



NCRP Report No. 187: *Operational Radiation Safety Program*

National Council on Radiation Protection and Measurements

NCRP Report No. 187, *Operational Radiation Safety Program*, provides basic guidance for establishing and maintaining radiation safety programs across the spectrum of operational settings. As an update of NCRP Report No. 127, it incorporates the latest guidance from NCRP Report No. 180, *Management of Exposure to Ionizing Radiation: Radiation Protection Guidance for the United States* (2018), as well as new and updated information from other NCRP reports that were issued after Report No. 127. New in this Report is an appendix with discussions about the unique aspects of operational radiation safety programs in eleven specific settings including: medical facilities, university-type research facilities, industrial radiography, large accelerators, and decommissioning and site cleanup activities.

This Report provides:

- a summary of NCRP Report No. 180, specific to “numeric protection criteria for management of dose to an individual” and “optimization of protection”;
- guidance for establishing radiation safety program roles and responsibilities and a positive organizational radiation safety culture;
- facility and system design considerations, including facility layout, shielding, ventilation, access control, and the regulatory environment;

Health physicists, managers, regulators, and students will find Report No. 187 useful because:

- it provides basic guidance for all aspects of a radiation safety program across all types of facilities;
- the guidance can be applied in a graded approach for smaller-scale radiation safety programs;
- it incorporates applicable guidance from 21 NCRP reports that were issued after Report No. 127;
- an appendix includes information on the unique aspects of radiation safety programs for 11 specific operational settings; and
- it can serve as a useful reference for health physics students.

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- radiological work controls, including engineered controls, procedural controls, radiation safety training, and workplace monitoring, including an updated section on radiation instrumentation;
- internal and external radiation dosimetry requirements and options, including the use of electronic dosimeters, accreditation program requirements, and dose assessments;
- environmental monitoring requirements, including effluent monitoring, environmental surveillance, dose assessment, and exposure to nonhuman biota;
- emergency preparedness, including response to spills and emergencies, and the investigation of radiological incidents;
- quality assurance, including program assessment and records keeping; and
- an appendix that supplements the body of the Report and focuses on the unique aspects of the radiation safety programs for 11 different operational settings.

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