

RULES AND DIRECTIVES

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**Docket:** NRC-2011-0162  
Remediation of Residual Radioactivity During Operations

**Comment On:** NRC-2011-0162-0017  
Consideration of Rulemaking to Address Prompt Remediation of Residual Radioactivity During Operation;  
Notice of Public Webinar and Request for Comment

**Document:** NRC-2011-0162-DRAFT-0018  
Comment on FR Doc # 2016-15949

## Submitter Information

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7/16/2016  
81 FR 43959

## General Comment

See attached file(s)

5

## Attachments

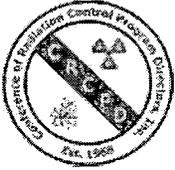
Remediation of Residual Radioactivity During Operation - NRC-2011-0162

**SUNSI Review Complete**

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**Add=** *m. Vaaler (mgv)*



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## **CONFERENCE OF RADIATION CONTROL PROGRAM DIRECTORS COMMENTS ON THE U.S. NUCLEAR REGULATORY COMMISSION'S CONSIDERATION OF RULEMAKING TO ADDRESS PROMPT REMEDIATION OF**

### **RESIDUAL RADIOACTIVITY DURING OPERATION**

**DOCKET NUMBER NRC-2011-0162**

### **COMMENTS ON THE FOLLOWING SECTION II. SPECIFIC QUESTIONS**

- 1. and 2. Should the NRC proceed with additional rulemaking to address remediation of residual radioactivity during the operational phase?"**
- 6. "If the NRC implements a rule that allows licensees to analyze residual radioactivity to justify delaying remediation, then what should the licensee's analysis cover?"**
- 8. "If the NRC implements a rule that allows licensees to analyze residual radioactivity to justify delaying remediation, what standards or criteria should a licensee use to demonstrate to the NRC that a sufficient justification to delay remediation has been met?"**

The NRC should proceed with additional rulemaking to address the characterization, as well as the remediation, of residual radioactivity during the operational phase of licensed facilities. The design of any remedial action plan, or any justification for delaying remediation, must be based upon a timely and complete characterization of the extent of contamination. That characterization must include soil and /or groundwater sampling in all geologic formations potentially impacted by the contamination. To that end, the Decommissioning Planning Rule should specifically require soil and/or groundwater sampling in the formation to which the contamination was released as well as concurrent sampling of any underlying formations that have been disturbed by the construction or operation of the facility. Examples of such disturbances include excavations for building foundations and the installation of cofferdams for dewatering operations, where confining layers between geologic formations have been penetrated. The penetration of those confining layers creates pathways for the downward migration of contaminants into the underlying formations. For that reason we also recommend that the definition of "subsurface", for the purposes of this Rule, be revised to include any geologic formation that has been disturbed by the construction or operation of the facility. Furthermore, in cases where residual radioactivity has contaminated the ground water or surface waters of a State, the NRC should solicit State and public input on the design and implementation schedule for all characterization and remediation activities.

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RE: DOCKET NUMBER NRC-2011-0162

**Basis for Comment**

The determination of the need to remediate, as well as the design of an effective remediation plan, regardless of the timing of the remediation (operational phase or decommissioning phase), must be based upon a complete and timely characterization of the horizontal and vertical extent of the contamination. Recent experience at nuclear power facilities has clearly demonstrated that the probability that contaminated water released into shallow unconfined aquifers will ultimately reach deeper confined aquifers is much greater than previously predicted. Construction activities typically associated with nuclear power plants, such as deep excavations for building foundations and other structures, and the installation of cofferdams to support dewatering operations, can significantly alter site hydrological conditions. An unintended consequence of these activities has been the creation of downward pathways that have allowed contaminants to pass through the confining layers into the deeper aquifers. Our observation has been that absent a specific regulatory requirement to characterize the extent of contamination in these vulnerable underlying formations concurrent with the characterization of the uppermost formation, licensees tend to avoid sampling them in a timely, comprehensive manner. As a result, significant portions of the releases may go unmonitored for long periods of time. The existing Decommissioning Planning Rule requires licensees to check periodically for radiological contamination throughout the site, including subsurface soil and groundwater. In their discussion of the changes being made to 10 CFR 20.1406 as part of the Decommissioning Planning Rule (76 FR 35518), the NRC defines subsurface as the area below the surface by at least 15 centimeters. This requirement, as presently composed, has not fostered adequate characterizations of subsurface contamination at nuclear power plants.