



UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-8064

NOV 25 1992

MEMORANDUM FOR: Richard L. Bangart, Director
Division of Low-Level Waste Management
and Decommissioning
Office of Nuclear Material Safety
and Safeguards

FROM: L. J. Callan, Director
Division of Radiation Safety and
Safeguards

SUBJECT: REVIEW OF THE DRAFT DECOMMISSIONING INSPECTION PROGRAMS
FOR FUEL CYCLE FACILITIES AND MATERIAL LICENSEES

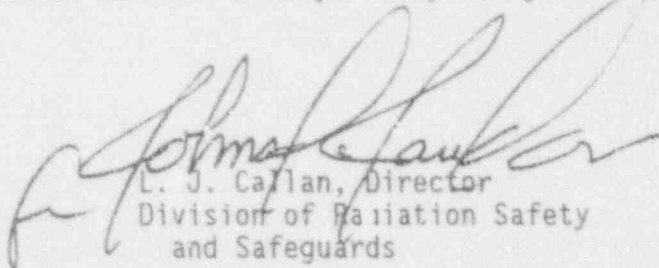
In response to your memorandum dated October 19, 1992, Region IV reviewed the draft Decommissioning Inspection Programs for Fuel Cycle Facilities and Material Licensees. The enclosure presents our comments and suggestions concerning these inspection programs.

Generally, these draft inspection procedures are appropriate for most decommissioning programs. The flexibility vested in the Regions for optimizing their inspection resources and the ability to adapt an inspection program to the requirements of a specific decommissioning project are very important and desirable.

Region IV utilized a license condition in the Pathfinder reactor decommissioning that might be useful in future decommissioning activities. This license condition addressed approved of licensee initiated changes. This is discussed in the first enclosure.

An attachment contains the Pathfinder Decommissioning Inspection Procedure developed by Region IV, which was used as the inspection guidance for the first public utility reactor decommissioning in the United States.

If you have any questions, please contact Wesley Holley of my staff at (817) 860-8198.


L. J. Callan, Director
Division of Radiation Safety
and Safeguards

Enclosure:
Comments on Proposed Decommissioning
Programs with Attachment

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DMB - Original (IE-07)

JLMilhoan

LJCallan

JPJaudon

MRodriguez, OC/LFDCB (4503)

WLFisher

CLCain

WLHolley

NMIS

MIS System

RIV Files (2)

REHall, URFO

TCJohnson, NMSS (MS 5 E2)

LPittiglio, NMSS (MS 5 E2)

AI 92-453

RIV:NMLS	C:NMLS	D:DRSS		
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MRodriguez, OC/LFDCB (4503)
WLFisher
CLCain
WLHolley
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MIS System
RIV Files (2)
REHall, URFO
TCJohnson, NMSS (MS 5 E2)
LPittiglie, NMSS (MS 5 E2)

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RIV:NMLS	C:NMLS	D:DRSS		
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COMMENTS ON THE PROPOSED DECOMMISSIONING INSPECTION PROGRAMS FOR FUEL
CYCLE FACILITIES/MATERIAL LICENSEES

General Comments

The two inspection programs could be combined, since the only differences presently are the names, Fuel Cycle Facilities/Material Licensees, and Procedure Nos. 26XX-OX/28XX-OX.

In all Fuel Cycle Facilities and some large Materials Licensee decommissioning procedures, a QA Program inspection procedure, such as No. 35741B for audits, should be included as part of the core inspection program.

Region IV developed a license condition that proved to be very valuable in the decommissioning of the Pathfinder reactor. This license condition was for NRC approval of licensee initiated changes for the solution of problems unforeseen when the EA, SER, and other license application attachment items were written. The following is an example of the license condition.

- All such licensee approved changes shall be transmitted to the Regional Administrator or appropriate Headquarters personnel.
- Such licensee approved changes shall not be implemented prior to licensee receipt of confirmation by telephone or other means that the licensee approved change has been received and examined by a cognizant member of the NRC Region/Headquarters technical staff.

We recommend that this be incorporated in to all decommissioning licenses.

We have attached an inspection procedure developed by Region IV for the Pathfinder decommissioning. This procedure may be useful.

Specific Comments

Some of the following comments may not be very pertinent to your Draft Decommissioning Inspection Programs for Fuel Cycle Facilities and Material Licensees, since the draft gives the regions the needed latitude and flexibility in designing a specific decommissioning inspection program.

Pages 2 and 6, first paragraph: Region IV recommends inspecting a facility in an active dismantlement phase more than once every 24 months. We recommend the inspection frequency of once every 12 months as a minimum. Our experience has been that greater regulatory attention is required, if for no other reason than to let the licensee know that his decommissioning is important to the NRC.

Pages 2 and 6, second paragraph: Region IV recommends that an inspection be performed during the remedial/clean-up portion of the decommissioning. Also, a pre-final survey inspection is needed to insure that the licensee follows NUREG/CR-5849 during the final survey.

Pages 2 and 6, third paragraph: The flexibility given to the regions in this paragraph should be very helpful in designing different inspection programs as needed for various decommissions.

Pages 2 and 6, last paragraph: Region IV recommends that all licensee decommissioning procedures and manuals be reviewed before the decommissioning begins or as soon as possible thereafter so that errors and unacceptable procedures will be identified before they affect the decommissioning.

Pages 4 and 8, Appendix A: The Regions need guidance on interfacing with EPA similar to that for OSHA, Inspection Procedure No. 1007. Also, guidance is needed concerning RCRA and CERCLA material encountered during decommissioning activities.

Page 9, Appendix A: For some material decommissions, it would be beneficial to include Inspection Procedure No. 87100, Licensed Materials Programs.

Pathfinder Decommissioning Inspection Procedure

INSPECTION OBJECTIVE

The objective of this procedure is to verify that Pathfinder will be decommissioned in a safe manner so that no harmful radiological hazard will be presented to radiation workers or a member of the general public. Also, to assure that the facility will be decontaminated to acceptable levels and will not present a radiation hazard to future occupants.

1. INSPECTION REQUIREMENTS

1.1. Organization and Responsibilities

Determine the adequacy of the decommissioning staff and their respective activities and responsibilities in a functional organization that is referenced in the SER and EA.

1.2 Personnel Training

Review the training, general and specialized.

1.3 Quality Assurance (QA)

Determine whether the QA plan is adequate to ensure decommissioning quality, safety, compliance with applicable regulations and ALARA, and appropriate record keeping.

1.4 Decommissioning Plan

Verify that the licensee is following the decommissioning plan according to the license, SER, and EA.

1.5 Radioactive Waste Management

- ° Waste Generation - Evaluate the program to determine the volume and radioactivity of waste generated by decommissioning activities.
- ° Waste Handling and Packaging - Determine whether the licensee's waste handling and packaging are consistent with the applicable provisions of 10 CFR Parts 20 and 61, the Commission's Technical Position on waste classification and waste form, and License Conditions 18 and 19.
- ° Waste Transportation and Disposal - Determine whether the licensee's waste transportation and disposal are consistent with the applicable requirements of 10 CFR Parts 20, 61, and 71, and with DOT regulations.

1.6 Radiological Controls

Verify that the licensee's effluent release controls, worker exposure controls, and environmental monitoring meet the requirements specified in the SER, EA, and the applicable requirements of 10 CFR Part 20, License Conditions 15, 16, and 17, in regards to the following:

- ° Health Physics Program
- ° Instruments, Equipment and Facilities
- ° Procedures
- ° Airborne Control and Protection
- ° Environmental Monitoring
- ° Records

1.7 Reactor Pressure Vessel Removal, Rail Car Loading/Off-Loading, Transporting, and Burial

Ensure that the licensee will follow the procedures presented in the license, SER, and EA.

1.8 Unrestricted Use Criteria

Determine whether the licensee is following the criteria presented in the EA and SER for unrestricted release of the FHB and RB structures.

1.9 Final Closeout Inspection and Survey

Review the licensee's final plan and survey data and perform a final survey to meet the requirements of 10 CFR 30.36(c)(1) and SER.

2. INSPECTION GUIDANCE

2.1 No guidance

2.2 Personnel Training

Training should include:

- ° General employee training (GET) to all unescorted personnel.
- ° ANSI N18.1-1971, Selection and Training of Nuclear Power Plant Personnel, Section 5.4.
- ° Radiological Controls and radiation protection from 10 CFR Part 19, Notices, Instructions, and Reports to Workers and 10 CFR Part 20, Standards for Protection Against Radiation.
- ° Radiation protection personnel trained in accordance with ANSI/ANS-3.1-1981.

- ° Respirator training for personnel in airborne areas which include NRC Regulatory Guide 8.15, October 1976, Acceptable Programs for Respirator Protection, and NUREG-0041, Respirator Protection for Airborne Radicactive Materials.
- ° Prenatal exposure training from NRC Regulatory Guide 8.13, Revision 1, Instruction Concerning Prenatal Radiation Exposure.
- ° Plant security, fire protection, quality assurance, industrial safety, and indoctrination of the fitness for duty program.
- ° Examinations and records.

2.3 Quality Assurance

- ° Review the QA organization and staff qualifications.
- ° Review the 15 specific procedures which govern the conduct of the project QA personnel in the QA program (e.g., 3QAP 2.1, "Standard Audit Procedure").
- ° Review the QA records, audits, and corrective actions in all functional areas.

2.4 Decommissioning Plan

Ensure that deviations from decommissioning plan are reviewed, approved, and documented in accordance with License Conditions 12 and 13.

2.5 Radioactive Waste Management

- ° Review procedures that determine the radioactivity and volume of the waste generated. Review waste records and compare with estimates presented in the SER and EA. Review radwaste segregation program.
- ° Review procedures and personnel responsible for waste classification, characterization, and shipping manifest. Determine whether this is audited by QA. Review the licensee's waste shipment labeling, tracking, investigation, and notification of waste shipment. Review adequacy of low-level waste storage area/building and clean waste disposal. Review waste compaction program.
- ° Verify that the licensee maintains current copies of DOT/NRC regulations, burial site license, and documentation for shipping packages. Review QC of package construction or package vendor certification. Verify proper package marking and labeling and

radiation and contamination surveys before shipping. Verify adequate placarding of vehicles and advance notification of consignee and state notification, if required. Determine total activity and volume of waste shipped. Review nonradioactive waste disposal (Runge Landfill).

2.6 Radiological Controls

- ° Review personal dosimetry, radiation and contamination survey program, radiation control area check point procedures, decontamination methods, health physics personnel responsibilities and organization, radwaste sampling program, ALARA program, posting of hazardous areas, 10 CFR 19.11 required postings personnel Form NRC-5 dose records, radiation work permit (RWP) program, emergency response program, bioassay program, and internal dose assessment. Also, review the handling and reporting of incidents.
- ° Review adequacy of portable survey instruments as to types and number/availability, operation, response checks, and calibration procedures. Also, review these factors, as necessary, for area radiation monitors, air grab samplers, CAMS, and laboratory analytical instruments. Determine the adequacy and controls of the emergency communication equipment.
- ° Review selected radiation protection program procedures out of approximately 80, which includes health physics instruments, equipment and facilities, portable radiation survey instruments, personnel monitoring equipment, portable area and airborne radioactivity monitors, laboratory equipment, air samplers, respiratory protection, and contamination control.
- ° Review building air filtration and ventilation systems for air movement, prefilters, HEPA filters, automatic isolation dampers, CAMS, and alarms. Review engineering controls such as portable ventilation units (fans and filters) and isolation tents. Review filter loading, testing, and replacement. Verify that the licensee has an adequate assessment program (MPC-hr controls) and adequate respiratory protection equipment (SCBA units, face mask and filters, adequate air supply, etc.). Also review the adequacy of the respiratory protection program in regards to storage, selection, issuance, fitting, testing, return, maintenance, training and medical examination. Review the air sampling program with regard to proper analytical procedures (gross beta-gamma, specific radionuclides, alpha, etc.), placement of CAMS, when and where grab samples are collected, alarm set-points, adequate laboratory counting equipment, and breathing zone air sampling.

- ° Review the environmental monitoring concerning locations, sample procedures, time schedules for river water, fish, plant discharge basin sediment and water, well water, milk, plant material from discharge ditch, soil, and sample analysis. In addition, review onsite and offsite TLD and air sampling procedures and data.
- ° Determine whether records are clear, pertinent, complete, and maintained in all areas of inspection, especially those required by License Condition 22.

2.7 Reactor Pressure Vessel Removal, Rail Car Loading/Off-Loading, Transporting and Burial

In addition to the procedures presented in the license, SER, and EA, also review activities according to 29 CFR 1926, Subpart N.

2.8 Unrestricted Use Criteria

Review survey data for acceptable surface contamination criteria presented in Regulatory Guide 1.86, Table 1, (Review the licensee's determination of background) and that gamma exposure rates measured 1 m from surfaces did not exceed 5 μ R/h above background.

2.9 Final Closeout Inspection and Survey

Review backfill over area of removed RB and perform final survey according to NUREG/CR-2082 and 10 CFR 30.36(c)(1). Review licensee's final survey, environmental records and final records of various aspects of Pathfinder decommissioning.