

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Reports No. 50-266/92005(DRSS); 50-301/92005(DRSS)

Docket Nos. 50-266; 50-301

License Nos. DPR-24; DPR-27

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

Facility Name: Point Beach Nuclear Plant

Inspection At: Two Rivers, Wisconsin

Inspection Conducted: January 13 - January 17, 1992

Inspectors:

William Snell for
Thomas J. Kozak
Radiation Specialist

2/5/92
Date

Patrick Loudon
Patrick Loudon
Radiation Specialist

2/5/92
Date

Approved By:

William Snell
William Snell, Chief
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2/5/92
Date

Inspection Summary

Inspection on January 13 - January 17, 1992 (Report Nos. 50-266/92005(DRSS); 50-301/92005(DRSS))

Areas Inspected: Routine unannounced inspection of the radiation protection program including: organization and management controls, training, audits and appraisals, external exposure control, internal exposure control, control of radioactive materials, contamination, and surveys, maintaining occupational exposures ALARA, gaseous, liquid, and solid radioactive waste, transportation, effluent reports and instrumentation, and air cleaning systems (IP 83750, 84750, 86750).

Results: No violations or deviations were identified. The licensee's radiation protection program appears to be generally effective in controlling radiological work and in protecting the public health and safety. Strengths included staff stability and a continued downward trend in overall dose. Areas where improvement appeared to be merited included the housekeeping of the auxiliary building and the need to provide resources for contaminated area and radioactive waste generation reduction programs.

DETAILS

1. Persons Contacted

- * J. Bevelacqua, Manager - Health Physics
- R. Bredvad, Health Physics Specialist
- W. Doolittle, Health Physics Specialist
- * F. Flentie, Administrative Specialist, Regulatory Services
- * N. Hoefert, Manager - Operations
- T. Guay, Health Physics Supervisor
- D. Johnson, Manager - Nuclear Technical Projects
- P. Lightbody, Health Physics Specialist
- * M. Moseman, Health Physics Specialist
- * R. Seizert, Superintendent - Regulatory Services

- * J. Gadzala, Resident Inspector

The inspectors also interviewed other licensee and contractor personnel during the course of the inspection.

* Denotes those present at the exit meeting on January 17, 1992.

2. General

This inspection was conducted to review aspects of the licensee's radiation protection program. The inspection included tours of radiologically controlled areas, the auxiliary building, and radwaste facilities, observations of licensee activities, reviews of representative records and discussions with licensee personnel.

3. Organization and Management Control (IP 83750)

The inspectors reviewed the licensee's organization and management controls for the radiation protection program including: organizational structure, staffing, delineation of authority and management techniques used to implement the program, and experience concerning self-identification and correction of program implementation weaknesses.

The licensee established a new managerial position titled Manager - Regulatory Support prior to the last inspection. The Manager - Radiation Protection will report to to this person who in turn reports to the Manager - Point Beach Nuclear Station. This position was not yet filled at the time of this inspection. The remainder of the radiation protection staff remained stable with no turnover since the last inspection.

No violations or deviations were identified.

4. Training (IP 83750)

The inspectors reviewed the licensee's Health Physics Technologist (HPT) continuing training program. The program is required for all new HPTs joining the Radiation Protection Department (RP) regardless of prior

experience. The program contained ten different areas of focus and takes about one and one half years to complete. The training covered all areas of HPT responsibilities from routine job coverage to instrumentation repair and emergency response. The inspectors reviewed test questions and on-the-job practical modules and found the questions and practicals to adequately test the individual's health physics knowledge and job performance. A test score of 80 percent or better was required for successful completion of a section. During the advanced radiological protection section, industry events and systems training was presented to make HPTs aware of potential problems which may be encountered during job coverages. Topics included incore detectors, Residual Heat Removal system, Spent Fuel Pool events, proper dosimetry placement for various evolutions and hot particle events. The licensee's instructional staff indicated that they were kept abreast of recent events and NRC Information Notices and incorporated such items into the program. The staff also stated that good support for the program was received from RP supervision allowing the student to complete the program on schedule.

No violations or deviations were identified.

5. Audits, Surveillances and Self-Assessments (IP 83750, 84750)

The inspectors reviewed the results of Quality Assurance audits and surveillances conducted by the licensee since the last inspection. The inspectors also reviewed the extent and thoroughness of the audits and surveillances.

The inspectors reviewed the following audits and surveillances:

- * Audit No. A-P-91-11, performed December 9-12, 1991; an audit of the licensee's Radiological Environmental Monitoring Program (REMP), Off-Site Dose Calculation Manual (ODCM), and the Process Control Program (PCP).
- * Surveillance S-P-91-10, performed October 23-30, 1991; of the ALARA program.
- * Surveillance S-P-91-13, performed December 16, 1991; calibration of portable survey equipment.
- * Surveillance S-P-91-09, performed November 6-7, 1991; Respiratory Protection program.
- * Surveillance S-P-91-04, performed August 8-29, 1991; Radwaste program.

All the audits and surveillances reviewed were found to be thorough, substantive in nature and corrective actions were taken in a timely manner. A condition report is generated for findings to provide a mechanism for tracking the completion of the corrective action. Previous inspections noted that the surveillances were more indicative of mini-audits and did not include actual work observations. The inspectors noted that during the ALARA surveillance, worker performance and observations of an actual job evolution were included in the

surveillance; however, other surveillances reviewed did not contain such observations. This was a positive first step to include actual job performances into the surveillance program and the licensee was encouraged to continue such efforts.

No violations or deviations were identified.

6. External Exposure Control (IP 83750):

The inspectors reviewed the licensee's external exposure control and personal dosimetry program, including: changes in the program, use of dosimetry to determine whether requirements were met, planning and preparation for maintenance and refueling outage tasks including ALARA considerations, and required records, reports and notifications.

There were no significant changes in the licensee's external exposure control or personnel dosimetry programs. The licensee continued to place significant emphasis on compliance with high radiation area barrier requirements. These efforts remained effective as there were no high radiation barrier violations since the last inspection.

Personnel exposure records for current and past licensee and contractor employees were selectively reviewed for completeness, accuracies and inconsistencies. In addition, reporting of exposure information was reviewed for timeliness. No exposures above 10 CFR 20.101 limits were noted. There did not appear to be any significant hot particle events requiring dose calculations since the last inspection. The licensee was awaiting the final vendor reported TLD results for 1991 at the time of the inspection. Preliminary estimates based on self-reading dosimeter information indicated total 1991 dose of approximately 265 Person-Rem. This represents the third consecutive decline in yearly personnel dose and also represented a significant reduction in dose for previous work of scope similar to last year's.

No violations or deviations were identified.

7. Internal Exposure Control (IP 83750)

The inspectors reviewed the licensee's internal exposure control and assessment programs, including: changes to facilities, equipment, and procedures affecting internal exposure control and personal exposure assessment; determination whether respiratory equipment, and assessment of individual intakes meet regulatory requirements; required records, reports, and notifications; effectiveness of management techniques used to implement these programs; and experience concerning self-identification and correction of program implementation weaknesses.

The inspectors selectively reviewed the results of the licensee's whole body counting and internal dose assessment efforts. The licensee's engineering controls to prevent the generation and spread of airborne radioactive contamination appear to be effective as there have been no indications of intakes of radioactive materials since the last inspection.

The inspectors reviewed the licensee's program for respiratory protection. Reviews of equipment inventories, issuing procedures, repair and decontamination of equipment, and fit testing indicated no problems. The licensee has recently purchased an automatic respirator washer which will eliminate the current method of hand washing respirators. Fit testing was performed via a corn oil fit booth and a minimum fit factor of 50 was the established level to satisfactorily complete the test. The licensee's training program for respiratory protection was included as part of the General Employee Training (GET). The training provided the student with necessary information regarding internal radiation hazards, Maximum Permissible Concentrations (MPCs), and the proper inspecting and donning of the respirator. The student did not get hands on experience with the respirator until arriving at the fit booth for the fit test. However, licensee personnel indicated that this did not present any problems for the first time users to obtain an adequate fit.

The inspectors reviewed the licensee's evaluation of the breathing air system to ensure Compressed Gas Association (CGA) Grade "D" specification air was provided. The licensee performed air constituent tests for oil, carbon monoxide, and carbon dioxide, but did not perform a verification of the oxygen percentages. Procedure HPIP 4.56 states that since the intake for the air compressor was pulling ambient air, no verification was required. The inspectors questioned whether this assumption was correct and if this position met the intent of the CGA Specification. Licensee staff could not produce any documentation providing verification of their position and agreed to pursue the matter for clarification. The inspectors also indicated that the matter would be pursued via NRC channels to obtain the official Occupational Health and Safety Administration's (OSHA) position. The licensee indicated that if the oxygen verification is required, they would change the current procedures to include such a test. This issue will be tracked as an Open Item until resolution with OSHA. (Open Item 50-266/92005-01; 50-301/92005-01).

No violations or deviations were identified. One open item was identified.

8. Control of Radioactive Materials, Contamination and Surveys (IP 83750)

The inspectors reviewed the licensee's program for control of radioactive materials and contamination, including: adequacy of supply, maintenance and calibration of contamination survey and monitoring equipment; effectiveness of survey methods, practices, equipment and procedures; adequacy of review and dissemination of survey data; and, effectiveness of radioactive and contaminated material controls.

The inspectors verified by a review of records, discussions, with licensee personnel, and tours of operational areas that the supply, maintenance, and performance checks of survey monitoring instruments were accurate.

Tours of operational areas revealed that the amount of areas controlled as contaminated appeared to have increased since the previous inspection. This development did not appear to have adversely affected

the number of personnel contamination events (PCEs) as the total number of 108 for 1991 was just slightly above 1990's value of 106. However, increases in contaminated areas can lead to additional work time for personnel needing access because of additional anticontamination clothing requirements, and could lead to an increase in PCEs. As noted in previous inspection reports, licensee personnel have been held responsible for cleaning up after themselves in controlled areas. There was not a dedicated crew for general area decontaminations or housekeeping. This practice appeared to be ineffective during this inspection as the general appearance of the auxiliary building was poor. It did not appear that employees were routinely cleaning up after themselves and, in addition, it appeared that inadvertent spreads of radioactive contamination in areas through liquid spills or other means generally end up just being controlled as a contaminated area without being restored to an uncontrolled configuration. Without appropriate attention and/or resources for area decontamination and general housecleaning, it appears that the auxiliary building will not be recovered to a satisfactory condition. The proposal described in previous Inspection Report Nos. 50-266/91023; 50-301/91023 (DRSS) regarding the establishment of site waste cleaner positions was still under review at the time of this inspection. The job description in this proposal included decontamination, waste processing, and general area cleaning. It appears that establishment of these positions would be one method to provide the required resources to appropriately maintain the auxiliary building and other controlled areas.

No violations or deviations were identified.

9. Maintaining Occupational Exposures ALARA (IP 83750):

The inspectors reviewed the licensee's program for maintaining occupational exposures ALARA, including: ALARA group staffing and qualification; changes in ALARA policy and procedures, and their implementation; ALARA considerations for planned maintenance and refueling outages; worker awareness and involvement in the ALARA program; establishment of goals and objectives, and effectiveness in meeting them. The inspectors also reviewed management techniques, program experience and correction of self identified program weaknesses.

ALARA group staffing remained at one permanent position occupied by the ALARA Coordinator. The HPTs that were assigned to the ALARA Coordinator for the previous outage were returned to technologist duties after the outage. Their duties during the outage included video taping jobs and job sites, dose tracking and establishing a video imaging system for use in job planning. These and other ALARA projects were in the preliminary stages of development at the time of the inspection and represented significant progress over the course of the past year. However, it appeared that the ALARA program was in need of more resources to complete and implement these projects to realize the full benefit of them. The ALARA task force has recommended to plant management that additional permanent resources be added to the ALARA staff.

Job history files were being developed using ALARA feedback suggestion forms which consisted of nine questions required to be completed by workers after finishing specified jobs. While some good ideas were obtained through this method of feedback, the forms were not always filled out as required and many were only vaguely answered which were time-consuming to review and did not appear to be useful. These forms were the only formal communication required between the RP and other departments to discuss the execution of jobs after their completion. The licensee had not established the ALARA task force's recommendation to begin post job debriefings for high dose jobs. It appears that more meaningful feedback could be obtained either through a strict enforcement of the feedback forms or, through a brief discussion of jobs by RP and the appropriate craft personnel after the completion of selected jobs.

Since the establishment of the ALARA incentive program there has been a significant increase in the number of suggestions received by the ALARA Coordinator. However, there did not appear to be appropriate resources available to evaluate the suggestions in a timely manner. It also appeared that a more formal evaluation process including a man-rem estimate and cost benefit analysis was needed. There have been a few suggestions adopted which resulted in a dose savings but it did not appear that the full benefit of the program was being realized as there did not appear to be appropriate resources available to provide timely and accurate suggestion evaluations.

The licensee's hot spot reduction program continued to be aggressive and flushes of various systems during the previous outage resulted in an overall reduction in general area radiation levels and a net dose savings. The program was in the process of being proceduralized at the time of this inspection and will be further reviewed during a future inspection.

A person-rem goal of 317.31 was established for 1992. This goal was established without input from the Maintenance Department because no estimate was provided by them, as required, prior to the compilation of the site dose estimate. The inspectors noted that the estimate for 1991 was about 100 person-rem above the actual dose received which indicated that it was not a very accurate estimate. Discussions with plant personnel indicated that there was not full cooperation by all departments prior to issuing that estimate either. A review of the Exposure Reduction Committee's (ERC) October 1991 meeting minutes indicated that only five of the twelve members were in attendance. Person-rem estimates can be an important part of the job planning effort and ERC meetings can develop effective dose saving strategies with proper participation by all departments. The lack of effort shown in providing required dose estimates and the poor attendance at the ERC meeting indicates that there may not be a plant-wide dedication to the ALARA effort. The work scope for the upcoming outages appears to include several high dose jobs that were not part of the work scope for the past few outages and will provide the ALARA program with a challenge to minimize doses and maintain the improved performance over the past three years.

No violations or deviations were identified.

10. Gaseous Radioactive Wastes (IP 84750)

The inspectors reviewed the licensee's gaseous radwaste management program, including: changes in equipment and procedures, gaseous radioactive waste effluents for compliance with regulatory requirements, adequacy of required records, reports, and notifications, and experience concerning identification of programmatic weaknesses.

The licensee's gaseous radwaste processing system is used to collect, store and process gaseous radioactive waste. The system primarily handles displaced cover gases from various tanks. Gas flows from the waste gas header to the waste gas compressor and to one of four gas decay tanks. The gaseous radwaste system essentially recycles cover gases, storing them when they are displaced from various tanks as they fill with liquid and returning them to the tanks as they empty. Therefore, gaseous waste discharges were not routinely needed. The inspectors reviewed the records for the past year's gaseous discharges and verified that information provided in the Semiannual Effluent Release Report was consistent with the records. The licensee used dose equivalent factors to indicate if a dose analysis was needed rather than performing pathway analysis calculations. Reviews of records indicated that release levels were below the dose equivalent factors and no dose calculations were required. Gaseous waste discharges were controlled through a discharge permit program. Two manually operated valves, one of which is normally locked, had to be opened to start a discharge and an additional control valve was set to trip in the event of a high activity indication from the effluent monitor during discharges. All operations concerning gaseous radwaste were verified to be as described in the Updated Safety Analysis Report (USAR).

No violations or deviations were identified.

11. Liquid Radioactive Waste (IP 84750)

The inspectors reviewed the licensee's liquid radioactive waste management program, including: liquid radioactive waste effluents for compliance with regulatory requirements, adequacy of required records, reports, and notifications, and experience concerning identification and correction of programmatic weaknesses.

Radioactive liquids were collected either by the Chemical and Volume Control System holdup tanks, the auxiliary building sump tank, or the refueling water storage tank. Waste liquids were then routed to the waste holdup tank. Preliminary analysis of the water was performed prior to routing the liquids to the waste condensate tanks. Liquids which needed processing prior to release were then routed in batches to the waste evaporator. Concentrated bottoms were routed to the waste drumming facility and solidified using a vendor supplied system. The condensate was either then routed through polishing demineralizers, if needed, or released. Licensee representatives indicated that a proposal was submitted to eliminate the use of the evaporator for routine liquid waste processing which would most likely result in a significant

reduction in waste volumes. This proposal was in the preliminary stages of evaluation at the time of the inspection. Liquid waste discharges were controlled similarly to gaseous waste discharges as there were two manually operated control valves required to be opened for discharges and a control valve set to trip on indication of high activity from the effluent monitor. The inspectors reviewed records of discharges for the past year and compared them to the information provided in the Semiannual Effluent Release Report to ensure consistency. No problems were noted and activity discharged appeared to be well within regulatory requirements.

No violations or deviations were identified.

12. Solid Radioactive Waste (IP 84750)

The inspectors reviewed the licensee's solid radioactive waste management program, including: changes to equipment and procedures, processing and control of solid wastes, adequacy of required records, reports and notifications, performance of process control and quality assurance programs and experience in identification and correction of programmatic weaknesses.

The licensee recently purchased a new dry active waste compactor which was in use during the past outage. Licensee representatives indicated that the new compactor significantly increased personnel safety and that down time in waste processing was reduced as there were only a few delays in processing for minor equipment repairs. The licensee also recently contracted for resin dewatering services replacing their past practice of solidifying resin which should result in a significant reduction in waste volumes.

The licensee contracts with a volume reduction firm to further process DAW after their compaction efforts. In 1991, the licensee shipped approximately 3260.5 cubic feet of DAW in drums and 2656 cubic feet of contaminated scrap metal of which 1914.5 cubic and 233 cubic feet, respectively, were buried. The licensee also shipped and buried approximately 4 Curies of solidified evaporator bottoms and 213 Curies of solidified resin totaling 720.4 cubic feet and 125.2 cubic feet respectively.

The licensee had two specialists who were responsible for processing and shipping all radioactive waste. Waste processing personnel assigned to them consisted of three health physics technicians rotated to waste processing for a two week period. It appeared that this method of providing staffing for waste processing resulted in a lack of consistency and an inefficient use of time as personnel required some retraining on a biweekly basis. Facilities for processing waste were the minimum possible to compact waste and did not appear to allow for any other type of DAW processing such as sorting and surveying to reduce volumes. As a result, most material that entered the controlled area eventually ended up as radwaste. Record reviews of DAW shipments revealed that many of the waste drums that were shipped had radiation readings around background levels indicating that waste generation volumes could probably be reduced if a sorting program existed.

The licensee indicated that they had available storage space for up to five years generation of DAW in drums in case of a burial site lockout. Onsite inventory of waste included two C-VANS full of compacted DAW and a liner full of dewatered resin awaiting shipment. In addition, there were 37 drums of suspected mixed waste at site that had recently been sampled for characterization. The licensee was awaiting results at the time of the inspection and disposal plans will be formulated once the sampling results are obtained.

No violations or deviations were identified.

13. Transportation of Radwaste (IP 84750, 86750)

The inspectors reviewed the licensee's radioactive material and radwaste transportation program, including: adequacy and implementation of written procedures, radioactive materials and radwaste shipments for compliance with NRC and DOT regulations and the licensee's quality assurance program, review of transportation incidents involving licensee shipments (if any), adequacy of required records, reports, shipment documents and notifications and experience concerning identification and correction of programmatic weaknesses.

The licensee utilized approved procedures for all aspects of waste handling and subsequent preparation for shipment. The licensee had no transportation incidents during the past year. The inspector reviewed records and surveillances conducted for all radioactive waste shipments during the past year. No problems were noted.

No violations or deviations were identified.

14. Effluent Reports (IP 84750)

The inspectors selectively reviewed radiological effluent analysis results to determine the accuracy of data reported in the Semiannual Radioactive Effluent Release Reports.

The inspectors reviewed selected portions of the Semiannual Effluent Release Reports for the second half of 1991 for accuracy in the technical content of the reports. No errors were noted. The inspector also reviewed the method used to perform calculations required by the ODCM. Licensee personnel indicated that the ODCM was under a major revision. The current ODCM has established dose equivalent factors which are used as indicators to perform further analysis. If the factors are below a given setpoint, no pathway dose calculations are required. Licensee representatives indicated that the revision will establish the requirement to perform pathway dose analysis for every Semi-Annual Effluent Release Report. The inspectors acknowledged the planned revision and indicated that once the methodology was implemented it would be reviewed in future inspections.

No violations or deviations were identified.

15. Air Cleaning Systems (IP 84750)

The inspectors reviewed recent in-place-testing of the HEPA and charcoal filter results for the Control Room Emergency Ventilation system. The tests appeared to be performed in accordance with Technical Specification requirements and showed that the surveillance for the system had been timely and met test criteria.

No violations or deviations were identified.

16. Effluent Instrumentation (IP 84750)

The inspectors reviewed the records for effluent control instrumentation surveillance/operability, including reports to the NRC required by Technical Specifications.

The inspectors verified that all radioactive waste process and effluent monitors met operational requirements and that alarm set points were properly set. Calibration records were reviewed and it appeared that all effluent monitors were properly calibrated and maintained.

No violations or deviations were identified.

17. Exit Interview

The inspectors met with licensee representatives (denoted in Section 1) at the conclusion of the inspection on January 17, 1992, to discuss the scope and findings of the inspection.

During the exit interview, the inspectors discussed the likely informational content of the inspection report with regard to documents or processes reviewed by the inspectors during the inspection. Licensee representatives did not identify any such documents or processes as proprietary. The following matters were specifically discussed by the inspectors:

- a. The need for a plant-wide effort in the ALARA area and continued development of the ALARA programs that were recently started. (Section 9)
- b. The poor condition of the auxiliary building especially concerning the apparent increase in contaminated areas. (Section 8)
- c. The continued decline in overall personnel dose over the past three years. (Section 6)