

February 6, 2003

MEMORANDUM TO: Christopher I. Grimes, Program Director
Policy and Rulemaking Program
Division of Regulatory Improvement Programs, NRR

FROM: Joseph L. Birmingham, Project Manager */RA/*
Policy and Rulemaking Program
Division of Regulatory Improvement Programs, NRR

SUBJECT: SUMMARY OF JANUARY 23, 2003, MEETING, WITH THE NUCLEAR
ENERGY INSTITUTE (NEI) TO DISCUSS THE OCCUPATIONAL AND
PUBLIC RADIATION SAFETY CORNERSTONES

On January 23, 2003, Nuclear Regulatory Commission (NRC) staff met with representatives of NEI at NRC headquarters in Rockville, Maryland. Meeting participants at headquarters are listed in Attachment 1 of this memorandum, in addition Region and Industry personnel participated via teleconference. Material distributed to facilitate discussion during the meeting is in Attachment 2. The meeting was held to discuss a proposed revision to the Public Radiation Safety Objective, the definition of an occurrence in the radioactive material control portion of NRC Manual Chapter 0609D, and discussion of criteria to define a minor violation.

After introductions, the group discussed the proposed revision to the Public Radiation Safety Objective. The revision was proposed to broaden the scope of the stated objective to better indicate that it included findings of radioactive material inappropriately released on site but that did not enter the "public domain". After minor discussion, the group agreed on the proposed revision.

The group then addressed a proposed revision of the definition of an "occurrence." The proposed revision provided criteria to better define when situations involving licensed radioactive material found outside the "protected area" should be considered an occurrence and thus entered into the greater than 5 occurrence block in the Significance Determination Program (SDP). Ralph Andersen, of NEI, commented that the NRC proposed revision was an improvement. There was discussion of the wording for reasonable use of radiation detection equipment but the group agreed that it was appropriate. Roger Pedersen, of the NRC, asked if the term occurrence was being used consistently. The NRC staff agreed to work on the wording to ensure consistency.

The next topic was the documenting of multiple related instances as a single finding. The group discussed this issue at length and agreed that, in general, these issues were appropriate to be documented as a single finding as this assured that the information was available but did not waste staff resources on separate entries.

The last topic was a proposed measurement protocol for determining the safety significance of licensed radioactive material found inside the protected area. Although there was general agreement on the draft protocol, there were several comments on the wording. The NRC staff agreed to look into how the protocol would fit into NRC Manual Chapter 0612 and to bring a draft proposal that addressed the comments for the next meeting.

C. Grimes

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The group discussed the situation where material is found offsite, is entered into the licensee's corrective action program and the SDP, but is found not to be a performance deficiency. This is a case where the controlling procedures were appropriate and the licensee followed the procedures. After discussion, the staff agreed to look further into whether this should be a finding.

Steve Klementowicz, of the NRC, reviewed the action items from the meeting and discussed the issues and time for the next meeting. He asked if there were any public questions or comments and as there were no public questions or comments, the meeting was adjourned.

Project No. 689

Attachments: As stated

cc w/att: See list

**List of Attendees for January 23, 2003 Meeting
Public and Occupational Radiation Safety Cornerstones**

NAME	ORGANIZATION
Ralph Andersen	NEI
Roger Pedersen	NRC/NRR/IEHB
Steve Klementowicz	NRC/NRR/IEHB
Kathy Halvey Gibson	NRC/NRR/IEHB
Audrey Hayes	NRC/NRR/IEHB
Kathryn Brock	NRC/NRR/IEHB
Joseph Birmingham	NRC/NRR/RPRP
Region and Industry representatives via teleconference	

DRAFT

Public Radiation Safety: OBJECTIVE: to ensure adequate protection of public health and safety from exposure to radioactive materials released into the public domain as a result of routine civilian nuclear reactor operation.

Problem:

The Objective focuses on "... radioactive materials released into the public domain..." The narrow focus of the Objective has created confusion with the intent of the Radioactive Material Control branch of the Public Radiation Safety cornerstone. This is because the Radioactive Material Control SDP is intended to include an assessment of findings which involve a licensee's failure to control licensed radioactive material within its site as well as situations which involve the exposure of a member of the public from radioactive material inappropriately released from the site. The objective should also be broad enough to include all four branches of the Public Radiation Safety cornerstone. To achieve this broad range of programs covered by the cornerstone, the Objective needs to specifically include other aspects of the regulations while the radioactive material is still on the licensee's site; surveying, control, evaluation, and storage.

Proposed revision:

Public Radiation Safety: OBJECTIVE: to ensure adequate protection of public health and safety from exposure to radioactive materials generated as a result of routine civilian nuclear reactor operation. Adequate protection is based on the licensee's compliance with regulatory requirements to survey, control, evaluate, package and transport radioactive materials.

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NEI Proposed Definition of "Occurrence"

Occurrence (to be considered in the >5 occurrence block of the SDP): 'An instance of licensed radioactive material found outside a Protected Area or Radiologically Controlled Area that has been released due to: (a) not following procedures or training or (b) inadequate procedures or training.'

NRC Proposed Definition of 'Occurrence'

An Occurrence is defined to be an instance in which licensed radioactive material was identified 1) outside of a Protected Area, Restricted Area, or an area defined by the licensee in which licensed radioactive material is controlled and 2) an evaluation concludes that the material was released as a result of a) not following approved plant procedures, b) not in accordance with documented training, c) inadequate approved plant procedures, or d) inadequate training.

An occurrence that is counted in the >5 occurrence counter is intended to be a failure of the licensee's existing documented, approved Radiation Protection program. An occurrence does not include situations which involve licensed radioactive material that is 1) below the radiation detection sensitivity of the instruments used ***in a manner that is reasonable under the circumstances*** for the survey and control of licensed radioactive material, or 2) licensed radioactive material which was routinely released in accordance with the requirements of the licensee's radioactive gaseous and liquid effluent release program.

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Draft for Discussion

Documenting Multiple Related Instances as a Single Finding

Additional guidance should be provided in the SDP regarding how to document (in an inspection report) multiple related instances of licensed radioactive material being found outside a radiologically controlled area. The issue to be addressed in the guidance is when such instances should be documented as a single finding.

Concepts that should be considered in the guidance include the following:

- Instances involving circumstances that do not represent a performance deficiency should be combined into a single finding for the period covered by the inspection.
- Licensee-identified instances that represent a performance deficiency and arise either from a common root cause or as the result of investigations and surveys conducted in conjunction with corrective action should be combined into a single finding.

Draft for Discussion

MEASUREMENT PROTOCOL FOR DETERMINING SAFETY SIGNIFICANCE OF LICENSED RADIOACTIVE MATERIAL

INTRODUCTION

This measurement protocol provides a method for determining the safety significance of licensed radioactive material found inside a protected or restricted area at a nuclear power plant with respect to the public radiation safety cornerstone.

BACKGROUND

Nuclear power plants have several layers of defense against the release of items that are contaminated with licensed radioactive material. Numerous controls are exercised at contaminated area, radiologically controlled area, and restricted area boundaries to prevent the inadvertent release of licensed radioactive material to unrestricted areas.

Surveys occasionally find contaminated items in the protected or restricted areas. These findings may indicate that the items were not properly released in accordance with licensee procedures. However, they are not findings of licensed radioactive material being released in the public domain.

PERFORMANCE ASSESSMENT

The NRC uses inspection findings to assess a licensee's performance in the area of radioactive material control. The significance determination process (SDP) is a risk informed method of determining the significance of inspection findings.

If the dose impact to a member of the public is less than 5 mrem, then the radioactive material control finding is classified as green. Minor issues or violations are those that are below the significance of that associated with green SDP findings. If there is no dose impact from an item found inside a protected or restricted area and any potential dose to a member of the public is insignificant, then the radioactive material finding should be considered minor. While minor violations must be corrected and documented in a licensee's corrective action programs, they do not normally warrant documentation in the NRC inspection report.

DEFINITION OF MINOR

Members of the public are continuously exposed to ionizing radiation from natural sources including cosmic, terrestrial, and internal radioactive material. An individual's whole body dose varies widely from one geographic region to another. Levels of radiation that are indistinguishable from natural background have minor safety significance.

When the whole body dose rates from radioactive material found inside a licensee's protected or restricted areas are indistinguishable from background, the inspection finding should be considered minor with respect to the public radiation safety cornerstone.

Licensed radioactive material that is found in contact with a member of the public is not considered minor. Minor levels of radioactive material are not acceptable for release to unrestricted areas. Licensees must correct minor violations of NRC regulations or licensee procedures and document them in their corrective action program.

Draft for Discussion

MEASUREMENT PROTOCOL

- Dose rates are measured at a distance of 30 centimeters from the source of the radiation to estimate the potential whole body dose to an individual who may be in the vicinity.
- The dose rate instrument used to perform this measurement must be capable of measuring background levels of radiation in the micro-rem per hour range. The standard detector for instruments of this type is a 1" by 1" scintillation detector. Use of an equivalent detector is acceptable.
- The dose rate measurements are performed in the same low background areas where unconditional material release surveys are performed.
- If a contaminated item found in a protected or restricted area is indistinguishable from background, then the radioactive material finding should be considered minor.
- An individual who is qualified to perform an unconditional material release surveys should perform these safety significance dose rate measurements.

The group discussed the situation where material is found offsite, is entered into the licensee's corrective action program and the SDP, but is found not to be a performance deficiency. This is a case where the controlling procedures were appropriate and the licensee followed the procedures. After discussion, the staff agreed to look further into whether this should be a finding.

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cc w/att: See list

CC: Nuclear Energy Institute

Project No. 689

Via email: Mr. Ralph Andersen, Sr. Proj. Mgr
rla@nei.org

Mr. Jim Davis, Director
jwd@nei.org

NRC Distribution: Mtg. Notice w/NEI re Radiation Protection SDP 1/23/03

ADAMS/PUBLIC OGC ACRS

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ADAMS Accession No.:

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DATE	1/27/03	2/05/03	2/06/03

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