

**Risk Reduction and Environmental Stewardship (RRES)  
Environmental Characterization and Remediation Group (ECR)**

**Sample Management Office (SMO) Hazard Control Plan**

**HCP Number: HCP-5, Rev. 9**

**HCP Title: Sample Management Office**

| RISK*             |                        |
|-------------------|------------------------|
| Initial Risk: Low | Residual Risk: Minimal |

- Risk determinations from LIR 300-00-01 Risk Determination Matrix; see p.6 of this HCP.

**Consultation**

*(When initial risk is medium, consultation with independent independent peer(s) or RRES-ECR Subject Matter Expert(s) is required)*

Not Required       Required

**Concurrence**

*(When initial risk is high, concurrence of Peer(s) is required ) and RRES-ECR Subject Matter Experts*

Not Required       Required

Keith Greene  
Name (RRES-ECR Subject Matter Expert)

[Signature]  
Signature (as required)

12/23/03  
Date

Stephen T. Beltran  
Name (Independent Peer)

[Signature]  
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12/23/03  
Date

Alison M. Dorries  
Name (Acting Group Leader)

**Line Management Review (RRES-ECR)**

[Signature]  
Signature

12/23/03  
Date



### Revision History

| Document Number | Issue Date                | Action               | Description  |
|-----------------|---------------------------|----------------------|--|
| HCP-5, R. 0     | Initial Issue<br>12/15/99 | Initial              |  |
| HCP-5, R. 1     | 01/12/00                  | Revisions            | Update SOP titles. Packaging and Transportation reference, LIR 405-10-01.1, and two regulatory references added; several minor grammatical changes incorporated.   |
| HCP-5, R. 2     | 05/30/00                  | Revisions            | Fires inside the buildings are addressed in the plan (Table 1). The FSF has a fire panel system that is checked periodically by fire personnel. Extinguishers are present and checked periodically according to LANL policy. The danger of wildfire is minimal. There are no large trees or shrubs in near proximity to FSF structures. All SMO personnel work inside the building. No changes incorporated. |
| HCP-5, R. 3     | 12/22/00                  | Reviewed and Revised | Editorial changes. SOP titles updated. CDM personnel now trained.  |
| HCP-5, R. 4     | 05/23/01                  | Reviewed             | Minor editorial changes.   |
| HCP-5, R. 5     | 06/18/01                  | Reviewed             | Minor Editorial Changes. Keith Greene  |
| HCP-5, R. 6     | 01/22/02                  | Reviewed             | Incorporate new HCP format; reviewed, minor editorial changes.   |
| HCP-5, R. 7     | 01/22/03                  | Reviewed             | Incorporate new group name and other editorial changes; staff review.  |
| HCP-5, R. 8     | 02/10/03                  | Reviewed             | Editorial changes; change terminology to reflect ECR Group and upcoming move to Pueblo Complex and to reflect re-organization changes; formal training section updated.  |
| HCP-5, R. 9     | 12/04/03                  | Reviewed             | Editorial changes to reflect RRES-RS organization; re-formatting document to meet new IWD guidelines.  |

# **Risk Reduction and Environmental Stewardship (RRES) Environmental Characterization and Remediation Group (ECR)**

## **Sample Management Office (SMO) Hazard Control Plan**

### **1. Scope**

This Hazard Control Plan applies to all Environmental Restoration Project Sample Management Office (SMO) personnel performing work in an office setting, and to routine vehicular and domestic travel (conference or meeting attendance). The SMO is currently located at the Field Support Facility (FSF), but is planning on moving to the Pueblo Complex in the next year. The SMO is an organization; the FSF is a locality. SMO personnel engage minimal health and safety hazards during the completion of their routine daily tasks. The SMO receives borehole samples, drill core, and analytical samples. These samples are then packaged and shipped to analytical laboratories or stored in the core repository. Data is sent to the SMO from the laboratories, logged in, and provided for authenticator and validator functions.

### **2. Work Activity Hazard Analysis - Significant Hazard Identification**

See Table 1.

### **3. Overall Initial Risk Determination**

Minimal

### **4. Institution Requirements on Work Activity**

List of applicable Laboratory Implementation Requirements (LIRs):

Safe Work Practices (LIR 300-00-01.3)

Documentation of Safe Work Practices (LIR 300-00-02.3)

Ergonomics (LIR 402-870-01.0)

Vehicular Safety (LIR 402-1320-01.2)

Packaging and Transportation (LIR 405-10-01.1)

LANL and Regulatory Requirements

Occupational Safety and Health Administration (OSHA)

Code of Federal Regulations, Section 49, Parts 171-180 (DOT)

International Air Transportation Association (IATA)

### **5. Identification of Controls Specific to Hazards Developed from Section 2**

See Table 1

### **6. Authorized Worker Knowledge, Skills and Abilities**

#### **Material and Equipment**

Equipment normally used, but not limited to, in these functions include: computers, FAX and copy machines, typewriters, shredders, paper cutters, and binding machines. Additional equipment used, which is incidental to the work, includes space heaters, coffeepots, microwave ovens, manual fork lifts, ladders, hand carts, etc. Office furnishings include desks, chairs, file cabinets, file

drawers, shelves, storage cabinets, rollers, etc. Government, personal, and rental vehicles may also be used by personnel to perform necessary functions.

#### **Facility Specific Requirements**

SMO Personnel are required to follow the following protocol.

**Borehole Samples:** Borehole and analytical samples are collected by personnel according to standard operating procedures (SOPs). It is the responsibility of field personnel to ensure that chemical and radiological contaminants are within health and safety limits. These limits are defined in programmatic SOPs. For example, bore hole samples are screened for radiological and chemical contamination by following LANL-ER-SOP-12.02 (Transportation, Receipt, and Admittance of Borehole Samples to the Field Support Facility; acceptability criteria are listed in Table 1). Samples with values above these limits are not accepted.

Samples are unloaded at the FSF by field personnel, then logged in by SMO personnel by following LANL-ER-SOP-12.04 (Physical Processing and Storage of Borehole Samples at the SMF).

Samples are transported to storage racks by using roll carts (OJT), forklifts (laboratory training required), or hand fork lifts (OJT). Lifting with legs (not back) is stressed (OJT) in periodic safety meetings.

**Analytical Samples:** Collection of samples in the field is controlled by SOP- 1.01 (General Instructions for Field Investigations); SOP-1.02 (Sample Container and Preservations); SOP 1.03 (Handling, Packaging and Shipping of Samples); and SOP 1.04 (Sample Control and Field Documentation). Specific procedures control the handling and collection of specific sample types (e.g. SOP-1.07 Operational guidelines for taking soil and water samples in explosive areas). The acceptable rad and chemical limits follow EPA guidelines and are identified in SOP 1.02. If samples exceed these limits, samples are shipped from the field by BUS 4.

When samples reach the SMO, they are controlled by internal procedures (SOP-15.15, Sample Management Office: Receiving and Shipping Analytical Samples; SOP-15.09, Chain of Custody for Analytical Data Packages).

**SMO Personnel:** Samples are shipped according to Department of Transportation (DOT) (49CFR parts 171-180), and International Air Transport Association (IATA) regulations. An SMO chemist takes refresher training as appropriate.

SMO personnel do not directly touch the samples (which are in sample containers and sealed with chain of custody seals). If a sample is open or the seal broken, it is not accepted. SMO personnel wear gloves (optional), food is not allowed around samples, chain-of-custody procedures are followed, and area access is controlled. Samples that are not shipped immediately are stored in

refrigerators. Personnel also have Rad training and may wear dosimeters. No samples are shipped without rad screening results or documentation that samples have no rad. Samples that are brought to the SMO are not hazardous (by DOT definitions) and pose minimal health safety hazards.

**7. Wastes Produced**

Used toner cartridges, paper, and other materials for recycle.

**8. Emergency Actions**

Staff shall be familiar with emergency signals, procedures, and emergency equipment (pull box, etc.) usage in the building. Emergency numbers will be prominently posted. Employees will be knowledgeable of muster areas designated for their organization and comply with following evacuations. Call 911 for immediate crisis/fire/medical assistance. *"In the event of an emergency, remember that your first responsibility is for your own safety. Do not try to perform any shutdown procedures if it would mean compromising your safety."* Travelers should be aware of emergency procedures of place of business and hotels, such as emergency phone numbers and evacuation routes.

**9. Estimated Residual Risk**

Minimal

**10. Description of Process to Change this HCP**

This HCP is reviewed annually by the RRES-RS Project Work Package #12, Project Team Leader and modified as appropriate.

**11. Authorized Workers**

See Page 3.

**12. Attachments**

Table I - Work Activities/Hazards/Controls

**Table 1 Work Activities / Hazards / Controls**

| Activity  | Hazard  | Control  |
|---|---|--|
| <p>Receiving contaminated samples or samples with elevated rad levels (refer also to LIR-405-10-01.1, Packaging and Transportation)</p> | <p>➤ Contamination or elevated rad</p>  | <ul style="list-style-type: none"> <li>• Samples field screened for contamination and rad</li> <li>• No samples shipped without field screen results or signed waiver</li> <li>• ESH conducts swipe exams on request</li> <li>• Rad training optional for selected personnel. TLD badge required for selected personnel</li> <li>• Samples have custody (red) seals (No sample accepted if seal broken). No samples accepted if incorrectly labeled or if broken.</li> <li>• Gloves (optional) worn when handling samples</li> <li>• No food near samples; signs posted</li> </ul>   |
| <p>Computer terminal use (refer also to LIR 402-870-01.0, Ergonomics)</p>   | <p>➤ Intensive work activities, poorly positioned or unadjusted furniture may result in repetitive trauma injuries.</p> | <ul style="list-style-type: none"> <li>• Take breaks every hour or so, and stand up and move around to restore circulation and stretch your muscles.</li> <li>• If possible, alternate activities so that work at the computer terminal is not done in continual long time blocks. Perform other functions such as filing.</li> <li>• Use a well-designed chair that is adjustable and allows shifting of body position.</li> <li>• The chair and/or keyboard and mouse pad should be adjusted so the forearms and thighs are horizontal. Feet should be flat on the floor. A foot or wrist rest may be needed to provide support.</li> <li>• The monitor should be eye level and a copy stand should be used to keep the work at the same height as the monitor.</li> </ul> |
| <p>Material handling, filing, and use of office furnishings. (refer also to LIR 402-870-01.0, Ergonomics)</p>                           | <p>➤ Improper storage of materials and office design</p>  | <ul style="list-style-type: none"> <li>• Store heavy material in the bottom drawers of cabinets.</li> <li>• Do not use the tops of tall cabinets to store heavy objects.</li> <li>• Open file cabinet and desk drawers one at a time and then close them when the work is finished.</li> <li>• Cabinets, bookcases, and shelves are secured to building surfaces to prevent their falling over.</li> <li>• Faulty desks, chairs, and office equipment are repaired or taken out of service.</li> </ul>   |

| Activity   | Hazard   | Control  |
|--|--|--|
|  | <ul style="list-style-type: none"> <li>➤ Placing/removing objects or material on elevated shelves or surfaces</li> </ul>                                       | <ul style="list-style-type: none"> <li>• Use step stools or ladders - not swivel chairs or other office furniture.</li> <li>• Observe the following precautions when using ladders or step stools:               <ul style="list-style-type: none"> <li>- Face forward on the ladder when going up or down.</li> <li>- Move the ladder or stepstool instead of overreaching.</li> </ul> </li> <li>• Use proper ladders to access data on high shelves in storage area</li> </ul>   |
|  | <ul style="list-style-type: none"> <li>➤ Lifting heavy objects</li> </ul>  | <ul style="list-style-type: none"> <li>• Use dollies and hand trucks for moving heavy materials. Make arrangements with support subcontractor to move furniture and other heavy objects.</li> <li>• Use proper lifting techniques:               <ul style="list-style-type: none"> <li>- Use good judgment when gauging the weight you can lift, and stay within your limits. Do not lift bulky materials or those weighing more than 30 pounds without someone's assistance or the use of a mechanical lifting device.</li> <li>- Space your feet apart for good balance, and position yourself close to the object you are lifting.</li> <li>- Keep your spine straight as you squat or kneel next to the object you are lifting.</li> <li>- Flex your legs as you lift, using them to do most of the work, and keep the objects close to your body.</li> </ul> </li> </ul> |
| Use of consumer products                               | <ul style="list-style-type: none"> <li>➤ Improper use of chemicals such as correction fluid, computer cleaning products, marker board cleaner, etc.</li> </ul> | <ul style="list-style-type: none"> <li>• Office chemicals should be used only in areas where there is adequate ventilation to remove any fumes.</li> <li>• Workers must read and be familiar with directions, warnings, and safety information on labels.</li> </ul>   |
| Use of appliances, space heaters, and office equipment | <ul style="list-style-type: none"> <li>➤ Electrical shocks or fire hazards</li> </ul>  | <ul style="list-style-type: none"> <li>• Do not overload electrical outlets. Do not "daisy chain" extension cords and "Fat Phoebes" together.</li> <li>• Unplug any office machine that sparks, smokes, or delivers an electrical shock. Have it inspected by appropriate repair personnel.</li> <li>• Keep fingers away from moving and/or sharp parts when using hole punchers, paper cutters, etc.</li> <li>• Use only UL-listed space heaters equipped with automatic shutoff devices that will</li> </ul>   |

|  |   |   |
|--|---|---|
|  |   | <p>activate if the heater tips over. Keep areas around space heaters, coffeepots and other appliances free of combustible material.</p> <ul style="list-style-type: none"> <li>• Jewelry, badges, long hair and clothing must be kept clean of moving parts or office equipment (e.g. shredders).</li> </ul>  |
| Working in office areas/buildings  | <ul style="list-style-type: none"> <li>➤ Contaminants introduced into office areas from indoor/outdoor sources</li> <li>➤ Motor vehicle exhaust, building exhausts can enter through poorly located air intake vents, windows and other openings.</li> <li>➤ Building/office furnishings such as adhesives, upholstery, carpeting, can emit low levels of contaminants, especially when newly installed.</li> <li>➤ Rodents, rodent droppings, or other pest control problems.</li> </ul> | <ul style="list-style-type: none"> <li>• Removal or modification of the pollutant source. Prohibit motor vehicles from leaving engine running near building openings.</li> <li>• Increase ventilation rates in the building or office area.</li> <li>• Should not handle dead rodents or droppings. Contact the Building Manager or Facility Manager for assistance.</li> </ul> |
| Domestic travels to attend meeting or conferences, or to collaborate with staff at other institutions.                     | <ul style="list-style-type: none"> <li>➤ Lack of familiarity with surroundings may reduce traveler's ability to respond to emergencies.</li> <li>➤ Personal safety in unfamiliar setting</li> </ul>   | <ul style="list-style-type: none"> <li>• Maintain awareness of evacuation procedures in buildings where working or lodging, and of local emergency telephone numbers (e.g., 911).</li> <li>• Maintain awareness of and avoid potentially dangerous situations /environments in unfamiliar settings</li> </ul>   |
| Driving a government, rental, or personal vehicle on government business (refer also to LIR 402-1320-01, Vehicular Safety) | <ul style="list-style-type: none"> <li>➤ Motor-vehicle accidents</li> </ul>   | <ul style="list-style-type: none"> <li>• Do not drive if you are overly fatigued, dizzy, or on medication that may make you sleepy.</li> <li>• If the weather is bad or other dangerous conditions are present, adjust your speed and following distance accordingly.</li> <li>• Drivers and passengers must wear seat belts while in a government vehicle.</li> </ul>          |
| Use of walking/working surfaces both outdoors and indoors including  | <ul style="list-style-type: none"> <li>➤ Slippery, icy or uneven walking surfaces</li> <li>➤ Obstacles</li> </ul>   | <ul style="list-style-type: none"> <li>• Exercise caution on ice and snow (e.g. use snow boots)</li> <li>• Clean up spills immediately or mark the area and notify appropriate personnel.</li> <li>• Keep walkways and aisles neat and clean.</li> </ul>  |

| steps      |                                   |  |
|------------|-----------------------------------|--|
| Visitors   | ➤ Visitors are unaware of hazards | <ul style="list-style-type: none"> <li>• All visitors are required to sign-in</li> <li>• SMO area is a controlled access area</li> </ul> |
| Hantavirus | ➤ Mouse dropping and dead mice    | <ul style="list-style-type: none"> <li>• Building managers calls JCNNM</li> <li>• Areas are sprayed with 10% bleach solution</li> </ul>  |

### Formal And On-The-Job Training Information (Optional)

**Formal Training.** Available on line and through formal classes. Call ESH-13, 667-0054.

- **Ergonomics for the Office Worker.** This live course is available from the ES&H Training Group (ESH-13), White Rock Training Center.
- **Ergonomic Risk Assessment.** Trains workstation users to recognize risk factors by the use of a scoring tool. Contact ESH-5 at 667-5231.
- **EES Division Home Page.** ES& H information <http://ees5-www.lanl.gov/safety/se.html>

## Videos

The videotapes listed below are provided through ESH-13. Complete descriptions may be found in the *Environment, Safety, and Health Videotape Catalog*, accessible from the ESH-13 Home Page at <http://eshtraining.lanl.gov>. Call 665-7952 to request a videotape.

| <b>Video Title</b>  | <b>Video Number</b> |
|---|---------------------|
| Anatomy of a Fall   | 0209.002.01v        |
| Slips, Trips, and Falls   | 0209.004.01v        |
| Risky Business  | 0209.005.01v        |
| Office Safety: The Thrill Seekers                                       | 0209.007.01v        |
| Office Safety   | 0209.016.01v        |
| Electrical Safety   | 0203.013.01v        |
| Electricity—The Unseen Danger   | 0203.009.01v        |
| Fire Extinguishers: Fight or Flight?                                    | 0701.001.01v        |
| Fire! In the Workplace  | 0701.006.01v        |
| When Lightning Strikes  | 0903.018.01v        |
| Drive for Life—Defensive Driving  | 0601.006.01v        |
| The Right Moves: Ergonomics in the workplace                            |                     |
| Ergonomics: Preventing CTDs   |                     |
| The Way We Work: A User's Guide to Office Ergonomics and Body Mechanics |                     |
| Office Ergonomics   |                     |
| Personal Stories – Repeated Traumas, Strains, and Sprains               |                     |
| Drive for Life—Emergency Situations                                     | 0601.007.01v        |
| Winter Driving Update   | 0601.008.01v        |
| Think Snow  | 0601.015.01v        |

[Using a token card, click here to record "self-study" training to this procedure.](#)

If you do not possess a token card or encounter problems, contact the RRES-ECR training specialist.