

Draft for Discussion

12.5 Radiation Protection Program

A radiation protection program will be developed, documented, and implemented commensurate with the scope and extent of licensed activities and sufficient to ensure compliance with the provisions of 10 CFR Part 20.

The radiation protection program will be implemented in stages consistent with the following:

1. Initial receipt of licensed radioactive sources.
2. Initial receipt of new reactor fuel.
3. Initial loading of fuel in the reactor.

The purpose of the radiation protection program is to maintain occupational and public doses below regulatory limits and as low as reasonably achievable (ALARA). To achieve this, the program will include a management commitment to keep exposures ALARA, a trained and qualified organization with sufficient authority and well-defined responsibilities to effectively implement the program, and adequate facilities, equipment and procedures to carry out assigned responsibilities. The radiation protection program is developed and implemented consistent with the applicable regulatory positions in USNRC Regulatory Guides 8.2 (1973), 8.8, Revision 3 (1978), and 8.10, Revision 1-R (1977).

12.5.1 Organization

All levels within the site organization have responsibility for radiation protection. Qualification and training criteria site personnel are consistent with USNRC Regulatory Guide 1.8, Revision 3 (2000) and are described in FSAR Section 13. Specific radiation protection responsibilities for key positions within the plant organization are described below.

Management Policy

Plant management will issue written policy on radiation protection that is consistent with applicable positions in USNRC Regulatory Guides 8.8. and 8.10 and also include management's commitment to:

1. Assure that the plant is designed, constructed, and operated such that occupational and public radiation exposures and releases of licensed radioactive materials will be ALARA;
2. Comply strictly with regulatory radiation requirements, dose limits, and limits on release of radioactive materials;

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3. Implement and maintain a radiation protection program with to keep radiation doses below regulatory limits and ALARA;
4. Assure that each manager and supervisor in the plant organization understands and is held accountable for implementing his or her responsibility to integrate appropriate radiation protection controls into work activities;
5. Assure that each individual working at the facility understands and accepts the responsibility to follow radiation protection procedures and instructions by radiation protection staff and to maintain his or her dose ALARA;
6. Provide the radiation protection manager the delegable authority to stop work or order an area evacuated (in accordance with approved procedures) when, in his or her judgment, the radiation conditions warrant such an action and such actions are consistent with plant safety;
7. Establish a direct reporting chain of the Radiation Protection Manager to the Plant Manager.

Plant Manager

The Plant Manager has overall responsibility for the safe operation of the plant, including occupational and public radiation safety. Qualifications and experience of the Plant Manager are consistent with USNRC Regulatory Guide 1.8. Radiation protection responsibilities of the Plant Manager are consistent with USNRC Regulatory Guides 8.8 and 8.10 in addition to the following:

1. Ensure implementation of management radiation protection policy throughout the plant organization;
2. Ensure the overall commitment to radiation protection by the plant organization;
3. Interact with and support the Radiation Protection Manager on implementation of the radiation protection program;
4. Support identification and implementation of cost-effective modifications to plant equipment, facilities, procedures and processes to improve radiation protection controls and reduce exposures;
5. Establish plant goals and objectives for radiation protection;
6. Support timely identification, analysis and resolution of radiation protection problems (e.g., through the plant corrective action program).

Plant Organization Managers and Supervisors

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Managers and supervisors within the plant organization are responsible for establishing goals and expectations for his or her organization and to reinforce behaviors that promote radiation protection. Specifically, managers and supervisors are responsible for the following, as applicable to their position within the plant organization:

1. Interface directly with radiation protection staff to assure the quality of radiological controls integrated into procedures and design documents and into the planning, scheduling, conduct, and assessment of operations and work;
2. Notify radiation protection personnel promptly when radiation protection problems are identified and provide support in resolving such problems;
3. Ensure that personnel assigned to work in a restricted area are properly trained and briefed;
4. Periodically observe and correct, as necessary, radiation worker practices;
5. Support the RPM in implementing the radiation protection program.

Radiation Protection Manager

The Radiation Protection Manager (RPM) has the direct responsibility for assuring adequate protection of the health and safety of personnel working at the plant and members of the public during all aspects of activities covered within the scope and extent of the license. Qualifications and experience of the RPM are consistent with USNRC Regulatory Guide 1.8. Radiation protection responsibilities of the RPM are consistent with USNRC Regulatory Guides 8.8 and 8.10 in addition to the following:

1. Manage the radiation protection organization;
2. Establish, implement, and enforce the radiation protection program;
3. Provide radiation protection input to facility design and work planning;
4. Track and analyze trends in radiation work performance and take necessary actions to correct adverse trends;
5. Support the plant emergency preparedness program and assign emergency duties and responsibilities within the radiation protection organization;
6. Delegate authority to appropriate radiation protection staff to stop work or order an area evacuated (in accordance with approved procedures) when, in his or her judgment, the radiation conditions warrant such an action and such actions are consistent with plant safety;

Radiation Protection Technicians

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Radiation protection technicians (RPTs) directly carry out responsibilities defined in the radiation protection program and procedures. RPTs perform the major portion of the radiation protection work for the station. The majority of RPTs work regular weekday schedules. At least one RPT is supplied to each operating shift at all times commencing with initial loading of fuel in the reactor.

General qualifications and experience of RPTs are consistent with USNRC Regulatory Guide 1.8. As assigned by the RPM or radiation protection supervisory staff, RPTs are trained and qualified to implement specific radiation protection responsibilities, such as the following:

1. As delegated authority by the RPM, stop work or order an area evacuated (in accordance with approved procedures) when, in his or her judgment, the radiation conditions warrant such an action and such actions are consistent with plant safety;
2. Provide coverage and monitor radiation conditions for jobs potentially involving significant radiation exposure;
3. Conduct surveys, assess radiation conditions and establish radiation protection requirements for access to and work within restricted, radiation, high radiation, very high radiation, radioactive materials, and airborne radioactivity areas;
4. Identify, post, and establish appropriate controls for access to restricted, radiation, high radiation, very high radiation, radioactive materials, and airborne radioactivity areas;
5. Provide control over the receipt, storage, movement, use, and shipment of licensed radioactive materials;
6. Maintain, operate, and calibrate fixed and portable equipment and instrumentation for monitoring or taking samples to assess levels of radiation, radioactivity, and dose;
7. Perform monitoring and assessment of radioactivity in solid radioactive waste, effluents and in the plant environs;
8. Review work packages, proposed design modifications, and operations and maintenance procedures to ensure integration of adequate radiation protection controls and dose-reduction measures;
9. Review and oversee implementation of plans for the use of temporary shielding or other engineered radiation protection controls;

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10. Provide personnel monitoring and bioassay services;
11. Maintain, prescribe and oversee the use of respiratory protection equipment;
12. Perform assigned emergency response duties.

Radiation Protection Supervisory and Technical Staff

Other supervisory and technical staff are included within the radiation protection organization as needed to support the RPM in carrying out his or her assigned duties and responsibilities and to oversee and support the work of the RPTs. Qualifications and experience of radiation protection supervisory and technical staff are consistent with USNRC Regulatory Guide 1.8. A specific supervisor or technical staff member, properly trained and qualified, will be assigned overall responsibility for each of the following radiation protection program elements (one individual may be responsible for more than one element):

1. Respiratory Protection
2. Personnel Dosimetry
3. Bioassay
4. Instrument Calibration and Maintenance
5. Radioactive Source Control
6. Effluents and Environmental Monitoring and Assessment
7. Radioactive Waste Shipping
8. Radiation Work Permits
9. Job Coverage
10. Radiation Monitoring and Surveys