

**NMSS POLICY AND PROCEDURES LETTER 1-42, REVISION 1,
RADIATION SAFETY AND EXPOSURE MONITORING,
SEPTEMBER 25, 2008**

PURPOSE: To establish procedures and guidance for:

1. Providing radiation safety training to Nuclear Material Safety and Safeguards (NMSS) employees who may be exposed to radiation or radioactive materials while conducting U.S. Nuclear Regulatory Commission (NRC) business; and
2. Monitoring the exposure of NMSS employees to radiation and radioactive materials while conducting NRC business, and maintaining this exposure as low as is reasonably achievable (ALARA).

COVERAGE:

This procedure supplements NRC Management Directive (MD) 10.131, "Standards for Protection against Ionizing Radiation," and implements the requirements set forth in the Directive.

BACKGROUND:

The February 16, 1990, revision of NRC Manual Chapter (MC) 0524: (1) established requirements for an Agency-wide employee radiation exposure database and enhanced dose tracking system; (2) required the designation of Radiation Safety Officers (RSOs) at Headquarters; (3) required the issuance of radiation monitoring equipment at Headquarters; (4) clarified the reporting requirements for radiation exposures received by NRC employees; and (5) established employee radiation protection training requirements. In 1996, issuance of MD 10.131 superseded MC-0524.

POLICY:

NMSS employees shall use an NRC dosimeter anytime they visit a licensee site or other site where exposure to radiation or radioactive materials is possible. Licensee dosimeters should not be used instead of an NRC dosimeter unless authorized, but may be used in addition to NRC dosimetry.

PROCEDURES:

Responsibilities and Authorities:

1. All NMSS Staff
 - a. Shall wear a dosimeter at all times in restricted areas (as defined by 10 CFR, Part 20).
 - b. Shall conduct themselves in a manner consistent with the radiation safety requirements of this letter and MD 10.131, and ensure that any radiation exposure received while conducting NRC business is maintained ALARA.
 - c. Shall not exceed administrative dose limits without authorization. In the event of unplanned activities that may exceed administrative dose limits, employees should try to obtain authorization before starting the activity.

Enclosure

- d. Shall pick up from, and return dosimeters to the Administrative Services Center or other issue stations, in accordance with established administrative procedures.
- e. Shall obtain the approval of staff's branch chief before using a licensee dosimeter instead of an NRC dosimeter. If use of a licensee dosimeter is approved, the staff member shall complete NRC Form 525, "Request For and Authorization of Release of Dosimetry Records," or an equivalent request, and provide it to the licensee issuing the dosimeter.
- f. Shall notify the NMSS RSO of any unplanned exposure to radiation or radioactive materials that may exceed applicable limits in this letter or MD 10.131.

2. Female NMSS Staff

- a. Shall inform their immediate supervisor and the NMSS RSO in writing if they choose to declare themselves pregnant before accepting an assignment that could involve exposure to ionizing radiation. Declaring a pregnancy is voluntary and must be submitted in writing to the individual's supervisor.
- b. Declared pregnant employees shall provide a copy of their written declaration to appropriate licensee management before site visits that may involve exposure to radiation or radioactive materials.

3. Branch Chiefs:

- a. Shall ensure that each employee under their supervision is informed of the requirements of this letter and MD 10.131 before assigning tasks that could expose them to ionizing radiation.
- b. Shall ensure that each female employee under their supervision is informed about the risk from prenatal radiation exposure (consistent with Regulatory Guide 8.13) before assigning tasks that could expose the individual to ionizing radiation.
- c. Shall notify the NMSS RSO before any employee under 18 years old or a declared pregnant woman is exposed to ionizing radiation while conducting NRC business.
- d. Shall verify that the appropriate licensee management is informed of a declared pregnant employee's condition when assigning tasks that may involve exposure to radiation or radioactive materials at the licensee's site.
- e. Shall obtain the concurrence of the NMSS RSO before authorizing employees under their supervision to exceed administrative dose limits.
- f. Shall obtain the concurrence of the NMSS RSO before authorizing employees under their supervision to use a licensee dosimeter instead of an NRC dosimeter.

4. RSO

- a. Shall review dosimetry reports and resolve abnormalities, and notify the employee and their branch chief if their reported exposure exceeds an administrative limit.
- b. Shall evaluate and process requests to exceed dose limits, and coordinate approvals and denials with upper management.
- c. Shall report an overexposure in accordance with MD 10.131.
- d. Shall provide technical assistance, regarding radiation safety, to NMSS employees.
- e. Shall respond to requests for exposure history and provide reports to employees.
- f. Shall maintain files of dosimetry reports for NMSS employees.

EXPOSURE:

Although NMSS does not possess radioactive sources, NMSS employees may be occupationally exposed to radiation while conducting NRC business. NRC licensees are responsible for limiting the exposure of individuals at their facilities (including NRC employees visiting the site), in accordance with Title 10 of the *Code of Federal Regulations* (10 CFR), Part 20. While at a licensee's facility, NMSS staff members rely on the licensee's safety programs, to assure compliance with MD 10.131. NMSS personnel will comply with all facility radiation protection procedures and instructions during site visits.

Administrative Limits:¹

- a. Annual limit for NMSS employees shall be 2.5 mSV (250 mrem) total effective dose equivalent (TEDE).
- b. Special annual limit for employees under age 18 shall be 0.5 mSV (50 mrem) TEDE.
- c. Special limit for declared pregnant employees shall be 0.50 mSV (50 mrem) TEDE for the duration of the pregnancy.

TRAINING:

Training that meets the intent of 10 CFR Part 19 is required by MD 10.131, before NMSS employees are issued an NRC dosimeter, unless the employee will be escorted by someone with equivalent training.

¹ The administrative dose limits are stopping points at which the NMSS RSO and the appropriate branch chief will review the employee's activities to verify that the employee's dose is being maintained ALARA. The limits represent doses that would be unusually high for a Headquarters employee and are not intended to be a specific percentage of the limits in Part 20.

NMSS employees visiting facilities where formal site access training is required must complete training course H100 ("Site Access Training") or H101 ("Site Access Refresher Training"), no more than 12 months before the visit. Successful completion of training allows staff to request issuance of a "good-guy" letter to the licensee, which alleviates the need for additional training at the facility. NMSS employees visiting facilities where site access training is not required may take training course H102 ("NMSS Radiation Worker Training"). Successful completion of one of these courses satisfies the training requirements of MD 10.131.

NRC DOSIMETERS:

NRC dosimeters may be obtained at the Administrative Services Center. Dosimeters are obtained by submitting a completed Dosimeter Authorization form (ML082320871). Completion of this form requires the RSO's review and signature. Typically only whole-body, beta-gamma dosimeters are available. Staff members should notify the NMSS RSO as soon as possible if neutron dosimeters or extremity dosimeters are required.

RESPIRATORY PROTECTION AND BIOASSAY:

Under normal circumstances, NMSS personnel do not enter areas where they may be exposed to airborne radioactivity. If all of the requirements of the licensee's respiratory protection program are met (i.e., medical exam, special training, and proper fit test), NMSS personnel may use licensee-supplied respiratory protection equipment to limit the intake of airborne radioactivity. When necessary or desirable, to aid in determining an employee's intake of radioactive materials, NMSS shall arrange for bioassay services.