Webinar on Environmental Radiation Protection Standards for Nuclear Power Operations

WELCOME!

Webinar Structure

Technical presentation followed by questions and answers.

Phones on mute so that everyone can hear presentation.

Please submit questions in the chat room at the bottom of the screen.

Comments in chat room should be courteous.

ANPR for Revising Environmental Radiation Protection Standards for Nuclear Power Operations

Water Resources

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Public Webinar

Presentation Outline

Background

Rationale

Radionuclide contamination of water

Existing standards and practices

Issue for public comment

Summary

Discussion

Two main radiation protection provisions

Public Dose limits (ICRP-2 based)

- 25 mrem/yr whole body, 75 mrem/yr to thyroid, and 25 mrem/yr to any other organ

Radionuclide Release limits

- Annual limits on quantities of radioactivity entering the environment per Gigawatt electricity produced; primarily for reprocessing
  - 50,000 curies Kr-85
  - 5 millicuries I-129
  - 0.5 millicuries combined Pu 239 & other alpha emitters

1977 Rationale: Why no water standard?

- Liquid pathway releases from these facilities result in smaller doses than air releases.
- No actual dose from liquid releases that exceeded 1 mrem/yr.

Radionuclide contamination of water

Ground water

- Tritium found at nuclear power plants in gw concentrations as high as 3.2 million pCi/l (drinking water MCL 20,000 pCi/l).
- NRC developed two separate task forces to examine the issue.
- GW contamination has also been found on or around some of the other fuel cycle facilities.

Surface water

- Routine discharges of cooling water with monitored radioactive contaminants is a general practice at nuclear power plants.

Existing standards and practices

NRC regulations limit discharges to water resources:

- General design criterion 60
- 10 CFR Part 50, Appendix I
- Effluent limits calculated to ensure compliance with 40 CFR part 190

Nuclear industry practices and guidance

- NEI Groundwater Initiative
- Institute of Nuclear Power Operations evaluations
- American Nuclear Insurers perspective

Issues for public comment

- **Ground water:** If a ground water protection standard is established in the general environment outside the boundaries of nuclear fuel cycle facilities, what should the basis be and how should it be implemented?

- **Surface Water:** Are additional standards aimed at limiting surface water contamination needed?

- **Costs:** Are there significant costs associated with implementing a ground water protection standard?

Summary

- EPA is considering whether there is a need to develop a separate ground water protection standard in its revisions to its environmental protection requirements to nuclear power operations – 40 CFR Part 190
- We will accept comments on policy issues associated with developing an additional water protection provision

Thank you!

Statements submitted during this webinar are not considered as "official comments"

Comments can be submitted by:

- Going to www.regulations.gov and following directions
- Submitting comments via email to: a-and-r docket@epa.gov
- Mail to EPA Docket Center, Env Rad Prot Standards for Nuclear Power Operations
- Hand Deliver to EPA Docket Center at 1301 Constitution Ave, NW Wash DC during normal work hours

Questions?