

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Nos: 50-266, 50-301
Licenses Nos: DPR-24, DPR-27

Reports No: 50-266/96009(DRS)
50-301/96009(DRS)

Licensee: Wisconsin Electric Power Company
231 West Michigan Street - P379
Milwaukee, WI 53201

Facility: Point Beach Nuclear Plant, Units 1 and 2

Dates: August 26 through September 25, 1996

Inspectors: R. Paul, Senior Radiation Specialist
K. Lambert, Radiation Specialist

Approved by: Thomas J. Kozak, Acting Chief
Plant Support Branch 2

EXECUTIVE SUMMARY

Point Beach Nuclear Plant, Units 1 and 2
NRC Inspection Reports No. 50-266/96009(DRS); 50-301/96009(DRS)

This routine radiation protection inspection consisted of a review of licensee preparations for the upcoming steam generator replacement project and of a licensee-identified high radiation area control problem. The report covers the inspection conducted from August 26 through September 25, 1996 by regional radiation specialist inspectors.

Plant Support

- Radiation protection preparations for the upcoming steam generator replacement project appropriately addressed the radiological liabilities associated with this project (Section R1.1).
- Radiation protection personnel did not adequately verify that no unauthorized personnel were present within an area once a high radiation area boundary was erected and prior to allowing a spent resin transfer to occur. This resulted in a high radiation area control violation as an unauthorized individual was located within the area while the resin transfer occurred (Section R1.2).

Report Details

IV. Plant Support

R1 Radiological Protection and Chemistry (RP&C) Controls

R1.1 Unit 2 Steam Generator Replacement Project (SGRP) Planning

a. Scope (83729)

The inspectors reviewed radiation protection's advance planning and preparation for the fall 1996 Unit 2 SGRP, including: staff qualifications, training, ALARA, work planning and processes, procedure modifications, and dose estimates for several activities.

b. Observations and Findings

A station health physicist (HP) was assigned as the SGRP HP coordinator having the responsibility for directing HP activities associated with the SGRP. Plans were to have radiation protection coverage provided by contractors and have their supervisor report to and work closely with the station HP coordinator. Both individuals are well experienced in HP and SGRP work. The contractor radiation protection technicians (RPTs) were selected based on the three-year experience criteria of ANS 3.1-1978, "Selection and Training of Nuclear Power Personnel" and previous SGRP experience.

The HP coordinator indicated that a relatively large number of the craft workers assigned to the project are not experienced nuclear workers and that close oversight of craft activities would be maintained throughout the project. He also indicated that intentions were to use skilled workers on most of the specialty work such as pipe cutting and removal. Plans were to provide all radiation workers (including the RPTs) on the project SGRP-specific training and to provide mockup training to personnel performing high radiological liability work such as pipe end decontamination and pipe cutting. The licensee planned to maintain continuity in radiation protection coverage for those jobs for which mockup training is provided by assigning the same RPTs for the duration of the job. The lesson plans reviewed were commensurate with the potential radiological health problems associated with the SGRP as required by 10 CFR 19.12.

The inspectors determined that the licensee's SGRP radiation protection procedures received required staff review and were consistent with regulatory requirements and good health physics practices. The inspectors also determined that the licensee identified those evolutions most likely to create airborne activity and were taking measures to ensure adequate control mechanisms were in place and ready to limit internal exposures. Personnel dose measurement will be made through the use of thermoluminescent dosimeters (TLDs) and electronic and remote dosimetry systems, and a computerized information management system will be used to track and control individual personal exposures. The

projected dose for the SGRP is about 200 person-rem, which would be among the lowest accumulated dose for a SGRP project.

Dedicated ALARA planners were named to support maintenance and prepare ALARA plans and radiation work permits (RWPs). Work packages completed to date utilized industry lessons learned and contained good ALARA controls (portable shielding, mockups, etc) to minimize exposure. Contingencies were also developed for jobs having the potential for significant changes in radiological conditions and for rework including events such as new SG piping not aligning with the RCS piping. Resources identified in the ALARA plans (specialized radiation detection equipment, shielding, radiological access control point layouts, etc) were developed and ready for implementation. The inspectors noted that the ALARA controls, including stop work points, were authorized by RWPs for changed radiological conditions and work scope, and are to be discussed in sufficient detail at pre-job briefings.

- c. The inspectors concluded that the radiation protection planning for the SGRP appropriately considered the radiological liabilities associated with the project.

R1.2 Unauthorized Individual in a Posted High Radiation Area

a. Inspection Scope (83750)

The inspectors reviewed a May 2, 1996 licensee-identified event in which a worker was present in a posted high radiation area (HRA) on Elevation 26' in the auxiliary building without having signed the appropriate RWP nor having appropriate dosimetry.

b. Observations and Findings

In preparation for the transfer of spent fuel pool demineralizer resin, health physics technologists (HPTs) toured the area which would be affected by the transfer to ensure no unauthorized personnel were in the area. A temporary HRA boundary was then established around the area. An announcement was then made of the imminent resin transfer over the plant announcement system. Unbeknownst to the HPTs, a mechanic-electrician (ME), who did not hear the announcements made regarding the resin transfer, was working in the CVCS holdup tank cubicle, which was inside the posted area. The HPTs did not check this area during their tour prior to erecting the posting.

After the ME exited the CVCS holdup tank cubicle, he encountered the back side of the HRA boundary and immediately reported to RP. Subsequent surveys indicated that dose rates were ≤ 2 mrem/hr in the area traversed by the worker and the ME's personal exposure was estimated at about 2 mrem. It was determined that the worker was not on the appropriate RWP and did not have the required dosimetry for a high radiation area which is a violation of Technical Specification 15.6.11 (VIO 50-266/96009(DRS); 50-301/96009(DRS)).

This high radiation area boundary violation had several apparent causes, including (1) the failure of the HPTs to adequately verify that no personnel were present in the affected area, (2) the lack of specific procedural guidance on verifying the absence of personnel within areas that are to be posted, and (3) ineffective methods used to notify personnel that changing radiological conditions may occur in the RCA (for example, the ME was unable to hear the announcement and he was not notified of the planned resin transfer prior to entering the RCA).

Three other high radiation area violations have been identified during the past two years at this facility. These violations had different causes and the corrective actions developed for them would not have reasonably been expected to prevent this violation from occurring. However, the number of HRA problems brings into question the effectiveness of the HRA controls in place at the facility.

c. Conclusions

One violation was issued for a worker not being on the appropriate RWP prior to entering a HRA. This violation was caused by a weakness in the HP department's program to adequately search the area to ensure persons are not present prior to posting a HRA.

V. Management Meetings

X1 **Exit Meeting Summary**

The inspectors presented the inspection results to members of licensee management at the conclusion of the inspection on August 29 and September 25, 1996. The licensee acknowledged the findings presented.

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

PARTIAL LIST OF PERSONS CONTACTED

Licensee

A. Reimer, Manager Nuclear Engineering
D. Johnson, Site Manager SGRP
P. Tindall, Health Physics Manager
E. Lange, Supervisor Health Physics
E. Epstein, Health Physics Specialist
M. Moseman, SGRP HP Oversight - SGRP HP Coordinator
C. Wend, SGRP Health Physics Manager, SGT

INSPECTION PROCEDURES USED

IP 83750 Occupational Radiation Exposure
IP 83729 Occupational Exposure During Extended Outages
IP 92904 Followup - Plant Support

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

50-266/301-96009-01 VIO failure of an individual to be signed in on the appropriate RWP while in a high radiation area

LIST OF ACRONYMS USED

ALARA As Low As Reasonably Achievable
CVCS Chemical Volume Control System
HP Health Physics
HPTs Health Physics Technicians
HRA High Radiation Area
ME Maintenance-Electrician
RCA Radiological Controlled Area
RCS Reactor Coolant System
RP&C Radiological Protection and Chemistry
RWP Radiation Work Permit
SGRP Steam Generator Replacement Project
SRD Self Reading Dosimetry
TLDs Thermoluminescent Dosimeters
T/S Technical Specification
VIO Violation

LIST OF DOCUMENTS REVIEWED

Letter dated July 19, 1996, from Wisconsin Electric to NRC
Daily Update of the Approved Weekly Schedule for August 12, 1996
Action Item Status Report, Trkid: CR 95-574, Action Number 9
Action Item Status Report, Trkid: CR 96-205, Action Number 1
Action Item Status Report, Trkid: CR 96-205, Action Number 2
Action Item Status Report, Trkid: CR 96-320, Action Number 1
Health Physics Procedure HP 3.2.3
Point Beach Technical Specification 15.6.11
Health Physics Procedure NP 4.2.20
Steam Generator Replacement History and Listing of Lessons Learned
Steam Generator Replacement Project
Letter dated August 26, 1996 to Wisconsin Electric from SGT