

APPENDIX O

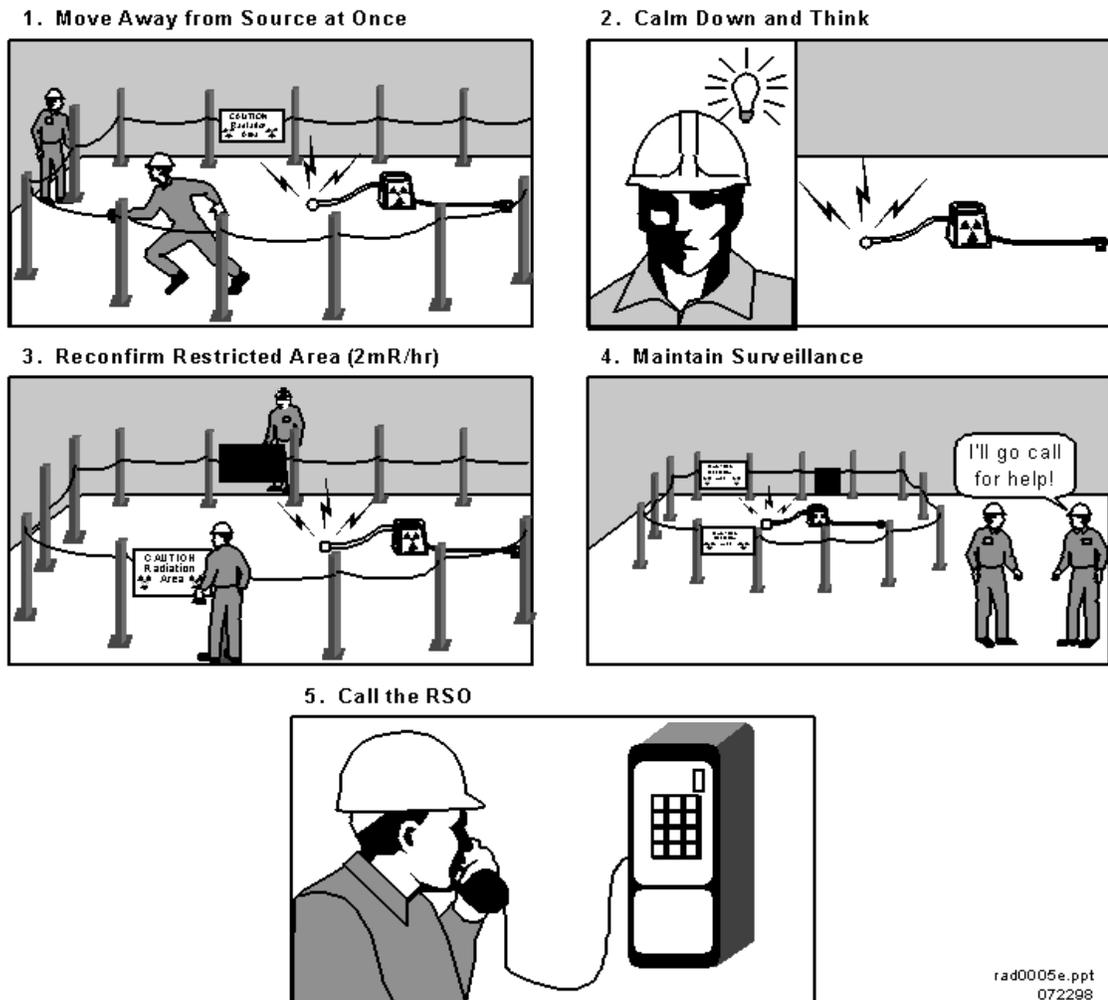
EMERGENCY PROCEDURES

If the source fails to return to the shielded position or if any other emergency or abnormal event arises (e.g., vehicle accident, off-scale dosimeter, etc.), the following specific response actions must be taken.

Each Licensee who proposes to perform source retrieval operations must have appropriate equipment, training, and emergency procedures.

THE INDIVIDUAL AT THE EMERGENCY SCENE MUST DO THE FOLLOWING

IMMEDIATE ACTIONS



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Figure O-1 Emergency Actions at the Emergency Scene

FOLLOW ACTIONS

- **SECURE AREA AND MAINTAIN SURVEILLANCE** Immediately secure the area and post the restricted area at the 2 millirem/hr radiation level; maintain continuous surveillance and restrict access to the restricted area.
- **NOTIFY** Notify the Radiation Safety Officer (RSO) and/or Management Personnel.
- **AWAIT INSTRUCTIONS** Take no further actions until instructions are received from the RSO.
- **TAKE NO RETRIEVAL ACTION** Do **not** attempt source retrieval until the situation has been discussed with the RSO or other knowledgeable personnel.
- **DON'T PANIC** Source retrieval can be performed with very little exposure when properly planned by trained personnel.
- **NOTIFY** Notify the persons in the order listed below of the situation.

Name	Work Phone Number	Home Phone Number
RSO		

Fill in with (and update, as needed) the names and telephone numbers of appropriate personnel (e.g., the Radiation Safety Officer (RSO), or other knowledgeable licensee staff , licensee's consultant, device manufacturer) to be contacted in case of emergency.

- **FOLLOW DIRECTIONS** Follow the directions provided by the person contacted above.

<u>NOTE:</u> DO NOT HANDLE UNSHIELDED SOURCES OF RADIOACTIVE MATERIAL

THE RSO AND LICENSE MANAGEMENT MUST DO THE FOLLOWING

- Discuss emergency operating procedures, and ensure no operations are conducted until the situation has been discussed with and approved by the Radiation Safety Officer or other knowledgeable staff, consultants, or device manufacturer.
- Issue instructions to on-scene radiography personnel for minimizing radiation dose to members of the public and radiography personnel and for maintaining the surveillance and security of the emergency scene and area.
- Arrange for licensed individuals to conduct emergency response activities and the emergency scene (for example, specifically licensed radiography personnel to conduct source retrieval emergency response actions). Recovery operations and decontamination must only be attempted by properly trained and licensed individuals.

NOTE: **If the Licensee intends to perform source retrieval, specific emergency procedures must be developed, implemented, and maintained current by the Licensee. The Department must approve all source retrieval procedures. The requirements for source retrieval procedures are discussed later in this Appendix.**

- Management should have access to emergency equipment to keep doses to radiographers as low as reasonably achievable. Emergency equipment may include high range dosimeters, extra lead shielding, remote tongs, etc.
- Make necessary notifications to local authorities as well as the **Arkansas Department of Health and Human Services, 1-800-633-1735 or 1-501-661-2136** (staffed 24 hours a day) Immediate **Department** notification is required when radiographic devices containing radioactive material are lost or stolen, when a device is damaged or involved in an abnormal event, or when a source fails to return to a shielded position.
- Reports to the **Department** must be made within the reporting timeframes specified by the regulations.
- Reporting requirements are found in **Paragraphs RH-1501 and RH-1502.**

NOTE: **In the event of a transportation accident involving radioactive material, the Arkansas Department of Health and Human Services, the Arkansas State Police and the U.S. Department of Transportation must be notified.**

SOURCE RETRIEVAL

Applicants must develop source retrieval procedures if they propose to use licensee radiographic personnel with appropriate training and experience to perform source retrieval operations. If procedures are submitted, the Department will review and, as appropriate, approve Applicants to perform source retrieval. If source retrieval procedures are not submitted for review, then source retrieval activities must be conducted by a person licensed by the USNRC or Agreement State to specifically perform these services.

Radioactive Material Licensees specifically approved to perform source retrievals will have a specific Radioactive Material License condition authorizing these services. Additionally, these individuals would be authorized to perform source retrieval services for other licensees.

The Department will review the applicant's procedures for source retrieval with respect to keeping irradiation doses ALARA and controlling the exposure to radiation. Since it is not possible to specify all potential exposure situations, a general procedure is acceptable. A retrieval procedure should contain the following elements:

- Warnings that only specifically authorized individuals or personnel supervised by such authorized individuals and working in their presence are allowed to perform retrievals.
- A clear statement that no source or suspected source containing items such as a stuck source in a guide tube will be handled directly.
- Expedient methods of reducing unintended exposure to staff and the public, such as using lead shot bags, sandbags, steel plates, remote handling devices, and culverts cut lengthwise.
- Additional dosimetry shall be used during source retrievals, for example, pocket dosimeters with a range greater than 200 mrem (2 mSv) or finger badges.
- Methods of restricting access to the area, including establishing a restricted area and obtaining outside help in controlling access.
- Appropriate use of survey instruments. The procedure should prohibit using alarming dosimeters or electronic dosimeters as survey instrument substitutes.
- Criteria for requesting outside assistance.
- Instructions for reducing the exposure to other personnel and members of the public during recovery operations.
- Notification of the RSO, RSO-designee, and management.

- Specific training including practice with special tools, shielding, and additional dosimetry with a dummy source.
- Notification of the NRC or Agreement State.

Radiography personnel shall not attempt to perform operations involving source retrieval or recovery unless they have actual practice in retrieval operations using a dummy source with the appropriate handling tools, radiation survey instruments, and personnel monitoring equipment.

Response from Applicant:

- Submit the following: "We will not perform source retrievals and will use the services of a person specifically licensed by the Department, the USNRC or an Agreement State to perform the retrievals of our sources."

OR

- Submit source retrieval procedures and specific training for Department review in accordance with the criteria listed