

1. Exposure of Workers

Problem Statement:

Workers employed for construction of new nuclear power plants may be exposed to direct radiation and/or radiation from gaseous and/or liquid effluents from other licensed and non-licensed sources outside the scope of the Construction and Operating License (COL).

Applicability of Regulatory Requirements:

- 10 CFR Part 19, "NOTICES, INSTRUCTIONS AND REPORTS TO WORKERS: INSPECTION AND INVESTIGATIONS."
- 10 CFR 20.1301, "Dose limits for individual members of the public."
- 10 CFR 20.1302, "Compliance with dose limits for individual members of the public."
- 10 CFR 19.3, "Definitions.": *Worker* means an individual engaged in activities licensed or regulated by the Commission and controlled by a licensee or regulated entity, but does not include the licensee or regulated entity.
- 10 CFR 20.1003 'Definitions': *Occupational dose* means the dose received by an individual in the course of employment in which the individual's assigned duties involve exposure to radiation or to radioactive material from licensed and unlicensed sources of radiation, whether in the possession of the licensee or other person. Occupational dose does not include doses received from background radiation, from any medical administration the individual has received, from exposure to individuals administered radioactive material and released under § 35.75, from voluntary participation in medical research programs, or as a member of the public.
- 10 CFR 20.1003 'Definitions': *Member of the public* means any individual except when that individual is receiving an occupational dose.
- 10 CFR 20.1003 'Definitions': *Public dose* means the dose received by a member of the public from exposure to radiation or to radioactive material released by a licensee, or to any other source of radiation under the control of a licensee. Public dose does not include occupational dose or doses received from background radiation, from any medical administration the individual has received, from exposure to individuals administered radioactive material and released under § 35.75, or from voluntary participation in medical research programs.
- 10 CFR 20.1003 'Definitions': *Residual radioactivity* means radioactivity in structures, materials, soils, groundwater, and other media at a site resulting from activities under the licensee's control. This includes radioactivity from all licensed and unlicensed sources used by the licensee, but excludes background radiation. It also includes radioactive materials remaining at the site as a result of routine or accidental releases of radioactive material at the site and previous burials at the site, even if those burials were made in accordance with the provisions of 10 CFR Part 20.

Understanding:

It is the responsibility of the nearby operating nuclear power plant management to monitor compliance with dose limits for individual members of the public. The COL applicant determines if workers employed for the construction of a new nuclear power plant are classified as "individual members of the public" or "occupational workers" based on and in cooperation with the operating nuclear power plant.

If these workers are classified as "individual members of the public" then the operational nuclear power plant management must demonstrate the requirements of 10 CFR 20.1301 and 10 CFR 20.1302. The COL applicant and the engineering, procurement and construction contractor (EPC) will cooperate and support activities of the operating nuclear power plant in meeting the requirements of 10 CFR 20.1302.

If these workers are classified as "occupational workers" then the joint management listed above must demonstrate the requirements of 10 CFR 19.11, 10 CFR 19.12, 10 CFR 19.13, and 10 CFR 20 are met.

2. Use of Radioactive Sources Not Licensed Under the COL

Problem Statement:

Workers employed for construction of new nuclear power plants may be exposed to radiation from sources (e.g. radiography and soil density gauges) that are not controlled or monitored under Part 50 or 52 licenses.

Applicability of Regulatory Requirements:

- 10 CFR Part 20, "STANDARDS FOR PROTECTION AGAINST RADIATION."
- 10 CFR Part 30, "Rules of General Applicability to Domestic Licensing of Byproduct Material."
- 10 CFR Part 34, "LICENSES FOR INDUSTRIAL RADIOGRAPHY AND RADIATION SAFETY REQUIREMENTS FOR INDUSTRIAL RADIOGRAPHIC OPERATION."
- 10 CFR Part 150, "EXEMPTIONS AND CONTINUED REGULATORY AUTHORITY IN AGREEMENT STATES AND IN OFFSHORE WATERS UNDER SECTION 274."
- 29 CFR Part 1910, "General Industry Training Requirements"

Understanding:

It is the responsibility of the owner of the specific licensed material to meet the applicable requirements of 10 CFR 30 and 10 CFR 34. The management of the workers employed for the construction of new nuclear power plants will ensure that their workers are provided general awareness training commensurate with the hazards to which they are exposed per 10 CFR Part 19 and 29 CFR Part 1910. In situations in which construction workers are exposed to radiation from soil density gauges or similar devices, radiation awareness training should be provided.

Licensees performing radiography are responsible for radiation safety requirements per 10 CFR 34 and/or state requirements.