

U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-305/84-18(DRSS)

Docket No. 50-305

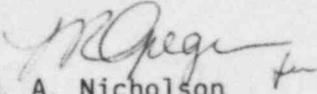
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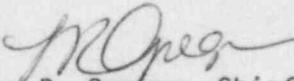
Facility Name: Kewaunee Nuclear Power Plant (KNPP)

Inspection At: KNPP Unit 1, Kewaunee, WI

Inspection Conducted: November 5-9, 1984

Inspector: 
N. A. Nicholson

12/7/84
Date

Approved By: 
L. R. Greger, Chief
Facilities Radiation Protection Section

12/7/84
Date

Inspection Summary

Inspection on November 5-9, 1984 (Report No. 50-305/84-18(DRSS))

Areas Inspected: Routine, unannounced inspection of radioactive waste systems including: solid waste processing and storage; disposal of solid low level wastes; transportation; liquid effluents; liquid effluent instrumentation; gaseous effluents; gaseous effluent instrumentation; ALARA; respiratory protection; organizational changes; and selected open items. The inspection involved 37 inspector-hours onsite by one NRC inspector.

Results: No violations were identified.

DETAILS

1. Persons Contacted

- *D. Bouche, Training Specialist
- *W. Flint, Lead Chemist Technologist
 - T. Kenekelis, Nuclear Training Supervisor
- *M. Lewis, Assistant to Nuclear Licensing and Systems Superintendent
- *C. Long, Assistant Radiation Protection Supervisor
- *M. Marchi, Plant Technical and Services Superintendent
- *D. Padula, Plant Health Physicist
- *M. Reinhart, Radiation Protection Supervisor
- *C. Steinhart, Plant Manager
 - S. Ziehms, Radwaste Operator

- *R. Nelson, USNRC Senior Resident Inspector

The inspector also contacted other licensee employees including training instructors, radiation/chemistry foremen and technicians, and members of the engineering staff.

*Denotes those attending the November 9, 1984 exit meeting.

2. General

This inspection, which began at 12:30 p.m. November 5, 1984, was conducted to examine the licensee's radwaste management program. Included were tours of the control room, solid and liquid radwaste handling areas, solid radwaste storage areas, and gaseous effluent monitoring stations. Release permits and calibrations and surveillances of effluent monitors were reviewed. The semi-annual effluent reports for CY 1983 and 1984 were reviewed; no problems were noted. Independent measurements taken with an NRC survey instrument (Xetex 305-B) during plant tours were in general agreement with licensee data. Housekeeping remains excellent.

3. Licensee Action on Previous Findings

(Closed) Violation (305/84-03-01): Failure to conduct respirator training for contractors in accordance with procedures. The inspector reviewed the respirator training tape the licensee prepared since the last inspection. This tape is shown to all respirator users along with the general radiation protection training tapes during initial and annual training sessions. This tape meets the general procedural requirements.

(Closed) Open Item (305/84-03-02): Reactor systems training for health physics staff. Approximately half of the health physics staff has attended an inhouse systems course taught by a reactor operator. The remaining staff is to be scheduled for a later date. The inspector reviewed attendance sheets, examination questions, and the course syllabus. This course appears to provide a good overview of operational systems.

(Closed) Open Item (305/84-03-03): Review corrective action to a licensee radwaste audit. The inspector reviewed documented corrective action to an inhouse audit (83-671) finding; this action was acceptable. The auditor closed this finding. No problems were noted.

(Open) Open Item (305/84-03-04): Review the respiratory training program specified by ACD 6.10. General topics specified by ACD 6.10 and its reference, ANSI Z88.2-1980, are addressed in the respirator training tape discussed above, with the exception of mask inspection techniques. At the exit meeting, licensee representatives agreed to present these techniques in the tape.

(Open) Open Item (305/84-03-05): Review ALARA modifications for radwaste. These modifications are being reviewed and/or in various stages of completion. Completed modifications will be reviewed during a future inspection.

(Closed) Open Item (305/84-05-01): Revise RC-HP-32J to include exercises during fit testing more challenging to respirator fit. Several challenging exercises, such as running in place and bending forward, were added to fit test activities specified by the recently revised Revision C. This revision has been approved and will be issued shortly.

(Closed) Open Item (305/84-05-02): Incorporate safety precautions in RC-HP-45 when the calibrator door is open. Appropriate precautions have been included in recently revised Revision D including: survey instrument use during source exposure; notification of the Radiation Protection Supervisor for open door calibrations; documenting personal dose credited to these calibrations; and open door calibrations completed only by authorized personnel. This revision is approved and will be issued shortly.

(Closed) Violation (305/84-05-03): Failure to calibrate the gamma calibrator in accordance with procedure RC-HP-40J. Calibration curves, accounting for decay, were generated June 27, 1984. These curves are posted in the instrument calibration room for use.

(Open) Unresolved Item (305/84-05-04): Failure to meet NUREG-0737 Item II.F.1-2 per March 14, 1983 order. This matter has been referred to NRR for resolution.

(Open) Open Item (305/84-05-05): Proceduralize current diving practices. Diving procedures are being prepared with an anticipated completion date of January 1985.

4. Organizational Changes

Since the last inspection, the following personnel changes have been implemented:

- D. C. Hintz, former Plant Manager, assumed the Corporate Vice President of Nuclear position.
- C. Steinhardt was promoted to the Plant Manager position.

- J. Richmond, former Plant Services Superintendent, accepted a temporary assignment with INPO October 1, 1984.
- M. Marchi assumed the Plant Technical and Services position upon Richmond's departure.
- The Radiation Protection Manager (RPM), M. Reinhart, remains the same; the RPM qualifications of Regulatory Guide 1.8 are met.¹

No problems were noted; no violations were identified.

5. Procedural Review

The inspector reviewed the following radiation protection and radwaste procedures for technical completeness and regulatory adherence. No problems were noted.

RC-RW-2/Revision A	Hydraulic Baler (Compactor) Operations
RC-RW-3/Revision A	Solidification Resin
RC-RW-4	Waste Solid Process and Drumming Checklist
RC-RW-4a	Dry Waste Hydraulic Baling Prestart Checklist
RC-RW-5	Abnormal Solid Waste Disposal System Operations
RC-RW-6/Revision A	Solidification (Filter Media)
RC-RW-7	Precast Drums Curie Content
RC-RW-8/Revision A	Radioactive Waste Storage
RC-RW-9/Revision A	14-170 Cask Shipping Procedures
RC-RW-14	Spent Resin Analysis
RC-RW-16	Dewatering Procedure for High Integrity Containers (HICs)
RC-HP-38A/Revision G	Radioactive Material Receipt, Storage and Transfer
RC-HP-47	RMS Liquid Monitoring Phantom Calibration Sources
RC-HP-53/Revision F	Containment Building Discharge Permit
RC-HP-54/Revision F	Gas Decay Tank Discharge
RC-HP-55/Revision D	Shield Building Discharge Permit

No apparent violations were identified.

6. Solid Radwaste Handling

The inspector reviewed shipping records from May 1984 to the present; no problems were indicated. Low level waste is trucked to Barnwell, SC. Based on licensee data, a slight volume reduction was noted during CY 1983 over CY 1982; the total activity content increased for this period,

¹Inspection Report No. 50-305/84-05.

primarily from increased spent resin disposal. The licensee is preparing to changeover from 55-gallon solidification drums to polyethelene High Integrity Containers (HICs) for spent resin disposal, in an effort to reduce shipment volume and exposure to radwaste personnel. This operation is anticipated for CY 1985.

The inspector toured the drumming solidification and higher radwaste storage areas, where drums reading greater than 1 R/hr are stored. No processing operations were conducted during this inspection. These areas were properly posted and access positively controlled. The operating procedure was posted near the drumming area for reference.

The inspector observed dry radioactive waste (DAW) compaction operations November 8, 1984. These operations were conducted in accordance with Procedure RC-RW-2, "Hydraulic Baler Operations," which was available at the jobsite for reference. Observed measures taken to minimize free-standing liquid in compacted drums included: (1) processing wet or damp cloth articles in a drying unit before compaction; (2) discarding residual liquid from DAW bottles, and (3) adding absorbent cement at the base and top of the drum and intermediate layers. A leucite plate, equivalent to the drum's diameter, was used to further compact the DAW in a volume reduction attempt. Good radiation protection practices were followed; a continuous air monitor in the area did not indicate elevated readings.

A single isolated weakness of access control to the low level waste drum storage area was identified during the above referenced compacting operations. Low level drums measuring less than 1 R/hr contact are stored in concrete bins behind the compactor; this storage area is posted as a high radiation area and barricaded. The radwaste operator removed the barricade to transfer drums between the compactor and storage area. The inspector observed that this storage area was not sufficiently controlled to restrict unauthorized entry when the barricade was removed and the radwaste operator's attention was focused on operating the compactor. Although no one attempted to enter the storage area during this observation, the operator stated he had intercepted unauthorized personnel near the storage area during previous compacting operations. This matter was discussed at the exit meeting; management representatives stated the barricade would be maintained during compaction (Open Item 305/84-18-01).

No apparent violations were identified.

7. ALARA

The inspector reviewed the licensee's program for maintaining occupational exposures ALARA including: ALARA consideration for maintenance; worker involvement in the ALARA program; establishment of goals and objectives, and effectiveness in meeting them.

The licensee is currently utilizing a computerized dose tracking system for ALARA. A more extensive computerized system with increased tracking capabilities has been prepared and is being reviewed for errors. Licensee representatives anticipate this system to be operational by the 1985 outage.

ALARA measures for radwaste operations were reviewed. The year-to-date dose for the radwaste operator remains among the highest for plant personnel, a continuing trend during recent years. In response, radwaste and health physics management has proposed the following ALARA engineering modifications that are currently under review:

- Design Change Request (DCR) 1414: Install a feed line for resin packaging in HICs; significant reduced personnel handling is anticipated with the HICs. A priority has been assigned to this DCR.
- DCR-1421: Install support shielding between drumming fill station and storage area.

DCR 1293 has been completed; lead blankets are hung on a rail shielding the radwaste worker from the filled drum during shipment surveys. Open Item 305/84-03-05 remains open pending completion of the above DCRs.

No apparent violations were identified.

8. Liquid Radwaste Systems

The inspector reviewed the licensee's reactor liquid radwaste management programs, including determination whether changes to equipment and procedures were in accordance with 10 CFR 50.59; determination whether liquid radioactive waste effluents were in accordance with regulatory requirements; adequacy of required records, reports, and notifications; determination whether process and effluent monitors are maintained, calibrated, and operated as required; and experience concerning identification and correction of programmatic weaknesses.

No unplanned or unmonitored releases were reported for CY 1984. The inspector reviewed release permits and calculations for the present quarter; these were completed in accordance with SP 32A-136/Rev. E, Radiological Liquid Discharges. Also reviewed were results of corresponding isotopic analyses conducted as indicated by Technical Specifications.

Calibrations and monthly surveillances for selected effluent monitors were reviewed. Instruments responded within tolerance ranges; no problems were noted. Setpoints were reviewed; no anomalies were indicated. The routine preventative maintenance program for radwaste resins appears to be effective.

No apparent violations were identified.

9. Gaseous Radioactive Waste

The inspector reviewed the licensee's gaseous radwaste management program, including: determination whether changes to equipment and procedures were in accordance with 10 CFR 50.59; determination whether gaseous radioactive waste effluents were in accordance with regulatory requirements; adequacy of required records, reports, and notifications; determination whether process and effluent monitors are maintained, calibrated, and operated as required; and experience concerning identification and correction of programmatic weaknesses.

No unmonitored or unplanned releases have been reported for CY 1984, other than the unplanned release from the 1A Gas Decay Tank, previously discussed.² Release calculations and analyses for this quarter were reviewed; no significant errors or problems were identified. Analyses, calculations, and documentation appeared to be in accordance with applicable procedures. Selected instrument calibrations and surveillances were reviewed; responses were within specified tolerance levels. During plant tours, the inspector observed monitoring and sampling stations for gaseous, particulate, and iodine effluent streams; all were properly maintained, calibrated, and operable. Control room readout were inspected; no problems were noted.

No apparent violations were identified.

10. Respirator Fit Testing

The licensee's fit test booth has been out of service since June 1984 because of space constraints. This capability is being transferred to a new onsite facility and is scheduled for operation by December 1, 1984. The licensee has implemented a method to assure all respirator wearers have a current fit test. The inspector reviewed and verified this method. No problems were noted.

No apparent violations were identified.

11. Exit Meeting

The inspector met with licensee representatives denoted in Section 1 to discuss the scope and findings of the inspection. In response to the inspector's comments, the licensee:

- a. Stated respirator mask inspection techniques would be addressed in the respiratory training tape (Section 3).
- b. Stated the barricade to the low level waste storage area would be maintained during compaction operations (Section 5).

²Inspection Report No. 50-305/84-03.