

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Reports No. 50-266/85017(DRSS); 50-301/85017(DRSS)

Docket Nos. 05000266; 05000301

Licenses No. DPR-24; DPR-27

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

Facility Name: Point Beach Nuclear Plant (PBNP)

Inspection At: PBNP; Units 1 and 2, Two Rivers, WI

Inspection Conducted: September 3-6, 1985

Inspector: *for R. A. Paul*  
R. A. Paul

*9/24/85*  
Date

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

*9/24/85*  
Date

Inspection Summary

Inspection on September 3-6, 1985 Reports No. 50-266/85017(DRSS);  
No. 50-301/85017(DRSS))

Areas Inspected: Routine, unannounced inspection of the radiation protection program, including: organization and management controls; internal and external exposure controls; posting and access controls; contamination control; training; transportation activities, incidents concerning radioactive intake; previous inspection findings; and certain IE Information Notices. The inspection involved thirty-two onsite hours by one NRC inspector.

Results: No violations or deviations were identified.

## DETAILS

### 1. Persons Contacted

\*D. Bredvad, Plant Health Physicist  
\*R. Bruno, Superintendent-Training  
C. Gates, Transportation Coordinator  
\*J. Knorr, Regulatory Engineer  
\*J. Reisenbuechler, Superintendent EQRS  
\*J. Zack, Plant Manager  
R. L. Hague, NRC Senior Resident Inspector  
R. J. Leeman, NRC Resident Inspector

The inspector also contacted contractors and other plant staff during this inspection.

### 2. General

The onsite inspection which began at 8:00 a.m., September 3, 1985, was conducted to examine aspects of the licensee's radiation protection and transportation of radioactive waste programs. The inspection included several plant tours, review of posting and labeling, review of personal internal and external exposures, review of general RCO training, and independent inspection efforts by the inspector. Also reviewed, were selected open items and corrective actions concerning previous violations.

### 3. Licensee Action On Previous Inspection Findings

(Closed) Unresolved Item (266/85011-04; 301/85011-04): Possible violation of regulatory limits because an improperly calibrated detector was used for determining iodine air sample results for samples taken in areas where there was personnel occupancy. The licensee used corrected sample results in conjunction with existing RWP's and stay time logs to recalculate personnel uptakes. The inspector selectively reviewed personnel uptake records, the nonconformance report concerning their corrective actions, and the RWP's used to recalculate exposure results. In addition to the inplant air samples the licensee corrected gaseous effluent radioiodine values and issued appropriate revisions in the form of an erratum for gross activity and radioiodine values. No problems were identified.

(Closed) Open Item (266/84-22-01; 301/84-20-01): Follow-up evaluations of strontium 90 and alpha monthly composite samples of liquid discharges which are significantly higher than normal. The licensee added a flagging number into Procedure RAM 2.3, set at one percent of Part 20 unrestricted area limits, which if exceeded will trigger further review.

(Closed) Open Item (266/85007-02; 301/85007-02): Review of MPC-hour calculation and corrective actions for an incident involving elevated airborne activity during the cleaning of steam generator diaphragms. The inspector reviewed the licensee's evaluation which was based on protection

factors, stay times and maximum concentrations. No problems were noted. Corrective actions to prevent recurrence of this type of incident includes the development of a maintenance procedure which addresses health physics precautions for cleaning steam generators.

(Closed) Open Item (266/85004-01): Review of licensee's evaluation of an uptake of radioactive material. See Section 7 for details.

#### 4. Organization and Management Controls

The inspector reviewed the licensee's organization and management controls for radiation protection, including changes in the organizational structure and staffing, effectiveness of procedures and other management techniques used to implement the program, experience concerning self-identification and correction of program implementation weaknesses, and effectiveness of program audits.

The RPM is now reporting to the General Superintendent instead of the Superintendent-Technical Services because this position is currently vacant. When this position is filled, the RPM will have two management positions between him and the Plant Manager; however, the RPM also has organizationally an alternate direct reporting line to the Plant Manager. Also, the Plant Manager and the RPM stated that direct communications occurs when either person considers it necessary or expedient; routine meetings are not scheduled. It appears the RPM's concerns are given due consideration and plant manager access is utilized when necessary. The deletion of the Superintendent-Chemistry and Health Physics position will be made in the next submittal of Technical Specification changes.

#### 5. RCO Training

The inspector reviewed the training and qualifications aspects of the licensee's radiation protection and RCO training programs. Currently there are six RCO's and six RCO trainee's. The training program for both RCO's and trainee's is still being upgraded and in the past year more formal training has been accomplished. The training has been in accordance with Training Procedure TRPR 1.0, Revision 3. Revision 4 of this Procedure is being developed and will include a task oriented training program tailored to meet the needs of health physics job functions and the role of the RCOs. Based on several discussions with members of the Training Department and the RPM, it appears the training program under development should be considerably more effective than the previous program. This matter was discussed at the exit and will be reviewed at a future inspection. (Open Item 266/85017-01; 301/85011-01).

#### 6. External Exposure Control and Personal Dosimetry

The inspector reviewed the licensee's external exposure control and personal dosimetry programs, including: equipment, personnel and procedures; adequacy of the dosimetry program to meet routine needs; and required records, reports, and notifications.

The external exposure measurement and control program consists of whole body monitoring using thermoluminescent dosimeters (TLDs) and self-reading dosimeters (SRDs), direct surveys, radiation work permits, and administrative dose limits. The TLDs are processed monthly by a vendor. In most cases, the results of the TLDs are assigned to the employee's permanent exposure record. The inspector selectively reviewed the exposure records for 1984, and from January 1 through July 31, 1985. The total whole body exposures for station and contractor workers in 1984 was 983 person-rem and the highest individual exposure was 4.1 rem. From January 1 through June 31, 1985, the total whole body exposures for plant and contractor personnel was 194 person-rem, and the highest plant personal exposure through July 31, 1985 was 1.95 rem. No regulatory limits were exceeded.

#### 7. Internal Exposure Control and Assessment

The inspector reviewed the licensee's internal exposure control and assessment programs, including: changes in facilities, equipment, personnel, and procedures affecting internal exposure control and personal assessments; determination whether engineering controls, respiratory equipment, and assessment of individual intakes meets regulatory requirements; required records, reports, and notifications; and effectiveness of management techniques used to implement these programs.

The licensee's programs for controlling internal exposures include the use of protective clothing, respirators and equipment, and control of surface and airborne radioactivity. A selected review of air samples and smear survey results was made. No significant problems were noted.

The inspector selectively reviewed the results of Whole Body Counts (WBC) for station and contract employees for 1984 and 1985 to date. It appears no person exceeded the 40-hour control measure during this period.

On May 14, 1985, an employee who participated in incore thimble removal activities during his shift alarmed the portal monitor when he attempted to leave the plant. Subsequent frisker surveys revealed no detectable contamination; air samples taken in the area where the employee was working did not indicate any elevated airborne concentrations; and a whole body count taken on an individual working close to the employee indicated no internal contamination.

Several whole body counts were taken on the employee between May 14 and May 17, 1985. In addition, several bioassays were submitted by the employee during this period.

A review of the whole body count data for the employee indicated radioactivity ranging from 49 to 65 nanocuries of cobalt 60 and 63 to 77 nanocuries of cobalt 58. Fecal activity was minimal. The activity cleared the body in approximately 2.5 days. The licensee assumed the activity was ingested however, it may have been inhaled and not taken into the lungs due to the large particle size.



It appears the worker's intestines were exposed to approximately 13 mrem and 11 MPC-hours. The exposure calculation assumes the 65 nanocuries of cobalt 60 and 77 nanocuries of cobalt 58 was all internal contamination. The short clearance time is consistent if the material did not reach the lungs. The inspector agrees with the licensee's exposure assessment.

#### 8. Respiratory Protection

An audit of the respiratory protection program was performed by the licensee in March 1985. As a result of this audit, one deviation from a regulatory requirement was found concerning inspection frequencies for SCBAs. Sufficient action was taken by the licensee to correct the problem. Several recommendations were also made by the audit team concerning respirator issuance practices, strengthening certain procedures, audit frequencies, and audits for compressed gas vendors. The licensee has taken positive action on these recommendations.

During plant tours it was noted that some unreturned respirators were located in the auxiliary and radwaste building. This observation was discussed with the RPM who stated that although not a written requirement, it has been the licensee's practice that used respirators be returned after each use and not reused until they have been reissued. This matter was discussed at the exit interview and will be reviewed at a future inspection. (Open Item 266/85017-02; 301/85017-02)

#### 9. Transportation Activities

The inspector reviewed the licensee's transportation activities, including: verification that clearly defined management authorities and responsibilities exist; verification that an acceptable training program is in place for persons involved in transport activities; determination whether an NRC approved Quality Assurance program has been implemented; determination whether procurement, selection, preparation and delivery of packages is in compliance with NRC and DOT regulations and the licensee's quality assurance program; determination whether receipt of and periodic maintenance of packages are in compliance with NRC and DOT regulations; adequacy of required records, reports, shipment documentation and notifications; and experience concerning identification and correction of programmatic weakness.

Shipment of low specific activity (LSA) waste to licensed burial sites is the major transportation activity. Contaminated solid trash (paper, plastic, wood, metal, discarded clothing, etc.) is packaged in 55-gallon steel drums and compacted. DOT Specification 17-H drums are used which meet the DOT 7-A performance specification. Liquid wastes consisting of resins and evaporator bottoms are being solidified using an onsite vendor system. The installed solidification equipment has not been used since early 1984. A new skid mounted solidification system has been purchased, and after installation it will be used as a back up to the vendor system until such time as the licensee determines to discontinue the vendor service.

The inspector selectively reviewed the licensee's procedures for transportation of radioactive material. The procedures are current with respect to NRC/DOT regulations. Records of radioactive shipments were selectively reviewed for compliance with 49 CFR 172-173 and 10 CFR 71. From January through June 1985, the licensee shipped approximately 1068 cubic feet of evaporator bottoms, 250 cubic feet of primary plant resins, 535 cubic feet of sludge from the waste hold up tank and 440 cubic feet of dry active waste. The licensee treats all waste taken from the control side of the station as radioactive waste.

During a previous inspection (266/85007; 301/85007), it was noted that hoses used for transfer of evaporator bottoms into a Chem-Nuclear liner had clogged during one or two occasions during resin transfer. The licensee's review of this matter found that hard piping was not essential to eliminate the clogging problem. No further clogging problems have been encountered; however, the licensee is continuing to evaluate improvements for resin transfer.

#### 10. Transportation Incident

The inspector reviewed the circumstances concerning a waste box containing dry active waste shipped on June 11, 1985, to the burial facility near Richland, Washington. By letter dated June 18, 1985, the State of Washington Department of Social and Health Services notified Wisconsin Electric Power Company of an apparent violation associated with the shipment (Shipment BL85 W03), which was received on June 14, 1985. The licensee was issued a warning letter only, because of the nature of the violation, and was not suspended from the burial site. The apparent violation identified by the State was for lack of a strong tight package in that Box No. 85W-130 had a partial separation of the underside of the box from the rest of the package resulting in an approximate two-inch gap.

However, the box with the separation also was plastic lined on the inside. The plastic lining was not breached; therefore, no material leaked from the container. Since the package was not breached (the plastic liner remaining intact) the DOT requirement for a strong tight package for LSA material was not violated.

Licensee investigation showed that the partial degradation of the structural integrity of the box indicated an apparent structural weakness at the center of other waste boxes. To correct this problem the licensee made several construction changes to improve the strength of the boxes and will continue to include a heavy gauge plastic liner in each box.

No violations or deviations were noted.

11. Steam Generator Tube Specimen Removal Phase II

The purpose of the steam generator tube specimen removal project is to remove steam generator tube specimens for study by Electric Power Research Institute (EPRI). Phase II includes cutting out samples from the tube sheets. The specimen removal project will be done in the onsite Steam Generator Storage Facility. The facility and the radiation protection controls used during this project are described in Reports No. 50-265/84002 and 50-301/84001.

The inspector visited the facility during this inspection, spoke to the cognizant health physics contractor personnel, reviewed the radiological controls to be used during the removal project, observed mock up training areas, and discussed the program with the RPM. Based on these inspector activities, it appears the licensee has implemented sufficient radiological controls to conduct this program.

12. Contamination Control

The station's area contamination control program consists of, identifying contaminated areas through use of a routine and special survey program, categorizing the extent and location of the contamination, and issuing this information to the plant manager who in turn delegates the cognizant department heads the responsibility of area decontamination. The licensee does not have a dedicated decontamination crew. Area decontamination and housekeeping is performed by department personnel in accordance with Procedure QA PBNP 3.4.12, which designates the responsibility for each area and group. No detailed instructions are given to workers in decontamination methods; soap and water are used in almost all cases, however, decontamination solutions are available. The removal and deconning of step-off pad areas is the responsibility of the department who set up and worked in the area. Hand tools and equipment are decontaminated in designated areas by persons responsible for them; soap and water is used as the decontaminant. Although the licensee does not have a formal decontamination control program designed to systematically reduce the square footage in the plant designated and controlled as contaminated areas, the RPM stated there is considerably less area being controlled as contaminated than in previous years.

During this inspection it was noted that in general the housekeeping in the plant was good, and there did not appear to be an inordinate number of areas controlled for contamination. However, there was one area that has been controlled as a contaminated area for several years (CVC Holdup Tank pumps in the Auxiliary Building) because little priority had been given to repairing leaking valves. This matter was discussed at the exit interview.

13. Exit Meeting

The inspector met with those representatives denoted in Section 1 on September 6, 1985, to discuss the findings and scope of the inspection. The inspectors also discussed the likely informational content of the inspection report with regard to documents or processes reviewed by the inspectors during the inspection. The licensee did not identify such documents/processes as proprietary. In response to the inspector's comments, the licensee:

- a. Acknowledged the inspectors comments concerning the upgrading of the RCO training program. (Section 5)
- b. Stated that the respiratory protection procedure would be revised to include prohibiting the reuse of respirators after initial use (Section 8).
- c. Stated that an effort will be made to repair leaking valves which cause floor contamination (Section 12).