

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Nos: 50-266, 50-301  
License Nos: DPR-24; DPR-27

Report Nos: 50-266/98004(DRS); 50-301/98004(DRS)

Licensee: Wisconsin Electric Power company

Facility: Point Beach Nuclear plant, Units 1 and 2

Location: 6610 Nuclear Road  
Two Rivers, WI 54241

Dates: February 2-6, 1998

Inspector: K. Lambert, Radiation Specialist

Approved by: G. Shear, Chief, Plant Support Branch 2  
Division of Reactor Safety

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## EXECUTIVE SUMMARY

Point Beach Nuclear Plant, Units 1 & 2  
NRC Inspection Reports 50-266/98004; 50-301/98004

This routine inspection included a review of the health physics department's preparations for the Unit 1 refueling outage. This included a review of as low as reasonably achievable (ALARA) planning, work planning, the radiation work permit process, and the contractor health physics technologist qualifications and training program. In addition, several open items from previous inspections were reviewed.

- The planning for the U1R24 refueling outage appropriately considered health physics requirements and radiological impediments associated with the outage. A weakness was identified where ALARA reviews did not always document how dose estimates were derived (Section R1.1).
- Radiological postings and labels in the auxiliary building were in accordance with procedures and housekeeping was generally good. Health physics staff response to the inspector identified overflowing bucket, labeled "Caution Radioactive Material," was considered good (Section R1.2).
- The health physics manager's qualifications indicated that he exceeded the position requirements in Technical Specification 15.6.3.2 (Section R5.1).
- The training program for contractor health physics technologists and radiation workers was sufficiently detailed and effectively implemented. The trainers conducted formal discussions, practical demonstrations, and task performance evaluations to ensure an acceptable level of proficiency (Section R5.2).
- Corrective actions for a failure to survey a tool before removing it from a contaminated area included a discussion of the event and the need to follow procedures with the health physics staff (Section R8.1).
- Weaknesses in the protective clothing program were addressed by requiring that protective clothing be removed at contaminated area step off pads, and that personal clothing/modesty garments worn under protective clothing not be removed or covered up before using the contamination monitors (Section R8.2).
- Corrective actions for the failure to calibrate emergency plan dosimeters were implemented except for issuing the administrative procedure outlining expectations that surveillances be performed and documented in a timely manner (Section R8.3).

## Report Details

### IV. Plant Support

#### **R1 Radiological Protection and Chemistry (RP&C) Controls**

##### **R1.1 Unit 1 Refueling Outage (U1R24) Planning and Preparation**

###### **a. Inspection Scope (IP 83729)**

The inspector reviewed radiation protection's advance planning and preparation for the U1R24 refueling outage including work planning, as low as reasonably achievable (ALARA) reviews, radiation work permit (RWP) process, and dose estimates for several activities.

###### **b. Observation and Findings**

A station health physics (HP) supervisor had been assigned to the outage planning committee. The HP supervisor reviewed the work packages and provided information to the work planners on HP's involvement, including decontamination, required radiological surveys, and shielding requirements. The supervisor also provided to the planners, the time requirements for HP activities and placement of shielding in an effort to include enough time in the outage schedule for those activities. The supervisor, as part of the work package review, performed an initial ALARA review and assisted the work planners in properly completing the RWP requests.

RWP requests which indicated that an individual could receive a whole body dose greater than 1 rem or a total projected dose greater than 2 rem, required that a formal ALARA review be performed. Work packages requiring a formal ALARA review were forwarded to the ALARA group. The ALARA group performed a detailed review of the project, including a review of historical files and ALARA suggestions from previous evolutions. The ALARA group had completed 10 of 14 ALARA reviews planned for the outage. The remaining reviews were in progress and were scheduled to be completed before the work started.

The inspector reviewed several ALARA reviews completed for the outage, which appeared comprehensive and used historical files and ALARA suggestions to develop comments. Comments included shielding requirements, radiological surveys, removing components to be worked on to lower dose areas when possible, respiratory protection requirement, and the use of mockup training. The inspector identified a weakness in that on at least one ALARA review the previous dose history was not indicated, but a dose estimate had been assigned for the work. When questioned, the ALARA technologist indicated that he had contacted other stations where the evolution had been performed and the contractor, for dose information which he considered in the dose estimate.

RWPs for the outage have not been written. According to the RWP procedure, work requests are submitted at least 20 hours before work begins to allow processing of the request. The health physics department's expectation was that requests were to be submitted within 24 to 48 hours before the start of work; therefore allowing the RWP to be prepared using the latest survey data and radiological conditions. The inspector reviewed RWPs with ALARA reviews from previous work. The RWPs were complete and included special instructions such as health physics hold points, air sampling requirements and survey requirements during opening of systems. The inspector noted that while the ALARA review was attached to the RWP, the ALARA comments were not referenced in the RWP.

c. Conclusions

The planning for the U1R24 refueling outage appropriately considered health physics requirements and radiological impediments associated with the outage. A weakness was identified where ALARA reviews did not always document how dose estimates were derived.

R1.2 General Tours of the Auxiliary Building

a. Inspection Scope (IP 83750)

Several inspections of the auxiliary building were performed to review housekeeping practices, and posting and labeling.

b. Observation and Findings

Radiological postings were well maintained. The inspector determined, through independent measurements, that radiation areas and high radiation areas were appropriately posted in accordance with station procedures and regulatory requirements. Housekeeping was generally good. The inspector identified a few minor housekeeping inconsistencies, which once reported to health physics, were appropriately corrected. Labeling of containers was in accordance with station procedures. The inspectors noted that the health physics staff was revising the posting and labeling procedure to more accurately identify those containers holding radioactive material. Containers were being surveyed, with labels removed from those containers where radioactive material was not identified.

During a tour of the facade, the inspector identified water running onto the lowest level of the facade. Upon further review the inspector noted that a valve was leaking into and overflowing from a bucket labeled "Caution Radioactive Material." Once the health physics staff was informed, a technician was sent to address the issue. The technician surveyed the water and collected a sample for analysis. The survey data and analysis result indicated that there was no detectable radioactivity in the liquid. The health physics staff indicated that the bucket would be replaced with a drip basin and funneled to a drain. The health physics staff also indicated that the plant staff would be reminded to notify health physics of any leaks and ensure that the proper containers be used.

c. Conclusions

Radiological postings and labels were in accordance with procedures and housekeeping was generally good. Health physics staff response to the inspector identified overflowing bucket, labeled radioactive material. was considered good.

**R5 Staff Training and Qualification in RP&C**

R5.1 Health Physics Manager Qualifications

The qualifications of the new radiation protection manager, who was scheduled to start on February 9, 1998, were reviewed for conformance with Technical Specifications. Technical Specification 15.6.3.2 required that the manager meet the following requirements: Possess a bachelors degree in science or engineering; have at least five years of experience in applied radiation protection work with at least three years at a nuclear facility with similar radiological problems as nuclear power plants. The individual's resume was reviewed, which indicated that he had attained a masters degree in Health Physics, was a certified health physicist, and had greater than five years of experience in applied radiation protection at a nuclear power facility

The individual's qualifications indicated that he exceeded the requirements of Technical Specification 15.6.3.2.

R5.2 Training and Qualifications of Contractor Personnel

a. Inspection Scope (IP 83729)

The inspectors reviewed the training programs for contractor health physics technologists (CHPTs), and newly hired employees and contractor outage workers. This included a review of procedures, and discussions with the radiation protection staff.

b. Observations and Findings

Radiation protection management indicated that approximately 30 CHPTs were needed besides the 15 contractor technologists already onsite. These additional individuals would fill health physics technologist and laundry-decon positions.

The licensee maintained a task list for which health physics technologists (HPTs), including CHPTs, must receive training on prior to being qualified to independently perform a task. The training included written exams, on-the-job training and task performance evaluations. CHPT's qualifications were reviewed by the radiation protection trainer. Technologists new to the station or who have not worked at the station within the last 18 months, were provided training before independently performing tasks in radiation protection. The training was being performed in accordance with the qualification manual for contract health physics technologists.

Returning CHPTs who were previously qualified for a task were not required to receive formal training, but an informal refresher training was provided. However, the returning CHPTs were required to attend a formal orientation, where procedure changes, recent events, and policy changes were discussed.

Contractor radiation protection technologists who have been onsite for greater than six months were included in the licensee's continuing training program for HPTs.

The inspector attended part of the radworker training course for newly hired employees and contractor radiation workers. The instructor was knowledgeable in the subject matter and engaged the class with questions and answers. The training program included lectures, hand outs, and a practical exercise where trainees enter and exit a simulated RWP required contaminated area. This exercise included reviewing the RWP, donning and removing protective clothing, and performing whole body contamination surveys using a portable survey instrument.

c. Conclusions

The training program for CHPTs and radiation workers was sufficiently detailed and effectively implemented. The trainers conducted formal discussions, practical demonstrations and task performance evaluations to ensure an acceptable level of proficiency.

**R8 Miscellaneous RP&C Issues**

- R8.1 (Closed) VIO 50-266/96004-02(DRS); 50-301/96004-02(DRS): The failure to perform a survey of a wrench prior to removing it from a contaminated area during dry cask loading operations. Corrective actions to prevent recurrence included a discussion of the event with the HPTs involved and at a health physics group meeting, and a review of the procedure to evaluate whether changes could be made to improve contamination control practices. After reviewing the procedure, the licensee indicated that changes were not needed as the violation was due to worker performance. The inspector verified that HPTs were aware of the process to remove contaminated or potentially contaminated materials from a contaminated area. This violation is closed.
- R8.2 (Closed) IFI 50-266/96016-02(DRS); 50-301/96016-02(DRS): Weaknesses in the protective clothing program where individuals were allowed to leave a contaminated area without removing protective clothing and were allowed to put on clothing after removal of protective clothing and before using the contamination monitors. The licensee revised nuclear procedure 4.2.22, "Requirements for Use of Protective Clothing," to include the requirements to remove protective clothing at contaminated area step off pads and perform a whole body frisk immediately after exiting a contaminated area. The procedure was also revised to require that personal clothing/modesty garments worn under protective clothing will not be removed or covered up before using the contamination monitors. This item is closed.

R8.3 (Discussed) VIO 50-266/97018-01(DRS); 50-301/97018-01(DRS): Failure to calibrated emergency plan self reading dosimeters in accordance with the procedure. The corrective actions, described in a letter dated November 3, 1997, were reviewed to confirm their implementation. The licensee revised the calibration procedure HPCAL 1.28 to more clearly define when the calibrations were due. The licensee discussed with the health physics staff the importance of performing and documenting surveillances in a timely manner. In addition, the licensee discussed the need to promptly initiate a condition report when deficiencies in procedures were identified or surveillances were not completed in a timely manner. The November 3, 1997, letter also indicated that an administrative procedure outlining these expectations would be implemented by March 31, 1998. This last corrective action had not yet been completed; therefore, this violation will remain open until the procedure has been issued.

#### **X1 Exit Meeting Summary**

The inspector presented the inspection results to members of licensee management at the conclusion of the inspection on February 6, 1998. The licensee acknowledged the findings presented.

The licensee did not identify any information discussed as proprietary.

## PARTIAL LIST OF PERSONS CONTACTED

### Licensee

A. J. Cayia, Plant Manager  
E. J. Epstein, HP Supervisor  
F. A. Flentje, Regulatory Specialist  
D. J. LeClair, HP Supervisor  
M. D. Moseman, HP Specialist  
C. H. Onesti, Health Physicist  
S. J. Thomas, HP Specialist  
P. B. Tindall, Manager, Health Physics  
R. E. Walesh, Quality Assurance

### NRC

F. Brown, Senior Resident Inspector

## INSPECTION PROCEDURES USED

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

## LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

### Closed

50-266/301-96004-02	VIO	Failure to follow contamination control procedures
50-266/301-96016-02	IFI	Weaknesses in the protective clothing program

### Discussed

50-266/301-97018-01	IFI	Failure to calibrate emergency plan 0-200 roentgen self reading dosimeters in accordance with the procedure
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## LIST OF DOCUMENTS REVIEWED

ALARA Review Log for U1R24 Outage

ALARA Review Number 98-0001, S/G Narrow Range Level Tap Replacement

ALARA Review Number 98-0004, Conoseal Removal/Installation

Exposure Reduction Committee Charter of Responsibilities

Health Physics Calibration Procedure, HPCAL 1.28, Revision 12, Self-Reading Dosimeter Response and Drift Check (Calibration) Procedure

Health Physics Manual, HP 3.2.2, Revision 13, RCA Contaminated Areas, Tools, Equipment and Materials Posting Requirements

Procedures Manual, NP 4.2.1, Revision 0, ALARA Policy

Procedures Manual, NP 4.2.2, Revision 0, Post-Job ALARA Evaluations

Procedures Manual, NP 4.2.3, Revision 2, ALARA Review Procedure

Procedures Manual, NP 4.2.20, Radiation Work Permit

Procedures Manual, NP 4.2.22, Revision 4, Requirements For Use of Protective Clothing

Qualification Manual, CHPQC, Revision 1 (DRAFT), Contractor Health Physics Technologist

Radiation Worker Training Practical Exercise

Radiation Work Permit 97-483

Technical Specification 15.6.3, Facility Staff Qualifications

U1R24 Dose Estimate

## LIST OF ACRONYMS USED

ALARA	As Low As Reasonably Achievable
CHPT	Contract Health Physics Technologist
HP	Health Physics
HPCAL	Health Physics Calibration
HPT	Health Physics Technologist
NRC	Nuclear Regulatory Commission
RWP	Radiation Work Permit