U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No:	50-155
License No:	DPR-06
Report No:	50-155/99006(DNMS)
Licensee:	Consumers Energy Company
Facility:	Big Rock Point Nuclear Plant
Location:	10269 U.S. 31 North Charlevoix, MI 49720
Dates:	October 18 through December 17, 1999
Inspectors:	W. G. Snell, Health Physics Manager G. M. McCann, Senior Radiation Specialist R.J. Leemon, Reactor Decommissioning Inspector
Approved By:	Bruce L. Jorgensen, Chief Decommissioning Branch Division of Nuclear Materials Safety

EXECUTIVE SUMMARY

Big Rock Point Restoration Project
NRC Inspection Report 50-155/99006(DNMS)

This routine decommissioning inspection covered aspects of facility management and control, decommissioning support activities, and radiological safety. Overall, major decommissioning activities were properly monitored and controlled, and were performed on schedule.

Facility Management and Control

- The licensee's program and planning for Y2K-related health and safety concerns was determined to be adequate to minimize if not eliminate any potential internal Y2K effects, and included adequate contingency planning in the event of external Y2K events.

- The licensee's activities involving the assessment and resolution of issues documented in Condition Reports (CRs) appeared to be thorough, well thought out, and sufficient to prevent recurrence.

- Material integrity of systems, structures and components (SSC's) important to safe storage of spent fuel and safety in decommissioning was being maintained. Housekeeping, control of combustible materials and operation of fire equipment were properly maintained.

- The licensee's ability to activate their Emergency Plan and conduct a site accountability appeared to have been successfully demonstrated.

Decommissioning Support Activities

- Both good management control and good worker performance were observed during the SFP clean out project.

Radiological Safety

- Radiation protection practices observed during the inspection, including the preparation and conduct of surveys, postings and labeling, and actions to maintain occupational exposures ALARA, were adequate.

- The license's work authorization package for the Recirculation Pump Rooms was sufficiently detailed and complete. Work observed in the implementation of the package to minimize doses to workers was excellent.

- The licensee did a good job of identifying and investigating an event involving unauthorized movement of a temporary high-radiation area boundary; however, it was of concern because it was indeterminate as to who moved the boundary or why. The fact that no worker remembered moving the boundary support stanchion or carrying out any task that could have inadvertently moved it, indicates a less than desirable level of attention by the workers to the work being conducted. One Non-Cited Violation was identified for failure to maintain control of a high radiation area boundary.

- The licensee responded quickly and effectively to an incident involving the improper storage of a 100 millicurie cesium-37 source, which appeared to primarily be the result of poor radiation worker performance due to inattention to the work being performed. One Non-Cited Violation was identified for failure to post a radiation area and high radiation area.

- The licensee's actions involving the receipt of laundered protective clothing (PCs) and the shipment of used PCs and radioactive waste, were efficiently and professionally conducted. No items of concern or violations were identified.

Open Items

- Two previously identified Open Items were closed. One of these items resulted in the identification of a Non-Cited Violation for failure to take compensatory actions in the form of local radiation readings when the two installed gamma radiation monitors in the area of the SFP became inoperable due to a loss of power.

Report Details

Summary of Plant Activities

During the inspection period the licensee continued to remove equipment from the facility that was not necessary for the safe storage of spent fuel. The spent fuel pool (SFP) clean out project continued with the processing and shipping of fuel channels and support tubes for burial.

1.0 Facility Management and Control

1.1 General

The inspector conducted 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 Re-Examination of Year 2000 (Y2K) Program Activities (TI 2561/003)

a. Inspection Scope

The inspector re-examined the licensee's Y2K program activities including implementation of contingency plans for both internal and external risks during Y2K critical dates.

b. Observations and Findings

Consumers Energy Company began their Year 2000 (Y2K) program planning as a company in late 1997. A Year 2000 Compliance Project Organization was established, with the Senior Vice President, Nuclear, Fossil, and Hydro Operations, holding the senior position. Within the Project Organization, positions were identified and responsibilities specified. The Big Rock Point Plant Manager's responsibilities included assigning resources and providing management support as necessary to identify and test systems, and ensure remediation actions were taken where required. Organizationally, the Compliance Project was directed by a team approach, with Technical Representatives (Tech Reps) selected from ten different sites and organizations, including Big Rock Point, to represent their respective site or organization. The specific expectations for the Tech Reps were outlined in writing, such as: identify devices that have internal clocks, set priorities and schedule testing of items, assist system owners with verification testing, and review compliance documents. System owners were individuals who were responsible for system testing and Y2K documentation. These individuals were selected based on their functional responsibility for and knowledge of the various devices, components and systems. To assist the System Owners, a Y2K Process Work Flow chart was developed to ensure the Y2K process was followed and the results documented.

Quality assurance (QA) for Y2K activities was provided through the Project Organization Plan and normal plant procedural requirements. The Plan specified that all tests be documented and signed off, and the results documented via the Year 2000 Compliance Review Document. These documents were generated by the System Owners and required the Department Manager's signature. Systems requiring remediation or

modification had the work performed and documented following existing plant procedures for those activities.

All aspects of the Big Rock Point Y2K initiative were documented. Initial project planning included legal advice which specified the need to include in the documentation a record of "management and technical decisions in the event of litigation." Documentation was to include the basis for Y2K compliance as well as the justification for leaving a system "as-is". A Generation Year 2000 Compliance Review Document Identification Stage and a Year 2000 Test Sheet were developed to document the identification of systems/components and test results. Individual systems and devices were certified per the Compliance Review Document.

Consumers Energy had a Year 2000 Compliance Project Organization Plan that defined positions and task responsibilities for the companies sites and selected organizations, including Big Rock Point. The Project Organization Project Plan addressed activities for inventory, assessment of systems and components, testing and validation, remediation, and contingency planning. The Project Plan established a Y2K Embedded System Prioritization Criteria with which to prioritize response efforts in responding to any identified system deficiencies. Priorities were identified as, High (failure of system or component to properly perform its function would result in: safety concern, or, a non-adherence to procedures, laws, regulations, rules, or, lost generation), Medium (failure of system or component to properly perform its function would result in: a derated condition), Low (failure of system or component to properly perform its function would result in: data being lost, additional dollar expenditure, rework), or No Priority (failure to properly perform will have no valued impact).

To develop a database of computer system software applications and embedded devices, Big Rock Point reviewed existing equipment data bases. Based on this review by plant personnel (system owners), several data bases were generated which specified which systems had embedded devices, and included equipment information such as manufacturer and model number, and identification numbers.

A review of a number of plant systems was performed to verify that Compliance Review Documents were completed as required and the systems certified as Y2K compliant. Systems reviewed included the security system, telecommunications systems, and Spent Fuel Pool (SFP) systems related to pool temperature and level, and to radiation monitoring. The systems reviewed were determined to have been correctly classified and analyzed for Y2K vulnerability following the flow charts, testing protocols, and documentation as directed by the Project Organization Plan. The disposition of items were documented as to any actions taken.

Due to the shut down condition of the facility, and recent system upgrades, the overall number of systems and components with Y2K sensitive systems was minimal. As scheduled by the Project Organization Plan, any equipment that had a microprocessor was to have had a Year 2000 Compliance Document completed by the end of 1998. Any subsequent new purchases of date sensitive equipment were to be Y2K compliant, and once installed were to have post-modification testing conducted. At Big Rock Point both the telecommunications system and the security computers/monitoring station were new and vendor specified compliant when installed. Although these new systems minimized the concern for failures, they were still tested and the results documented. The initial test of the security computer identified the computer rolled over from 1999 to 2000 without a problem, but operability from February 28 to February 29 in year 2000

was unsatisfactory. This system problem was subsequently corrected and the computer verified into year 2010, which was beyond the anticipated life of the system. A new SFP skid mounted cooling system had also been installed. This system, along with the monitoring equipment for SFP temperature and level and the area radiation monitors had no Y2K sensitive components. Although these parameters read out in the Security Monitoring Station via the security computer system, in the event of a failure of that system, these parameters could all be read manually. The above systems reviewed were verified to have had their Compliance Review Documents completed as required and the systems certified as Y2K compliant.

Individual contingency plans for specific devices or pieces of equipment were based on existing plant procedures. However, significant additional contingency planning was developed for the loss of entire systems.

Big Rock Point had developed a detailed contingency plan that addressed the loss of electrical power to the facility. The plan had three primary areas of focus: 1) maintain the ability to operate the SFP cooling system (and its essential support systems), 2) maintain the plant heating boiler in service to prevent freezing of the main power block, and, 3) provide house services to those people required to remain at the site. Planning assumptions were based on a seven day loss of offsite power. In 7 days the SFP temperature rise would be less than 40°F.

If offsite electrical power was lost, the primary source of backup power would be the main diesel generator (MDG). The MDG requires no outside source of power to start and contains an eleven day supply of fuel at rated load (300 amps @ 480V). A standby diesel generator (SBDG) would also be available and would contain a one day supply of fuel. This fuel could be supplemented with fuel from the MDG fuel tank. A security generator (SG) was available to provide a source of backup power for specific security loads. The SG was propane fired and the tank provided approximately 75 hours of service at rated load. A diesel fire pump (DFP) was also available and was capable of providing 1000 gallons per minute of lake water for fire fighting and for backup cooling for the SFP. SFP cooling was normally provided by a skid mounted electric driven pump with filter and heat exchanger for cleanup and heat removal. The cooling skid could be powered by either the MDG or the SBDG.

The telecommunications system at Big Rock Point was a new system that was installed in 1999. This system was powered by offsite power with an eight hour battery backup. The phone company had stated that the phone system should not be powered by the diesel generators as it could send power back through the system. If additional power was needed beyond the eight hour battery life, the phone company would provide a generator for Big Rock Point to use.

Big Rock Point had an augmented staffing plan for December 31, 1999. The normal shift staff of three operators would be augmented with 13 additional personnel, including the Plant Manager, two shift supervisors, one technical advisor/engineer, four operators, two repairmen, one I&C technician, and two health physicists. The security force would also be augmented. This augmented staff would be in an on-call status as of December 28, 1999, and would report to the plant by 1800 hours on December 31, with the potential to be there for two days. If it was necessary to provide site power via the diesel generators, 12-hour rotating shifts would be established. If all communications systems were lost, all augmentation teams would report to the site. The licensee had made no specific contingency plans for February 28, 2000. The decision to develop any

contingency planning for February 28 was to be determined following an assessment of the plants performance when transitioning between December 31, 1999 and January 1, 2000.

c. Conclusion

The licensee's program and planning for Y2K-related health and safety concerns was determined to be adequate to minimize if not eliminate any potential internal Y2K effects, and included adequate contingency planning in the event of external Y2K events.

NOTE: The licensee requested the following statement for the Y2K information above:

********** THIS IS A YEAR 2000 READINESS DISCLOSURE **********

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

a. Inspection Scope

The licensee's activities for identifying, resolving and preventing issues that degrade safety or quality were examined, including corrective actions and root cause evaluations.

b. Observations and Findings

The inspector attended a Management Review Board (MRB) where the Board reviewed six Condition Reports (CR). (C-BRP-99-0242, Nukem Supplied Support Plate Lifting Lug; C-BRP-99-0310, Torqueing Sequence Discrepancy on CNS 8-120b-cask; C-BRP-99-0277, Privately Owned Sources of NORM Material Brought into RCA Inadvertently; C-BRP-99-0279, Mistake Found During T1-08 Tagging Review; C-BRP-99-0209, Working on Electrical Equipment Without Proper Tagging; C-BRP-99-0189, Void Beneath Condenser Slab).

The CRs were well presented and thoroughly discussed, and the corrective actions taken to deal with the issues appeared to be adequate in each case. The above CRs were all classified as level threes, which meant that the actions taken to date to resolve the issues were satisfactory and no further action was necessary.

c. Conclusion

The licensee's activities involving the assessment and resolution of issues documented in CRs appeared to be thorough, well thought out, and sufficient to prevent recurrence.

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

a. Inspection Scope

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

conduct of safe decommissioning, to observe and assess the status of facility housekeeping, and to evaluate fire protection issues such as control of combustibles.

b. Observations and Findings

Observations from plant tours showed that the material integrity of SSCs important to safe storage of spent fuel was being maintained. Housekeeping observations focused on the areas adjacent to and containing SSCs necessary for the safe storage of spent fuel, on the storage and control of radioactive waste, and on posting and barriers for radiation protection controls. All areas of the plant were kept adequately clean and dismantlement debris were promptly placed into metal boxes. Portable cables were routed so as not to cause tripping hazards. General area housekeeping was good during this period with no areas of inspector concern.

The inspector also performed a walk-about along the perimeter fence from the Main Security Access Point to the rear of the plant site. Discussions regarding general security issues were conducted with plant guards at the main security point. No concerns or security weaknesses were noted.

c. Conclusion

Material integrity of SSC's important to safe storage of spent fuel and safety in decommissioning was being maintained. Housekeeping, control of combustible materials and operation of fire equipment were properly maintained.

1.5 Accountability Drill

a. Inspection Scope

As participants, the inspectors evaluated the licensee's response during their annual site accountability drill, and attended a debrief with management on the results of the drill.

b. Observations and Findings

The scenario that initiated the drill was a fire in the Radwaste Building. The initial announcements and sirens alerting site personnel of the situation prompting the need for assembly were clear and informative. Personnel assembled quickly and professionally and accountability in the facility where the inspectors assembled was accomplished without any problems. It was indicated during the debrief that the drill was successful in that all objectives had been completed as required by the Emergency Plan, including accountability, notifications to County and State personnel and the NRC, as appropriate, activation of the Emergency Support Center, and the augmentation of the emergency response organization.

c. Conclusion

The licensee's ability to activate their Emergency Plan and conduct a site accountability appeared to have been successfully demonstrated.

2.0 Decommissioning Support Activities

2.1 Spent Fuel Pool Clean Out Project Activities (62801)

a. Inspection Scope

The SFP clean out project involved the removal of all non-fuel bearing components from the SFP. For this project, the reactor vessel is used as a water shielded processing tank where components are surveyed, radioactively characterized, processed, packaged, and shipped for burial. The inspectors observed workers performing various of these activities in and around the SFP and the reactor cavity. The inspector also attended pre-job and as-low-as-reasonably-achievable (ALARA) daily briefings.

b. Observations and Findings

The SFP project daily briefings were well organized and informative. Work experiences from the previous day were discussed at each meeting. Contingency measures for unexpected radiological conditions were provided, along with discussion of the overall ALARA plan for the project. Worker participation was fostered by asking questions and by generating interaction among the various work groups. Staff were reminded during these briefings that radiation protection (RP) had the authority to stop work at any time that the dose rate or RP practices were in question. Daily work activities were performed well on the reactor deck. When problems were encountered, the supervisors were notified and the activity was stopped. The correct contingency plan was generated and executed or repairs were made to processing equipment. Appropriate condition reports were written so the problems could be evaluated by management.

c. Conclusion

Both good management control and good worker performance were observed during the SFP clean out project.

3.0 Radiological Safety

3.1 General

The inspector conducted reviews of ongoing activities in order to assess the overall RP program. Specific findings are detailed in the sections below.

3.2 Occupational Radiation Exposure (83750)

a. Inspection Scope

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: planning, preparation and conduct of surveys and monitoring; external exposure control; control of radioactive materials and contamination; and maintaining occupational exposure ALARA.

b. Observations and Findings

The inspector accompanied a Radiation Protection Technician (RPT) to the Health Physics (HP) Instrumentation Room to prepare for conducting a radiological survey. The RPTs preparations, which included instrument selection and verification of operability, and labeling smears, were thorough. While in the instrumentation area, eight radiation instruments were randomly selected and the inspector verified that all were in calibration and had been source checked. Further, all eight gave an acceptable indication when battery checked, and they all read the same approximate background for the Instrumentation Room.

The Instrument Lab Supervisor was also requested to take a daily calibration source and check one of the instruments. The recorded value for the source (technetium 99) compared favorably with what the instrument read. Additionally, side-by-side measurements (using a calibrated NRC survey instrument) were all comparable. Thus all records compared favorably to independent measurements.

The inspector accompanied the RPT on the conduct of surveys in the Hot I&C Shop, in addition to a tour of the site checking postings and labeling of radiologically controlled areas. The RPT's survey technique was observed to be adequate and he was conscientious in the conduct of his work. No problems were noted with radiological postings and labelings.

During other plant tours, the inspectors performed surveys in the Reactor Building, the turbine area, and the rad waste receipt and segregation area. All measurements taken along the posted areas were in compliance with the regulations. Proper use of protective clothing was noted. Adequate health physics coverage was noted where work was being performed in controlled areas.

A review was made of the status survey sheets, radiological status boards, and log-in procedures at the new Radiological Access Point. The Survey Status Sheets were of the last required survey for each Controlled Area. The Status Boards were all in an accessible area along the path that workers take upon entry to the plant and outside the Controlled Area. These boards were updated based on a weekly survey requirement. However, HP would change the board if routine daily surveys indicated a significant change from the weekly survey. The system appeared to be working well and appeared to be up-to-date.

c. Conclusions

Radiation protection practices observed during the inspection, including the preparation and conduct of surveys, postings and labeling, and actions to maintain occupational exposures ALARA, were adequate.

3.3 Recirculation Room Work Package

a. Inspection Scope

A review was conducted of the work authorization package DWP #RBD08A, "Clear Recirculation Pump Room 400 and 429", to assess the adequacy of the package and to verify procedural requirements related to the development and implementation of the

package were being followed. The inspector also observed work being conducted under this work authorization in the Recirculation Pump Room.

b. Observations and Findings

The DWP #RBD08A work package addressed the one year removal of over 200,000 lbs of piping and components from the Recirculation Pump Rooms. Based on an assessment of historical data it was determined that dose rates in the rooms would average 6.5 millirem per hour (mrem/hr). Estimating that the work would take 8,162 person hours, the initial total dose estimate for the job was determined to be 53 person-Rem. The inspector reviewed the dose calculations and their basis and found them acceptable. Overall the work package was found to be sufficiently detailed and complete, although a signature discrepancy was noted where a worker had signed in on an RWP but had failed to sign in on the pre-job brief. In response to this item the Radiation Protection & Environmental Services Manager initiated a self assessment of the RWP program. This assessment was thorough, identified numerous additional discrepancies and inefficiencies in the RWP process, and resulted in recommendations for improvement that the licensee was taking action to correct.

Work on the Recirculation Pump Rooms began on July 21, 1999, with the total dose through November 17, 1999, at 6.407 person-Rem. This was an effective dose rate of 3.3 mrem/hr based on the total person hours worked, which was below the estimate of 6.5 mrem/hr. The licensee attributed this lower value to a combination of: dose rates being less than expected, some of the higher dose work had yet to be performed, and good control of workers exposures. An evaluation of the work in progress determined the job was being effectively managed to minimize dose to workers. When the workers went into the rooms they wore dosimeters that were continuously monitored by an RPT, who was also in constant radio contact via headsets and could observe the workers using video cameras. This allowed the RPT to assist the workers in positioning themselves as to minimize their dose and still accomplish their tasks in an effective and timely manner.

c. Conclusion

The license's work authorization package for the Recirculation Pump Rooms was sufficiently detailed and complete. Work observed in the implementation of the package to minimize doses to workers was excellent.

3.4 Inadequate Barrier on Refuel Floor

a. Inspection Scope

The unauthorized movement of a temporary high radiation area boundary was reviewed.

b. Observations and Findings

As part of the Spent Fuel Project work, between 1630 and 1900 hours on November 30, 1999, the licensee removed the underwater crusher-shearer from the reactor vessel and placed it on the reactor deck. Because the dose levels from this equipment exceeded 1000 mrem/hr at 30 centimeters, it was posted as a locked high radiation area (LHRA). In addition, the licensee established a high radiation area (HRA) boundary further out from the crusher-shearer where dose rates were at 100 mrem/hr

at 30 cm. A survey conducted at 0100 hours on December 1, 1999, verified the adequacy of the HRA boundary. At 1830 hours on the same day, the RPT who had initially established the boundary noted that one of the boundary stanchions had been moved inward toward the crusher-shearer. A resurvey of the boundary determined that a dose rate of 120 mrem/hr existed at knee level on one side of the boundary, which meant the boundary was no longer adequate. A condition report was written on the finding (C-BRP-99-0328) and an investigation was conducted to determine who or what had caused the boundary to be moved. The licensee was unable to identify any individual who may have moved the stanchion, or establish any work related reason for its having been moved. The licensee had some concerns that an individual may have moved it, but was afraid of disciplinary action so would not provide any information. However, based on discussions with workers this did not appear to be the case. The failure to maintain control over a high radiation area as required by 10 CFR Part 20.1601, is a Severity Level IV violation and is being treated as a Non-Cited Violation, consistent with Appendix C of the NRC Enforcement Policy (NCV 50-155/99006-01(DNMS)).

c. Conclusion

The licensee did a good job of identifying and investigating an event involving unauthorized movement of a temporary high-radiation area boundary; however, it was of concern because it was indeterminate as to who moved the boundary or why. The fact that no worker remembered moving the boundary support stanchion or carrying out any task that could have inadvertently moved it, indicates a less than desirable level of attention by the workers to the work being conducted. One Non-Cited Violation was identified for failure to maintain control of a high radiation area boundary.

3.5 Improperly Stored Source

a. Inspection Scope

The improper storage of a Cs-137 calibration source was reviewed.

b. Observations and Findings

On November 24, 1999, four RPTs acquired a 100 millicurie Cs-137 source from the calibration shack, which was a locked facility within the site protected area, and proceeded to conduct calibrations of area radiation monitors. One of the RPTs was in on-the-job training (OJT) on the calibration procedure being used. Although two of the RPTs were aware of that one of them was in OJT training, the forth RPT had not been informed of this fact. At the conclusion of the calibrations, two of the RPTs returned to the calibration shack to return the source to its lead shield. One of these two RPTs was the individual in OJT training, the other was the RPT who was unaware of that fact. At the calibration shack, the RPT in training returned the source to its lead shield, covered it with a lead blanket, and the two RPTs departed without conducting any radiation surveys. On December 1, 1999, the RPT who had been conducting OJT training during the previous calibrations, was walking past the calibration shack and his frisker went offscale. Subsequent surveys determined the calibration source had been placed in the lead shield upside down so the source was out of the shield, although covered by the lead blanket. This resulted in a dose rate outside of the shack of 60 mrem/hr at 30 cm, and inside the shack of 200 mrem/hr at 30 cm and 1,000 mrem/hr on contact with the lead blanket. As a result, an unposted high radiation area existed inside the shack

(in excess of 100 mrem/hr at 30 cm) and an unposted radiation area existed outside the shack (in excess of 5 mrem/hr), both in violation of 10 CFR Part 20.1902.

Once this situation was discovered, access to the area was immediately restricted, surveys conducted, and the source placed correctly in the shield. The event was written up in a condition report (C-BRP-99-0321) and a root cause investigation conducted. Because this event occurred the day before Thanksgiving, and the site was shutdown until Tuesday of the following week, which was the day before the error was identified, it was concluded that there was minimal opportunity for any adverse exposure to have resulted from the event. The draft root cause investigation report identified a number of contributing weaknesses, which included both poor rad worker performance and procedures that provided minimal guidance.

The failure to properly post a radiation area as required by 10 CFR Part 20.1902, is a Severity Level IV violation and is being treated as a Non-Cited Violation, consistent with Appendix C of the NRC Enforcement Policy (NCV 50-155/99006-02(DNMS)).

c. Conclusion

The licensee responded quickly and effectively to an incident involving the improper storage of a 100 millicurie cesium-37 source, which appeared to primarily be the result of poor radiation worker performance due to inattention to the work being performed. One Non-Cited Violation was identified for failure to post a radiation area and high radiation area.

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

a. Inspection Scope (86750)

The inspection included an evaluation to determine whether the licensee properly received and shipped radioactive materials, in order to assess the potential for safety problems resulting from these activities and from the transportation of radioactive materials. The inspector evaluated licensee compliance with NRC and Department Of Transportation (DOT) regulations for packaging and shipment of radioactive materials.

b. Observations and Findings

The inspector observed the off loading of newly laundered protective clothing (PCs) being received at the plant and the loading of four boxes of PCs being shipped off to the Nuclear laundry. Plant Security was observed checking the vehicle to assure that the load was secure and not tampered with. Each shipment container's seals were checked to assure no tampering. Discussions were conducted with two RPTs who performed surveys on the PCs received, an individual who was acting as a spotter for the fork lift driver loading and offloading the PCs, as well as with the truck driver. The truck was checked for blocking and bracing, labeling, and truck safety items (i.e., tires, lights, general truck condition, and radiological survey of the truck exterior). The inspector reviewed the Department of Transportation (DOT) shipping papers and the licensee's paper work used to log and verify the adequacy of radioactive material waste shipments. The spotter for the fork lift driver was also auditing the licensee's contractors work. (Having the auditor double as a spotter when the fork lift was being operated was a corrective action in response to a previous incident where the fork lift operator's vision was hindered by the load being moved.) All individuals were knowledgeable of their

work assignments and carried out their tasks efficiently and professionally. No problems were noted with the blocking and bracing, labeling, truck safety items, or with the documents reviewed.

The inspector also observed surveys being conducted on two licensee radwaste shipments. The drivers of both trucks were interviewed, and the routing and tracking of the trucks while the shipments were in transit was discussed. Paperwork regarding the shipment of the waste was reviewed. Independent measurements were taken by the inspector and compared against the licensee's surveys. Labeling, posting, truck maintenance (lighting, tires, and general condition), and blocking and bracing were all reviewed. No items of concern were identified.

c. Conclusion

The licensee's actions involving the receipt of laundered PCs and the shipment of used PCs and radioactive waste, were efficiently and professionally conducted. No items of concern or violations were identified.

4.0 Open Items

(Closed) IFI 50-155/99002-01: Review of the licensee's corrective action items for an under voltage on the 46 KV line. The licensee had completed the assigned actions for a level 2 condition report C-BRP-99-0044, "Under Voltage on the 46 KV Line." The plant and engineering staff determined that the cause of the partial loss of offsite power was due to an unplanned under voltage condition on the 46 KV line that caused the decommissioning under voltage breakers, designed to protect plant equipment, to trip. The under voltage condition on the 46 KV line was the result of the regional crew performing planned switching at a remote substation.

The licensee identified during their investigation that Defueled Technical Specification 3.1.1 Action IV was not accomplished. Compensatory actions, to take local radiation readings, are required if radiation levels in the area of the SFP cannot be normally monitored by the 2 installed gamma radiation monitors. These monitors lost power, and were inoperable. Compensatory actions were not taken because this condition was not recognized. Also, procedure DOP-20, "Monitoring Station," provides the direction to perform the compensatory actions.

The consequences of not performing the compensatory actions were not significant. A loss of SFP level did not occur when the monitors were out of service. Also, the operators manually closed the containment vent valves 3 minutes into the partial loss of offsite power event, completing the automatic function of the radiation monitors, to preclude any postulated radiological release. Failure to perform the compensatory actions of DTS 3.1.1 Action iv is a severity Level IV violation and is being treated as a Non-Cited Violation, consistent with Appendix C of the NRC Enforcement Policy (NCV 50-155/99006-03(DNMS)). This issue is in the licensee's corrective action program as B-BRP-99-0044J.

The inspector has no further concerns with this inspector follow up item and it is closed.

(Closed) IFI 50-155/98009-02: Development of an alternate containment heating contingency plan for safe storage of fuel and fuel support systems. This item was last discussed in inspection report 50-155/99002 Section 1.6.5. Since 50-155/99002 was

issued, the corrective action in condition report C-BRP-0072, "Commitment to Revise DOP-9, 'Heating and Ventilation System,' to include a contingency for freeze protection has been completed. This inspection follow up item is closed.

5.0 Exit Meeting

The inspectors presented the inspection results to members of licensee management at the conclusion of the inspection on December 17,1999. The licensee acknowledged the findings presented. The licensee did not identify any documents or processes reviewed by the inspectors as proprietary.

PARTIAL LIST OF PERSONS CONTACTED

Licensee

M. Bourassa, SFP Clean Out & Licensing Supervisor
M. Lesinski, Radiation Protection and Environmental Services Manager (RP&ES)
R. McCaleb, Nuclear Performance Assessment, Site Lead (NPAD)
K. Powers, Site General Manager
W. Trubilowicz, Cost, Scheduling & Purchasing Manager
R. Wills, Radwaste Superintendent
G. Withrow, Engineering, Operations & Licensing Manager

INSPECTION PROCEDURES USED

IP 40801:	Self-Assessment, Auditing, Corrective Action
IP 62801:	Spent Fuel Pool Clean Out Project Activities
IP 71801:	Decommissioning Performance and Status Review at Permanently Shut Down Reactors
IP 83750:	Occupational Radiation Exposure
IP 86750:	Solid Radwaste Management and Transportation of Radioactive Materials
TI 2561/003	Re-Examination of Year 2000 (Y2K) Program Activities

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

NCV 50-155/99006-01	Failure to maintain control over a high radiation area barrier.
NCV 50-155/99006-02	Failure to post a radiation area and high radiation area.
NCV 50-155/99006-03	Failure to perform a compensatory action required by the Defueled Technical Specifications.

Closed

IFI 50-155/98009-02	Development of an alternate containment heating contingency plan for safe storage of fuel and fuel support systems.
IFI 50-155/99002-01	Review of licensee's corrective action items for an under voltage on the 46 KV line.
NCV 50-155/99006-01	Failure to maintain control over a high radiation area barrier.
NCV 50-155/99006-02	Failure to post a radiation area and high radiation area.
NCV 50-155/99006-03	Failure to perform a compensatory action required by the Defueled Technical Specifications.

Discussed

None

LIST OF ACRONYMS USED

ALARA	As-Low-As-Reasonably-Achievable
CFR	Code of Federal Regulations
CRB	Control Rod Blade
DFP	Diesel Fire Pump
DOT	Department of Transportation
HP	Health Physics
MDG	Main Diesel Generator
MRB	Management Review Board
NCV	Non-cited Violation
NPAD	Nuclear Performance Assessment Department
NRC	Nuclear Regulatory Commission
PA	Protected Area
QA	Quality Assurance
RP	Radiation Protection
RPT	Radiation Protection Technician
RWP	Radiation Work Permit
SBDG	Standby Diesel Generator
SFP	Spent Fuel Pool
SG	Security Generator
SSCs	Systems, Structures and Components
Y2K	Year 2000

LICENSEE DOCUMENTS REVIEWED

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