

NRC TERMINATION SURVEY REQUIREMENTS-COMPLIANCE USING DRAFT NUREG/CR-5849 GUIDANCE

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ABSTRACT

On June 27, 1988, NRC published the final rule on the "General Requirements for Decommissioning of Nuclear Facilities" (decommissioning rule) in the Federal Register (FR 24018-24056). This rule covers facilities licensed under 10 CFR Parts 30, 40, 50, 70, and 72. The decommissioning rule requires licensees to conduct a termination survey of the premises where the licensed activities were carried out and submit a report of the results of this survey. The rule also requires those licensees required to submit a decommissioning plan to include a description of the final radiation survey in the decommissioning plan.

NRC contracted with the Oak Ridge Institute for Science and Education to develop a guidance document on conducting the required final radiation survey and developing a final radiation survey plan. Draft NUREG/CR-5849, "Manual for Conducting Radiological Surveys in Support of License Termination," was published in June 1992. NUREG/CR-5849 replaces NUREG/CR-2082, "Monitoring for Compliance with Decommissioning Termination Survey Criteria," as the primary NRC guidance document on conducting final surveys. The way that NUREG/CR-5849 will be used by NRC in reviewing final survey plans submitted by licensees will be discussed.

Prior to the final survey, a characterization survey is necessary to determine the concentration and extent of the contamination present at a facility. Characterization data is essential to NRC's evaluation of the licensee's selected remediation alternative. Surveys are also necessary during remediation activities to determine when to stop the remediation effort and begin the final survey. The relationship between the characterization, remediation, and final surveys will be discussed in the context of optimizing data usefulness and minimizing overall survey cost.

OVERHEADS

NRC TERMINATION SURVEY REQUIREMENTS

- NRC Regulations
- Compliance With Regulations
- Comments On Application of NUREG-5849

COMPLIANCE WITH REGULATIONS

Termination Survey Plan

- technically defensible (instrumentation, procedures, calibration, background, etc.)
- data quality adequate
- sampling plan and data reduction allow for comparison to release criteria with known certainty
- final report allows objective reviewer to verify above items have been satisfied

NRC REGULATIONS

Decommissioning Regulations Require:

- description of the planned final radiation survey (Termination Survey Plan)
- documentation that demonstrates facility suitable for release for unrestricted use (Termination Survey Report)

COMPLIANCE WITH REGULATIONS (cont'd.)

Termination Survey Report - does it demonstrate that unrestricted use criteria met?

- Report content complies with approved plan
- Average less than criteria (including weighted average of "elevated areas")
- Each individual measurement result less than Hot Spot criteria
- For soil contamination, size of elevated areas acceptable

COMMENTS ON APPLYING NUREG-5849

- **Affected/Unaffected classification**
- **Reporting actual net results (including negative)**
 - important to denote positive results (i.e., results > critical level)
 - allows limited evaluation of selected background value
- **25% criteria for survey unit reclassification**
- **Hot spot limit for soil**

COMMENTS ON APPLYING NUREG-5849 (cont'd.)

- **Statistically based confirmatory survey**
- **Survey unit size limitation as method of controlling "averaging out" contaminated areas with non-contaminated areas**
- **Overall, Draft NUREG/CR-5849 provides functional guidance for determining compliance with NRC regulations**