting in integrating the two command centers. Furthermore, the costs associated with any needed security upgrades are not known and it is unclear whether resources and funding are available to meet the protection level requirements. Without knowing the complete security effects and cost to replicate the functions, neither DOD nor Congress has adequate information to assess the risks in relation to the costs of moving functions from Cheyenne Mountain.

## Matters for Congressional Consideration

GAO is not making any recommendations for executive action. However, Congress should consider restricting DOD's authority to use funds to renovate new locations to accept functions designated to move out of Cheyenne Mountain until such time as all security analyses are complete, the full costs of the move are determined, and DOD provides Congress with an analysis of the operational effects of the proposed realignments.

## Agency Comments

We received technical comments from DOD, which we incorporated as appropriate. In their technical comments, NORAD and USNORTHCOM noted that the new commander clarified that the relocation was initiated by mission inefficiencies, not cost savings, and is required to increase unity of effort and operational effectiveness. Further, USNORTHCOM noted that the synergies gained through consolidation of missions into a single command center are essential for an effective response to the full spectrum of threats to the United States. Nevertheless, our review showed that NORAD and USNORTHCOM did not fully analyze the costs and operational effects of the proposed move, and, therefore, we are including a matter for congressional consideration.

We are sending copies of this report to the Secretary of Defense; the Chairman, Joint Chiefs of Staff; the Secretary of the Air Force; and the Commanders of NORAD and USNORTHCOM and USSTRATCOM. We will make copies available to others upon request. This report will be available at no charge on GAO's Web site at <http://www.gao.gov>.

If you or your staff have any questions about this report, please contact me at (202) 512-5431 or [dagostinod@gao.gov](mailto:dagostinod@gao.gov). Contact points for our Office of Congressional Relations and Public Affairs may be found on the last page of this report. Key contributors to this report were Mike Kennedy, Assistant Director; Amy Higgins; Keith Rhodes; Enemencio Sanchez; Kimberly Seay; Brian Shiels; Karen Thornton; and Cheryl Weissman.

A handwritten signature in black ink, appearing to read "Davi M. D'Agostino". The signature is stylized with large loops and a cursive script.

Davi M. D'Agostino  
Director, Defense Capabilities and Management

(350965)

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