



U.S. Department of Agriculture

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Office of Inspector General  
Western Region

# Audit Report

## Forest Service Review Of Security Over Explosives/Munitions Magazines Located Within the National Forest System

Report No. 08601-30-SF  
MARCH 2003

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UNITED STATES DEPARTMENT OF AGRICULTURE

OFFICE OF INSPECTOR GENERAL

Washington D.C. 20250



DATE: March 31, 2003

REPLY TO

ATTN OF: 08601-30-SF

SUBJECT: Review of Security over Explosives/Munitions Magazines Located within the National Forest System

TO: Dale Bosworth  
Chief  
Forest Service

ATTN: Sandy Coleman  
Agency Audit Liaison

This report presents the results of our review of security over explosives/munitions magazines within the National Forest System. The Forest Service's (FS) written response to the draft report is included as exhibit D with excerpts and the Office of Inspector General's position incorporated into the relevant sections of the report.

Based on the written response, we have accepted FS' management decision for all the report recommendations. Follow your internal agency procedures in forwarding final action correspondence to the Office of the Chief Financial Officer.

We appreciate the assistance your staff provided to our auditors during our review.

/s/  
RICHARD D. LONG  
Assistant Inspector General  
for Audit

# **Executive Summary**

## **Review of Forest Service Security Over Explosives/Munitions Magazines Located Within the National Forest System (Audit Report No. 08601-30-SF)**

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### **Results in Brief**

As part of our ongoing review of departmental vulnerability to terrorism, we surveyed the Forest Service's (FS) security over those facilities located within the National Forest System (NFS) used to store explosives and military-grade weapons and munitions. Throughout the NFS there are a significant number of facilities, or magazines, containing ordnance and explosives used primarily for land management purposes by the FS and private ski resort operators with FS special use permits.

Our survey was intended to identify key internal controls pertaining to the safeguarding of these magazines and to determine areas that warranted future audit coverage. Although we found that the magazines generally met construction requirements and were properly secured physically, our review identified a number of significant issues relating to both accountability and security over the magazines and their contents, warranting the issuance of an audit report. This report signifies the completion of our audit work relating to the magazines and contains only those issues that were developed during the review that warrant immediate corrective action.

The FS did not have an overall management program that effectively ensured the safety and security of explosives and munitions located on FS lands. After the events of September 11, 2001, the FS did not sufficiently re-evaluate its security program to address possible vulnerabilities and problems. Our review disclosed the FS had not implemented an effective system of controls to ensure the security over munitions and explosives stored and used on FS lands. Basic procedures in accountability, access, and control had not been implemented or followed. These lapses have increased the vulnerability of munitions and explosives to theft and misuse. Our review of the magazines disclosed the following areas of weakness.

### **Accountability**

Locations and contents of magazine were not always known. When asked, the FS was unable to readily identify the number, type, and location of the magazines within its national forests, particularly those belonging to the private ski resorts. The FS could not determine from its own automated inventory system the magazines it owned and operated because those magazines had not all been entered into the system. It could not identify the magazines owned and operated by ski resorts because the special use permits held by the resorts did not contain specific information about the magazines. As a result, FS management is unable to effectively manage and monitor its

overall security over explosives and munitions and unable to promptly identify weaknesses to timely implement corrective actions.

Inspections were not always performed. Both the FS and the permittees did not always conduct and document required inspections of explosives and munitions magazines. For example, we found that the FS did not perform the required 7-day inspections with such frequency at 5 of its 13 magazines we visited, and the ski resort operators did not perform the required 7-day inspections with such frequency at 8 of their 23 magazines we visited. Seven-day inspections are intended to ensure there has been no unauthorized entry of the magazines or unauthorized removal of any contents. The failure to perform these inspections significantly increases the risk that theft from these facilities will not be timely discovered and investigated.

The effectiveness of the physical inventories conducted was questionable. We found there was no separation of duties for inventories (i.e., the same staff conducting the physical inventories were updating the inventory records when adding or removing inventory from the magazine) and that recordkeeping was poor, making any reconciliation difficult to complete. One FS magazine and 3 ski area magazines contained inventory records that did not reflect the amount of explosives on hand, and one ski area magazine did not have inventory records at all. In some cases, the differences between the inventory records and physical counts were significant. Ineffective controls over the conduct and accuracy of inventories increases the risk that theft could occur undetected.

## **Security**

Magazine access was not restricted. Keys to the magazines were not always adequately safeguarded to prevent unauthorized entry into the magazines. Neither the FS nor the private ski resort operators had established a uniform policy for distributing keys to the staff authorized to enter the magazines and for ensuring that the keys were adequately safeguarded once distributed. We found that the process surrounding the distribution and safeguarding of the keys varied between the sites we visited. For example, of the sites visited—

- one kept a log to account for the keys once they were distributed,
- only two periodically changed the locks on their magazines, and
- one was asked to change its locks after the Bureau of Alcohol, Tobacco and Firearms noted during its review of the private ski resort that it had lost or misplaced the keys to its magazines on a number of occasions over the years.

As a result, magazines were vulnerable to unauthorized entry and theft. This condition tied with the failure to properly perform inspections and properly conduct inventories present ideal circumstances for undetected theft.

Background Investigations were inconsistent. Both FS and permittee personnel, without adequate background investigations, had access to explosives and munitions. The FS classification specialists overlooked the need to upgrade the position risk level for those FS employees handling explosives from “low” to “high” when updating their position description to reflect their added responsibilities associated with the magazines. In addition, the private ski resort owners relied on the States to conduct the background investigations on their staff handling explosives even though the thoroughness of the background investigations varied by State and even though the States were not always required to perform them. Furthermore, the FS did not require that background investigations performed on ski area personnel meet minimum standards. As a result, there was an increased risk that unsuitable personnel could obtain or maintain access to munitions and explosives.

Munitions were stockpiled. We found large quantities of munitions at two FS magazines. One magazine had 1,034 artillery shells (a 6-8 year supply) and another had 961 artillery shells (a 24-year supply). The facilities had large supplies of shells because the U.S. Army no longer manufactured this type of ammunition. Storing large quantities of munitions increases the security risks. If the FS elects to store excessive quantities of munitions in its magazines, it needs to determine the additional security measures needed at the magazines commensurate with the increased risk associated with stockpiling such large quantities.

Magazines were unused or contained expired and deteriorated explosives. One magazine was seldom used, sometimes only once or twice per year. We therefore questioned the need for the magazine. We also identified some magazines that contained explosives that were considerably past their expiration date. Overall, we found that seven of the magazines contained expired or deteriorated explosives. Removing explosives that have expired or have deteriorated would help reduce the overall risk associated with these magazines and the need to safeguard them.

## **Recommendations In Brief**

The FS needs to strengthen its overall system of controls over explosives and munitions. Specifically, we are making the following recommendations.

The FS should update both its property records and the special use permits to adequately account for all magazines, and establish a centralized and restricted database consolidating the information from both of these sources. The FS should also establish minimum security standards for safeguarding the keys to the magazines and require FS units and private ski resort operators to meet these standards.

The FS needs to develop a comprehensive management plan for its magazines to ensure that appropriate resources are provided to conduct all required magazine inspections in a timely manner and to properly document the inspection results. The FS in turn needs to monitor the ski resort magazines to ensure the resorts are conducting the required reviews. The FS also needs to conduct physical inventories of its magazines at least biannually or more often as circumstances dictate and establish a separation of duties surrounding the inventory process.

The FS should conduct the required background investigations for its employees handling explosives in accordance with Office of Personnel Management (OPM) guidelines and require the private ski resort operators to conduct background investigations on their staff as well, particularly if the investigations are not already performed by the State. The FS also needs to restrict access to all its magazines.

Finally, the FS needs to close down unneeded magazines, eliminate inventories of old and expired explosives, and increase security at those magazines with excessive supplies of explosives.

**Agency  
Response**

In its written response to the audit report, the FS concurs with all the audit findings and recommendations. The complete written response is shown in Exhibit D of the audit report.

**OIG Position**

Based on the FS' written response and estimated completion dates for corrective actions, OIG accepts FS' management decision for all the audit recommendations.

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# ***Background and Objectives***

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## **Background**

Throughout the National Forest System (NFS) a significant number of facilities, called magazines, are used to store explosives and military-grade weapons and munitions. A magazine is defined as any building or structure, other than an explosives manufacturing building, used for storage of explosive materials. Currently, these NFS magazines number approximately 335 (see Exhibit A). The Forest Service (FS) owns and operates 166 of the magazines, and private ski resorts under FS special use permit own and operate 153 of them. The remaining 16 magazines are owned and operated by other governmental and nongovernmental entities, such as private mining companies, that also have FS special use permits.

The FS generally uses explosives for fire line construction, tree and rock removal, road construction and maintenance, and other type construction projects. The National Explosives Safety Program Manager located at the FS Washington Office manages the explosives program. Regional blaster coordinators and examiners administer the program within their respective regions. Both the FS' Technology and Development Centers located in Missoula, Montana, and San Dimas, California, and the National Avalanche Center located in Ketchum, Idaho, provide technical advice and support to the National program manager and regional blaster coordinators and examiners on the acquisition, transport, use, and storage of explosives.

The private ski resorts use both explosives and military weapons and munitions for avalanche control. The military weapons, consisting of howitzers and recoilless rifles (see Figure 1) and munitions, are signed over to the FS by the Department of the Army (see Glossary for a description of weapons). While the FS in turn issues these military weapons and munitions to the ski resort operators, the FS is ultimately responsible to the Army for their use and control.



Figure 1 – Recoilless rifle located on a private ski resort

Nine of the private ski resorts under FS special use permit store military munitions in their magazines. In some instances, the FS stores the munitions in its own magazines on behalf of the private ski resorts for use in their avalanche control programs. The FS' National Avalanche Center is responsible for managing the FS' military weapons program on behalf of the private ski resort operators. Only the private ski resorts use the military weapons and munitions for land management purposes.

An Interagency Agreement between the Department of the Army and the FS governs the private ski resort operators' use of the military weapons and munitions. Under the agreement, the Army loans the artillery to the FS and sells it the ammunition. The FS in turn sells the ammunition to the private ski resort operators and loans them the artillery. The private ski resorts use the artillery and ammunition to control avalanches within the boundaries of their ski resorts. FS permit administrators monitor the ski resort operator's use of the artillery and ammunition for compliance with the Interagency Agreement.

The Bureau of Alcohol, Tobacco and Firearms (BATF) regulates the storage of explosives, including the military weapons and munitions stored at the magazines owned and operated by both the FS and private ski resorts. The Department of Defense has also established certain guidelines to ensure that the military weapons and munitions are properly secured. BATF regulations establish five magazine types, each constructed to ensure that the contents are adequately safeguarded. For example, a Type 1 magazine is used to store high-level explosives such as rock crushers and fire line explosives and is a permanent structure, whereas Types 2 (see Figure 2) and 3, which are also used to store high-level explosives are mobile structures. Low-level explosives such as blasting agents and detonators are stored in Types 4 and 5 magazines, whose construction requirements are generally less stringent.



Figure 2 – FS Type 2 magazine used to store high-level explosives

Any person storing explosives and military weapons and munitions must comply with BATF storage requirements. In addition, the private ski resort

operators may also need a State license to purchase and use the explosives that they store in their magazines. Certain States may also require that explosives users be certified. In addition, the States may also conduct background investigations on the explosives users before issuing them licenses.

The FS, as a means for providing guidance to its employees, has developed the *Guide for Using, Storing, and Transporting Explosives and Blasting Materials*. It presents minimum requirements for using, storing, and transporting explosives. The Guide incorporates BATF storage and Federal Highway Administration transportation requirements. In addition to covering storage and transportation, it covers blasting procedures, blast design, specialty blasting and other areas. The Guide has adopted the BATF requirements that 7-day inspections be performed and that lost or stolen explosive materials be reported to BATF. The Guide adds a further requirement that annual inspections of magazines be conducted. It does not provide guidance on conducting and documenting physical inventories, or restricting magazine access. The FS, through FS Manual Section 6745, identifies staff responsibilities over explosive activities and operations and blaster certification requirements. The FS Manual, however, does not require that certified blasters obtain a certain level of background investigations.

## **Objectives**

This report is a part of our continuing review of homeland security issues at the FS. The objectives of this review were to identify key controls over the security of explosives and munitions stored at magazines located in FS lands, and to determine what areas warranted future audit coverage. Although our intention was not to develop issues during the review, we nevertheless found deficiencies that required immediate corrective action and are reporting these deficiencies in this document. This report signified the completion of our audit work in this area.

For this review, we visited 36 magazines, or 11 percent of the 335 existing magazines within the NFS. See the Scope and Methodology section at the end of this report for details of our audit methodology.

# Findings and Recommendations

## Section 1. Accountability

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### Finding 1

#### **A Complete and Accurate Database Is Needed To Identify All Explosives and Munitions Magazines Located Within the National Forest System**

The FS could not readily account for all magazines within the NFS that are used to store explosives and munitions. The FS did not have a complete and accurate database to identify both FS and non-FS owned explosives and munitions magazines located within NFS lands. Our review found that the information system used by the FS to track infrastructure assets, which should include magazines, was inaccurate and that the FS did not have a centralized system to track magazines owned by permittees such as the private ski resorts. When we questioned FS officials about the inaccuracies of the system, the officials responded stating that they never intended the current information system to track the magazines, therefore no specific instructions were provided to regions on recording the magazine information into the system. Also, FS officials stated that they did not have a centralized system to track the magazines owned by the permittees because they did not believe it was necessary prior to the events of September 11, 2001. As a result, the FS cannot readily account for all magazines within the NFS that are used to store explosives and munitions. In light of the recent terrorist attacks of September 11, 2001, and the sensitive nature of the items stored in the magazines, it is prudent for the FS to implement a centralized database to account for all magazines. The inability to effectively track and monitor all explosives and munitions magazines results in the FS being unable to effectively manage security over these items. Without the use of an accurate database, the FS cannot promptly identify system weaknesses and to timely implement corrective actions.

#### a. Information Management System

The FS currently uses an integrated information management system known as INFRA to record its infrastructure assets, including the magazines it uses to store explosives or munitions. During the review, we were unable to determine the actual number of FS magazines included in INFRA because the national forests used different codes to enter the magazines into the system and the FS Washington Office could not assure us that the list they gave us included all the magazines. As was previously mentioned, a specific code for the magazines had not been established since INFRA was originally not intended to track the magazines. We were able to confirm that three of the regions visited did not include all of their active magazines in INFRA and two regions did not include any of their magazines in INFRA. The regions generally excluded the magazines from INFRA because the magazines were mobile or consisted of day boxes and

lockers, and they did not consider any of them real property. One of the regions that excluded all its magazines also had magazines that were permanent; however, the FS staff interviewed could not account for their omission from INFRA. We concluded that all FS magazines, including day boxes, still need to be tracked due to the sensitive nature of the items they contain.

Chapter 5 of the FS Financial Health Desk Guide states that accountable real property shall be recorded in INFRA. The FS Manual<sup>1</sup> defines real property as any interest in land, together with the improvements, structures, and fixtures, including prefabricated movable structures.

b. Magazines Owned By Ski Resort Permittees

Information about explosives and munitions magazines owned by ski resort permittees would be generally recorded in the special use permits kept at district offices. Our review of the special use permits disclosed that they did not contain important information on the magazines, such as the name, location and type of magazines on FS lands. There are currently no FS requirements to document this information and to track this information in its management information system. Current FS regulations<sup>2</sup> only require that each special use authorization contain such terms and conditions as the authorized officer deems necessary to protect lives and property.

Although most of the FS' Regional Blaster Examiners we spoke to knew the number and location of the FS magazines and could have ultimately determined the number and location of the permittee magazines within their regions, the establishment of a central repository for all magazines located within the NFS, regardless of ownership or type, would strengthen accountability over the magazines. In addition to the name and location of the magazines, the centralized database should also include the owner name, magazine type, and risk level associated with the magazine based on its location and contents. The purpose of the risk level designation is to track those magazines that are the most sensitive.

When asked about a centralized database, some regional blaster examiners did not feel they needed to maintain a regional listing since they had only a few active magazines. Others were concerned about the safety of having this information available in one central location. We concluded, however, that the need for controls over explosives and munitions inventories was a priority and that the risk posed by a centralized database could be mitigated by limiting access to such a database.

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<sup>1</sup> FS Manual, Chapter 6440, paragraph 6440.5, dated April 7, 1997.

<sup>2</sup> 64 FR 48960, dated September 9, 1999.

Due to a heightened awareness of the controls over sensitive assets held by Government agencies, we believe the FS needs to update both its property records and the special use permits to adequately account for all magazines. In addition to the name and location of the magazines, the permits should also indicate the type of magazine, quantity of explosives or munitions generally stored in the magazine, and the permittee's responsibility for safeguarding the contents of the magazine. These terms and conditions would help ensure accountability over the magazines owned and operated by the ski resorts. The FS also needs to establish a centralized database consolidating the information from both its property records and the special use permits to readily account for all magazines located within the NFS. The database should include those magazines consisting of day boxes and lockers. Access to such a database should be limited to only authorized personnel in order to alleviate concerns over the security of this very sensitive information.

### **Recommendation 1**

Update FS property records so that they accurately reflect all magazines owned and operated by the FS.

#### **Agency Response.**

The FS accepts the recommendation. The estimated completion date for this action is September 30, 2003.

#### **OIG Position.**

OIG accepts FS' management decision.

### **Recommendation 2**

Document in each special use permit the name and location of all magazines located within the NFS that are owned and operated by the permittee. The permits should also indicate the type of magazine, quantity of explosives or munitions generally stored in the magazine, and the permittee's responsibility for safeguarding the contents of the magazine.

#### **Agency Response.**

The FS accepts the recommendation. The requested information will be made a part of the annual Operating Plan, which is made a part of the permit. This allows for the requested information to be updated annually. The estimated completion date for this action is September 30, 2003.

#### **OIG Position.**

OIG accepts FS' management decision.

### **Recommendation 3**

Using the information from the FS property records and the special use permits, establish a centralized and restricted database containing the name and location of all magazines located within the NFS. The database should also include the owner's name, magazine type, custodians, security features, and the risk level of the magazine based on its location and contents.

#### **Agency Response.**

The FS accepts the recommendation. For security purposes, the requested information will be housed with the FS Home Land Security program manager. The estimated completion date for this action is September 30, 2003.

#### **OIG Position.**

OIG accepts FS' management decision.

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### **Finding 2**

#### **Controls Over Inspections and Inventories of Explosives and Munitions Magazines Were Inadequate**

The FS did not have a comprehensive management plan for securing all magazines located in FS lands and to ensure that appropriate resources were provided to timely perform the required inspections and physical inventories. Prior to the events of September 11, 2001, the FS had not recognized the need for such a plan. Our review found that neither the FS nor the ski resort operators were inspecting the magazines with the required frequency and that the physical inventories being conducted were not effective because there was no separation of duties and record keeping at the magazines was poor making the reconciliation difficult to complete (see Exhibit C). As a result, both the FS and ski resort operators could not adequately account for the explosives at four of the magazines we visited and one magazine visited did not even have inventory records so that a physical inventory could be performed. Furthermore, the FS was not monitoring the ski resorts to ensure that the required inspections and physical inventories were timely performed and the magazines adequately secured. Without adequate inspections, physical inventories, and monitoring by the FS, there is an increased risk of having these sensitive assets stolen or misused without it being timely discovered and investigated.

The FS and ski resort operators generally conduct two types of reviews at the magazines: 7-day inspections and annual inspections. The primary purpose of the 7-day inspections is to determine whether there has been unauthorized entry or attempted entry into the magazines or unauthorized removal of the contents from the magazines. The primary purpose of the annual inspections is to check the condition of the magazine and its contents. Periodic physical

inventories are also conducted to ensure that the items stored in the magazines are properly accounted for during the period reviewed.

a. 7-day Inspections Not Performed

The FS did not perform the required 7-day inspections with such frequency at 5 of its 13 magazines we visited, and the ski resort operators did not perform the required 7-day inspections with such frequency at 8 of their 23 magazines we visited (see Exhibit C). Furthermore, the FS did not document its inspections at 7 of its magazines and the ski resorts did not document their inspections at 12 of their magazines. In some cases, both the FS and ski resort operators claimed that the inspections had been performed, but documentation did not support their claims. The FS requires that the inspections be documented to include the date of the inspection and the inspector's signature. In other cases, the inspections were not performed due to adverse weather conditions or lack of staff. The failure to perform inspections increases the risk that theft from these facilities will not be timely discovered and investigated.

Regulations<sup>3</sup> require that the magazines used to store explosive materials be inspected at least every 7 days. Regulations further state that the inspection need not be an inventory, but must be sufficient to determine whether there has been unauthorized entry or attempted entry into the magazine or unauthorized removal of the contents from the magazine. In its *Guide for Using, Storing, and Transporting Explosives and Blasting Materials*,<sup>4</sup> the FS requires that the inspections be documented to include the date of the inspection and the inspector's signature.

b. Annual Inspections Not Conducted

For 7 of the 13 FS magazines visited, the FS did not conduct annual inspections of the magazines (see Exhibit C). FS officials said they inspected the physical condition of the magazines and their contents during the 7-day inspections as well as when they added or removed items from the magazines. In addition, the officials stated that no one had asked them to conduct annual inspections of the magazines. In one case, the FS relied on the State to conduct the annual inspections. For non-FS magazines, ski areas were not required to conduct annual inspections of their magazines. However, the magazines could be inspected periodically by BATF or the State. BATF does not have a set timeframe for conducting inspections, while States may conduct inspections annually or biannually. We believe that the ski resorts should also be required to conduct annual inspections of their magazines, particularly if the States are not performing them.

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<sup>3</sup> 46 FR 40384, dated August 7, 1981.

<sup>4</sup> Chapter 1, Section 1.3, dated August 2000.



The FS Manual<sup>5</sup> requires that the lead blasters inspect the magazines annually. In its *Guide for Using, Storing, and Transporting Explosives and Blasting Materials*,<sup>6</sup> the FS requires that explosives magazines be thoroughly inspected annually to check the physical condition of the magazines and their contents. The *Guide* also requires that the inspections be documented.

c. Unaccounted for Physical Inventories

The FS and ski resort operators also conduct periodic physical inventories at the magazines, although generally only the ski resort operators with BATF permits are required to perform them.<sup>7</sup> However, we questioned the effectiveness of the physical inventories conducted at the magazines visited because there was no separation of duties (i.e., the same staff conducting the physical inventories was updating the inventory records when adding or removing inventory from the magazine), and because recordkeeping at the magazines was poor, making the reconciliation difficult to complete. As a result, one FS magazine and three ski area magazines contained inventory records that did not reflect the amount of explosives on hand (see Exhibit C), and one ski area magazine did not even have inventory records. Ineffective controls over the conduct and accuracy of inventories increases the risk that theft could occur undetected.

For example, inventory records at one FS magazine showed that 6,000 feet of detonating cord was in the magazine, but we counted only 4,000 feet. The FS blaster stated that he would have to check with other blasters with access to the magazine to see if the case of detonating cord was used but not recorded. In one ski area magazine, inventory records showed that 12 pounds of ammonium nitrate and fuel oil (ANFO), 12 sticks of Powderditch, and 16 Cast boosters were in the magazine. However, during our visit, we counted only 4 pounds of ANFO, 5 sticks of Powderditch, and 8 Cast boosters. The inventory records did not show that any explosives had been removed from the magazine or used prior to our inspection. Ski area personnel stated that they would have to check their avalanche control route sheet records, but they assumed that authorized ski personnel had used the explosives for avalanche control without recording their removal.

The FS and the private ski resort operator need to immediately resolve the above discrepancies regarding their inventories. If the FS or ski resort operator ultimately determines that explosives inventory was lost or stolen from the magazine, it should report it immediately to BATF. Regulations<sup>8</sup> require that the loss or theft of explosives material be reported to BATF

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<sup>5</sup> FS Manual, Chapter 6740, Paragraph 6745.04k, dated October 23, 2001.

<sup>6</sup> Chapter 1, Subsection 1.2.1, dated August 2000.

<sup>7</sup> 63 FR 45003, dated August 24, 1998.

<sup>8</sup> 63 FR 45002, dated August 24, 1998.

within 24 hours of discovery. The regulations also required that the loss or theft of explosives material be reported to the appropriate local authorities.

In light of September 11, we believe more stringent controls are needed to ensure that the magazines and their contents are adequately safeguarded. The FS needs to develop a comprehensive management plan for its magazines to ensure that the appropriate resources are provided to timely perform the required inspections and physical inventories. Furthermore, not only do all inspections need to be conducted in a timely manner, particularly the 7-day inspections, but physical inventories need to be conducted at least biannually, or more often as circumstances dictate. These circumstances could include changes in magazine custody, missing keys, and tampered locks. There should also be a separation of duties established so that the staff adding or removing inventory from the magazines is not the same staff that is updating the inventory records and conducting the physical inventories. The ski resorts should also be required to conduct annual inspections of their magazines, particularly if the States are not performing them. The FS also needs to actively monitor the activity at those magazines owned and operated by the private ski resorts to ensure that the resorts are conducting the required reviews and physical inventories in a timely manner and that the magazines are adequately secured. Finally, the FS needs to amend the FS Manual along with the special use permits to adequately address the FS' and private ski resort operators' roles and responsibilities regarding the safeguarding of the magazines.

#### **Recommendation 4**

Develop a comprehensive management plan to ensure that the appropriate resources are provided to timely perform the required inspections and physical inventories.

#### **Agency Response.**

The FS accepts the recommendation. The estimated completion date for this action is September 30, 2003.

#### **OIG Position.**

OIG accepts FS' management decision.

#### **Recommendation 5**

Instruct FS staff, ski resort operators, and other permittees to conduct all required inspections, focusing on the deficiencies noted in our review, and to document the inspection results.

### **Agency Response.**

The FS accepts the recommendation. The FS will work with the National Ski Area Association (NSAA) to direct ski areas to take immediate action. FS will work with NSAA to develop a long-term program. The estimated completion date for this action is September 30, 2003.

### **OIG Position.**

OIG accepts FS' management decision.

## **Recommendation 6**

Require ski resort operators and other permittees to conduct annual inspections of their magazines, particularly if annual inspections are not performed by the State.

### **Agency Response.**

The FS accepts the recommendation. The FS will work with National Ski Area Association (NSAA) to direct ski areas to take immediate action. FS will work with NSAA to develop a long-term program. The estimated completion date for this action is September 30, 2003.

### **OIG Position.**

OIG accepts FS' management decision.

## **Recommendation 7**

Instruct FS staff and ski resort operators to immediately resolve inventory discrepancies identified by our review and report any missing inventory to BATF and the appropriate local officials.

### **Agency Response.**

The FS accepts the recommendation. The estimated completion date for this action is May 1, 2003.

### **OIG Position.**

OIG accepts FS' management decision.

## **Recommendation 8**

Require FS units, ski resort operators, and other permittees to conduct physical inventories at least biannually or more often as circumstances dictate and to establish a separation of duties to ensure that the staff adding or removing inventory from the magazines is not the same staff that is updating the inventory records and conducting the physical inventories. Inventories

and inspections shall be conducted by designated, approved blasters. Incorporate procedures into the *Guide for Using, Storing, and Transporting Explosives and Blasting Materials* addressing the conduct and documentation of physical inventories.

**Agency Response.**

The FS accepts the recommendation for FS personnel. Direction to ski resort operators will be combined with Recommendations 9 and 10 and placed in the appropriate location for maximum effect. The estimated completion date for this action is September 30, 2003.

**OIG Position.**

OIG accepts FS' management decision.

**Recommendation 9**

Monitor the activity at those magazines owned and operated by the ski resorts and other permittees to ensure that they are conducting the required reviews and physical inventories in a timely manner and that the magazines are adequately secured. Incorporate FS responsibilities into the FS Manual that address the monitoring of permittee inspections and physical inventories.

**Agency Response.**

The FS accepts the recommendation. The estimated completion date for this action is December 31, 2003.

**OIG Position.**

OIG accepts FS' management decision.

**Recommendation 10**

Amend the FS Manual along with the special use permits to adequately address the FS', ski resort operators', and other permittees' role and responsibilities regarding the safeguarding of the magazines and their contents.

**Agency Response.**

The FS accepts the recommendation. The estimated completion date for this action is September 30, 2003.

**OIG Position.**

OIG accepts FS' management decision.

### Finding 3

### Controls Over Access To Magazines Need Strengthening

Keys to the magazines were not always adequately safeguarded to prevent unauthorized entry into the magazines. Neither the FS nor the private ski resort operators had established a uniform policy for distributing keys to the staff authorized to enter the magazines and to ensure that the keys were adequately safeguarded once distributed. Prior to the recent events of September 11, 2001, the FS had not recognized the need for a uniform policy surrounding the safeguarding of the magazine keys. Without a uniform policy on the distribution and safeguarding of the keys, there is no assurance that access to the magazines will be limited to only authorized staff and that the magazines are adequately secured. This condition tied with the failure to properly perform inspections and properly conduct inventories present ideal circumstances for undetected theft.

According to the Interagency Agreement between the Department of the Army and the FS which pertains to only those magazines used to store military weapons and munitions, the FS agreed to establish a key control system that provides for the appointment of a key custodian, the maintenance of a list of personnel authorized access to the keys, and the maintenance of a key register. The system also provides that the keys be secured in a locked container.

At all of the magazines we visited, a key was required to enter the magazine. However, we found that generally there was no key custodian and no key register for the magazines primarily because once the keys were distributed, they were not returned until the end of the season or kept indefinitely until the employee left the agency or was no longer employed by the private ski resort (see Exhibit C). Some of the magazines visited did maintain a list of personnel authorized access to the keys as well as a record of who had the keys.

We found that controls surrounding the security of the keys once they were distributed varied by site. Generally, the keys became the responsibility of those to whom they were distributed. For example, at 11 of the magazines visited, the staff kept the key on their personal key ring, at 14 of the magazines visited, the staff kept the key in their personal locker or a locked drawer located at their worksite, and at 11 of the magazines visited, the staff kept the key in a locked closet or lockbox which they shared with other staff authorized to have keys to the magazines (see Exhibit C). We also noted that staff at one of the sites visited kept a duplicate key to the magazine in an unlocked drawer at their office.

We also found that most of the sites visited did not periodically change the locks on their magazines even when there was staff turnover (see Exhibit C). One ski resort visited was asked by BATF to change the locks on its magazines after BATF inspected the ski resort's magazines following September 11 and noted that the ski resort had lost or misplaced keys on a number of occasions over the years. Only two of the sites visited changed its locks periodically: one site changed its locks annually and the other site changed its locks every 2 years due to wear and tear of the locks. We also noted that several sites had changed their locks to upgrade them in order to comply with existing regulations or because the locks were damaged. We do not consider changing the locks under these conditions to constitute a periodic change.

Finally, at one ski resort visited, we found that it along with four other ski resorts were owned by the same corporation and that all magazines at these five ski resorts could be opened with the same key. An official at one of the ski resorts informed us that she had no reason to access all of the magazines. Using the same key to access all of the magazines diminishes the overall security of the magazines by providing staff access to magazines that they have no legitimate reason to access.

We concluded that the FS needs to establish minimum security standards to strengthen controls surrounding the distribution and safeguarding of the keys to the magazines. The minimum standards should require that the keys be locked up at all times when not in use either in a lock box at the worksite or kept in a secure location by a staff member who is assigned to be the key custodian. In order to account for the keys at all times, a log should also be maintained to record each time the key is checked out by an authorized user. The minimum standards should also require that each magazine have its own unique key and that the locks on the magazines be changed on a periodic basis, particularly when there is staff turnover or the key to the magazine is lost or stolen.

## **Recommendation 11**

Establish minimum security standards for the distribution and safeguarding of the keys to the magazines. Minimum standards should require that the locks on the magazines be changed periodically, particularly when there is staff turnover or the key to the magazine is lost or stolen. Incorporate standards for the distribution and safeguarding of keys to magazines into the FS *Guide for Using, Storing, and Transporting Explosives and Blasting Materials*.

### **Agency Response.**

The FS accepts the recommendation for military weapons. The FS will work with NSAA to establish standards for ski areas that meet the intent of the recommendation. The estimated completion date is September 30, 2003.

### **OIG Position.**

OIG accepts FS' management decision.

### **Recommendation 12**

Amend the special use permits to require that ski resort operators and other permittees meet the standards established in Recommendation No. 11.

### **Agency Response.**

The FS accepts the recommendation. The estimated completion date for this action is September 30, 2003.

### **OIG Position.**

OIG accepts FS' management decision.

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### **Finding 4**

### **Appropriate Security Clearances Are Needed For All Staff With Access To Explosives Or Munitions Magazines**

Personnel, both FS and permittee, without adequate background investigations had access to explosives and munitions. The FS classification specialists overlooked the need to upgrade the position risk level for those FS employees handling explosives from "low" to "high" when updating their position description to reflect their added responsibilities associated with the magazines. In addition, the private ski resort owners relied on the States to conduct the background investigations on their staff handling explosives even though the thoroughness of the background investigations varied by State and even though the States were not always required to perform them. Furthermore, the FS did not require that background investigations performed on ski area personnel meet minimum standards. As a result, there was an increased risk that unsuitable personnel could obtain or maintain access to munitions and explosives.

#### **a. FS Employees**

The type of background investigation the FS requires for its employees depends on the risk level the classification specialist assigns to the position, based on the employee's job responsibilities. Regulations<sup>9</sup> state that agency heads should designate every competitive service position within the agency at a high-risk, moderate-risk, or low-risk level, as determined by the position's potential for adverse impact to the efficiency and integrity of the service. Positions at the high-risk or moderate-risk levels would normally

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<sup>9</sup> 65 FR 82243, dated December 28, 2000.

be designated “public trust” positions. These would involve duties in such areas as law enforcement or public health and safety.

We found that regional blasters had updated their position descriptions to reflect their new collateral duties as blasters, yet the position risk level was not changed from “low” to “high.” We found that FS blasters at the sites we visited were all assigned a low-risk level. The classification specialists we interviewed stated that they overlooked the need to change the position risk level when updating the employee’s position description, but they agreed that the position risk level needed to be changed. According to the U.S. Office of Personnel Management (OPM), the staff handling explosives or munitions should have been reclassified as high risk, the same as FS law enforcement personnel who carry firearms, and that they therefore should have received the proper background investigation.

Background investigations for high-risk positions include an FBI National Criminal History Fingerprint Check, a check of the applicant’s law enforcement and court records for the past 5 years, and a credit check covering the past 7 years. The FS also has the option of requesting reinvestigations for high-risk positions. Background investigations for low-risk positions do not include a check of the applicant’s court records or a credit check. The FS does not have the option to request reinvestigations for low-risk positions.

b. Ski Area Employees

During our review, we found that ski area employees that handled the explosives or munitions stored at the magazines were subjected to background checks conducted by the State if the State issued them licenses or permits. For example, four of the five States visited performed background checks since they issued licenses and permits to the ski resorts that we visited. The remaining State visited was not required to conduct background checks for the ski resort since it did not issue the resort any licenses or permits. However, the State conducted the background checks anyway when requested by the ski resort, but the background investigations only checked for criminal activity within the State. The other States’ background checks generally included a nationwide criminal background investigation, to include checking for felonies, misdemeanors, and mental health adjudications. These investigations, however, did not necessarily include a credit check. The States also generally updated the background checks whenever the licenses or permits were renewed, to include checking for any subsequent criminal activity.

We believe that all FS staff with access to the magazines that handle explosives should be classified in accordance with OPM guidelines and have the appropriate background investigations performed. Staff without the proper security clearance should not have access to the magazines unless



accompanied by someone with a security clearance. The FS should renew the background checks when the employee is recertified, as is done by the States in the case of private ski resorts. We also believe that the FS needs to require that all employees working for a ski resort with access to the magazines receive background investigations that at a minimum include a national criminal history check, a check with local and State law enforcement agencies, and a credit check.

### **Recommendation 13**

Ensure that the position descriptions are properly updated for all FS staff with responsibilities associated with the magazines, and upgrade the position risk level for those employees who handle the explosives or munitions stored in the magazines in accordance with OPM guidelines.

#### **Agency Response.**

The FS concurs with the recommendation. The Human Resource Management Staff will work with the Regions to ensure that all position descriptions for FS staff with responsibilities associated with the magazines will be properly updated, and the position risk level for those employees who handle the explosives or munitions will be corrected in accordance with OPM guidelines. The estimated completion date is September 30, 2003.

#### **OIG Position.**

OIG accepts FS' management decision.

### **Recommendation 14**

Conduct the required background investigations in accordance with OPM guidelines for those FS employees whose position risk level was upgraded.

#### **Agency Response.**

The FS concurs with the recommendation. The Human Resource Management Staff will request background investigations for those FS employees whose position risk level was upgraded. The estimated completion date for this action is December 31, 2003.

#### **OIG Position.**

OIG accepts FS' management decision.

### **Recommendation 15**

Require that background investigations be updated in accordance with OPM guidelines for all FS employees with access to the magazines that handle explosives when renewing their blaster certifications. Incorporate background investigation requirements into the FS Manual.

### **Agency Response.**

The FS concurs with the recommendation. The Human Resource Management Staff will require that all background investigations be updated in accordance with OPM guidelines when employees renew their blaster certifications and will incorporate these background investigations requirements into the FS manual. The estimated completion date for this action is September 30, 2003.

### **OIG Position.**

OIG accepts FS' management decision.

### **Recommendation 16**

Restrict access to the magazine to only those FS employees with the proper security clearance or those accompanied by someone with the proper security clearance.

### **Agency Response.**

The FS accepts the recommendation. The estimated completion date for this action is September 30, 2003.

### **OIG Position.**

OIG accepts FS' management decision.

### **Recommendation 17**

Require ski resort operators and other permittees to perform background investigations on their staff with access to magazines that at a minimum include a national criminal history check, a check with local and State law enforcement agencies, and a credit check.

### **Agency Response.**

BATF, as the responsible agency for explosives in the private sector has recently amended regulations regarding the handling of explosives by foreign individuals working in the United States. This change specifically affects ski area personnel. The FS will work with BATF and NSAA to develop appropriate policy regarding background checks. The estimated completion date for this action is September 30, 2003.

### **OIG Position.**

OIG accepts FS' management decision.

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**Finding 5****FS Needs To Establish Security Standards Over Large Quantities of Munitions and To Take Action To Dispose of Expired and Deteriorating Explosives**

The FS had not established standards to secure large quantities of munitions nor had it taken action to dispose of expired and deteriorating explosives stored at its magazines. Prior to the events of September 11, 2001, the FS had not recognized the need to take such actions. At two magazine locations we visited, we found large quantities of artillery shells, one magazine having a 24-year supply on hand (see Exhibit C). At seven other magazine locations, we identified inventories containing expired and deteriorating explosives on hand. FS staff told us that they stockpiled the artillery shells because the Department of the Army no longer manufactured this type of ammunition and the shells were made for the artillery currently used by the ski resorts for avalanche control. Regarding the expired explosives, the FS staff explained that such explosives did not pose a hazard since they would be less likely to detonate and that they planned on still using the explosives when the appropriate blasting project came up. Maintaining large munitions inventories adds to a security risk since items can be misused or stolen without being timely noticed. Maintaining old, expired and deteriorating explosives only creates an unreliable supply of explosives for the FS to carry out its land management functions.

**Added Security Needed To Secure Large Inventories of Munitions**

Our review found large quantities of munitions stored at two of the FS magazines we visited (see Exhibit C and Figures 3 and 4). One of the magazines had a 6-to-8 year supply on hand (1,034 artillery shells), while the other magazine had a 24-year supply on hand (961 artillery shells). Unlike regular explosives, munitions do not have an expiration date. Although the ski resorts accessed and used the munitions stored at these magazines in their avalanche control program, the FS maintained the magazines on behalf of the ski resorts. In both cases, the FS stockpiled the munitions for future use by the ski resorts because the Department of the Army no longer manufactured this type of munition, made for the recoilless rifles currently used by the ski resorts. Our review noted that despite the large quantities of munitions stored at these magazines, the magazines did not have any greater security measures than the magazines with much smaller inventories. Storing large quantities of munitions into limited-space magazines increases the risk that some of the munitions could be misused or stolen before it can be noticed. As a result, the FS needs additional security measures to minimize the added security risk associated with these large inventories.



Figure 3 – FS magazine crammed with a large quantity of military munitions



Figure 4 – Artillery shells stored at the FS magazine in Figure 3

The Interagency Agreement between the Department of the Army and the FS prohibits the requisitioning and intentional stockpiling of munitions in excess of estimated seasonal requirements unless the facility used to store the munitions was approved for such purpose. However, according to a U.S. Army official, the Army does not review and approve FS facilities for such purposes.

### **Inventories Containing Expired And Deteriorating Explosives**

Seven FS magazines visited contained expired or deteriorated explosives (see Exhibit C). The FS blasters we spoke to said they had not disposed of the expired or deteriorated explosives because the explosives were not unstable, just less likely to detonate. In addition, the FS blasters were planning to detonate the explosives with other explosives when the appropriate blasting project came up. In one magazine, most of the high explosives stored in the magazine were already expired, including 40 pounds of Tovex acquired over 3

years ago and 400 pounds of fireline acquired over 4 years ago. The shelf life of the Tovex is only 1 year and the shelf-life of the fireline is 2 years. The FS had used explosives in the magazine only twice in the past 2 years.

Regulations<sup>10</sup> require that explosives be destroyed if their condition deteriorates to the extent that they become unstable or dangerous. For most explosives, a shelf-life of 1 year is recommended, although satisfactory performance can be expected from some products after as many as 4 years. For example, qualified fireline explosives (water gels) are typically supplied with a shelf-life of approximately 2 years because water gel explosives begin to change consistency (not chemistry) when they are exposed to freeze/thaw cycles through the winter months. The effects of these cycles is a decrease in sensitivity to detonation and a thickened consistency that causes misfires and cutoffs.

The FS needs to take the appropriate measures to minimize the risk inherent in storing large quantities of military weapons in its magazines. If the FS elects to store excessive quantities of munitions in its magazines, it needs to determine the additional security measures needed at the magazines commensurate with the increased risk associated with stockpiling such large quantities. Finally, the FS needs to reassess the quality of the explosives stored in magazines through inspections and promptly dispose of any expired and deteriorating inventory of explosives. The FS also needs to study the frequency of use of each magazine and take action to consolidate magazines when possible.

### **Recommendation 18**

Identify all magazines used to stockpile munitions, determine the additional security measures needed to ensure that they are adequately secured, and implement the additional security measures as soon as possible.

#### **Agency Response.**

The FS accepts the recommendation. The estimated completion date for this action is September 30, 2003.

#### **OIG Position.**

OIG accepts FS' management decision.

### **Recommendation 19**

Instruct FS staff, ski resorts, and other permittees to reassess during the annual inspections the need for each of their magazines and to promptly close down those they determine are no longer needed. For those magazines where the use is infrequent, consolidate magazines when possible.

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<sup>10</sup> 63 FR 33466, dated June 18, 1998.

**Agency Response.**

The FS accepts the recommendation. The estimated completion date for this action is September 30, 2003.

**OIG Position.**

OIG accepts FS' management decision.

**Recommendation 20**

Instruct FS staff, ski resort operators, and other permittees to identify during the 7-day inspections excess quantities of explosives stored at the magazines and to promptly destroy any explosives that have expired or that have deteriorated to the point they are no longer useful.

**Agency Response.**

The FS accepts the recommendation. The estimated completion date for this action is September 30, 2003.

**OIG Position.**

OIG accepts FS' management decision.

## **Section 3. Public Health and Safety**

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### **Finding 6**

### **Issues Noted Affecting Public Health and Safety**

Although our review primarily focused on the security over the magazines, we also identified the following issues affecting public health and safety:

#### **Staff Handling Explosives Did Not Have Current Blasting Certificates**

Two FS employees and four ski area employees were handling explosives without current blaster certifications (see Exhibit C). The two FS employees had never been certified, although they were experienced blasters working under the direction of a lead blaster. Regarding the four ski area employees, one was in the process of receiving his certification, two were in the process of renewing their certification, and one had not renewed his certification because the testing site for renewing certifications was over 200 miles away. The FS Manual<sup>11</sup> requires that all FS blasters meet certification requirements. The States also generally require that ski resort staff who possess or use explosives be certified.

#### **Grounds Surrounding Magazines Were Not Properly Maintained**

We found that the immediate area surrounding four FS magazines visited contained dry grass, branches, or dead trees (see Exhibit C). The FS had not kept up with the maintenance of the magazines, making them susceptible to forest fires. BATF storage regulations<sup>12</sup> require the area surrounding magazines to be kept clear of rubbish, brush, dry grass, or trees (except live trees more than 10 feet tall) for not less than 25 feet in all directions.

#### **No Signs Warning Public of Explosives Danger**

Three of the magazines visited did not have signs warning the public of explosives danger (see Exhibit C). Magazine custodians stated that such signs would draw attention to the magazines and are sometimes used as shooting targets. Regulations<sup>13</sup> state that property upon which explosives magazines are located outside of buildings shall be posted with signs reading “Explosives – Keep Off.” The FS’ *Guide for Using, Storing, and Transporting Explosives and Blasting Materials*<sup>14</sup> also requires that signs be posted at access points reading “Danger – Explosives.” It also states that signs should be located so as to minimize the possibility of a bullet traveling in the direction of the magazine if anyone shoots at the sign. We

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<sup>11</sup> FS Manual, Chapter 6740, Paragraph 6745.03, dated October 23, 2001.

<sup>12</sup> 46 FR 40384, dated August 7, 1981.

<sup>13</sup> 63 FR 33466, dated June 18, 1998.

<sup>14</sup> Chapter 4, Section 4.5, dated August 2000.

concluded that the public was not adequately warned of the dangers associated with the magazines. Furthermore, if the magazines are adequately secured, we believe that warning the public of the dangers associated with the magazines would not jeopardize their overall security.

### **Ski Resort Employees Assembled Hand Charges In Public Building**

In one ski area we visited, ski area personnel prepared hand charges used for avalanche control in the basement of a public building (see Exhibit C). The ski area explained that the igniters were not inserted into the fuse until they were ready to be used. In addition, the work was usually performed when the public was not in the building. Regulations<sup>15</sup> state that no person shall store, handle, or transport explosives or blasting agents when such storage, handling, and transportation of explosives or blasting agents constitutes an undue hazard to life.

#### **Recommendation 21**

Ensure that all staff handling explosives are properly certified in a timely manner.

#### **Agency Response.**

The FS accepts the recommendation. The estimated completion date for this action is September 30, 2003.

#### **OIG Position.**

OIG accepts FS' management decision.

#### **Recommendation 22**

Ensure during the 7-day inspections that all magazines are properly cleaned and the surrounding area is clear of dry grass, branches, or dead trees.

#### **Agency Response.**

The FS accepts the recommendation. The estimated completion date for this action is September 30, 2003.

#### **OIG Position.**

OIG accepts FS' management decision.

#### **Recommendation 23**

Instruct FS staff, ski resort operators, and other permittees to post the appropriate signs warning the public of explosives danger.

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<sup>15</sup> 63 FR 33466, dated June 18, 1998.



**Agency Response.**

The FS accepts the recommendation. The estimated completion date for this action is September 30, 2003.

**OIG Position.**

OIG accepts FS' management decision.

**Recommendation 24**

Instruct all ski resort operators and other permittees to comply with the current regulation prohibiting the assembly of explosive components in public places.

**Agency Response.**

The FS accepts the recommendation. The estimated completion date for this action is September 30, 2003.

**OIG Position.**

OIG accepts FS' management decision.

# ***Scope and Methodology***

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We conducted this review as part of our ongoing evaluation of homeland security issues at the FS. The purpose of our review was to assess security over the explosives and munitions magazines located within the NFS that are owned and operated by the FS and private ski resort operators. To accomplish our overall objective, we visited a total of 36 magazines (25 explosives magazines and 11 military munitions magazines) located in 6 of the FS' 9 regions (see Exhibit B). Of the 36 magazines visited, 13 were owned and operated by the FS and 23 were owned and operated by the private ski resorts. Fieldwork was performed between December 2001 and September 2002.

The 36 magazines were judgmentally selected from the following FS regions: Northern Region (Region 1), Rocky Mountain Region (Region 2), Pacific Southwest Region (Region 5), Pacific Northwest Region (Region 6), Southern Region (Region 8), and Eastern Region (Region 9). Regions 1, 2, 5 and 6 were selected because they had the largest number of magazines (see Exhibit A). Regions 8 and 9 were selected because they each had magazines with large quantities of explosives. From each of the regions, we primarily selected those magazines containing the largest quantity of explosives and particularly those magazines that were used to store military munitions.

Of the 335 existing magazines, the FS owns and operates 166 and the private ski resorts own and operate 153. The remaining 16 magazines are owned and operated by other governmental and nongovernmental entities such as private mining companies. Our judgmental sample included 8 percent of the magazines owned and operated by the FS and 15 percent of those owned and operated by the ski resorts. We excluded from our sample those 16 magazines owned and operated by other entities because most of the non-FS magazines were owned and operated by the private ski resorts.

In developing the findings in this report, we performed the following steps and procedures:

- We obtained and reviewed all applicable laws and regulations pertaining to the magazines.
- We contacted the Bureau of Alcohol, Tobacco and Firearms to determine its role and responsibilities regarding the magazines.
- We contacted the Department of the Army to determine its role and responsibilities regarding use of military weapons and munitions stored at the magazines. We also reviewed the Interagency Agreement between the Department of the Army and FS.

- We contacted officials from the U.S. Office of Personnel Management, USDA Office of Crisis Planning and Management, and FS Office of Human Resources Management to determine their policies and procedures pertaining to background investigations for staff with access to the magazines.
- For each State visited, we contacted various State agencies with jurisdiction over the magazines owned and operated by the private ski resorts to determine their role and responsibilities regarding the magazines. State agencies we contacted included the California Department of Occupational Safety and Health, the Colorado Department of Labor and Employment, the Departments of Labor and Industry in the States of Montana and Washington, and the Departments of Justice in the States of California and Montana. We also obtained and reviewed each agency's regulations relating to the magazines.
- At the magazines visited, we interviewed both FS and ski resort staff responsible for the magazines. We also physically inspected the magazines and performed a physical inventory of the contents stored in the magazines. For those magazines owned and operated by the private ski resorts, we also obtained and reviewed the special use permits. A questionnaire was developed to document the results of our security review at each magazine visited.

Our audit was conducted in accordance with generally accepted government auditing standards.

# ***Abbreviations***

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<b>ANFO</b>	-	Ammonium Nitrate and Fuel Oil
<b>BATF</b>	-	Bureau of Alcohol, Tobacco and Firearms
<b>FS</b>	-	Forest Service
<b>INFRA</b>	-	Forest Service's Integrated Information Management System for Infrastructure
<b>NFS</b>	-	National Forest System
<b>NSAA</b>	-	National Ski Area Association
<b>OGC</b>	-	Office of the General Counsel
<b>OPM</b>	-	U.S. Office of Personnel Management

# Glossary

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- Blasting Agent** - Any unconfined material or mixture of fuel and oxidizer used for blasting, not otherwise defined as an explosive.
- Detonator** - A device containing a detonating charge that is used for initiating detonation in an explosive.
- Explosives** - Any chemical compound mixture, or device, the primary or common purpose of which is to function by explosion. The term includes, but is not limited to, dynamite and other high explosives, initiating explosives, detonators, safety fuses, detonating cord, igniter cord, and igniters.
- Explosives Materials** - Explosives, blasting agents, water gels, and detonators.
- High Explosives** - Explosive materials that can be caused to detonate when unconfined. High explosives include dynamite, cast boosters, and water gels.
- Howitzer** - A cannon mounted in a recoil mechanism that reduces the force of firing. The cannon and recoil mechanism are further mounted on a carriage that allows elevating and rotating the cannon. Howitzers have a rate of fire between 3-10 rounds per minute and have ranges between 9,600 and 12,330 yards, depending on the type of howitzer.
- Low Explosives** - Explosive materials that are not bullet-sensitive, but that can be detonated when confined. Low explosives include safety fuses, igniters, igniter cords, and fuse lighters.
- Magazine** - Any building or structure, other than an explosives manufacturing building, used for storage of explosive materials.
- Munitions** - All ammunition and propellant that is designed by the military for use in 75-mm, 105-mm, and 106-mm recoilless rifles, 75-mm or 105-mm howitzers, or commercially available device such as an avalauncher made specifically for avalanche control.
- Recoilless Rifle** - A cannon-like rifle with no recoil mechanism. Vents in the breech (part of the weapon at the rear of the barrel) counter the firing force by allowing firing gases to escape through the vents thus balancing the firing force. The rifle can be elevated and rotated when mounted and was originally designed as an anti-tank weapon.
- Water Gel** - An explosive material containing substantial portions of water, oxidizers, and fuel, plus a cross-linking agent.

# Exhibit A

## Number Of Explosives and Munitions Magazines Located Within The National Forest System Per FS<sup>1</sup>

FS Region	FS Magazines	Non-FS Magazines	Regional Total
1	[		]
2	[		]
3	[		]
4	[		]
5	[		]
6	[		]
8	[		]
9	[		]
10	[		]
<b>Nationwide Total</b>	166	169	335

<sup>1</sup> This is the approximate number of magazines located within the National Forest System. As was noted in Finding No. 1 of this report, the FS was unable to readily identify the number, type and location of the magazines within their national forests, particularly those belonging to the private ski resorts.

# Exhibit B

## Number of Explosives and Munitions Magazines Visited By Region

Region	FS Owned Magazines		Non-FS Owned Magazines		Total
	Explosives	Munitions	Explosives	Munitions	
1	[				]
2	[				]
5	[				]
6	[				]
8	[				]
9	[				]
Total	[			]	36
	13		23		

# Exhibit C

## Exceptions Noted During Visits To Selected Explosives and Munitions Magazines

Magazine Visited	Finding 2				Finding 3				Finding 5		Finding 6			
	7-day Inspections Not Performed	7-day Inspections Not Documented	Annual Inspections Not Conducted	Unaccounted For Physical Inventories	No Key Custodian	No Key Registry/Log	Keys Not Adequately Secured Once Distributed	Locks Not Changed Periodically	Additional Security Needed At Magazine	Explosives Expired Or Deteriorated	Staff Without Current Blaster Certification	Magazine Grounds Not Properly Maintained	No Warning Signs of Explosives Danger	Hand Charges Assembled In Public Building
1	X	X	X		X	X	X	X	X					
2	X	X	X		X	X	X	X	NA	X				
3					X	X	X	X	NA					
4			NA	X	X	X	X	X						
5			NA		X	X	X	X						
6			NA		X	X	X	X						
7					<sup>1/</sup>	<sup>1/</sup>	X	<sup>1/</sup>	NA		X			
8			X		X	X	X	X	NA					
9			NA		X	X	X	X	NA					
10	X		NA		X	X	X	X	NA	X				
11	X		NA		X	X	X	X	NA	X				
12	X		NA		X	X	X	X	NA	X	X			
13			X		X	X	X	X	NA	X				
14	X		X		X	X		X	NA	X				
15		X	NA		X	X		X						
16		X	NA		X	X		X						
17		X	NA		X	X		X						
18		X	NA		X	X		X	NA				X	
19	X	X	X					X	X					
20	X	X	NA		X	X		X	NA			X		
21		X	NA		X	X	X	X						
22		X	NA		X	X	X	X						
23	X		NA		X	X	X							
24	X		NA		X	X	X		NA					
25			NA		X	X	X		NA					
26			NA		X	X	X		NA					
27	X	X	X		X	X	X	X	NA		X			
28		X	NA		<sup>1/</sup>	<sup>1/</sup>	X	<sup>1/</sup>	NA					
29		X	NA	X	<sup>1/</sup>	<sup>1/</sup>	X	<sup>1/</sup>	NA					
30				X	X	X	X	X	NA	X		X		
31	X	X	NA		X	X	X	X	NA		X	X		
32		X	NA	X	X	X	X	X	NA					
33	X	X	NA		X	X	X	X	NA					
34		X			X	X	X	X	NA	X	X			
35		X			X	X		X	NA	X	X			
36		X			X	X		X	NA	X	X			
Total Exceptions	13	19	7	4	32	32	26	29	2	7	6	4	3	1

<sup>1/</sup> Undeterminable for this magazine since information not received prior to report issuance.



# Exhibit D

## FS Response To Draft Report



United States  
Department of  
Agriculture

Forest  
Service

Washington Office

14<sup>th</sup> & Independence SW  
P.O. Box 96090  
Washington, DC 20090-6090

File Code: 1430  
Route To:

Date: MAR 6 2003

**Subject:** Management Decision Request on OIG Report No. 08601-30-SF; Review of Security Over Explosives/Munitions Magazines Located Within the National Forest System

**To:** Richard D. Long  
Assistant Inspector General for Audit  
Office of Inspector General

The Forest Service is requesting management decisions on the Office of the Inspector General (OIG) report number 08601-30-SF titled "Review of Security Over Explosives/Munitions Magazines Located Within the National Forest System". The Forest Service concurs with all audit findings and recommendations. Enclosed is the Forest Service response to the OIG report.

If you have any questions, please contact Sandy Coleman, OIG/GAO Audit Liaison, on (703) 605-4940.

MARY S. MATIELLA  
Chief Financial Officer, Deputy Chief for Budget and Finance

Enclosure

cc: Ken Karkula, Joan Ball



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**Forest Service Response to Draft Discussion Report  
OIG Audit No. 08601-30-SF  
“Review of Security Over Explosives/Munitions Magazines  
Located Within the National Forest”**

=====

**RECOMMENDATION NO 1:** Update FS property records so that they accurately reflect all magazines owned and operated by the FS.

**ESTIMATED COMPLETION DATE:** September 30, 2003

**FS: RESPONSE:** Accept the recommendation.

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**RECOMMENDATION NO 2:** Document in each special use permit the name and location of all magazines located within the NFS that are owned and operated by the permittee. The permits should also indicate the type of magazine, quantity of explosives or munitions generally stored in the magazine, and the permittee’s responsibility for safeguarding the contents of the magazine.

**ESTIMATED COMPLETION DATE:** September 30, 2003.

**FS: RESPONSE:** Accept the recommendation. The requested information will be made a part of the annual Operating Plan, which is made a part of the permit. This allows for the requested information to be updated annually.

-----

**RECOMMENDATION NO 3:** Using the information from the FS property records and the special use permits, establish a centralized and restricted database containing the name and location of all magazines located within the NFS. The database should also include the owner’s name, magazine type, custodians, security features, and the risk level of the magazine based on its location and contents.

**ESTIMATED COMPLETION DATE:** September 30, 2003

**FS: RESPONSE:** Accept the recommendation. For security purposes, requested information will be housed with the FS Home Land Security program manager.

**RECOMMENDATION NO 4:** Develop a comprehensive management plan to ensure that the appropriate resources are provided to timely perform the required inspections and physical inventories.

**ESTIMATED COMPLETION DATE:** September 30, 2003.

**FS: RESPONSE:** Accept the recommendation.

-----

**RECOMMENDATION NO 5:** Instruct FS staff, ski resort operators, and other permittees to conduct all required inspections, focusing on the deficiencies noted in our review, and to document the inspection results.

**ESTIMATED COMPLETION DATE:** September 30, 2003.

**FS: RESPONSE:** Accept the recommendation. FS will work with National Ski Area Association (NSAA) to direct ski areas to take immediate action. FS will work with NSAA to develop a long-term program.

-----

**RECOMMENDATION NO 6:** Require the ski resort operators and other permittees to conduct annual inspections of their magazines, particularly if annual inspections are not performed by the State.

**ESTIMATED COMPLETION DATE:** September 30, 2003.

**FS: RESPONSE:** Accept the recommendation. FS will work with National Ski Area Association (NSAA) to direct ski areas to take immediate action. FS will work with NSAA to develop a long-term program.

-----

**RECOMMENDATION NO 7:** Instruct FS staff and ski resort operators to immediately resolve inventory discrepancies identified by our review and report any missing inventory to BATF and the appropriate local officials.

**ESTIMATED COMPLETION DATE:** May 1, 2003.

**FS: RESPONSE:** Accept the recommendation.

**RECOMMENDATION NO 8:** Require FS units, ski resort operators, and other permittees to conduct physical inventories at least biannually or more often as circumstances dictate and to establish a separation of duties to ensure that the staff adding or removing inventory from the magazines is not the same staff that is updating the inventory records and conducting the physical inventories. Inventories and inspections shall be conducted by designated, approved blasters. Incorporate procedures into the *Guide for Using, Storing, and Transporting Explosives and Blasting Materials* addressing the conduct and documentation of physical.

**ESTIMATED COMPLETION DATE:** September 30, 2003.

**FS: RESPONSE:** Accept the recommendation for FS personnel. Direction to ski resort operators will be combined with Recommendations 9 and 10 and placed in most appropriate location for maximum affect.

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**RECOMMENDATION NO 9:** Monitor the activity at those magazines owned and operated by the ski resorts and other permittees to ensure that they are conducting the required reviews and physical inventories in a timely manner and that the magazines are adequately secured. Incorporate FS responsibilities into the FS Manual that address the monitoring of permittee inspections and physical inventories.

**ESTIMATED COMPLETION DATE:** December 31, 2003.

**FS: RESPONSE:** Accept the recommendation.

-----  
**RECOMMENDATION NO 10:** Amend the FS Manual along with the special use permits to adequately address the FS', ski resort operators', and other permittee's, role and responsibilities regarding the safeguarding of the magazines and their contents.

**ESTIMATED COMPLETION DATE:** September 30, 2003.

**FS: RESPONSE:** Accept the recommendation.

**RECOMMENDATION NO 11:** Establish minimum-security standards for the distribution and safeguarding of the keys to the magazines. Minimum standards should require that the locks on the magazines be changed periodically, particularly when there is staff turnover or the key to the magazine is lost or stolen. Incorporate standards for the distribution and safeguarding of keys to magazines into the *FS Guide for Using, Storing, and Transporting Explosives and Blasting Materials*.

**ESTIMATED COMPLETION DATE:** September 30, 2003.

**FS: RESPONSE:** Accept the recommendation for Military Weapons. FS will work with NSAA to establish standards for ski areas that meet the intent of the recommendation.

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**RECOMMENDATION NO 12:** Amend the special use permits to require that ski resort operators and other permittees meet the standards established in Recommendation 11.

**ESTIMATED COMPLETION DATE:** September 30, 2003.

**FS: RESPONSE:** Accept the recommendation.

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**RECOMMENDATION NO 13:** Ensure that the position descriptions are properly updated for all FS staff with responsibilities associated with the magazines, and upgrade the position risk level for those employees who handle the explosives or munitions stored in the magazines in accordance with OPM guidelines.

**ESTIMATED COMPLETION DATE:** September 30, 2003.

**FS: RESPONSE:** We concur with the recommendation. The Human Resource Management Staff will work with the Regions to ensure that all position descriptions for FS staff with responsibilities associated with the magazines will be properly updated, and the position risk level for those employees who handle the explosives or munitions will be corrected in accordance with OPM guidelines September 30, 2003.

**RECOMMENDATION NO 14:** Conduct the required background investigations in accordance with OPM guidelines for those FS employees who position risk level was upgraded.

**ESTIMATED COMPLETION DATE:** December 31, 2003.

**FS: RESPONSE:** We concur with the recommendation. The Human Resource Management staff will request background investigations for those FS employees whose position risk level was upgraded by December 31, 2003.

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**RECOMMENDATION NO 15:** Require that background investigations be updated in accordance with OPM guidelines for all FS employees with access to the magazines that handle explosives when renewing their blaster certifications. Incorporate background investigations requirements into the FS Manual.

**ESTIMATED COMPLETION DATE:** September 30, 2003.

**FS: RESPONSE:** We concur with this recommendation. The Human Resource Management staff will require that all background investigations be updated in accordance with OPM guidelines when employees renew their blaster certifications and will incorporate these background investigations requirements into the FS Manual. Both actions will be completed by September 30, 2003.

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**RECOMMENDATION NO 16:** Restrict access to the magazines to only those FS employees with the proper security clearance or those accompanied by someone with the proper security clearance.

**ESTIMATED COMPLETION DATE:** September 30, 2003.

**FS: RESPONSE:** Accept the recommendation.

**RECOMMENDATION NO 17:** Require ski resort operators and other permittees to perform background investigations on their staff with access to magazines that at a minimum include a national criminal history check, a check with local and State law enforcement agencies, and a credit check.

**ESTIMATED COMPLETION DATE:** September 30, 2003.

**FS: RESPONSE:** The Bureau of Alcohol, Tobacco, and Firearms (BATF), as the responsible agency for explosives in the private sector has recently amended regulations regarding the handling of explosives by foreign individuals working in the United States. This change specifically affects ski area personnel. The FS will work with BATF and NSAA to develop appropriate policy regarding background checks.

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**RECOMMENDATION NO 18:** Identify all magazines used to stockpile munitions, determine the additional security measures needed to ensure that they are adequately secured, and implement the additional security measures as soon as possible.

**ESTIMATED COMPLETION DATE:** September 30, 2003.

**FS: RESPONSE:** Accept the recommendation.

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**RECOMMENDATION NO 19:** Instruct FS staff, ski resorts, and other permittees to reassess during the annual inspections the need for each of their magazines and to promptly close down those they determine are no longer needed. For those magazines where the use is infrequent, consolidate magazines when possible.

**ESTIMATED COMPLETION DATE:** September 30, 2003.

**FS: RESPONSE:** Accept the recommendation.

**RECOMMENDATION NO 20:** Instruct FS staff, ski resort operators, and other permittees to identify during 7-day inspections excess quantities of explosives stored at the magazines and to promptly destroy any explosives that have expired or that have deteriorated to the point they are no longer useful.

**ESTIMATED COMPLETION DATE:** September 30, 2003.

**FS: RESPONSE:** Accept the recommendation.

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**RECOMMENDATION NO 21:** Ensure that all staff handling explosives are properly certified in a timely manner.

**ESTIMATED COMPLETION DATE:** September 30, 2003.

**FS: RESPONSE:** Accept the recommendation.

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**RECOMMENDATION NO 22:** Ensure during the 7-day inspections that all magazines are properly cleaned and the surrounding area is clear of dry grass, branches, or dead trees.

**ESTIMATED COMPLETION DATE:** September 30, 2003.

**FS: RESPONSE:** Accept the recommendation.

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**RECOMMENDATION NO 23:** Instruct FS staff, ski resort operators, and other permittees to post the appropriate signs warning the public of explosives danger.

**ESTIMATED COMPLETION DATE:** September 30, 2003.

**FS: RESPONSE:** Accept the recommendation.



**RECOMMENDATION NO 24:** Instruct all ski resort operators and other permittees to comply with the current regulation prohibiting the assembly of explosive components in public areas.

**ESTIMATED COMPLETION DATE:** September 30, 2003.

**FS: RESPONSE:** Accept the recommendation.

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Informational copies of this report have been distributed to:

Office of the Chief Financial Officer	
Planning and Accountability Division	
Director	(1)
General Accounting Office	(2)