

Emergency Procedures

Emergency Procedures

- An emergency can happen at any time and is always unexpected. The radiographer must act immediately to eliminate any danger to others. The radiographer will have to make judgement calls, because no procedure can address every individual situation that may occur. It is the responsibility of the radiographer to respond to the emergency, to take charge, and to protect others. Some actions the radiographer should conduct are:
 - 1) Recognize that an emergency exists,
 - 2) Remain calm and think of your actions,
 - 3) Always use the ALARA concept,
 - 4) Establish and verify restricted area boundaries,
 - 5) Protect the public from overexposure.

Emergencies - Fire

- If a fire should occur in the area of radiographic operations, the Radiographer shall:
 - 1) Stop all operations immediately,
 - 2) Secure, lock and remove the exposure device(s) to a safe location. Establish a temporary storage area and a qualified radiographer shall remain with the source,
 - 3) If possible, remove radiation signs, barrier rope and other radiation equipment to a safe area. Signs and barriers should be removed or dropped to ensure no delays to fire fighting personnel.

Emergencies - “Source Out”

- If the source cannot be retracted to the shielded position:
 - 1) Keep personnel out of the restricted area,
 - 2) Verify the restricted area boundary and readjust if necessary,
 - 3) Notify the RSO by telephone or messenger of the incident,
 - 4) **UNDER NO CIRCUMSTANCES SHOULD THE RADIOGRAPHER TRY TO RETRIEVE THE SOURCE OR LEAVE THE INCIDENT SITE.**

Emergencies - “Source Out”

- 6) The RSO SHALL:
 - 1) Take charge of the operation upon arrival to the site,
 - 2) Assess the situation,
 - 3) Call for the source suppliers Retrieval Team if required, or design a recovery plan for Radiographic personnel to retrieve the source,
 - 4) Determine if any personnel have received an overexposure,
 - 5) Provide for medical processing of known or suspected overexposures,
 - 6) Notify the NRC and State Authorities of the incident within the appropriate time frame required.

Emergency Call List

- The Operating and Emergency Procedures shall contain a telephone call list of pertinent personnel or agencies who should be notified during an emergency. The list should contain the person's name, address, and any telephone numbers where that individual can be reached. As a minimum the following personnel or agencies should be notified:
 - 1) Radiation Safety Officer,
 - 2) Facility Supervisor,
 - 3) Licensee,
 - 4) Source manufacturer's emergency number,
 - 5) USNRC Regional office emergency numbers,
 - 6) State Authorities involved with radioactive materials.

Emergency Procedure 10 CFR Part 34 Requirements

§34.45 Operating and emergency procedures.

(a) Operating and emergency procedures must include, as a minimum, instructions in the following:

- (1) Appropriate handling and use of licensed sealed sources and radiographic exposure devices so that no person is likely to be exposed to radiation doses in excess
 - of the limits established in 10 CFR part 20 of this chapter "Standards for Protection Against Radiation";
- (2) Methods and occasions for conducting radiation surveys;
- (3) Methods for controlling access to radiographic areas;
- (4) Methods and occasions for locking and securing radiographic exposure devices, transport and storage containers and sealed sources;
- (5) Personnel monitoring and the use of personnel monitoring equipment;
- (6) Transporting sealed sources to field locations, including packing of radiographic exposure devices and storage containers in the vehicles, placarding of vehicles
- when needed, and control of the sealed sources during transportation (refer to 49 CFR parts 171-173);

Emergency Procedure 10 CFR Part 34 Requirements – (cont'd)

- (7) The inspection, maintenance, and operability checks of radiographic exposure devices, survey instruments, transport containers, and storage containers;
 - (8) Steps that must be taken immediately by radiography personnel in the event a pocket dosimeter is found to be off-scale or an alarm ratemeter alarms unexpectedly.
 - (9) The procedure(s) for identifying and reporting defects and noncompliance, as required by 10 CFR part 21 of this chapter;
 - (10) The procedure for notifying proper persons in the event of an accident;
 - (11) Minimizing exposure of persons in the event of an accident;
 - (12) Source recovery procedure if licensee will perform source recovery;
 - (13) Maintenance of records.
- (b) The licensee shall maintain copies of current operating and emergency procedures in accordance with §§34.81 and 34.89.