U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No:	50-155
License No:	DPR-06
Report No:	50-155/98009(DNMS)
Licensee:	Consumers Energy Company
Facility:	Big Rock Point Nuclear Power Plant
Location:	10269 U.S. 31 North Charlevoix, MI 49720
Dates:	December 1,1998 - January 12, 1999
Inspectors:	R. J. Leemon, Reactor Decommissioning Inspector P. W. Harris, NRC Project Manager J. R. Kniceley, Security Specialist
Approved By:	Bruce L. Jorgensen, Chief Decommissioning Branch Division of Nuclear Materials Safety

EXECUTIVE SUMMARY

Big Rock Point Restoration Project
NRC Inspection Report 50-155/98009(DNMS)

This routine decommissioning inspection covered aspects of licensee management and control, decommissioning support activities, spent fuel safety, and radiological safety.

- Overall, major decommissioning activities were performed in accordance with schedules, and radiological activities were performed with as-low-as-reasonably-achievable elements included in the plans. The staff's performance in the defueled emergency plan exercise was good. However, on the negative side, fuel handlers ungrappled from a fuel bundle which was not fully seated in the fuel rack, and a security officer was observed being briefly inattentive to his duties.

Facility Management and Control

- The Plant Review Committee held 134 meetings in 1998 and found no unreviewed safety questions.

- The licensee had an independent self-assessment of the Big Rock Point Emergency Preparedness Program performed by a highly qualified assessor. The results of the assessment were good.

- On November 17, 1998, the licensee implemented the defueled emergency plan (DEP) and DEP implementing procedures.

- The licensee conducted a successful DEP exercise.

- On January 4,1999, the licensee wrote the NRC a letter stating that personnel will no longer maintain an operating license for the Big Rock Point Nuclear Power Plant.

- The material integrity of systems, structures and components necessary for the safe storage of spent fuel and conduct of safe decommissioning was being maintained.

- The licensee staff followed procedures and made the correct notifications when smoke was coming from the 1E Electrical Panel.

Decommissioning Support Activities.

- Instrumentation was being installed in the monitoring station which will replace the control room.

- A security officer at the badge issue station was inattentive to duties for a short time.

Spent Fuel Safety

- The safety of the fuel in the spent fuel pool was being maintained.

- Lack of close monitoring of a fuel bundle by the shift supervisor as it was being inserted into the fuel rack, and poor expectations for proper communication among the fuel

handling crew, led to a fuel bundle being ungrappled with the fuel bundle not fully inserted into the fuel rack. The fuel bundle was about 5 inches from fully inserted.

Radiological Safety

- Radiological safety activities were being conducted safely and in compliance with applicable requirements.

Report Details

Summary of Plant Activities

During the inspection period, equipment not necessary for the safe storage of spent fuel and potentially hazardous components and materials was removed from the facility. Also, additional plant systems were classified as not needed for safe storage of fuel. The defueled emergency plan (DEP) was used to generate the 1998 exercise which was successfully performed. The NRC approved the defueled technical specifications. The licensee wrote a letter to the NRC stating that personnel will no longer maintain an operating license for the Big Rock Point (BRP) Nuclear Power Plant. On the negative side, fuel handlers ungrappled from a fuel bundle which was not fully seated in the fuel rack, and a security officer was observed being briefly inattentive to his duties.

1.0 Facility Management and Control

1.1 General

The inspector conducted frequent reviews of ongoing plant activities and attended licensee meetings and reviews addressing these activities, in order to assess overall facility management and controls. Specific events and findings are detailed in the sections below.

1.2 Organization, Management, and Cost Controls at Permanently Shut Down Reactors (36801)

1.2.1 General

The inspector selectively reviewed the licensee's activities involving overall management and control of the decommissioning process. The effectiveness of the licensee's review of regulatory information applicable to the facility was selectively examined.

The staff size is about 307 personnel and will be reduced by about 14 more personnel during the first quarter of 1999. Several of the personnel to leave the staff are long time employed system engineers who are no longer needed with the plant in a defueled state.

1.3 Safety Reviews, Design Changes, and Modifications at Permanently Shut Down Reactors (37801)

1.3.1 General

The inspector examined the licensee's safety review program to ascertain that the program was effective at identifying potential unreviewed safety questions in accordance with 10 CFR 50.59. The activities of the licensee's onsite and offsite safety review committees were evaluated to determine whether they were fulfilling their respective charters and the requirements of Technical Specifications (TSs) and the quality assurance plan (QAP).

1.3.2 Plant Safety Review Committee Review of Modification and Procedures

a. Inspection Scope (37801)

The inspector observed several Plant Review Committee (PRC) meetings during 1998.

b. Observations and Findings

When attending PRC meetings, the inspector observed that a quorum was present and that the members understood the change to the procedure or plant modification under discussion. The members held challenging discussions on items and at times returned procedures or modification to the author for more work prior to determining that the change did not create an unreviewed safety question. With the changes in the emergency plan, defueled technical specifications (DTSs), classifying systems not needed for the safe storage of fuel, and all the procedural changes, about 134 PRC meetings were conducted in the year 1998. The PRC did find some required changes to the TSs but these were included in the proposed DTSs.

After the inspector's observations, the inspector determined that there were no required changes to TSs, no unreviewed safety questions identified, and the requirements of 10 CFR 50.82 were met.

c. Conclusion

After detailed challenging discussion for changes to the plant and procedures, the PRC found no unreviewed safety questions in the year 1998.

1.3.3 Monitored Decommissioning Activities

The inspector attended licensee meetings where the planning, reviewing, assessing, and scheduling of decommissioning activities were observed. The inspector ascertained that activities were in accordance with licensed requirements and docketed commitments as stated in 10 CFR, TS, Final Hazards Summary Report, Post-Shutdown Decommissioning Activities Report (PSDAR), and DEP. Decommissioning activities monitored by the inspector were as described in the following sections.

1.3.4 Plant Systems and Components Removed from Service

Plant systems and components determined not needed for the safe storage of spent fuel and permanently removed from service during this inspection period were:

- portions of the circulating water system
- portions of the control rod drive system
- portions of the service water system
- portion of the station air system
- portions of the plant electrical system were transferred to the decommissioning power system
- main turbine casing
- reactor vessel head

1.3.5 Plant Modifications

Specific design changes or modifications were reviewed to assess program effectiveness in application. This included a review of written safety evaluations and other records. In addition, a sample of maintenance and repair activities was reviewed to ascertain whether the licensee had made changes to the facility without properly invoking their safety review process.

Plant modifications that were in progress during the inspection period were:

- installation of a decommissioning power system
- installation of the alternate radwaste demineralizer and filter system
- installation of alternate air compressors. This modification will allow removal of the station air system
- planning for dry cask storage of spent fuel

Two major criteria used by the licensee for scoping decommissioning activities were annual budgeted money and budgeted person-rem exposure. The inspector had no concerns with the scope and status of monitored decommissioning activities. Further, the inspector determined that no unreviewed safety questions were developed by the above changes.

1.3.6 Managed Plant Hazard Reductions

The primary hazardous material removed from the plant during the inspection period was asbestos, which is a biological hazard. Approximately 60 percent of the asbestos on plant systems has been removed.

1.4 Self-Assessment, Auditing, and Corrective Action (40801)

1.4.1 General

The licensee's controls for identifying, resolving and preventing issues that degrade safety or quality were examined, including self-assessments, auditing, corrective actions, safety review committees and root cause evaluations.

The quality assurance plan and applicable implementing procedures formed the basis for the inspection. In addition, the procedures were evaluated from the perspective of their adequacy to accomplish the objective of assuring that management and staff are knowledgeable of plant/activity performance and contribute effectively to safety and quality in conduct of important activities.

1.4.2 Independent Assessment of BRP Emergency Preparedness Program

a. Inspection Scope (40801)

The inspector held a discussion with the assessor, attended the exit meeting, and reviewed the report for a Nuclear Performance Assessment Department (NPAD) Special Surveillance 98-011 (Independent Assessment of Big Rock Emergency Preparedness Program). The assessor was a senior technical specialist.

b. Observations and Findings

The assessor was well qualified to do an assessment of the new defueled Emergency Preparedness Program. The assessor concluded that the plan and the plan's supporting implementing procedures were satisfactory to accomplish the objectives of the Emergency Preparedness Program. The assessor identified deficiencies in several station procedures that interface with the DEP implementing procedures. The assessor also concluded that the pre-exercise drill, conducted on December 9, 1998, demonstrated the effectiveness of the DEP and that the associated processes are satisfactory to protect the health and safety of facility staff and the general public.

Facility staff were observed by the assessor to be knowledgeable of the DEP and the staff were enthusiastic in supporting the transition process.

The NPAD Special Surveillance Report 98-011 pointed out details of enhancements, challenges and weaknesses in the DEP program.

c. Conclusion

The licensee had an independent self-assessment of the BRP Emergency Preparedness Program performed by a highly qualified assessor. The assessment report provided to the licensee by the assessor contained detailed information to assist with correcting weaknesses and performing improvements in the DEP program.

1.4.3 Defueled Emergency Plan Exercise

a. Inspection Scope (82301)

The inspector observed the BRP 1998 DEP exercise and assessed whether the exercise objectives and the objectives of Manual Chapter 82301 (Evaluation of Exercises for Power Reactors) that were related to a decommissioned plant were met.

b. Observations and Findings

The emergency plan exercise objectives and inspector's observations were as follows:

- The site emergency director (SED) classifying the event according to site conditions - The SED made the correct classifications in a timely manner.
- SED and communicator making appropriate notifications within the time limits to country, State and NRC when the emergency classifications were declared - All notifications were made and within the allowed time.
- Activating the Emergency Support Center (ESC) - The SED activated the ESC and staffed it with qualified personnel within a reasonable time.
- Performing site accountability within 60 minutes - Site accountability was performed within 20 minutes.

- Demonstrating effective command and control - The inspector observed good command and control by the key leaders in the ESC.

- Determining additional support personnel required - The SED early in the exercise determined and requested additional support personnel (a communicator and Radiation Protection (RP) technicians)

- Analyzing plant and environmental rad conditions to develop actions for site personnel - This was accomplished early in the exercise and the SED continuously stayed aware of the status of the site radiological conditions and kept site personnel sheltered.

- Documenting and trending rad survey data - This was performed by RP personnel on note paper. The player's critique pointed out the need to display this information on a status board in the ESC.

- Calculating dose projections - This was accomplished by RP personnel but not well communicated, since the results required no actions.

- Directing, dispatching and monitoring radiation protection/maintenance team activities, as needed - The maintenance team's activities were performed in an excellent manner. The RP team's activities were performed in a good manner.

- Augmenting emergency response organization as needed for event - The SED augmented the organization with a communicator, RP technician, and maintenance personnel as required throughout the exercise.

- Performing thorough critique following exercise - The players and the exercise controllers both conducted excellent critiques after the completion of the exercise.

c. Conclusion

The BRP 1998 DEP Exercise met the exercise objectives and the objectives of Manual Chapter 82301 (Evaluation of Exercises for Power Reactors) that were related to a decommissioned plant were met.

1.5 Decommissioning Performance and Status Review at Permanently Shut Down Reactors (71801)

1.5.1 General

The status of decommissioning, and licensee and contracted workforce conduct of decommissioning activities in accordance with licensed requirements and commitments were evaluated. Control and conduct of facility decommissioning were examined to verify the license and TS requirements and commitments described in the Updated Final Hazards Summary Report and PSDAR and DEP. Specific events and findings are detailed in the section below.

1.5.2 Defueled Emergency Plan

On September 30, 1998, the NRC finished the review of the BRP DEP. On November 17, 1998, the licensee implemented the DEP and defueled emergency plan implementing procedures (DEPIPs). This allowed the licensee to discontinue offsite emergency planning activities and reduce the scope of its onsite planning.

1.5.3 Defueled Technical Specifications

On December 24, 1998, the NRC approved the BRP DTSs. The licensee plans on implementing the DTSs by January 31, 1999.

1.5.4 Personnel Operating Licenses for BRP Nuclear Power Plant

On January 4,1999, the licensee wrote the NRC a letter stating that personnel will no longer maintain an operating license for BRP. The former licensed senior reactor operators who were shift supervisors are now qualified as certified fuel handlers. The former licensed reactor operators are in training to be certified fuel handles.

1.5.5 Plant Tours to Evaluate Material Conditions, Housekeeping, and Fire Protection

1.5.5.1 Material Conditions

a. Inspection Scope

The inspector conducted plant tours to evaluate the material integrity of systems, structures and components (SSCs) necessary for the safe storage of spent fuel and conduct of safe decommissioning.

b. Observations and Findings

After conducting plant tours, the inspector determined the material integrity of SSCs of systems important to safe storage of spent fuel was being maintained. The inspector discussed tour observations with plant management. The inspector also observed that plant management was actively monitoring plant material conditions.

c. Conclusion

The material integrity of SSCs necessary for the safe storage of spent fuel and conduct of safe decommissioning was being maintained.

1.5.5.2 Housekeeping

a. Inspection Scope

The inspector conducted plant tours to observe and assess the status of facility housekeeping. The inspector also assessed whether field conditions would contribute to safe decommissioning and or would represent conditions adverse to plant or personnel safety.

b. Observations and Findings

The inspector's observations focused on the areas adjacent to and containing SSCs necessary for the safe storage of spent fuel, radiological effluent control, or RP and monitoring. The inspector determined that all areas of the plant were kept clean and free of the accumulation of dismantlement debris. As material was disassembled, it was placed into metal boxes. Portable cables were routed so as not to cause tripping hazards. General area housekeeping declined during this period. Duct tape, wire ties, and pieces of wire were laying on the floor in many areas of the plant. This material could have ended up in sumps and caused the need to repair sump pumps and valves located in high radiation areas. Also, on two inspections, the inspector found cardboard boxes in the containment. These cardboard boxes became unnecessary radioactive waste and unnecessary fire loading in the containment.

c. Conclusion

Housekeeping declined during this period; however, the state of housekeeping did not contribute to unsafe decommissioning and did not represent conditions adverse to plant or personnel safety.

1.5.5.3 Fire Protection

a. Inspection Scope

The inspector conducted plant tours to observe and assess the storage of combustible and flammable materials. The inspector also determined the presence and effectiveness of the site fire brigade and evaluated the fire brigade's response to a small electrical transformer fire.

b. Observations and Findings

The inspector determined that the storage of combustible and flammable materials was within the fire loading limits for transient combustibles and that combustible materials were not accumulating in the plant. The licensee has now removed most oils from the plant to reduce the fire hazard. The inspector determined that fire fighting equipment and stations were properly maintained, inventoried, and ready for use. The inspector also determined that installed fire detection and suppression systems were effectively maintained, surveillances were performed, and the equipment was capable of performing the intended functions. The inspector also determined that the site fire brigade was effective in controlling and following procedures during a small electrical transformer fire.

c. Conclusion

Control of combustible material, operation of fire equipment, and effectiveness of the fire brigade were demonstrated during a small electrical transformer fire.

1.5.5.4 Transformer Fire and Requirements for Notification

a. Inspection Scope

The inspector reviewed the event of a control transformer in a radwaste pump breaker smoking the first time the breaker was energized from decommissioning power. The inspector discussed the event with the shift supervisor and station operator. The inspector also reviewed station logs, the emergency plan, and the emergency plan implementing Procedure DEPIP-1, "Action of the Defueled Emergency Plan," related to the event.

b. Observations and Findings

On December 11, 1998, at 3:45 p.m., the auxiliary operator (AO) cleared the tagging and closed the breaker (52-1E-32) on the 1E 480 Vac panel for a treated waste pump. When an AO closed the breaker, the breaker tripped and smoke started coming out of the IE panel. The AO reported the smoke to the control room. To ensure the power was removed the from pump, the AO then went to the motor control center that feeds the IE panel and opened the feeder breaker to the IE panel. The control room operator followed the fire procedure, called out the fire brigade, and called the Charlevoix Fire Department and requested they be on standby. At 3:50 p.m., 7 minutes after the first smoke, the smoke was declared out. The Charlevoix Fire Department was then released. The shift supervisor stationed a fire watch at the IE panel for an additional 30 minutes to watch for a fire reflash. Operators inspected the IE panel and found that the control transformer in Breaker 52-IE-32 overheated causing the smoke and the breaker to trip. The operators retagged the power off to the IE panel and wrote a Condition Report (C-BRP-98-0349).

Procedure DEPIP-1 states that a fire in the protected area lasting greater than 15 minutes would be an Unusual Event. Since the smoke only lasted for 7 minutes, the conditions for declaring an Unusual Event were not met.

c. Conclusion

The licensee staff followed procedures and made the correct notifications when smoke was coming from the 1E Electrical Panel.

2.0 Decommissioning Support Activities

2.1 Maintenance and Surveillance at Permanently Shut Down Reactors (62801)

2.1.1 General

The inspection evaluated maintenance and surveillance for SSCs potentially affecting the safe storage of spent fuel and reliable operation of radiation monitoring and effluent control equipment. Direct observations, reviews, and interviews of licensee personnel were conducted to assess whether maintenance and surveillance were performed in accordance with regulatory requirements and resulted in the safe storage of spent fuel and reliable operation of radiation monitoring and effluent control equipment. This included the proper implementation of TS and 10 CFR 50, Appendix B, requirements.

2.1.2 Dismantlement Activities (62801)

Dismantlement activities observed or evaluated by the inspector during the period were:

- removal of condensate pumps and system piping
- removal of main condenser tubing
- removal of lower turbine casing
- removal of control rod drive system piping

The inspector observed that proper maintenance and Health Physics (HP) survey practices were performed during these activities.

2.1.3 Spent Fuel Pool (SFP) Heatup Test (62801)

On January 3, 1999, TV-59, "Fuel Pool Heatup Test," was completed with the heatup rate being 0.29° F/hr. The time for the SFP to heat from 50°F to 150°F was 14.31 days. As the decay heat in the fuel decays away, the amount of time for the licensee to respond to loss of cooling in the SFP will be increased. On January 4, 1999, with the SFP temperature at 50°F, the licensee performed calculations for the following:

- from 50°F to 150°F was 14.31 days
- from 50°F to 212°F was 23.19 days
- from 50°F to boil off (start of boiling SFP water) was 162.08 days

2.2 Operational Safety Verification (71707)

2.2.1 General

The inspector conducted frequent reviews of ongoing decommissioning activities. Specific events and findings are detailed in sections below.

2.2.2 Control Room Instrumentation

During control room tours the inspector noted that abandoned alarm windows were labeled "abandoned," and abandoned meter and recorder faces were covered with paper. A list of equipment transferred to the new monitoring station was posted in the control room. The inspector held discussions with the operators and determined that by identifying the abandoned equipment the operator did readily identify and monitor operating instrumentation. The operators were also aware of what equipment was transferred to the new monitor stations and the AOs were monitoring this equipment on their rounds. The control room and monitor station will both be manned starting January 12, 1999. Once a smooth transition takes place, the control room will no longer be manned.

2.2.3 Security Program Implementation

On January 8, 1999, at about 6:41 a.m., the inspector entered the security building and observed that the identification (ID) station security officer appeared to be asleep. The inspector approached another security officer who was stationed in the security building outside of the ID station and identified the fact that the ID station officer was inattentive. The security officer knocked on the ID station window and the ID station officer

responded. The security officer in the ID station was relieved of duty and counseled by security force management. The officer stated that he was inattentive and explained that his previous post was outside and when he rotated to the ID post the room was warm and he sat down and may have closed his eyes for a short time.

The inspector determined that although the officer was inattentive, security was not compromised because the officer located inside the ID station controls access to the protected area. Security badges are issued by the station officer and anyone wishing to gain access would have to have their badge issued to them by the ID station officer. In addition, personnel entering the security building must pass through access control search equipment which is located next to the ID station and another security officer was posted at the search equipment.

Although the ID station security officer was inattentive for a short time, security at the plant was not compromised. A security incident report was written and the security officer was counseled. The inspectors plan no further action regarding this item at this time.

3.0 Spent Fuel Safety

3.1 General

The inspector evaluated the performance or condition of SSCs associated with storage, control, and maintenance of spent fuel in a safe manner.

3.2 SFP Safety at Permanently Shut Down Reactors (60801)

a. Inspection Scope

The inspection evaluated spent fuel and fuel pool safety. Factors considered in the evaluation included SFP heatup rate; SFP instrumentation, alarms, and leakage detection; SFP chemistry and cleanliness control; criticality controls; and SFP operation and power supply. The inspector reviewed station logs and held discussions with the licensee. The inspector also inspected the SFP and SFP support systems during plant tours.

b. Observations and Findings

The inspector reviewed the AO logs containing SFP parameters and locally monitored SFP level. The inspector verified the criticality monitor was functioning. The inspector also observed that foreign material controls were being used in and around the SFP.

c. Conclusion

The safety of the fuel in the SFP was being maintained.

3.3 Fuel Bundle Ungrappled When Not Fully Down into the Spent Fuel Rack

a. Inspection Scope (60705, 60710)

The inspector observed several fuel bundles being inspected and video taped to detect possible fuel failure. The inspector also evaluated the events and actions that led to a fuel bundle being ungrappled without the fuel bundle being fully inserted into the fuel rack. The inspector read station logs, daily orders, TSs, and reviewed procedures to determine the licensee's compliance with regulations. The inspector also interviewed each member of the fuel handling team. The following procedures were reviewed:

- DOP-3, "Spent Fuel Pool Operation"
- ONP-2.105, "Fuel and Core Component Damage"
- D2.1.1, "Shift Operation"

b. Observations and Findings

Details of the Event and Corrective Actions

On December 15, 1998, at 10:00 a.m., the control room was notified by the certified fuel handler (reactor deck supervisor) that fuel bundle I7-18 was caught on top of SPF rack location E-A4 by its upper tie plate and the bundle had been ungrappled without the bundle being fully inserted into the rack (fuel handling tool removed from the bundle). There was the potential that the fuel bundle could fall 4 to 5 inches into the rack. The licensee entered off-normal Procedure ONP 2.105 for core component damage. The PRC was assembled and a plan was devised with contingencies to regrapple (attach the fuel handling tool to the fuel bundle) fuel bundle I7-18. Unnecessary personnel were asked to leave the containment for the regrappling activities. The inspector observed the regrappling of the bundle and seating the bundle into the SFP I rack. At 11:55 a.m., the bundle was regrappled. At 12:09 p.m., bundle I7-18 was seated in fuel rack E-A4.

During this fuel handling activity the inspector observed weak communication among the crew along with weak command and control by the certified fuel handler shift supervisor (SS). The inspector discussed the weaknesses with the operation supervisor and plant manager. Both agreed that command and control and communication by the certified fuel handler had to be strong.

The licensee after these discussions wrote a daily order to address the weaknesses noted: 1) Procedure DOP-3, Step 6.2.2.c., requires the fuel bundle be fully seated before ungrappling, and 2) Procedure D2.1.1 requires clear, concise and understandable communication. Each SS was required to review these procedure with their shift. This daily order also was included in the pre-job briefing for fuel handling. Condition Report (C-BRP-0351) was written to capture the event.

Inspector Observations of Fuel Inspection Activities

On December 23, 1998, the inspector observed fuel inspection activities on the refueling deck. He observed a poor practice of the SS trying to watch the TV monitor as a fuel bundle was inserted into the rack and the SS doing his paper work for the inspection at the same time. Only part of the SS's attention was on the fuel bundle being inserted into the rack. This same focus on the paper work by the SS and not watching the fuel

bundle being inserted into the rack was a contributing factor when the fuel bundle caught on the rack on December 15, 1998. The inspector discussed this issue with the SS and the assistant operations supervisor (AOS). Both agreed that this split attention was a poor practice. This split attention is now discussed in the pre-job briefing.

The inspector also observed weak communication between members of the fuel handling crew. When the inspector discussed the weak communication with the SS, the SS said that he only required feedback communication during certain steps (fully inserting the bundle into the rack, grappling and ungrappling the bundle). The inspector discussed with the AOS the poor practice of not using feedback communication during all fuel handing activities. Poor communication between crew members was also a contributing factor in the bundle being caught on the rack on December 15, 1998. The AOS agreed with the inspector's conclusion that there should be only one standard for communication (feedback communication) during all fuel handling activities. This is also now discussed in the pre-job briefing.

Through observations of several fuel handling crews, discussions with the NPAD inspector, and discussions with the AOS, the quality of fuel handling activities was dependent on the performance of the SS in charge of the refueling deck. The inspector discussed with the AOS need to have the same high standards on all fuel handling crews. The AOS agreed.

On December 29, 1998, the inspector observed the same SS he observed on December 23, 1998, conducting fuel handling activities. The weaknesses in monitoring fuel bundles and requiring two-way communication for all activities had been corrected.

On January 8, 1999, the inspector attended the pre-job briefing for fuel bundle inspection. All of the above causal factors for improper fuel handling were discussed.

Procedure Violation

Decommissioning Operating Procedure DOP-3, "Spent Fuel Pool Operations," Revision 1, Steps 6.2.2.d. through e, stipulate that the component is fully seated in the rack prior to ungrappling and that a qualified individual perform independent verification of proper grapple disengagement. Contrary to the above, on December 15, 1998, an operator ungrappled fuel bundle I7-18 without it being fully seated in the rack (the bundle was hung on the top of rack E-A4 by the bundle's upper tie plate) and removed the grapple from the bundle without a qualified individual performing independent verification of proper grapple disengagement.

Corrective Actions Performed by the Licensee

The fuel handling crew was interviewed by the licensee and the inspector. The licensee applied what they deemed the appropriate disciplinary actions. The daily order was written and discussed with each shift and at the pre-job briefing. A condition report was written to evaluate the event and determine long term corrective actions.

Assessment

The inspector found that the required actions have been taken to prevent recurrence. This non-repetitive, licensee-identified and corrected violation is being treated as a

Non-Cited Violation, consistent with Section VII.B.1 of the NRC Enforcement Policy (NCV 50-155/98009-01(DNMS)).

c. Conclusion

Lack of close monitoring of a fuel bundle by the shift supervisor as it was being inserted into the fuel rack, and poor expectations for proper communication among the fuel handling crew, led to a fuel bundle being ungrappled with the fuel bundle not fully inserted into the fuel rack.

3.4 Cold Weather Preparations (71714)

Inspection Report 97015, Section III.3, Cold Weather Preparations, discusses the licensee's lack of contingency plans to supply additional heat to the containment to prevent the freezing of systems which support the integrity of the fuel. After reviewing Procedure DOP-9, Heating and Ventilation System, Step 6.1.6.,"Cold Weather Loss of Heating Boiler," the inspector concluded that this step weakly provided the necessary contingency plan. The development of an adequate alternate containment heating contingency plan is an Inspector Followup Item (IFI 50-155/98009-02(DNMS)). The licensee has written a daily order outlining the required steps to provide alternate containment heating. This daily order will be in place until the procedure is revised

4.0 Radiological Safety

4.1 Occupational Radiation Exposure (83750)

Numerous aspects of licensee processes to minimize occupational radiation exposure were selectively examined in order to evaluate overall radiation safety and to provide for early identification of potential problems. Areas examined included: audits and appraisals; planning and preparation; training and qualifications of personnel; external exposure control; internal exposure control; control of radioactive materials and contamination; surveys and monitoring; and maintaining occupational exposure As-Low-As-Reasonably-Achievable (ALARA). No problems were noted in review of these activities.

The total radiation exposure received by the plant personnel for 1998 was about 103.5 person rem. This was within the planned exposure of 118 person rem. There were 47 personnel/clothing contaminations in 1998. None of these contaminations were significant enough to require more than average decontamination efforts (99.9 percent of the control area entries resulted in no personnel contaminations).

4.2 Radwaste Treatment, and Effluent and Environmental Monitoring (84750)

The inspection included an evaluation of various aspects of licensee activities in the areas of waste treatment and effluent and environmental monitoring to ensure that radioactive waste treatment systems were being maintained and operated to keep onsite and offsite doses ALARA; to ensure that the licensee effectively controlled, monitored, and quantified releases of radioactive materials to the environments; and to ensure that required radiological environmental monitoring programs were effectively implemented. No problems were noted in review of these activities.

4.3 Solid Radwaste Management and Transportation of Radioactive Materials (86750)

The inspection included an evaluation to determine whether the licensee properly processed, packaged, stored, and shipped radioactive materials, in order to assess the potential for safety problems resulting from these activities and from the transportation of radioactive materials. No problems were noted in the evaluation of this area.

c. Conclusions

Radiological safety activities were being conducted safely and in compliance with applicable requirements.

5.0 Exit Meeting Summary

The inspector presented the inspection results to members of licensee management at the conclusion of the inspection on January 12,1999. The licensee acknowledged the findings presented. The licensee did not identify any of the documents or processes reviewed by the inspector as proprietary.

PARTIAL LIST OF PERSONS CONTACTED

M. Bourassa, Licensing Supervisor
L. Darrah, Technical Support & Assessment Superintendent (RP&ES)
G. Debner, Nuclear Engineering Supervisor
G. Hausler, Work Control Supervisor
C. Jurgens, Planning, Maintenance & Construction Manager
M. Lesinski, Radiation Protection and Environmental Services Manager (RP&ES)
R. McCaleb, Nuclear Performance Assessment, Site Lead (NPAD)
G. Petitjean, Senior Engineer
L. Potter, Maintenance Supervisor
K. Powers, Site General Manager
J. Rang, Industry Issues
G. Rowell, Corrective Action Supervisor
G. Szczotka, Manager Nuclear Performance Assessment Department (NPAD)
W. Trubilowicz, Operations, Cost Engineering & Scheduling Manager
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G. Withrow, Engineering & Licensing Manager
K. Wooster, Emergency Planning Coordinator
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INSPECTION PROCEDURES USED

IP 36801:	Organization, Management, and Cost Controls at Permanently Shut Down Reactors
IP 37801:	Safety Review, Design Changes, and Modifications at Permanently Shut Down Reactors
IP 40801:	Self-Assessment, Auditing, Corrective Action
IP 60705:	Preparation for Reactor Fuel Handling
IP 60710:	Fuel Handling Activities
IP 60801:	Spent Fuel Pool Safety at Permanently Shut Down Reactors
IP 62801:	Maintenance and Surveillance at Permanently Shut Down Reactors
IP 71707:	Operational Safety Verification
IP 71714:	Cold Weather Preparations
IP 71801:	Decommissioning Performance and Status Review at Permanently Shut Down Reactors
IP 82301	Evaluation of Exercises for Power Reactors
IP 83750:	Occupational Radiation Exposure
IP 84750:	Radwaste Treatment, Effluent and Environmental Monitoring
IP 86750:	Solid Radwaste Management and Transportation of Radioactive Materials

ITEMS OPENED, CLOSED AND DISCUSSED

Opened

50-155/98009-01	NCV	Failure to Follow Procedure during Fuel Handling Activities, DOP-3
50-155/98009-02	IFI	Development of an alternate containment heating contingency plan for safe storage of fuel and fuel support systems.

Closed

50-155/98009-01	NCV	Failure to Follow Procedure during Fuel Handling Activities, DOP-3

Discussed

None

LIST OF ACRONYMS USED

AO	Auxiliary Operator
AOS	Assistance Operations Supervisor
ALARA	As-Low-As-Reasonably-Achievable
BRP	Big Rock Point
CFR	Code of Federal Regulations
DEP	Defueled Emergency Plan
DOP	Defueled Operating Procedure
DTS	Defueled Technical Specifications
DEPIPs	Defueled Emergency Plan Implementing Procedures
ESC	Emergency Support Center
HP	Health Physics
ID	Identification
NPAD	Nuclear Performance Assessment Department
NRC	Nuclear Regulatory Commission
PRC	Plant Review Committee
PSDAR	Post-Shutdown Decommissioning Activities Report
RP	Radiation Protection
SED	Site Emergency Director
SFP	Spent Fuel Pool
SSCs	Systems, Structures and Components
SS	Shift Supervisor
TS	Technical Specification

LICENSEE DOCUMENTS REVIEWED

Licensee documents reviewed and utilized during the course of this inspection are specifically identified in the "Report Details" above.