

July 22, 1985

Docket Nos. 50-266
and 50-301

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Mr. C. W. Fay, Vice President
Nuclear Power Department
Wisconsin Electric Power Company
231 West Michigan Street, Room 308
Milwaukee, Wisconsin 53201

Dear Mr. Fay:

The Commission has issued the enclosed Amendment Nos. 93 and 97 to Facility Operating License Nos. DPR-24 and DPR-27 for the Point Beach Nuclear Plant, Unit Nos. 1 and 2. The amendments consist of changes to the Technical Specifications in partial response to your application dated February 29, 1984 as modified June 7, 1984.

These amendments provide limiting conditions for operation (LCOs) for the Reactor Coolant Gas Vents system. The remainder of the Technical Specification changes requested by your February 29, 1984 and June 7, 1984 letters are being addressed by separate correspondence.

A copy of the Safety Evaluation is also enclosed. The notice of issuance will be included in the Commission's next bi-weekly Federal Register notice.

Sincerely,

/S/

Timothy G. Colburn, Project Manager
Operating Reactors Branch #3
Division of Licensing

Enclosures:

1. Amendment No. 93 to DPR-24
2. Amendment No. 97 to DPR-27
3. Safety Evaluation

cc w/enclosures:
See next page

ORB#3:DL
PMKreutzer
7/15/85

See
ORB#3:DL
TColburn
7/16/85

ORB#3:DL
EButcher
7/16/85

OELD
7/18/85

AD:OR:DL
GCL:dms
7/23/85

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7/18/85

Mr. C. W. Fay
Wisconsin Electric Power Company

Point Beach Nuclear Plant
Units 1 and 2

cc:
Mr. Bruce Churchill, Esq.
Shaw, Pittman, Potts and Trowbridge
1800 M Street, N.W.
Washington, DC 20036

Mr. James J. Zach, Manager
Point Beach Nuclear Plant
Wisconsin Electric Power Company
6610 Nuclear Road
Two Rivers, Wisconsin 54241

Mr. Gordon Blaha
Town Chairman
Town of Two Creeks
Route 3
Two Rivers, Wisconsin 54241

Chairman
Public Service Commission
of Wisconsin
Hills Farms State Office Building
Madison, Wisconsin 53702

Regional Administrator, Region III
U.S. Nuclear Regulatory Commission
Office of Executive Director
for Operations
799 Roosevelt Road
Glen Ellyn, Illinois 60137

Resident Inspector's Office
U.S. Nuclear Regulatory Commission
6612 Nuclear Road
Two Rivers, Wisconsin 54241



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

WISCONSIN ELECTRIC POWER COMPANY

DOCKET NO. 50-266

POINT BEACH NUCLEAR PLANT, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 93
License No. DPR-24

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Wisconsin Electric Power Company (the licensee) dated February 29, 1984 as modified June 7, 1984, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public;
and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

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2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 3.B of Facility Operating License No. DPR-24 is hereby amended to read as follows:

B. Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 93, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective 20 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Edward J. Butcher, Acting Chief
Operating Reactors Branch #3
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: July 22, 1985



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

WISCONSIN ELECTRIC POWER COMPANY

DOCKET NO. 50-301

POINT BEACH NUCLEAR PLANT, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 97
License No. DPR-27

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Wisconsin Electric Power Company (the licensee) dated February 29, 1984 as modified June 7, 1984, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public;
and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 3.B of Facility Operating License No. DPR-27 is hereby amended to read as follows:

B. Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 97, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective 20 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Edward J. Butcher, Acting Chief
Operating Reactors Branch #3
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: July 22, 1985

ATTACHMENT TO LICENSE AMENDMENTS NO. 93 AND 97
TO FACILITY OPERATING LICENSE NO. DPR-24 AND DPR-27
DOCKET NOS. 50-266 AND 50-301

Revise Appendix A as follows:

Remove Pages

15.3.1-3
15.3.1-3a
15.3.1-3b

Insert Pages

15.3.1-3
15.3.1-3a
15.3.1-3b (no change-
repositioned)
15.3.1-3c
15.3.1-3d

5. Pressurizer Power Operated Relief Valves (PORV) and PORV Block Valves

a. Two PORVs and their associated block valves shall be operable.

(1) If a PORV is inoperable due to leakage in excess of that allowed in Specification 15.3.1.D, the PORV shall be restored to an operable condition within one hour or the associated block valve shall be closed.

(2) If a PORV is inoperable due to a channel functional test failure, the associated PORV control switch shall be placed and maintained in the closed position or the associated block valve shall be closed within one hour.

(3) If a PORV block valve is inoperable, the block valve shall be restored to an operable condition within one hour or the block valve shall be closed with power removed from the block valve; otherwise the unit shall be in hot shutdown within the next six hours.

6. The pressurizer shall be operable with at least 100 KW of pressurizer heaters available and a water level greater than 10% and less than 95% during steady-state power operation. At least one bank of pressurizer heaters shall be supplied by an emergency bus power supply.

7. Reactor Coolant Gas Vent System

These Specifications are not applicable during cold or refueling shutdown conditions:

a. At least one Reactor Coolant Gas Vent System vent path to the pressurizer relief tank (PRT) or containment atmosphere shall be operable from each of the following locations:

- (1) Reactor vessel head
- (2) Pressurizer

Each vent path from these locations to the common header includes two closed valves in parallel powered from emergency buses. The common header vents to the PRT and the containment atmosphere each contain a closed valve powered from an emergency bus which provides series isolation.

- b. When unable to vent from the common header to the PRT or the containment atmosphere, reactor startup and/or power operations may continue provided that the series isolation valve in the inoperable vent path is maintained closed with power removed from the valve actuator.
- c. If a vent path from the reactor vessel head or the pressurizer to the common header becomes inoperable, reactor startup and/or power operations may continue provided that the paralleled isolation valves in the inoperable vent path from that location to the common header are maintained closed with power removed from the valve actuator. This does not necessitate removing power from the PRT or containment atmosphere isolation valves. The inoperable vent path shall be restored to operable status within thirty days, or the reactor shall be placed in hot shutdown within six hours and in cold shutdown within the following thirty hours.
- d. If the vent paths from both the reactor vessel head and the pressurizer to the common header are inoperable or the vent paths from the common header to both the PRT and the containment atmosphere are inoperable, then maintain all the inoperable vent path valves closed with power removed from the valve actuators of all the valves in the inoperable vent paths. Restore at least one of the vent paths from the reactor vessel head or pressurizer to the containment atmosphere or the PRT to operable status within 72 hours or be in hot shutdown within six hours and in cold shutdown within the following thirty hours.

Basis

When the boron concentration of the reactor coolant system is to be reduced, the process must be uniform to prevent sudden reactivity changes in the reactor. Mixing of the reactor coolant will be sufficient to maintain a uniform boron concentration if at least one reactor coolant pump or one residual heat removal pump is running while the change is taking place. The residual heat removal pump will circulate the primary system volume in approximately one-half hour. The pressurizer is of little concern because of the lower pressurizer volume and because pressurizer boron concentration normally will be higher than that of the rest of the reactor coolant.

Specification 15.3.1.A.1 requires that a sufficient number of reactor coolant pumps be operable to provide core cooling in the event a loss of power occurs. The flow provided in each case will keep DNBR well above 1.30 as discussed in FFDSAR, Section 14.1.9. Therefore, cladding damage and release of fission products to the reactor coolant will not occur. Heat transfer analyses⁽¹⁾ show that reactor heat equivalent to 10% of rated power can be removed with natural circulation only; hence the specified upper limit of 1% rated power without operating pumps provides a substantial safety factor.

Item 15.3.1.A.1.c.(2) permits an orderly reduction in power if a reactor coolant pump is lost during operation between 10% and 15% of rated power.

Above 50% power, an automatic reactor trip will occur if either pump is lost. The power-to-flow ratio will be maintained equal to or less than 1.0, which ensures that the minimum DNB ratio increases at lower flow since the maximum enthalpy rise does not increase above its normal full-flow maximum value.⁽²⁾

Specification 15.3.1.A.3 provides limiting conditions for operation to ensure that redundancy in decay heat removal methods is provided. A single reactor coolant loop with its associated steam generator and a reactor coolant pump or a single residual heat removal loop provides sufficient heat removal capacity for removing the reactor core decay heat; however, single failure considerations require that at least two decay heat removal methods be available. Operability of a steam generator for decay heat removal includes two sources of water, water level indication in the steam generator, a vent path to atmosphere, and the Reactor Coolant System filled and vented so thermal convection cooling of the core is possible. If the steam generators are not available for decay heat removal, this Specification requires both residual heat removal loops to be operable unless the reactor system is in the refueling shutdown condition with the refueling cavity flooded and no operations in progress which could cause an increase in reactor decay heat load or a decrease in boron concentration. In this condition, the reactor vessel is essentially a fuel storage pool and removing a RHR loop from service provides conservative conditions should operability problems develop in the other RHR loop. Also, one residual heat removal loop may be temporarily out of service due to

surveillance testing, calibration, or inspection requirements. The surveillance procedures follow administrative controls which allow for timely restoration of the residual heat removal loop to service if required.

Each of the pressurizer safety valves is designed to relieve 288,000 lbs per hour of saturated steam at setpoint. If no residual heat is removed by any of the means available, the amount of steam which could be generated at safety valve relief pressure would be less than half the valves' capacity. One valve, therefore, provides adequate defense against overpressurization. Below 350°F and 400 psig in the Reactor Coolant System, the residual heat removal system can remove decay heat and thereby control system temperature and pressure.

A PORV is defined as OPERABLE if leakage past the valve is less than that allowed in Specification 15.3.1.D and the PORV has met its most recent channel test as specified in Table 15.4.1-1. The PORVs operate to relieve, in a controlled manner, reactor coolant system pressure increases below the setting of the pressurizer safety valves. These PORVs have remotely operated block valves to provide a positive shutoff capability should a PORV become inoperable.

The requirement that 100 KW of pressurizer heaters and their associated controls be capable of being supplied electrical power from an emergency bus provides assurance that these heaters can be energized during a loss of offsite power condition to maintain pressure control and natural circulation at hot shutdown.

The requirement to have a reactor coolant system gas vent operable from the reactor vessel or the pressurizer steam space assures that non-condensable gases can be released from the Reactor Coolant System if necessary. The Reactor Coolant Gas Vent System (RCGVS) provides an orificed vent path from the pressurizer steam space and an orificed vent path from the reactor vessel. Both vent paths include two parallel solenoid-operated isolation valves which are powered from emergency buses and vent to a common header. From the common header, gases may be vented via separate lines, each with a single solenoid operated isolation valve powered from the emergency bus to the pressurizer relief tank or containment atmosphere. The orifice in these vent lines

restricts leakage so that, in the event of a pipe break or isolation valve failure, makeup water for the leakage can be provided by a single coolant charging pump. If a RCGVS vent path from either the pressurizer or reactor vessel head is inoperable, Specification 15.3.1.A.7.c requires the remotely operable valves in that inoperable path to be shut with power removed. If a vent path from the common header to the pressurizer relief tank or containment atmosphere is inoperable, the isolation valve in that path must be shut but reactor operations may continue. If both vent paths to or both vent paths from the common header are inoperable, the RCGVS is inoperable and the steps in specification 15.3.1.A.7.d must be taken.

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- (1) FSAR Section 14.1.6.
 - (2) FSAR Section 7.2.3.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NOS. 93 AND 97 TO

FACILITY OPERATING LICENSE NOS. DPR-24 AND DPR-27

WISCONSIN ELECTRIC POWER COMPANY

POINT BEACH NUCLEAR PLANT, UNIT NOS. 1 AND 2

DOCKET NOS. 50-266 AND 50-301

INTRODUCTION

Generic Letter No. 83-37, dated November 1, 1983, discussed a number of NUREG-0737 items scheduled for implementation after December 31, 1981. That letter included guidance for submitting Technical Specification changes which would cover those systems and instrumentation changes resulting from licensee response to the NUREG-0737 requirements.

By letter dated February 29, 1984, Wisconsin Electric Power Company (the licensee) submitted proposed changes to the Point Beach Nuclear Plant (PBNP) Units 1 and 2 Technical Specifications (TS) for NUREG-0737 requirements including TS for Reactor Coolant System (RCS) vents, as well as other system and instrumentation changes. By letter dated June 7, 1984, the licensee modified its February 29, 1984 submittal for RCS vents to add clarity and for containment hydrogen monitor surveillance requirements to correct an error. This safety evaluation addresses only those changes proposed by the February 29, 1984 submittal as modified by the June 7, 1984 letter associated with RCS vents.

The proposed changes, which add TS Section 15.3.1.4.7 operability requirements on RCS vents and the corresponding basis, affect TS pages 15.3.1-3, 15.3.1-3a, 15.3.1-3b, 15.3.1-3c and 15.3.1-3d.

Summary of Evaluation

The changes proposed by the licensee, discussed in detail below, implement NUREG-0737 requirements for RCS vents and do not adversely affect the safety of the plant nor the general public. Those changes consist of adding operability requirements for RCS vents and associated bases, and pagination changes to accommodate the same.

The staff agrees with the change as described in the proposed amendments.

EVALUATION

Proposed Change to TS 15.3-1.A

Description of Change

An item 7 with subparagraphs a through d and associated bases were added to existing TS 15.3.1.A establishing operability requirements for RCS vents.

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Evaluation

NUREG-0737 specifies that each licensee shall install RCS and reactor vessel head high point vents to allow venting of noncondensable gases which may inhibit natural circulation core cooling from the RCS. Redundant vent capability is required for both the reactor vessel head and the pressurizer. Vent valves are required to be tested in accordance with ASME Section XI Subsection IWV requirements for Category B valves.

Enclosure 3 to Generic Letter (GL) 83-37 provides sample TS to be used as guidance by licensees in preparing RCS vent TS. The sample specification requires that at least one vent path consisting of two valves in series be operable from the reactor vessel head and the pressurizer steam space when primary temperature is greater than 200°F. With one vent path inoperable, continued startup and/or operation is allowed for up to 30 days provided that power is removed from all valve actuators in the inoperable path. If operability cannot be restored within 30 days, the plant must be placed in hot standby in 6 hours and in cold shutdown within the following 30 hours. With both vent paths inoperable, power must be removed from all valve actuators in the inoperable paths. Both inoperable vent paths must be restored to an operable status within 72 hours or the plant must be placed in hot standby within 6 hours and in cold shutdown within the following 30 hours.

Three surveillance requirements for the RCS vent system are contained in the sample TS. These are that at least once per 18 months:

- a. All manual isolation valves in each vent path are verified to be locked open.
- b. Each valve in each vent path must be cycled through one full cycle from the control room during cold shutdown or refueling.
- c. Flow must be verified through each vent path during venting during cold shutdown or refueling.

The PBNP RCS vent system design consists of two parallel vent paths with electric solenoid operated isolation valves from each of the reactor vessel head and the pressurizer steam space locations. All vent paths go to a common header which vents either to the pressurizer relief tank or the containment atmosphere through one of two electric solenoid operated isolation valves.

The proposed PBNP TS for the RCS vent system requires that with RCS temperature greater than 200°F, at least one of the two vent paths from each of the reactor vessel head and the pressurizer steam space locations to either the containment atmosphere or the Pressurizer Relief Tank (PRT) be operable. Inoperability of one of the two parallel vent paths from the reactor vessel head and/or the pressurizer steam space is allowable based on the availability of the operable parallel path and would not impose a restriction on plant operation. Inoperability of either vent path from the common header to the PRT or the containment atmosphere would also impose no restriction on plant operation due to the availability of the other path. This operability requirement is consistent with the sample TS contained in GL 83-37 and is acceptable to the staff.

The proposed PBNP TS would allow continued plant startup/operation for up to 30 days if the entire vent path from either the reactor vessel head or the pressurizer steam space to the common header becomes inoperable provided that the paralleled isolation valves in the inoperable path are closed with power removed from the actuators. If operability cannot be restored within 30 days, the proposed TS would require the affected unit to be placed in hot shutdown within 6 hours and cold shutdown within the following 30 hours. This action statement is consistent with the sample TS contained in GL 83-37 with one exception. The sample TS requires that power be removed from all valves in the inoperable vent path. Because of the PBNP design, this requirement would necessitate removal of power from the SOIV's from the common header to both the PRT and the containment atmosphere, thereby rendering all vent paths inoperable. This deviation from the sample TS is acceptable to the staff for two reasons:

- a. The SOIV's from the common header to the PRT and the containment atmosphere are normally closed, ensuring that the inoperable vent path will remain isolated until such time as operator action is taken to unisolate the common header, or a second independent failure occurs, and;
- b. Each vent path contains a flow restricting orifice sized such that the maximum flow rate through a given vent path will not exceed the makeup capacity of one coolant charging pump. Thus, in the event of an inadvertent RCS vent actuation, coolant inventory and pressure could be safely maintained without emergency core cooling system actuation.

In the event that all RCS vent paths become inoperable due to the inoperability of both vent paths to the common header and/or the inoperability of the vent paths from the common header to the PRT and the containment atmosphere, the proposed TS requires that at least one of the vent paths be restored to operable status within 72 hours or the affected unit be placed in hot shutdown in six hours and cold shutdown in the following thirty hours. This action statement is consistent with the sample TS contained in GL 83-37 with one exception. The sample TS requires that at least two vent paths be restored to operable status within 72 hours while the PBNP proposed TS requires the restoration of only one vent path. This deviation from the sample TS is acceptable to the staff for the following reasons:

- a. If the inoperability of all vent paths is due solely to the inoperability of the SOIV's from the common header to the PRT and the containment atmosphere, restoration of one of the SOIV's will restore vent capability from both the reactor vessel head and the pressurizer steam space.
- b. If the inoperability of all vent paths is due to the simultaneous inoperability of the vent paths from the reactor vessel head and the pressurizer steam space to the common header, restoration of one vent path will leave the affected unit in the action statement described above for loss of one vent path, with the 30 day time limit having started when the remaining inoperable vent path was discovered inoperable. This configuration is consistent with the sample TS requirements and is acceptable.

The proposed PBNP TS contain no explicit surveillance requirements for the RCS vent system and as such deviate from the GL 83-37 sample TS. However, it was determined that the licensee has incorporated the SOIV's into their Inservice Testing Program as Category B valves to be stroke time tested in accordance with ASME Section XI subsection IWV-3411. This program will ensure that the SOIV's are operated through a full cycle at least once each refueling cycle (approximately annually) consistent with GL 83-37 sample TS requirements. With respect to the sample TS requirements for periodic valve position checks and flow path verification, the licensee has in place administrative procedures to accomplish these requirements. The RCS vent system is used for normal fill and venting operations to support refueling operations. These operations require that appropriate valve lineups be performed and that flow through the system be verified. These procedural requirements are an integral part of those operations necessary for refueling and as such are acceptable to the staff in lieu of formal TS surveillance requirements.

The proposed basis for TS 15.3.1.A.7 is consistent with the proposed TS and is acceptable to the staff.

ENVIRONMENTAL CONSIDERATION

These amendments involve a change in the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously published a proposed finding that these amendments involve no significant hazards consideration and there has been no public comment on such finding. Accordingly, these amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR §51.22(c)(9). Pursuant to 10 CFR §51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of these amendments.

CONCLUSION

We have concluded, based on the considerations discussed above, that (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (2) such activities will be conducted in compliance with the Commission's regulations, and the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Date: July 22, 1985

Principal Contributor:
W. G. Guldemon
T. Colburn