



**Atmospheric Radiation Measurement Climate Research Facility/  
North Slope of Alaska/Adjacent Arctic Ocean (ACRF/NSA/AAO)**

**Activity Specific Firearm Safety Plan for  
ACRF/North Slope of Alaska**

**Sandia National Laboratories**

**Department 6383, Energy, Climate & Atmospheric Management**

## Signature Page

This safety plan is approved by the undersigned and includes the firearm and ammunition storage practices described in this document.

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### **ACRONYMS and DEFINITIONS**

AAO	Adjacent Arctic Ocean
ACRF	Atmospheric Radiation Measurement Climate Research Facility
ARM	Atmospheric Radiation Measurement (Program)
BSP	Bear Safety Plan
CRF	Climate Research Facility
CPR	Cardiopulmonary Resuscitation
CTA	Central Training Academy
DOE	Department of Energy
FSP	Firearm Safety Plan
NNSI	Non-proliferation and National Security Institute (formerly CTA)
NSA	North Slope of Alaska
SM	Site Manager
TID	Tamper Indicating Device: A numbered device that upon examination is easily identified as being tampered with. These are typically tapes and seals and are available commercially.

## **Activity Specific Firearms Safety Plan For ACRF North Slope of Alaska**

### **Project Overview**

The Atmospheric Radiation Measurement (ARM) Program, sponsored by the US Department of Energy, is engaged in a long-term study of the effects of clouds on solar and thermal radiation flux and climate change around the globe. An ARM Climate Research Facility (ACRF) site has been developed on the North Slope of Alaska (NSA) for long-term, continuous measurement of various important atmospheric, cloud and climate parameters in the polar regions of the earth. A primary ACRF/NSA facility exists near the town of Barrow with a secondary facility at the inland North Slope village of Atkasuk. Occasionally, other instrumentation locations are established in other more remote areas on the North Slope or Adjacent Arctic Ocean to support shorter-term studies. In addition to a data acquisition center within the ACRF/NSA project office near Barrow, the central facility at Barrow consists of a cluster of instrumentation shelters out on the tundra that house a variety of instrumentation that is routinely visited by site personnel. Site visitors work at these locations as well, although on a less frequent basis.

By virtue of its Arctic location, personnel working at the various ACRF/NSA instrumentations facilities are exposed to a polar bear hazard. A bear safety firearms program has been instituted among site workers to address this potential hazard. This document provides the firearm safety plan that governs how firearms may be handled by ACRF/NSA personnel while working in situations where a polar bear hazard may exist.

Firearms safety on all project-related work at all project locations will be governed by this plan. <sup>1</sup> The Site Manager (SM) bears overall responsibility for defining the Firearms Safety Plan (with DOE approval), and for insuring that all project participants follow this safety plan. Project participants include ARM-affiliated DOE National Laboratory personnel, other ARM Program scientists and instrument mentors with other institutional affiliations, as well as various subcontractors working at the site.

### **Management Policy for the Use of Firearms**

Polar bears are a well-recognized hazard on the North Slope of Alaska. Local public safety and wildlife management organizations strongly recommend that outside of towns and villages, people carry appropriate firearms to defend against polar bears during most of the year. In view of this polar bear threat, it is Sandia's management policy that the option of bearing firearms while on official project business be available to appropriately trained site personnel. Furthermore, it is Sandia's policy that those who carry firearms are to do so in a safe and responsible manner. Project personnel frequently working out on the tundra and/or the ice are to be trained in the use of a firearm suitable for protection against the polar bear threat. Firearm handling and use is monitored to insure that personnel and public safety is maintained.

Untrained project personnel visiting remote ARM work areas will not be issued project firearms. Alternatively, armed, firearms-trained individuals will accompany them as the need arises. The project firearms are to be used by NSA project personnel only during official project business. Furthermore, project personnel while on project business may carry only specified, project-owned firearm models that are approved for use against the bear threat by the Site Manager (SM). Should the situation arise that an

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<sup>1</sup> In cases in which project-related work is taking place on a site controlled by another agency, firearms safety issues will be negotiated with that agency.

inadequate number of SNL-approved firearms are available on site in operational condition, the SM or his designated alternate may arrange for the temporary use of additional firearms by the project through local North Slope agencies.

This document is an activity specific firearms safety plan. An accompanying ACRF/NSA/AAO safety document entitled the Bear Safety Plan outlines safe work practices in a North Slope work environment that may include a bear threat. Both documents must be read and understood by all project personnel prior to the use of firearms at ACRF/NSA/AAO remote work sites.

### **Authorization to Carry Firearms**

The SM or a designated alternate shall specify which personnel are authorized to carry project firearms during work at ACRF/NSA/AAO sites. The SM shall post a list of individuals with up-to-date firearms training on the ACRF/NSA/AAO web site. A training expiration date is also included in the list for each authorized individual. The Site ES&H coordinator shall have the responsibility to periodically check the entries in the firearm use log to verify that only authorized personnel carry project firearms. The ES&H coordinator or the Site Manager shall have the authority to discontinue the authorization of individuals to carry firearms on project business at any time. Failure to keep firearms training current as required in this plan shall result in revocation of shotgun use privileges.

### **Authorized Firearms and Ammunition**

The firearms and ammunition that are authorized to be carried by authorized project personnel are as follows:

- Shotgun: Remington Model 870, 12-gauge, short-barrel shotgun
- Ammunition: 12 Gauge Slug (1 ounce) 2<sup>3</sup>/<sub>4</sub>-inch Brenneke KO, or equivalent, Birdshot, and Buckshot.

The selection of this firearm and ammunition is consistent with the policies and recommendations of the North Slope Borough Wildlife Management Department, the Departments of Natural Resources of the Northwest Territories and of Manitoba, Canada, and other organizations charged with managing wildlife and/or maintaining public safety in the Arctic. Project personnel are limited to use of the above firearm model and type of ammunition only. Other ammunition may be used during training classes and during authorized firearms practice sessions only as specified by the firearm safety instructors.

Use of any other firearms or ammunition at ACRF/NSA/AAO sites is prohibited. Prohibited firearm use or storage at any of the ACRF/NSA/AAO sites includes personally owned, employer-provided, or other government-owned firearms.

## **Training and Hearing Conservation Program**

To carry a firearm on project business, an authorized user must:

- Have successfully completed the initial shotgun training class.
- Be current in their annual refresher training class requirements.
- Have read the Firearm Safety Plan and accompanying Bear Safety Plan.
- Have completed Red Cross, American Heart Association, or equivalent CPR classes.
- Have completed a Red Cross First Aid course or the First Aid Refresher course included with the instructional plan in Appendix A of this document (Session 7) or an equivalent class.
- Be familiar with personal protective equipment and its use during firearm training exercises

Each of these elements is discussed in more detail in the following sections.

In addition to these training requirements, any employee involved in regular firearms training shall participate in a Hearing Conservation Program.

## **Trainer Qualifications**

For protective force firearm safety training, the applicable DOE orders state that all instructors must be certified by DOE Non-proliferation and National Security Institute (NNSI) personnel. The use of firearms for personnel protection against a polar bear threat is outside the scope of protective force programs that the DOE firearm safety orders specifically addresses. Consequently, in light of cost and logistical considerations, the ACRF/NSA/AAO project personnel, with DOE/OKSO concurrence, have chosen to exercise the option of contracting with experienced firearm safety training personnel, who are resident in Alaska; who have direct knowledge of the polar bear threat; and who have adequate professional credentials. Firearm safety trainers who may conduct the training sessions at the Fairbanks, Alaska, location shall have the following minimum professional credentials:

- National Rifle Association Firearm Safety Instructor Certification.
- Must be active in other firearm safety training activities in addition to those conducted for the ACRF/NSA/AAO project.
- At least 10 years firearm safety training experience that includes both classroom and live- fire range experience.
- Must have observed an ACRF/NSA/AAO firearm safety course conducted by NNSI or NNSI-certified firearm safety instructors.

First Aid training (taught by a certified First Aid instructor) that covers response to gunshot and puncture wounds is to be included in the firearms training. Those conducting training in Albuquerque at the DOE/NNSI shall be NNSI staff instructors or NNSI-certified instructors.

At the time of annual firearms training and firearms-related safety training, the North Slope of Alaska Site Manager will obtain copies of current certification documents for the firearms and first-aid trainers. These certification documents will be retained in program office files.

## **Initial Training**

Individuals designated by the SM or his alternate shall be trained by qualified firearm safety instructors on contract to the ACRF/NSA/AAO project or by certified instructors from the DOE Safeguards and Security, Non-proliferation and National Security Institute (NNSI). These instructors shall provide a two-day combination of classroom and live-fire instruction including firearm manipulation, marksmanship, as well as firearm maintenance, storage and cold-weather care. A firearm lesson plan to be used during any ACRF/NSA/AAO training occurring in Alaska is included in Appendix A. A similar lesson plan shall be

used at the DOE/NNSI facility for the class training offered in Albuquerque. The annual two-day training will be offered as-needed for those firearm users coming into the program.

### **Retraining**

Re-training shall be repeated on an annual basis and shall consist of one-day refresher course that shall include both classroom and live-fire training. As a result of the logistical difficulties in arranging personnel training on the North Slope, annual retraining requirements allow a one-month grace period, such that training expiration will not occur until 13 months have elapsed since a previous training event.

The refresher course content shall be the same as that offered in the full 2-day class; however, it will be presented in summary and review format. Annual retraining topics shall consist of the following:

- Review of DOE firearm safety rules
- Review of shotgun nomenclature, marksmanship, manipulation, and malfunction clearance
- Practice manipulation and firing with birdshot and slugs
- Live-fire with slug ammunition on a range
- Firearms cleaning
- First aid puncture wound refresher training (taught by a certified First Aid instructor)

### **Other Training Procedures**

Procedures related to live-fire range clearance and use in Alaska and firearms cleaning are included in Appendices B and C respectively. Range clearance and use associated with live-fire training at the DOE/NNSI facility in Albuquerque are part of the standard operating procedure of the NNSI facility and are not included in this document.

### **Additional Mandatory Training**

In addition to firearms safety training, all individuals authorized to carry firearms shall complete a Red Cross, American Heart Association, or equivalent CPR course. Each individual will also complete a Red Cross First Aid course or an equivalent first aid course. The annual refresher course provided with Firearms Training will be considered to be equivalent first aid training for the purposes of this Firearms Safety Plan. It is the responsibility of each individual to schedule and maintain currency in first aid and CPR. Copies of First Aid/CPR training certificates shall be forwarded to the ACRF/NSA/AAO project office at Sandia National Laboratories.

### **Training Records**

Training records for ACRF/NSA/AAO SNL personnel shall be maintained on the Sandia TEDS (Training and Employee Development System) by the ACRF/NSA/AAO project office at Sandia National Laboratories. Hard copy contractor personnel records for Firearms training and associated courses, will be maintained by the Sandia ACRF/NSA/AAO project office. Other documentation related to the firearm-training program is also kept at the Sandia ACRF/NSA/AAO project office. Records pertaining to re-training events shall also be kept at the ACRF/NSA/AAO project office at Sandia National Laboratories in Albuquerque.

### **Firearm/Ammunition Storage, Access and Maintenance Storage**



Firearms shall be stored in locked gun cabinets at either the ACRF/NSA/AAO Duplex or instrumentation shelter location. Ammunition shall be stored inside locked gun cabinets or if not in the gun cabinet, in separate locked storage containers. Ammunition storage inside the gun cabinet need not be under separate lock and key. Any proposed changes to firearm storage facilities at the ACRF/NSA/AAO Site shall be reviewed and approved by a designated Sandia firearms safety engineer.

### **Access**

All ACRF/NSA/AAO personnel currently authorized to carry DOE firearms shall have access to gun cabinet keys. Access to gun cabinet and ammunition case locks shall be arranged through the ACRF/NSA/AAO Site Facilities Manager. A logbook containing a sign-out sheet is located in each of the two gun cabinets and shall be used for shotgun and ammunition checkout and return. The information to be recorded on the sign-out sheets includes the date and time of checkout, the nature of the activity for which the gun is required, the serial numbers of the guns(s) involved, and the printed name and the initials of the user, and date and time of return.

### **Maintenance and Inspection**

All project firearms shall be annually inspected and maintained by a certified armorer associated with either the DOE's NNSI facility on Kirtland Air Force Base (KAFB) or Sandia National Laboratories' Albuquerque Security Force. Typically, half (six) of the project firearms will be in storage at Sandia or NNSI and available for training and use in Albuquerque, and the other half will be in service at the ACRF/NSA/AAO Site on the North Slope.

Gun and ammunition inventory checks will be performed monthly by ACRF/NSA/AAO Site personnel and associated paperwork shall be faxed to the Sandia ACRF/NSA/AAO project office. Copies of all maintenance and inspection records will be kept at the ACRF/NSA/AAO Sandia office.

### **Shipment of Firearms and Ammunition**

It is the responsibility of the Site ES&H coordinator to insure that firearms are shipped between Albuquerque and Barrow, and other locations as required by training and maintenance needs, in accordance with applicable regulations. Normally, half (six) of the shotguns are stored in Albuquerque and the other half are kept at Barrow. Consequently, the firearms need to be shipped to and from the ACRF/NSA/AAO facility in Barrow in order to carry out annual firearm inspection at Albuquerque. Shipment is accomplished using "overnight" shipping carriers such as FedEx. Specific procedures to be followed for firearm shipment from Barrow to the DOE/NNSI site in Albuquerque are included in Appendix D. Contact information for the shipment clerks at Sandia are also given in the appendix and additional questions concerning the shipment of firearms should be directed to these individuals. Effective January 2004, written records associated with firearm shipment to and from the ACRF/NSA/AAO site will be kept at the Sandia ACRF/NSA/AAO project office. Firearms should always be shipped to the Sandia shipping address (and to the attention of Jeff Johnson, the Sandia armorer) and never shipped to the Sandia ACRF/NSA/AAO project office address. See Appendix D for additional information and guidance concerning firearm shipments.

Ammunition shipments are normally received at but not sent from the ACRF/NSA/AAO Barrow office. Slug ammunition is normally purchased in Anchorage and delivered to Barrow via air freight. All incoming ammunition shipments will have a hazardous cargo designation. Following notification of ammunition shipment receipt at Barrow, all items should be inventoried and stored either inside the locked gun storage safes or in the locked excess ammunition storage area at the ACRF/NSA Barrow Duplex. In the event that an outgoing ammunition shipment is required, the ACRF/NSA/AAO ES&H coordinator should be consulted for procedures to be followed.

## **Independent Firearm Safety Program Review**

Members of the Sandia Firearm Safety Committee or their designees shall perform ACRF/NSA/AAO Firearm Safety Program assessments annually. The nature and content of these annual program reviews are the responsibility of the Firearm Safety Committee or their designees.

## **Firearm Safety Rules**

The following safety rules shall be strictly adhered to for the safe transportation, handling, loading, unloading and use of firearms. These rules include, but are not limited to the following:

1. Always handle firearms as if they are loaded.
2. Never point a firearm at anything you are not willing to destroy.
3. Keep your finger off the trigger until the sights are on the target.
4. Be sure of your target.
5. Know what is down range and behind your target.
6. All firearms shall be carried in the manner specified in the appropriate instruction manual or in accordance with instructions received during training.
7. Firearms shall not be left unattended and/or unsecured.
8. Loading and unloading of firearms shall be done only in a prescribed manner and location. Reloading in the field is permitted as necessary.
9. Unloaded firearms and ammunition shall be stored in a predetermined secured location.
10. When a firearm is being cleaned, live ammunition for that firearm shall not be allowed in the cleaning area.
11. Firearms shall not be used by personnel who are under the influence of alcohol or other intoxicating substances or who are otherwise unfit for duty.

Firearms safety is a very important aspect of environmental safety and health. Firearms, loaded or unloaded, shall not be pointed at, or otherwise used to threaten any other human being, even in jest. Failure to observe this and the other provisions of this plan may serve as grounds for disciplinary action. Specific firearm safety rules and firearms safety curricula are listed in the appendices.

## **Transportation, Handling and Use of Firearms at ACRF Sites**

### **Transporting Firearms**

Transport of firearms to and from the work or training site may be accomplished in a safe manner by first insuring the gun is unloaded prior to loading the firearm into a vehicle. Shotguns and ammunition may be transported in a vehicle trunk or other vehicle cargo carrying area and need not be transported in a locked case. Furthermore, a gun rack is not required for safe transport of the firearms to and from the location where used. Unattended vehicles containing firearms and ammunition should always be locked.

**Note:** A recent federal law requires that firearms be transported through school zones in an unloaded condition and in a locked case. Appropriate measures should therefore be taken when transporting firearms between the ACRF/NSA/AAO Duplex and the airport during the annual firearms training in Fairbanks, Alaska, and rotation to Sandia National Laboratories.

### **Determination to Issue Firearms**

During those periods of time when there is a perceived bear hazard, those authorized to carry firearms shall in consultation with regular site workers (e.g. Walter Brower and Jimmy Ivanoff) determine if and

how many firearms should be used at a remote work site. The decision to carry firearms and their number is to be based on the severity of the perceived threat and the possible separation of the team into subgroups during the work activity. On the sea ice, by definition, a polar bear threat always exists and the use of firearm protection under these work conditions is strongly recommended.

Personnel who are under the influence of alcohol or other mind-impairing substances or who are otherwise unfit for this duty are prohibited from checking out firearms.

### **Inspection of Firearms (Prior To Loading)**

Authorized personnel who check out firearms shall inspect the firearm to insure that it is not loaded and that it is free from obvious damage. They shall also perform a function check of the firearm according to the manufacturer's instructions or according to techniques learned during firearms training. The inspection for damage and the function test must be completed prior to loading the firearm. In the event that a defective firearm is encountered during initial inspection, the firearm shall be tagged as defective and the Site ES&H coordinator notified such that arrangements can be made for its repair.

### **Loading, Unloading and Carrying Firearms in the Field**

When a group is preparing for work in a remote area or for local firearm practice, the firearms shall be loaded following the instructions and methods learned during training. Only authorized ammunition shall be used. For remote area work, the firearm shall be loaded at the work staging area. In remote area work, all firearms shall be carried in the "half-load" condition (no round in the chamber), and the firearm placed in the "SAFE" mode (the safety shall be on). Firearms should be left in this condition until a bear threat is encountered whereupon a full-load (round in the chamber) condition may be warranted. For firearm training situations, loading and unloading shall be done in accordance with specific instructions from the training session instructor.

In the field, firearms shall be carried with an approved sling or other device in a manner learned during training to insure muzzle control at all times. The firearm shall always be under the personal control of the person(s) who checked it out (e.g. in person's immediate possession, in a locked rack, or locked inside a vehicle).

Firearms that are being transported in populated areas shall always be transported in an unloaded condition.

After completion of work in a remote area or a training event and, upon arrival back at the staging area, the firearm shall be unloaded using procedures taught in the safety course. The firearms shall be checked in and stored in the locked, gun cabinets provided at the ACRF/NSA/AAO Duplex or instrument shelter.

A logbook shall be maintained in both firearms storage cabinets to record all firearm use. Information to be recorded includes the date and time of checkout, the nature of the activity, the serial numbers of the firearms involved, and the printed name and the signature or initials of the user. The entries in this log shall be available for inspection by the ES&H Coordinator at all times. At least once per year, the ES&H Coordinator shall review and sign the log book in order to verify appropriate use.

Non-project personnel residing at, traveling across, visiting or working near ACRF/NSA/AAO facilities cannot be prohibited from carrying firearms since DOE does not own the land occupied by the ACRF sites. Non-project personnel are exposed to the same bear hazards as project personnel and are entitled to

exercise appropriate protective measures. Sandia does not assume any responsibility for the safety of non-project personnel. Possession or storage of any non-project firearms at the ACRF/NSA/AAO Duplex in Barrow is strictly prohibited.

### **Circumstances Requiring Reporting of Shotgun Use**

The following three circumstances involving ACRF/NSA/AAO shotguns require a report to the ARM Site Manager:

1. The unintentional discharge of a gun (as dictated in DOE Order 232.1A).
2. Firing of a gun at a bear or other wildlife.
3. Other situations involving a gun discharge when the user was defending himself or others.

These incidents shall be reported immediately to the Site Manager (Mark Ivey, (505) 284-9092 and the Sandia ES&H Coordinator (Marty McRoberts (505) 284-5249).

### **Emergency Response and Communications**

Communications among field teams at the ACRF/NSA/AAO remote sites are accomplished primarily through the use of conventional and cellular telephones. Work practices require that at least one member of a remote site work party carry a cellular phone and spare battery. The cellular phone should be used to initiate an emergency response in the event of an accident involving a firearm. The emergency response number is "911", as taught in the annual first aid refresher session. The individual calling for assistance should report the following information to emergency response personnel:

1. the nature of the accident
2. the accident location
3. the current condition of injured party
4. the type of firearm causing injury, etc.

Following notification of emergency personnel, onsite personnel should attend to the accident victim using the first aid response measures taught in the first aid refresher class.

### **Authorized Firearm User List**

A copy of the Firearm Training and Authorization List is posted at the ACRF/NSA/AAO web site and shall be updated following any Firearms training classes.

## **Appendix A: ARM/NSA Firearm Safety Instruction Plan**

### **Session 1: Basic Firearms Safety**

**Duration:** 1 Hour

#### **Session Objectives**

Following this session students will be able to:

1. Know the appropriate rules of firearm safety.
2. Reproduce and demonstrate the safety rules.
3. Teach the safety rules to other students.

**Description:** Initial firearms safety training will take place in the classroom with no live ammunition present. Training will include a general firearms safety orientation stressing the basic rules of gun safety. The session will also include specifics on the capabilities of firearms and ammunition and the implications thereof. Firearms safety considerations for the specific firearms used in the ACRF/NSA/AAO bear protection program (e.g. Remington Model 870 Shotgun) will also be presented.

A supervised practice of firearm handling and manipulation will be conducted with the students in the classroom. Dry firing will be taught and practiced and its associated benefits will be discussed. Range safety procedures will also be discussed and will include a description of the safe firing procedures for the outdoor shooting portion of the class. Ammunition malfunctions that might occur on the range will be also discussed along with appropriate response measures.

DOE Firearms Safety rules will be presented. NRA Safety rules may also be presented to contrast and compare with DOE rules.

DOE firearms rules to be taught are:

1. All firearms are always loaded.
2. Never point a firearm at anything you are not willing to destroy.
3. Keep your finger off the trigger until your sights are on the target.
4. Be sure of your target.

DOE safety rules that will be reviewed are:

1. Always handle firearms as if they are loaded.
2. Never point a firearm at anything you are not willing to destroy.
3. Keep your finger off the trigger until the sights are on the target.
4. Be sure of your target.
5. Know what is down range, behind your target.
6. All firearms shall be carried in the manner specified in the appropriate instruction manual or in accordance with instructions received during training.
7. Firearms shall not to be left unattended and/or unsecured.
8. Loading and unloading of firearms shall be done only in a prescribed manner and location. Reloading in the field is permitted as necessary.
9. Unloaded firearms and ammunition shall be stored in a predetermined secured location.
10. When a firearm is being cleaned, live ammunition for that firearm shall not be allowed in the cleaning area.
11. Firearms shall not be used by personnel who are under the influence of alcohol or other intoxicating substances or who are otherwise unfit for duty.

## **Session 2: Personal Protective Equipment**

**Duration:** 15 minutes

### **Session Objectives**

Students will become familiar with the use of hearing protection (ear plugs and ear muffs), eye protection (shooters safety glasses) and gloves to be used during firearm cleaning.

**Description:** This session will consist of a short presentation by the ES&H Coordinator in which the various hazards associated with firearm use will be discussed. The three types of personal protective equipment (PPE) used during firearm handling will be reviewed. The session will include a demonstration of the insertion of foam ear plugs as well as the use of ear muffs. The necessity for using adequate eye and hearing protection during firearm training events will be emphasized. The requirement for enrollment of all authorized firearm users in the Sandia Medical Hearing Conservation Program or an equivalent program will also be discussed.

## **Session 3: Ammunition Knowledge**

**Duration:** 45 minutes

### ***Session Objectives***

As a result of this session, students will be able to:

1. Name the components of ammunition.
2. Describe the operation of ammunition when it is fired.
3. Describe how to identify the proper ammunition for a firearm.
4. Describe how to properly store ammunition.

**Description:** In this session, the effects of ammunition and their consequences for specific operations will be taught. The basics of ammunition, parts and operation will be discussed in detail. Identification of ammo and the use of correct ammo for the purpose is an integral part of ammunition use. Proper storage and rotation of ammo will be discussed. Dummy ammunition will be used for the firearms handling and manipulation portion of the course. Live ammunition will shown in this session (without firearms in the classroom) in order to teach the proper identification and knowledge of the ammunition.

### **Session 4: Firing Fundamentals**

**Duration:** 1 hour

#### ***Session Objective***

As a result of this session, students will be able to:

1. Describe the fundamentals of firing the shot.
2. Demonstrate the proper fundamentals with an empty firearm.
3. Teach the fundamentals to other students.
4. Demonstrate a firearm function check as outlined in the Remington Model 870 Users Manual

**Description:** The students will learn the correct way to handle and shoot the firearms by dry firing in the classroom. They will learn the various shooting positions by progressing from observation, practice without the firearm, with the firearm and finally with firearm dry fire. Speed and agility in establishing the correct firearm position will be stressed. Standing and kneeling positions will receive the most emphasis since these two positions are likely to be most used in a bear confrontation. Proper body position, gun position, sight alignment, sight picture, breath control, hold control, trigger control, and follow through will be taught and practiced. This teaching will be with total participant involvement meaning, students will role play as coaches in order to further cement the learning objectives of the lesson.

### **Session 5: Live-Fire on the Range**

**Duration:** 2-3 hours (depending on weather conditions)

#### ***Session Objective***

As a result of this session, students will be able to:

1. Understand the range safety rules in preparation for live firing.
2. Load, unload and fire the firearms rapidly, accurately and safely.

**Description:** A range safety orientation will be conducted at the live-fire range before any firing is done. All range rules of safety and procedure will be followed. During the safety orientation, all commands used to control firing on the range will be discussed, including the command to "cease fire" which may be given by anyone at any time.

Live-fire will include loading and unloading drills, firing from various positions and various distances that may be as long as 50 yards. Shooters will fire at lifelike targets in slow and rapid fire stages as assigned by the Chief Range Officer. A moving target will be used for realistic effect. The Chief Range Officer and the Range Safety Officer will confer and agree on the scenarios to be used and the necessary safety precautions to be in effect for each.

During live-fire activities, all personnel will use approved eye and ear protection as well as warm clothing. Time may be given for students to get out of the cold and warm up as determined by the wind chill factor. The range will be cleaned of spent shells and targets after the live-fire session.

### ***Shooter Qualification***

To pass the live-fire course, participants must receive a 70% or higher score. A passing score is required to be qualified for shotgun use as described in the Firearm Safety Plan for the ARM Climate Research Facility/North Slope of Alaska.

## **Session 6: Firearms Cleaning, Care and Storage**

***Duration:*** 30 minutes

### ***Session Objectives***

As a result of this session, students will be able to properly clean and store firearms after use.

***Description:*** After the live fire session, the students will clean the firearms. Each student will have an instruction manual for the type of firearm used. Each student will disassemble, thoroughly clean, and reassemble one of the firearms used during the live-fire session. Also included in this session will be a discussion about safe and responsible storage of the firearms and the care required to keep them in usable condition. This session will include firearm cleaning but will not address other firearm maintenance and repair issues since a certified armorer routinely inspects the ACRF/NSA/AAO firearms.

## **Session 7: First Aid Refresher Training**

***Duration:*** 1 hour

### ***Session Objectives***

As a result of this session, students will be able to appropriately respond to a firearm accident involving personal injury.

***Description:*** Key elements of first aid response will be discussed including: injury assessment, how to call for help, assistance measures for chest puncture wounds, bleeding stoppage, and treatment for shock.

## **Course Certification**

At the conclusion of the course, the firearm instructor will issue certificates of completion for the course.

## **Appendix B Live-Fire Range Use Procedures**

The following procedures are to be used during live-fire training at firing ranges selected for use in the vicinity of Fairbanks, Alaska. The procedures are intended to insure that live-fire activities are conducted safely and in the spirit of DOE guidelines that have been published concerning live-fire range safety. Procedures to be followed at the DOE/NNSI live-fire range are published in the DOE/NNSI Standard Operating Procedures and the implementation of these procedures is the responsibility of the NNSI firearm training instructors.

## **DOE/NNSI Safety Rules**

1. It is mandatory to use approved eye and ear protection and other personal protective equipment as required by the range safety officer.
2. A firearm may only be exchanged with another shooter under the direct supervision of an instructor.
3. Firearms must not be left unattended or unsecured.

4. Firearm loading and firing may commence only on command.
5. Shooters are not permitted to talk during a firing activity except in reply to an instructor as a part of the activity or to shout "cease fire" in an unsafe situation.
6. All shooters must be trained on what constitutes an unsafe condition and to shout "cease fire" when such a condition is observed.
7. Smoking, eating, or drinking must be prohibited while shooting.
8. Alcoholic beverages and drugs are prohibited on firing ranges. Shooters taking medication must report this fact to the firearms instructor is responsible for determining whether a shooter is fit based on the medication taken and whether it is safe for the shooter to use the range. A physician may be consulted if necessary.
9. Shooters must take precautions to prevent hot spent cartridge and gunshot residues from getting inside their clothing.
10. When a training session is completed, each firearm must be physically examined by the shooter and by a designated range safety officer or qualified firearms instructor to ensure that it is unloaded and in safe condition before leaving the range. If the shooter is using a duty firearm on the range, he or she may reload that weapon at the range if returning directly to duty.
11. Shooters must collect unexpended ammunition and return it to a firearms instructor.
12. While a firearm is being cleaned, live ammunition must not be allowed in the cleaning area.

#### **ACRF/NSA/AAO Specific Live-Fire Range Rules**

1. The firearm safety instructor is the designated person in charge and shall be responsible for all range activities during ACRF/NSA/AAO firearm training in Alaska.
2. The firearm instructor shall designate a range safety officer during firearm training and shall inform the range safety officer of his or her duties during live-fire training at the range.
3. Prior to commencement of live-fire training at the range, the instructor shall insure that the range is clear of all personnel down-range of the firing line.
4. Prior to the commencement of live-fire training at the range, the instructor shall inform all class participants of the rules of the range that will be in effect during the live-fire training.
5. If the range is shared with other members of the public on the days selected for ACRF/NSA/AAO training, the instructor shall coordinate range use and review all range rules with other shooters at the range prior to the commencement of live-fire training.
6. In the event of an accident that requires medical attention of personnel at the range; emergency medical services in the Fairbanks area should be activated by dialing 911. Instructor shall have a cell phone or equivalent means of contacting emergency services.
7. Personnel protective equipment to be in use during live-fire training shall include safety glasses that comply with American National Standards Institute Specification Z87.1 and hearing protection that affords a Noise Reduction Rating of 26 dBA or better.
8. Instructor shall ensure that First Aid equipment is available.

#### **Target Sled Safety**

ACRF/NSA Firearms Training may include live-fire practice using a towed or pulled target sled. The purpose of this sled with paper target is to simulate a charging bear. The Firearms Instructor will assume responsibility for safe operations of this target sled. The following guidelines for safe operations of the target sled will be observed:



1. The sled will be operated in such a manner that its movement is controlled at all times. This may require proper weighting of the sled and placement of a stop at the end of the sled track.
2. The driver of the towing vehicle will operate the powered vehicle so that other vehicles or individuals are not endangered. One member of the training class may ride with the tow vehicle operator as a spotter.
3. The firearms instructor and tow-vehicle driver will maintain communications at all times. Radio communications may be required under some conditions.
4. The firearms instructor will ensure that the tow vehicle and sled are operated in a manner that does not endanger the shooter, other class members, or other individuals. The firearms instructor may elect to use members of the class as safety spotters to ensure safe range operations.

### **Appendix C Personnel Protective Measures During Firearm Cleaning**

The following procedures identify the procedures and personnel protective measures that should be used by ACRF/NSA/AAO personnel during firearm cleaning during training classes conducted in Alaska or in Albuquerque at the DOE/NNSI facility.

1. Firearm cleaning shall be carried out in an area designated by the firearm instructor.
2. No ammunition shall be allowed in the designated firearm cleaning area.
3. Personnel protective equipment to be used during firearm cleaning procedures shall include safety glasses and protective gloves. ACRF/NSA/AAO personnel will provide these to all class participants.
4. Solvent-soaked rags and other waste associated with firearm cleaning shall be disposed of in a manner dictated by the local instructor and in a manner that is consistent with any applicable laws in the State of New Mexico or Alaska.

### **Appendix D: Shipment of ACRF/NSA Firearms**

The following policy addresses the shipment of firearms to and from the ACRF North Slope of Alaska Site and has been adapted from a policy developed by DOE Non-Proliferation National Security Institute (DOE/NNSI) and proposed for inclusion in DOE firearm policy documents (Protective Forces Manual DOER 473.2).

#### **Summary of Procedure**

All firearm shipments to and from the ACRF/NSA/AAO Site shall be coordinated through the ACRF/NSA Sandia office. Adherence to the following guidelines by ACRF/NSA/AAO staff will ensure that firearms reach their intended destinations without incident.

1. All firearms shall be shipped in lockable containers. Normally, firearms are shipped in metal or hard-plastic gun cases in a serviceable condition. The cases should also be sealed with a tamper-indicating device. Shipment cases shall also be banded with at least two metal bands. Packing lists shall be included inside the shipping container only, and not on the outside. The shipping addresses for Sandia and the ACRF/NSA/NSA site are included at the end of this document.

2. Firearms of a non-automatic nature (such as those used at the ACRF/NSA/AAO site) may be shipped utilizing priority overnight shipping with signature service at the receiving end of the shipment. Shipment via ground transportation mode is not acceptable. Commercial carriers such as FedEx, UPS, and Airborne Express may be used.

**Note:** The following FedEx guidelines for shipment of firearms are excerpted from the FedEx web site. FedEx Express can only accept and deliver **firearms** between areas served in the U.S. under the following conditions: You agree to tender shipments of **firearms** to us only when either the shipper or recipient is a licensed manufacturer, licensed importer, licensed dealer or licensed collector and is not prohibited from making such shipments by federal, state or local regulations. The shipper and recipient must be of legal age as identified by applicable state law.

**Firearms** must be shipped FedEx Priority Overnight service. FedEx cannot ship or deliver **firearms** C.O.D. or with a signature release. Upon presenting the package for shipment, the person tendering the shipment to FedEx is required to notify the FedEx employee who accepts the package that the package contains a firearm. The outside of the package must not be marked, labeled or otherwise identify that the package contains a **firearm**. **Firearms** shipments cannot be placed in a FedEx Express Drop Box. You also agree not to ship **firearms** loaded or with ammunition in the same package. Ammunition is an explosive and must be shipped separately as dangerous goods. The shipper and recipient are required to comply with all applicable government regulations and laws including those pertaining to labeling. The Bureau of Alcohol, Tobacco & **Firearms** can provide assistance.

**Note:** A letter granting government agencies exemption from the requirement of being a licensed manufacturer, licensed importer, licensed dealer or licensed collector to be able to tender shipments of firearms to FedEx is filed in the SNL ARM/NSA/AAO Project Office.

1. Notify the receiving site (in this case the ACRF/NSA/AAO Project Office at Sandia or the ACRF/NSA/AAO Barrow Site office) via fax or e-mail two working days prior to shipment with the type of shipment, carrier name, and expected delivery date. On the day of shipment provide the carrier's tracking number to the receiving site/agency.

If the shipment is not received within 24 hours of the expected delivery date, the receiving agency will notify the shipping agency (e.g. FedEx) who will investigate the delivery delay. The ACRF/NSA/AAO ES&H Coordinator should also be notified at this time. If the shipment is not accounted for within 48 hours of the expected delivery date, the delay will be considered a security incident and the shipping agency's Security Manager will be notified. Law enforcement agencies will be notified if appropriate.

## **Appendix E: First-Aid Kits for Firearms Safety Use**

We discussed adequacy of first aid kits and inspection of first aid kits during a review in late 2007. We had discussions about first aid training and first aid kits with Dr. Rick Sauerman, M.D., of Sandia Health Services Department (Ivey, personal interview, 19 December 2007).

To ensure that first aid kits used in firearms-safety applications are adequate, we will:

1. Purchase first aid kits that are rated by the vendor for “field trauma.”
2. use one-time plastic tie-locks to determine if any kit has been opened. We will check these locks monthly at the same time that we perform fire extinguisher inspections. If a kit has been opened, we will restock it or replace the entire kit.
3. Annually during our first aid training, we will review the first aid kit contents with our training instructor. If the instructor determines that our kits are inadequate for the training we receive, we will upgrade to the recommended kits.
4. At least annually, we will review expiration dates of medications in the kits and replace any that have exceeded their shelf-life dates.

Dr. Sauerman offered the following advice regarding first-aid response to possible firearms-related injuries at work sites in Alaska:

“In some cases of trauma, it is difficult to determine the severity of an injury at first glance.

When dealing with injuries from firearms, if there is ambiguity as to the extent of an injury, I would recommend that the team presume the worst and activate emergency response ASAP. Go with your gut if something is not quite right.”

We will review and discuss implementation of this welcome advice from Dr. Sauerman during our annual firearms-related first aid training.”

## **Appendix F: Procedures for Maintaining a Manual Inventory of Shotgun Ammunition at DOE ACRF Facilities on the North Slope of Alaska**

In late 2008, a recommendation was made by the Sandia Safety Engineering (Explosives) group that shotgun ammunition stored at ACRF Facilities on the North Slope of Alaska be tracked and controlled using the Sandia Explosives Inventory System. Following further review and discussion, a determination was made by Safety Engineering that this approach was not applicable to North Slope facilities. A manual inventory system was found to be sufficient and practicable. Documentation of that discussion and determination are contained in the NSA project office at Sandia.

We will perform the following actions to track and control shotgun ammunition at North Slope of Alaska ACRF facilities:

1. On-site staff at Barrow will count ammunition each month and send the current count to the NSA project office at Sandia for archiving.
2. A manual log will be kept in ammunition storage lockers at NSA facilities. These logs will indicate amounts of ammunition added, removed, or used and returned along with dates.

3. Ammunition will be replaced if damaged or after four years of storage. The stored ammunition will be used for annual firearms training. Old ammunition will be replaced with new ammunition from a local Alaskan source. When new ammunition is purchased, we will note the manufacturer, lot number, and type of ammunition on the log. We will work with our local contractors and Sandia procurement group to find an acceptable way to purchase this ammunition (roughly 100 rounds of 12-gauge ammunition).

## **Appendix G: Process Hazard Analysis for Ammunition and Related Email Communications About Ammunition Stored In Barrow**

### **Process Hazard Analysis for Shotgun Ammunition Stored at ARM Climate Research Facility in Barrow, Alaska**

Review Meeting Held at Sandia/NM on 12 Feb 2010.

Attending:

Mark Ivey

Jeff Zirzow

Marty McRoberts

Valerie Sparks

#### **A. Background:**

The Atmospheric Radiation Measurement (ARM) Program, sponsored by the US Department of Energy, is engaged in a long-term study of the effects of clouds on solar and thermal radiation flux and climate change around the globe. An ARM Climate Research Facility (ACRF) site has been developed on the North Slope of Alaska (NSA) for long-term, continuous measurement of various important atmospheric, cloud and climate parameters in the polar regions of the earth. A primary ACRF/NSA facility exists near the town of Barrow with a secondary facility at the inland North Slope village of Atkasuk. Occasionally, other instrumentation locations are established in other more remote areas on the North Slope or Adjacent Arctic Ocean to support shorter-term studies. In addition to a data acquisition center within the ACRF/NSA project office near Barrow, the central facility at Barrow consists of a cluster of instrumentation shelters out on the tundra that house a variety of instrumentation that is routinely visited by site personnel. Site visitors work at these locations as well, although on a less frequent basis.

By virtue of its Arctic location, personnel working at the various ACRF/NSA instrumentations facilities are exposed to a polar bear hazard. A bear safety firearms program has been instituted among site workers to address this potential hazard. An approved Activity-Specific Firearms Safety document provides the safety plan that governs how firearms may be handled by ACRF/NSA personnel while working in situations where a polar bear hazard may exist.

## B. Requirements for a Process Hazard Analysis

### 1.7S Process Hazard Analysis (from The Sandia Explosive Safety Manual, Process Hazard Analysis)

- a. The HA can either be a standalone document that explicitly follows the process outlined in this Manual and referenced within the PHS/HA, or it can be accomplished within the PHS/HA software as long as it satisfies the requirements outlined in this Manual.
- b. The HA shall consider the following (Minimum) topics before explosive work is conducted:
  1. Heat (e.g., Radiation, Convection, Conduction, flame, etc).
  2. Shock or Impact (e.g., drop, rough handling, etc).
  3. Friction (e.g., machining, mixing, pinching, cutting, etc).
  4. Electrical (e.g., AC/DC power, power supplies, batteries, RF, ESD, bonding, grounding, mating/unmating of connectors, ground plan, etc).
  5. Reaction (e.g., compatibility, confinement, contamination, etc).
  6. Physical Environment (e.g., humidity, weather, lightning, PGEWS, location, etc).

### C. Excerpt from the NSA ACRF Firearms Safety Plan

## **Firearm/Ammunition Storage, Access and Maintenance Storage**

Firearms shall be stored in locked gun cabinets at either the ACRF/NSA/AAO Duplex or instrumentation shelter location. Ammunition shall be stored inside locked gun cabinets or if not in the gun cabinet, in separate locked storage containers. Ammunition storage inside the gun cabinet need not be under separate lock and key. Any proposed changes to firearm storage facilities at the ACRF/NSA/AAO Site shall be reviewed and approved by a designated Sandia firearms safety engineer.

## **D. Results of Hazard Analysis Discussion on 12 Feb 2010**

### 1. Heat

Ammunition stored and carried in Barrow is unlikely to be exposed to heat under conditions experienced during normal operations. As the documentation below indicates, there is little hazard that results from exposure of this type of ammunition (1.4 S category) to fire as long as rounds are not in chambers. Our firearms policy requires guns to be stored unloaded.

### 2. Shock or impact

Ammunition stored and carried in Barrow is unlikely to be exposed to shock or impact under normal operating conditions. Hazard from occasional shock such as dropping a shotgun shell are not sufficient to create a hazard.

### 3. Friction

Ammunition stored and carried in Barrow is unlikely to be exposed to friction under all foreseeable conditions.

#### 4. Electrical

Ammunition stored and carried in Barrow is unlikely to be exposed to electrical sources under normal operating conditions. Unusual electrical energy sources such as Radio Frequency energy or electro-static discharge are not known to create a hazard for category 1.4 S ammunition.

#### 5. Reaction

Ammunition stored and carried in Barrow is unlikely to be exposed to reactive environments including use with non-compatible materials or contamination.

#### 6. Physical Environment

Ammunition stored and carried in Barrow is adequately protected from the physical environment. Ammunition is stored inside metallic ammunition boxes. These boxes are stored inside metallic gun cabinets that are stored inside buildings. Ammunition is kept clean and dry during storage.

Lightning occurrences in Barrow Alaska is known to be rare.

see <http://www.uic.edu/labs/lightninginjury/holle30yrs.htm>,

<http://geology.com/articles/lightning-map.shtml>

<http://www.nssl.noaa.gov/papers/techmemos/NWS-SR-193/techmemo-sr193-5.html#section5d>

#### E. Attachments:

1. Memo from Joe Nava about Ammunition in Fires
2. Excerpt from NRA Firearms Handbook, "Ammunition in a Fire"
3. Email Exchange about a Manual Inventory Procedure for Ammunition Stored in Alaska
4. Manual Inventory Procedures for Ammunition Stored at a Sandia-Managed Facility on the North Slope of Alaska

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#### 1. Memo from Joe Nava

Dear Bernie and Mark:

I am Joe Nava, 469 NRA Lane, Fairbanks, AK 99709, owner of Firearms Instruction Services. My Company has taught firearm safety and marksmanship for the past 40 years, mostly in Alaska but also in a few other states and Canada. I have been certified as an expert on firearms, ammunition, and firearm safety by the courts in Alaska where I have testified as an expert in trials throughout the State.

I am also certified by USA Shooting and the International Shooting Union as qualified to preside over National and International Shooting competitions, such as the 1996 Olympics where I was an invited official. As a member of the National Rifle Association's Board of Directors for 24 years, I was involved in the writing of many of their safety and marksmanship publications. I am also an NRA Training Counselor, which means I train NRA certified Instructors. In my business I have trained thousands of students and hundreds of instructors.

Now, regarding ammunition in a fire:

I offer my knowledge gained from experience when my house was totally destroyed by fire in 1993. Prior to that time, I had read about ammunition being burned in a fire but I had no firsthand experience.

When my house burned in 1993 I lost about 8,000 rounds of ammunition to the fire, mostly .45, 30-06, and 308 calibers and 12 gauge shotgun shells. The heat from the fire caused the powder in the cartridges to start burning before the fire department arrived. When the University of Alaska Fairbanks Fire Chief arrived on the scene he heard the "cooking" ammunition, which sounded like popcorn popping. He asked me if there was a loaded gun in the house. I said yes. He asked me where it was and which way it was pointed. I said it was in the Southwest corner bedroom and it was pointed toward the floor. He then sent his firemen into the house to fight the fire, ignoring the cooking ammunition.

There was no danger from the ammunition as explained in the attached pages taken from the "NRA FIREARMS FACT BOOK". I have attached a copy of the appropriate section of this book. The book is available for purchase from the NRA.

The NRA tested cooking ammunition and found no danger to nearby people because the bullets or pellets do not go anywhere. The cases burst from the pressure of the expanding gasses from the burning powder. In the case of my house fire, some of the ammunition was in metal cans. After the fire I found the cans bulged but none of them has been ruptured in any way.

Thus it is my conclusion that if ammunition is kept inside any metal box or cabinet there is no danger whatsoever to anyone nearby. Even if the ammunition is in cardboard boxes there is very little danger of even minor injury to anyone in the close vicinity.

This is my conclusion from what I have read and from what I have experienced.

S// Joe Nava 11/08/04

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2. Excerpt from NRA Firearms Handbook, "Ammunition in a Fire"(Jpg image of excerpt



follows)



### 3. Email Exchange about a Manual Inventory Procedure for Ammunition Stored in Alaska

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**From:** Smith, Roger W  
**Sent:** Tuesday, March 03, 2009 3:48 PM  
**To:** Heister, Michael L; Ivey, Mark D  
**Cc:** O'hara, Ronald Alan; Donald, Danny P  
**Subject:** RE: Request for Exemption of a Requirement to Track Ammunition Stored at a Sandia.doc

Let's not make this an exemption. Title it something like Procedures for Keeping a Manual Inventory vice the EIS. The items are 1.4S so you get a lot of leeway in storage. Keep a log in checkbook style with the following information: added, removed, returned used on hand. I would also note the dates you acquired them and set a time you would keep them before using/disposing of them.

Roger Smith

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**From:** Heister, Michael L  
**Sent:** Monday, March 02, 2009 6:53 AM  
**To:** Smith, Roger W  
**Cc:** O'hara, Ronald Alan  
**Subject:** FW: Request for Exemption of a Requirement to Track Ammunition Stored at a Sandia.doc

Roger,  
Can you please review this and make any comments that are needed. I let them know that you and possibly Jeff Franchere would have to sign off on an exemption because this is an Explosive Safety issue not a Firearms Safety

Thank you,  
Mike

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**From:** Donald, Danny P  
**Sent:** Thursday, February 26, 2009 4:48 PM  
**To:** Ivey, Mark D; Heister, Michael L  
**Subject:** FW: Request for Exemption of a Requirement to Track Ammunition Stored at a Sandia.doc

Mike, please review this Draft EIS Exemption and make comments. It will need your approval and any others you think are appropriate..

*Danny Donald  
Safety Engineer  
dpdonal@sandia.gov  
(505) 844-0125 - Phone  
(505) 844-9977 - Fax  
(505) 540-2687 - beeper*

---

**From:** Ivey, Mark D  
**Sent:** Thursday, February 26, 2009 4:35 PM  
**To:** Donald, Danny P  
**Subject:** RE: Request for Exemption of a Requirement to Track Ammunition Stored at a Sandia.doc

Danny,

Here's my revised version. If it looks Ok to you, I will email it.  
To Mike Heister? Or do you forward to others?

Mark

<< File: Request\_for\_exemption\_North Slope Ammo\_v2.doc >>

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**From:** Donald, Danny P  
**Sent:** Thursday, February 26, 2009 4:11 PM  
**To:** Ivey, Mark D  
**Subject:** Request for Exemption of a Requirement to Track Ammunition Stored at a Sandia.doc

<< File: Request for Exemption of a Requirement to Track Ammunition Stored at a Sandia.doc >> My comments in blue, call with questions.

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#### **4. Manual Inventory Procedures for Ammunition Stored at a Sandia-Managed Facility on the North Slope of Alaska and Justification for Manual Inventory System for Ammunition in Alaska**

##### **a. Description of the condition.**

Sandia National Laboratories manages climate research facilities located on the North Slope of Alaska for DOE, Office of Science, Office of Biological and Environmental Research. We keep one hundred rounds of 12-gauge ammunition in locked storage at our facilities in Barrow, Alaska. Sixty rounds are 1-ounce slugs, forty are bird shot. We split the 100 rounds evenly between our duplex apartment facility near the town of Barrow and the instrument site a few miles away. We also keep three shotguns, Remington model 870s, at the duplex and three at the instrument site. All firearms-related activities are covered in an activity specific safety plan that we update at least annually. A count of shotgun shells in Barrow is made by our local contractor staff and sent by fax to our project office at SNL monthly.

These firearms and ammunition are occasionally carried for protection against wildlife, principally polar bears and arctic foxes. Rabies is endemic in the fox population, and they can be aggressive at certain times of the year. Polar bears are occasionally seen in and around the town of Barrow, especially during Spring and Fall whaling seasons.

Our safety plan requires that anyone who carries a Sandia-owned shotgun on the North Slope must take an annual Firearms training class or refresher. These shotguns have not been fired outside of a training class in the last roughly ten years of operation in Alaska.

These one-hundred shotgun shells are stored in military-style metal ammunition cases. The metal ammo cases are kept inside locked, metal gun cabinets at the instrument site and the duplex facility.

##### **b. Safety requirement necessitating deviation.**

Following a recent review of energetic materials, explosives, and ammunition, the Sandia Safety Engineering group determined that the ammunition stored in Barrow should be tracked in the

Explosive Inventory System. One of our administrative assistants took the day-long training for use of the EIS and data entry.

**c. Reason why compliance cannot be achieved.**

We feel that the EIS is not an effective or practical way to track this ammunition. Currently, rules for EIS data entry require that the person who uses the ammunition enters changes in the ammunition status. Our full-time contractors in Barrow do not have access to the internal Sandia network or EIS. Our ammunition count and type has not changed in at least two years and is not likely to change unless use of a firearm is required in defense. The original vendor's packaging for the ammunition stored in Barrow has been discarded. Lot number and other information required for EIS is not available.

**d. Steps taken to provide protection.**

We believe a manual accounting system for this small amount of ammunition is effective. A count of shotgun shells in Barrow is made by our local contractor staff and sent by fax to our project office at SNL monthly. These records are typically reviewed during firearms audits.

**e. Statement of whether equivalent safety is provided and, if not, assessment of the residual risk.**

The manual accounting system provides equivalent safety. The extremely low turnover in ammunition at the Barrow facilities makes the manual system a practical solution.

**f. Any proposed corrective action and schedule.**

None.

**g. Duration of exemption.**

We propose that the duration of exemption will be the duration of the current PHS and Firearm Safety plan with renewals, that is, the period during which operations remain significantly unchanged from present operations.

**Sandia Labs Shipping Address**

Jeff Johnson, Bldg. 956, Rm. 113  
1515 Eubank Blvd. S.E, Bldg. 957  
U.S. NNSA c/o Sandia National Laboratories  
Albuquerque, NM 87123

**Sandia Labs Shipping Points of Contact**

- Valerie Sparks ACRF/NSA/AAO Project Office  
505/844-7116 (voice)  
505/844-0116 (fax)  
E-mail: [vsparks@sandia.gov](mailto:vsparks@sandia.gov)
- Jeff Johnson, Sandia Security Force  
505/844-5224 (voice)  
505/845-9280 (fax)  
E-mail: [jcjohns@sandia.gov](mailto:jcjohns@sandia.gov)

**ACRF/NSA/AAO Shipping Address**

ACRF/NSA/AAO Duplex  
Attention: Walter Brower  
354 NARL Street  
Barrow, AK 99723

**ACRF/NSA/AAO Shipping Point of Contact**

Walter Brower, UIC Corporation, Barrow, AK  
Telephone: (907) 852-5818 or (907) 878-4780  
E-mail: [wbrower@barrow.com](mailto:wbrower@barrow.com)

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