U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Nos:	50-266; 50-301
Licenses No:	DPR-24; DPR-27
Reports No:	50-266/97004(DRS); 50-301/97004(DRS)
Licensee:	Wisconsin Electric Power Company
Facility:	Point Beach Nuclear Plant, Units 1 and 2
Location:	6610 Nuclear Road Two Rivers, WI 54241
Dates:	March 3-7, 1997
Inspector:	K. Lambert, Radiation Specialist
Approved by:	T. Kozak, Chief, Plant Support Branch 2 Division of Reactor Safety

EXECUTIVE SUMMARY

Point Beach Nuclear Plant, Units 1 and 2
NRC Inspection Reports 50-266/97004; 50-301/97004

This inspection included a review of high radiation area controls, the liquid effluent program, observations of radiological work and a review of steam generator replacement project radiological performance. The following specific observations were made:

- Recurring problems with high radiation area controls were identified as an operator in training entered an area posted and controlled for radiographic evolutions which he was not authorized to enter.

- The liquid effluent release program was effectively implemented

- Dose expended during the steam generator replacement project was maintained reasonably well due to the implementation of effective ALARA measures.

Report Details

R1 Radiological Protection and Chemistry (RP&C) Controls

R1.1 High Radiation Area Boundary Incident

a. Inspection Scope (83750)

The inspector reviewed and discussed with licensee personnel an incident where an individual entered a radiography high radiation area (HRA) in the radiologically controlled area (RCA) of the primary auxiliary building (PAB).

b. Observations and Findings

On February 25, 1997, the licensee identified that an auxiliary operator trainee (AOT) entered an area posted, "High Radiation Area, RWP Required, Radiography In Progress" which was located on the 26' elevation of the PAB. The radiographers were setting up for the next exposure and the source was not exposed during the entry by the AOT. Therefore, the AOT did not receive any appreciable dose during the entry. The AOT was signed in on a standing radiation work permit which specifically stated that entry into areas where radiation levels were affected by radiography was prohibited. The boundary was set up surrounding a stairway which led to the 8' elevation of the PAB where radiography was being performed on a component cooling water (CCW) valve in the overhead near the stairway. The AOT crossed the HRA boundary and proceeded down the stairs to where several health physics technicians (HPTs) were standing to ask if he could have access to the CCW pump area. An HPT immediately escorted the AOT back up the stairs and out of the posted area. Discussions with the AOT indicated that he was not aware of the limitations of his standing RWP. Corrective actions taken by the licensee were to temporarily suspend the AOT's access to the RCA, and to provide additional instruction on the standing RWP to the involved individual and other AOTs. In addition, the licensee has indicated that a root cause investigation is planned to start the week of March 17, 1997.

Technical Specification (TS) 15.6.11 states that radiological control procedures shall be written and made available to all station personnel. Nuclear Procedure NP 4.2.21 states that standing RWPs shall not be used to enter areas whose radiation levels are affected by radiographic evolutions. Entry into an area posted as a high radiation area for radiography while on a standing RWP is a violation of Technical Specification 15.6.11 (VIO 50-266/97004-01(DRS); 50-301/97004-01(DRS)).

In addition to the above HRA boundary incident, there have been four other HRA boundary violations in the past two years, including:

- On March 29, 1995, the licensee identified that an individual entered a HRA in pipeway # 2 without signing the appropriate RWP or obtaining the proper dosimetry which was required for the entry. This was a violation of TS 15.6.11 and was not cited because the criteria specified in 10 CFR 2, Appendix C, VII.B of the "General Statement of Policy and Procedure for

NRC Enforcement Action" were met. (Inspection Reports No. 050-266/95004; 050-301/95004)

- On November 3, 1995, the licensee identified that two contractors entered a HRA in containment without signing the appropriate RWP or obtaining the proper dosimetry which was required for the entry. This was a violation of TS 15.6.11 and was not cited because the criteria specified in 10 CFR 2, Appendix C, VII.B of the "General Statement of Policy and Procedure for NRC Enforcement Action" were met. (Inspection Reports No. 050-266 95013; 050-301/95013)

- On April 4, 1996, a worker, who was not on an RWP, entered Unit 1 containment, Elevation 66', which was posted as a HRA, RWP required. The area was posted in anticipation of changing radiological conditions due to the imminent reactor head lift. This violation was cited and was of concern because it was the third such occurrence in the past 13 months. (Inspection Reports No. 050-266/96003; 050-301/96003)

- On May 2, 1996, radiation protection personnel did not adequately verify that an area was unoccupied prior to posting it as a HRA in anticipation of a spent resin transfer. Corrective actions for previous HRA control problems would have reasonably been expected to prevent this occurrence; this problem was of particular concern because it was the fourth violation regarding HRA controls in the past two years. (Inspection Reports No. 050-266/96009; 050-301/96009).

- During the 1996 Unit 2 Steam Generator Replacement Project (SGRP), two workers partially crossed the plane of HRA boundaries. While the partial entries into the HRAs did not constitute a procedural violation, these actions did not meet plant management expectations regarding HRA control. (Inspection Reports No. 050-266/96016; 050-301/96016)

The AOT's entry into the area posted for radiographic evolutions was the sixth documented problem associated with HRA control in the past two years at the facility. As was mentioned above, the AOT was not aware of the requirements for entry into an area controlled for radiography. Given the numerous HRA control problems at the facility, licensee management indicated that it was their expectation that their training program should have placed more emphasis on the specific controls in place for entry into different types of HRAs and in the importance of following these requirements.

c. Conclusions

One violation was identified for the failure of an individual to follow the standing RWP that he was signed in on. This violation is of particular concern because it is the sixth HRA boundary event in the past 2 years and corrective actions taken to correct previous violations have not been effective or lasting.

R1.2 Liquid Effluents

a. Inspection Scope (84750)

The inspector reviewed selected portions of the licensee's liquid effluent control program including effluent results, effluent control instruments, monitor calibrations and alarm set points, and two effluent discharge line break incidents.

b. Observations and Findings

As of the date of the inspection, there were no significant changes in the licensee's liquid and gaseous effluent systems as described in the Off-Site Dose Calculation Manual (ODCM) and the Final Safety Analysis Report (FSAR). Quantification of gaseous and liquid discharges was completed in accordance with the appropriate procedures, and the inspector verified that offsite doses and effluent release monitor setpoints were calculated using ODCM methodology.

The licensee identified a calibration inconsistency with its two CCW monitors, where the calibration jig geometry was different than the geometry used in the actual monitor locations. The inconsistency affected the correction factor for converting counts to a concentration of activity in the CCW which would result in understating the activity. The licensee declared the monitors out of service, but the monitors were still sending their associated alarm signals to the control room. The correction factor only affected the activity conversion and not the alert and alarm setpoints which were set at 1.5 and 2 times the inplace detector background. Calibration of Technical Specification (TS) liquid effluent monitors were performed in accordance with station procedures. No problems were identified in review of functional test and calibration data for the TS monitors.

The licensee identified two separate breaks in the effluent pipeline between the effluent sump and the retention pond in February 1997. The licensee performed compensatory sampling every 12 hours between the time the breaks were identified and repairs were made. The compensatory samples were analyzed for gamma emitters and tritium with all results less than lower limit of detection of 5 E-7 μCi/ml and 1 E-7 μCi/ml respectively. The licensee was evaluating the cause of the pipe line breaks.

c. Conclusions

Overall, the liquid monitoring program was effectively implemented. The licensee's analysis of released effluent from the pipe line break did not indicate a release of radioactive materials to the environment occurred.

R1.3 General Tours of Primary Auxiliary Building

a. Inspection Scope (83750)

The inspector performed several inspections of activities in the primary auxiliary building (PAB) and observed radiation worker practices.

b. Observations and Findings

The inspector observed activities in the PAB and noted that radiological postings and boundaries were generally well maintained, and housekeeping was good. Contaminated areas requiring RWPs for access were kept to a minimum, and thus did not represent a significant impact on workers. Workers demonstrated adequate use of ALARA techniques and were aware of radiological conditions. Personnel were wearing the appropriate dosimetry and protective clothing. Workers were observed properly exiting the RCA. Inspector measured dose rates in the PAB were consistent with those posted by the licensee.

c. Conclusions

Observed workers were wearing the appropriate dosimetry and protective clothing. HRAs and contaminated areas were properly posted and controlled. Station contaminated areas were kept to a minimum.

R1.4 External Dose Control and ALARA Implementation (83750)

The inspector reviewed the station dose and ALARA goals for 1996. The projected station dose for 1996 excluding the steam generator replacement (SGRP) was 190 person-rem. The actual station dose for 1996, based on TLD results, was 99 person-rem. The low station dose was attributed to greatly reduced scope of work for Unit 1 and 2 refueling outages, and not loading two spent fuel casks planned for 1996. The projected SGRP dose was 204 person-rem, with the actual SGRP dose expended being 188 person-rem. The low station dose can be attributed to good implementation of the ALARA program. Workers were knowledgeable in radiation work procedures and contamination control.

R4 Staff Knowledge and Performance in RP&C

R4.1 Unit 1 Service Water Sample Collection (84750)

The inspector reviewed applicable chemistry procedures for the collection and analysis of Unit 1 service water with the chemistry technician assigned to collect the sample. The technician was knowledgeable in the procedures and requirements for sample collection. The sample was collected in accordance with the procedure. Appropriate aliquots were removed for gamma spectroscopy and tritium analysis, and for the monthly composite. No problems were noted in the collection of the Unit 1 service water sample.

R8 Miscellaneous RP&C Issues

R8.1 (Closed) LER 96-014-00: Unit 1 Steam Generator Blowdown Sample Not Performed in Accordance With Technical Specifications (TS). The licensee failed to collect a Unit 1 steam generator blown down sample within the TS required frequency of two per week.

The inspector reviewed the corrective actions listed in the LER and verified their completion as follows: (1) Once the missed sample was identified, a sample was

collected and analyzed with the results less than minimum detectable activity; (2) the involved technician was counselled and reviewed applicable procedures; (3) applicable procedure was revised on March 4, 1997, to more clearly indicate the TS required samples; and (4) evaluated the current method for ensuring TS sampling requirements are met. From the evaluation the licensee instituted a review of TS required sampling checklist by an independent technician, expectations for timely supervisor review of sample results and ordered signs for the primary chemistry lab and count room to remind personnel of required samples. Based on this review, the LER is closed.

X1 Exit Meeting Summary

The inspector presented the inspection results to members of licensee management at the conclusion of the inspection on March 7, 1997. The licensee acknowledged the findings presented.

The licensee did not identify any information discussed as being proprietary.

PARTIAL LIST OF PERSONS CONTACTED

Licensee

R. Arnold, Chemistry Supervisor
A. Cayia, Plant Manager
E. Epstein, Health Physics Specialist
J. Fouse, Chemistry Trainer
D. Gerhrke, Chemistry Specialist
S. Johnson, Health Physics Trainer
E. Lange, Health Physics Supervisor
D. LeClair, Health Physics Supervisor
M. Moseman, Health Physics Specialist
T. Slack, Chemistry Specialist
T. Smith, Health Physics Specialist

INSPECTION PROCEDURES USED

IP 83750	Occupational Radiation Exposure
IP 84750	Radioactive Waste Management and Effluent, and Environmental Monitoring
IP 92904	Followup-Plant Support

LIST OF ITEMS OPENED AND CLOSED

Opened

50-266(301)/97004-01	VIO	The failure to follow a Health Physics procedure and a standing RWP is a violation of Technical Specification 15.6.11.

Closed

LER 96-014-00	LER	Failure to collect steam generator blowdown sample in accordance with Technical Specifications

LIST OF DOCUMENTS REVIEWED

Condition Report No. 97-0195

Condition Report No. 97-0347

Condition Report No. 97-0396

Condition Report No. 97-0639

Health Physics Implementing Procedures, HPIP 11.52, Revision 1, "HEPA and Charcoal Filter Administrative Controls"

Health Physics Implementing Procedures, HPIP 11.54, Revision 2, "Control Room, F-16 Filter Testing"

Health Physics Manual, HP 2.5.4, Revision 4, "Radiation Work Permit Preparation"

Health Physics Manual, HP 2.5.5, Revision 7, "RWP Issuance Instructions"

Health Physics Manual, HP 3.2.3, Revision 13, "RCA Radiation Area and High Radiation Area Posting Requirements"

Health Physics Manual, HP 9.1, Revision 8, "Monitoring of Radiography"

Operations Manual, OM 4.1.7, Revision 0, "RMS Alarm Setpoint and Response Book (RMSARB)"

Procedures Manual, NP 4.2.20, Revision 3, "Radiation Work Permit"

LER 96-014-00, "Steam Generator Blowdown Sample Not Performed in Accordance with Technical Specifications, Point Beach Nuclear Plant, Unit 1"

Point Beach Technical Specification 15.4.11, "Control Room Emergency Filtration"

Point Beach Technical Specification 15.7.6, "Radioactive Effluent Sampling and Analysis Requirements"

Point Beach Technical Specification 15.7.7, "Operational Environmental Monitoring Program"

RWP 97-15-6

Standing RWP 97-0004-1

Summary of Radioactive Liquid Releases for Aug 96

Training Lesson Plans, LP0219, Revision 13, "Radiation Survey Methods"

Unit 1 Refueling Outage 23 ALARA Summary, PBM 96-0263