

April 18, 1978

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Docket Nos. 50-266
and 50-301

Wisconsin Electric Power Company
ATTN: Mr. Sol Burstein
Executive Vice President
231 West Michigan Street
Milwaukee, Wisconsin 53201

Gentlemen:

The Commission has issued the enclosed Amendment Nos. 34 and 39 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 and are in response to your request dated September 8, 1976, as supplemented January 31, 1977, and March 16, 1978.

These amendments remove spent fuel storage restrictions related to spent fuel cooling capability since recent design changes have rendered these restrictions unnecessary.

Copies of the Safety Evaluation and Notice of Issuance are also enclosed.

Sincerely,

IS

A. Schwencer, Chief
Operating Reactors Branch #1
Division of Operating Reactors

Enclosures:

1. Amendment No. 34 to DPR-24
2. Amendment No. 39 to DPR-27
3. Safety Evaluation
4. Notice

JMcGough
JSaltzman
DEisenhut
CMiles
TBAbernathy
JRBuchanan

cc w/encl:
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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

April 18, 1978

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and 50-301

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ATTN: Mr. Sol Burstein
Executive Vice President
231 West Michigan Street
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These amendments remove spent fuel storage restrictions related to spent fuel cooling capability since recent design changes have rendered these restrictions unnecessary.

Copies of the Safety Evaluation and Notice of Issuance are also enclosed.

Sincerely,

A handwritten signature in cursive script, appearing to read "A. Schwencer".

A. Schwencer, Chief
Operating Reactors Branch #1
Division of Operating Reactors

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cc w/encl:
See next page

Wisconsin Electric Power Company - 2 -

April 18, 1978

cc: Mr. Bruce Churchill, Esquire
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Wisconsin Electric Power Company
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U.S. Environmental Protection Agency
Federal Activities Branch
Region V Office
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230 S Dearborn Street
Chicago, Illinois 60604



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. 34
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 September 8, 1976, as supplemented January 31, 1977 and March 16, 1978, 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-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. 34, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications."

3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



A. Schwencer, Chief
Operating Reactors Branch #1
Division of Operating Reactors

Attachment:
Changes to the Technical
Specifications

Date of Issuance: April 18, 1978

ATTACHMENT TO LICENSE AMENDMENT NO. 34
CHANGES TO THE TECHNICAL SPECIFICATIONS
FACILITY OPERATING LICENSE NO. DPR-24
DOCKET NO. 50-266

Revise Appendix A as follows:

Remove TS page 15.3.8-2 and replace with revised identical page 15.3.8-2.

The revised page is identified by Amendment No. and contains vertical lines indicating the area of change.

- f) Direct communication between the control room and the operating floor of the containment shall be available whenever changes in core geometry are taking place.
- g) If any of the specified limiting conditions for refueling are not met, refueling of the reactor shall cease. Work shall be initiated to correct the violated conditions so that the specified limits are met, and no operations which may increase the reactivity of the core shall be made.
- h) No heavy loads will be transported over or placed in either part of the spent fuel pool when spent fuel is stored in that part. ⁽³⁾
- i) The containment vent and purge system, including the radiation monitors which initiate isolation shall be tested and verified to be operable immediately prior to refueling operations.

Basis

The equipment and general procedures to be utilized during refueling are discussed in the Final Facility Description and Safety Analysis Report. Detailed instructions, the above specified precautions, and the design of the fuel handling equipment incorporating built-in interlocks and safety features, provide assurance that no incident could occur during the refueling operations that would result in a hazard to public health and safety. ⁽¹⁾ Whenever changes are not being made in core geometry one flux monitor is sufficient. This permits maintenance of the instrumentation. Continuous monitoring of radiation levels (b above) and neutron flux provides immediate indication of



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. 39
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 September 8, 1976, as supplemented January 31, 1977, and March 16, 1978, 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. 39, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications."

3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



A. Schwencer, Chief
Operating Reactors Branch #1
Division of Operating Reactors

Attachment:
Changes to the Technical
Specifications

Date of Issuance: April 18, 1978

ATTACHMENT TO LICENSE AMENDMENT NO. 39
CHANGES TO THE TECHNICAL SPECIFICATIONS
FACILITY OPERATING LICENSE NO. DPR-27
DOCKET NO. 50-301

Revise Appendix A as follows:

Remove TS page 15.3.8-2 and replace with revised identical page 15.3.8-2.

The revised page is identified by Amendment No. and contains vertical lines indicating the area of change.

- f) Direct communication between the control room and the operating floor of the containment shall be available whenever changes in core geometry are taking place.
- g) If any of the specified limiting conditions for refueling are not met, refueling of the reactor shall cease. Work shall be initiated to correct the violated conditions so that the specified limits are met, and no operations which may increase the reactivity of the core shall be made.
- h) No heavy loads will be transported over or placed in either part of the spent fuel pool when spent fuel is stored in that part. ⁽³⁾
- i) The containment vent and purge system, including the radiation monitors which initiate isolation shall be tested and verified to be operable immediately prior to refueling operations.

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The equipment and general procedures to be utilized during refueling are discussed in the Final Facility Description and Safety Analysis Report. Detailed instructions, the above specified precautions, and the design of the fuel handling equipment incorporating built-in interlocks and safety features, provide assurance that no incident could occur during the refueling operations that would result in a hazard to public health and safety. ⁽¹⁾ Whenever changes are not being made in core geometry one flux monitor is sufficient. This permits maintenance of the instrumentation. Continuous monitoring of radiation levels (b above) and neutron flux provides immediate indication of



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 34 TO FACILITY LICENSE NO. DPR-24

SUPPORTING AMENDMENT NO. 39 TO FACILITY LICENSE NO. DPR-27

WISCONSIN ELECTRIC POWER COMPANY

POINT BEACH NUCLEAR PLANT, UNIT NOS. 1 AND 2

DOCKET NOS. 50-266 AND 50-301

Introduction

The license amendment evaluated involves the removal of the technical specification requirement (15.3.8.j) which provides that "a core unload occurrence from either Unit 1 or Unit 2 will not be permitted unless the inventory of spent fuel assemblies in the pool is less than 81 or the time interval from when the reactor is shut down until the following assembly is placed in the pool is 600 hours minimum."

By letter dated March 28, 1975, Wisconsin Electric Power Company (WEPCO) requested amendment of Facility Operating License Nos. DPR-24 and DPR-27 to allow modification of the spent fuel storage racks at Point Beach Nuclear Plant, Units 1 and 2. The proposed modifications involved increasing the storage capacity of the spent fuel pool. The increased storage capacity in the south pool (from 143 to 288 storage locations), coupled with the existing capacity of the north pool (63 storage locations), if fully used at one time (total of 351 storage locations), could have resulted in a decay heat input to the pool water in excess of the heat removal capability of the then - existing spent fuel cooling system. This was because the original capacity of the spent fuel cooling system was designed for storage of approximately 1 2/3 cores (206 storage locations) in the pool following a full-core discharge. To accommodate the possibility of an increased heat load, the installation of a cooling system of greater capacity was planned for the future. In the interim, WEPCO proposed additional Technical Specification 15.3.8.j to place restrictions on the quantity of spent fuel in storage to limit decay heat input to the spent fuel pool water.

The amount of decay heat generated by each fuel assembly is a decreasing function of the elapsed time after reactor shutdown. Therefore, the decay heat input into the spent fuel pool water is also a function of the elapsed time after shutdown of each fuel assembly as well as the number

of fuel assemblies stored in the pool. Consequently, the decay heat input to the spent fuel pool water can be limited in two ways: (1) by delaying the placement of the spent fuel assemblies in the pool and (2) by limiting the number of spent fuel assemblies in the pool. The proposed Technical Specification 15.3.8.j utilized both of these methods to limit the decay heat input to the spent fuel pool water to prevent excessive spent fuel pool water temperatures that could otherwise result. Based on our review of the decay heat generated by the spent fuel and the heat removal capacity of the then-existing spent fuel cooling system, we concluded that the proposed Technical Specification 15.3.8.j was acceptable and needed to limit the temperature of the spent fuel pool water. Accordingly, Technical Specification 15.3.8.j was issued with the license amendments authorizing the spent fuel pool capacity increase on October 20, 1975. It stated:

A core unload occurrence from either Unit 1 or Unit 2 will not be permitted unless the inventory of spent fuel assemblies in the pool is less than 81 or the time interval from when the reactor is shut down until the first assembly is placed in the pool is 600 hours minimum.

By letter dated September 3, 1976, WEPCO submitted a description of a modified spent fuel cooling system of increased cooling capability in support of its proposal to remove the restriction on movement of spent fuel into the spent fuel pool embodied in Technical Specification 15.3.8.j.

Under the provisions of 10 CFR 50.59 of the Commission's regulations, the holder of a license authorizing operation of a nuclear power plant may make changes in the facility (such as the improvements in spent fuel cooling capability described herein) without prior Commission approval provided that the change does not involve a change in the Technical Specifications or an unreviewed safety question. Upgrading the spent fuel cooling system itself does not involve either of these items; however, removal of the restriction on storage of spent fuel in the pool does involve a change in the Technical Specifications, for which NRC approval is required.

By letter dated April 12, 1977, WEPCO was informed that the NRC staff had completed its review of the spent fuel cooling system design changes and found them to be acceptable, but that the requested change to the Technical Specification would not be issued until the modifications had been completed.

By letter dated March 16, 1978, WEPCO advised that the modifications had been completed and declared operational on March 10, 1978, and therefore asked for the requested license amendment to be issued. The purpose of this Safety Evaluation is to document the acceptability of the completed modification as it relates to withdrawing the present restriction on the storage of spent fuel (Specification 15.3.8.j).

Discussion and Evaluation

The Point Beach Nuclear Plant, Units 1 and 2 are both rated at 1518 MWth. There is only one spent fuel pool for both reactors; so it is in effect serving a reactor capacity of 3036 MWth. A consequence of this "double reactor" loading is that for some possible sequences of events, the 2.4 MW heat removal capability of the original fuel pool cooling system could lead to a requirement for up to 600 hours (25 days) of in-core cooling before a full core load may be removed from the reactor vessel. WEPCO decided that this would be an excessive delay and contracted with the Stone and Webster Engineering Corporation to design a higher capacity cooling system. The modified system is designed for a heat removal capability of 8.27 MW with a fuel pool outlet water temperature of 120°F. The new design consists of two heat exchangers and two pumps which provide parallel trains with a common suction and discharge pipe. The two trains are cross-connected so that either heat exchanger can be connected to either pump. The new cooling system and equipment are designed and fabricated to the Class 3 requirements of the ASME Code, Section III, "Nuclear Power Plant Components", 1974 Edition with Addenda through Summer 1975. The system has been installed in accordance with the ASME Code and Addenda through Winter 1975. The system and equipment are designed to Seismic Category I Criteria. In addition, to the extent practical in an older plant, the system conforms to the provisions of Regulatory Guides 1.13, 1.26, 1.28, 1.29, 1.48 and 1.92.

Our comparison of the design heat removal capability with the total decay energy curve of the NRC Standard Review Plan, "Technical Position APCS 9-2," shows that the 8.27 MW capability is sufficient to remove the decay heat from two full cores (242 assemblies) after 10 days following a simultaneous shutdown of both reactors and from all of the old fuel in the pool (that is, from a full spent fuel pool). This is the maximum assumed heat load. With the 8.27 MW cooling capacity, the delay times in moving the fuel into the pool for other, more probable, situations will be considerably less; e.g., for 1 1/3 cores, the required delay time to assure heat removal will be less than 5 days. Also, additional heat removal capability can be obtained by permitting the fuel pool water outlet temperature to exceed 120°F.

We find that this new cooling system is acceptable and that its capacity is compatible with the usual fuel off-loading times experienced after a reactor shutdown.

Structural and mechanical areas were reviewed in accordance with the following sections of the Standard Review Plan: 9.1.3, Spent Fuel Pool Cooling and Cleanup System; 3.9.2, Dynamic Testing and Analysis of Mechanical Systems and Components; and 3.9.3, ASME Code Class 1, 2 and 3 Components, Component Supports, and Core Support Structures. Areas of review included assumed

load combinations, techniques used for analyzing loads, acceptance criteria, pump and valve operability, installation, and quality assurance. Quality group classification and seismic design classification of the system and its components have been reviewed in accordance with Regulatory Guides 1.26, Quality Group Classifications and Standards for Water-, Steam-, and Radioactive-Waste-Containing Components of Nuclear Power Plants, and 1.29, Seismic Design Classification, respectively. The piping system is classified as seismic Category I and is designed to withstand the operating or safe shutdown earthquake plus normal operating loads.

The use of stainless steel materials and their performance requirements during the service life of the cooling system were reviewed, consistent with the requirements of Section 9.1.3 of the Standard Review Plan.

The analyses, design, fabrication, and installation of the new spent fuel pool cooling system are in accordance with accepted criteria. We find that the structural, mechanical, and materials aspects of the modified spent fuel cooling system are acceptable.

Based on the foregoing, we conclude that the modified spent fuel cooling system is acceptable, and provides adequate spent fuel cooling for the spent fuel pool. We therefore further conclude that the current Technical Specification 15.3.8.j, limiting storage of spent fuel in the pool, is no longer required, and its removal, as proposed by the licensee, is acceptable.

Environmental Consideration

We have determined that these amendments do not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that these amendments involve an action which is insignificant from the standpoint of environmental impact, and pursuant to 10 CFR §51.5(d)(4) that an environmental impact statement, or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of these amendments.

Conclusion

We have concluded, based on the considerations discussed above, that: (1) because these amendments do not involve a significant increase in the probability or consequences of accidents previously considered and do not involve a significant decrease in a safety margin, these amendments do not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) such activities will be conducted in compliance with the Commission's regulations and the issuance of these amendments will not be inimical to the common defense and security or to the health and safety of the public.

Date: April 18, 1978

UNITED STATES NUCLEAR REGULATORY COMMISSIONDOCKET NOS. 50-266 AND 50-301WISCONSIN ELECTRIC POWER COMPANYNOTICE OF ISSUANCE OF AMENDMENTS TO FACILITY
OPERATING LICENSES

The U.S. Nuclear Regulatory Commission (the Commission) has issued Amendment Nos. 34 and 39 to Facility Operating License Nos. DPR-24 and DPR-27 issued to Wisconsin Electric Power Company, which revised Technical Specifications for operation of the Point Beach Nuclear Plant Units 1 and 2, located about 15 miles north of Manitowoc, Wisconsin. The amendments are effective as of the date of issuance.

The amendments remove spent fuel storage restrictions related to spent fuel cooling capability since recent design changes have rendered these restrictions unnecessary.

The application for the amendments complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendments. Prior public notice of these amendments was not required since the amendments do not involve a significant hazards consideration.

The Commission has determined that the issuance of these amendments will not result in any significant environmental impact and that pursuant to 10 CFR §51.5(d)(4) an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with issuance of these amendments.

- 2 -

For further details with respect to this action, see (1) the application for amendments dated September 8, 1976, as supplemented January 31, 1977 and March 16, 1978, (2) Amendment No. 34 to License No. DPR-24, (3) Amendment No. 39 to License No. DPR-27, and (4) the Commission's related Safety Evaluation. All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, NW., Washington, D.C. and at the University of Wisconsin - Stevens Point Library, Stevens Point, Wisconsin 54481. A copy of items (2), (3) and (4) may be obtained upon request addressed to the U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Director, Division of Operating Reactors.

Dated at Bethesda, Maryland, this 18th day of April 1978.

FOR THE NUCLEAR REGULATORY COMMISSION



A. Schwencer, Chief
Operating Reactors Branch #1
Division of Operating Reactors