



Webinar on Environmental Radiation
Protection Standards for Nuclear Power
Operations

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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

Radionuclide Release Limits

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Public Webinar

Presentation Outline

Background

Guiding assumptions for existing standard

Why consider revisions?

Options for consideration

Questions for public comment

Summary

Discussion



Background

40 CFR Part 190 establishes environmental radiation protection standards for nuclear power operations

- Subpart 190.10(b) limits the annual releases of:
 - Kr-85 to no more than 50,000 Ci/GW electricity produced
 - I-129 to no more than 5 mCi/GW electricity produced
 - Pu-239 and other alpha-emitters no more than 0.5 mCi/GW electricity produced.
- Limits apply to total released nationally
- Can be viewed as goals not to exceed



Guiding assumptions

Agency stated clear rationale for limiting standards to Uranium fuel cycle:

- In US, early development focused on light-water-cooled nuclear reactors using U-235 as fuel for the generation of electricity.
- Fuel reprocessing facilities represent the largest single potential source of environmental contamination in the fuel cycle.

Limit important for reducing the environmental dose commitment for persistent, radiological contaminants.



Derivation of the Existing Limits

In developing the limits the Agency considered:

- Projections based on modeling of source terms
- Measurements from existing facilities
- Industry-anticipated performance
- The most complete set of data derived from model-based projections
 - But projections included anticipation of 300,000 megawatts of nuclear energy generated annually by year 2000
 - Nuclear energy growth from 8% of nation's energy mix to 40 – 60%
 - Spent nuclear fuel reprocessing/processing in US



Derivation of Existing Limits (cont)

When developing the radionuclide release limits:

- Agency considered potential limits for:
 - Tritium
 - Carbon-14
 - Krypton-85
 - Iodine-129
 - Plutonium-239 & other alphas
- Concluded that no effective control technologies existed for Tritium and Carbon-14



Why consider revising this limit?

Commercial reprocessing in the US has not materialized

- Importance of this provision is minimized
- President's "Blue Ribbon Commission on America's Nuclear Future" discussed the role reprocessing could play if no disposal is available for spent nuclear fuel.

Implementation/enforcement questions

- Exceedance would be on a national scale
- Reductions would need to be apportioned to select facilities



Options for Consideration

The Agency has scoped out some potential options for modifying this existing provision:

- Elimination of this provision entirely
- Develop radionuclide specific standards that could apply outside a given facility
- Seeking additional options to reduce contaminants posing environmental commitment issues



Discussion

Should Agency retain the concept of radionuclide-specific release limits?

- On what basis should they be calculated?

Can these limits be implemented on an industry-wide basis or would facility limits be more practicable?

Are the radionuclides for which these limits have been established (krypton-85, iodine-129, plutonium-239 and other alphas) still appropriate, or should others be considered?



Summary

EPA is considering whether the radionuclide release limits should be retained in their current form, modified, or eliminated entirely.

We are open to recommendations on any other manner to limit environmental commitment of persistent radiological contaminants from uranium fuel cycle facilities.

Submit comments by June 4, 2014.



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](mailto: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?

