May 11, 1994

Docket Nos. 50-266
and 50-301

Mr. Robert E. Link, Vice President
Nuclear Power Department
Wisconsin Electric Power Company
231 West Michigan Street, Room P379
Milwaukee, Wisconsin 53201

Dear Mr. Link:

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SUBJECT: AMENDMENT NOS. 148 AND 152 TO FACILITY OPERATING LICENSE NOS. DPR-24 AND DPR-27 (TACS M86777 AND M86778)

The Commission has issued the enclosed Amendment Nos. 148 and 152 to Facility Operating License Nos. DPR-24 and DPR-27 for the Point Beach Nuclear Plant, Unit Nos. 1 and 2. The amendments revise the Technical Specifications in response to your application dated February 26, 1993, as supplemented on November 30, 1993, and February 8, 1994.

These amendments revise Technical Specifications (TS) Section 15.3.7, Section 15.4.6, and Table 15.4.1-2. The revisions incorporate items that were identified during a comparison of the accident analyses in the PBNP Safety Analysis Report (FSAR) and the Limiting Conditions for Operation and surveillance sections of the PBNP TS. The changes add systems or equipment required by the accident analyses. Testing requirements for the diesel generators are also revised to eliminate the daily testing requirement when one diesel generator is inoperable.

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

Sincerely,

Original signed by Richard J. Laufer

Richard J. Laufer, Acting Project Manager
Project Directorate III-3
Division of Reactor Projects - III/IV
Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No. 148 to DPR-24
2. Amendment No. 152 to DPR-27
3. Safety Evaluation

cc w/enclosures:
See next page

LA:PD3-3	PM:PD3-3	OGC-OWF	D:PD3-3
MRushbrook	RLaufer/baj	RBachmann	JHannon
4/28/94	4/28/94	4/26/94	5/11/94

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

May 11, 1994

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and 50-301

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Wisconsin Electric Power Company
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These amendments revise Technical Specifications (TS) Section 15.3.7, Section 15.4.6, and Table 15.4.1-2. The revisions incorporate items that were identified during a comparison of the accident analyses in the PBNP Safety Analysis Report (FSAR) and the Limiting Conditions for Operation and surveillance sections of the PBNP TS. The changes add systems or equipment required by the accident analyses. Testing requirements for the diesel generators are also revised to eliminate the daily testing requirement when one diesel generator is inoperable.

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Enclosures:
1. Amendment No. 148 to DPR-24
2. Amendment No. 152 to DPR-27
3. Safety Evaluation

cc w/enclosures:
See next page

cc:

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U.S. Nuclear Regulatory Commission
6612 Nuclear Road
Two Rivers, Wisconsin 54241

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

WISCONSIN ELECTRIC POWER COMPANY

DOCKET NO. 50-266

POINT BEACH NUCLEAR PLANT, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No.148
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 26, 1993, as supplemented on November 30, 1993, and February 8, 1994, 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. 148 , are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective immediately upon issuance. The Technical Specifications are to be implemented within 20 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Douglas V Pickett for

John N. Hannon, Director
Project Directorate III-3
Division of Reactor Projects - III/IV
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of issuance: May 11, 1994

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

WISCONSIN ELECTRIC POWER COMPANY

DOCKET NO. 50-301

POINT BEACH NUCLEAR PLANT, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 152
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 26, 1993, as supplemented on November 30, 1993, and February 8, 1994, 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. 152 , are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective immediately upon issuance. The Technical Specifications are to be implemented within 20 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Douglas V Pickett for

John N. Hannon, Director
Project Directorate III-3
Division of Reactor Projects - III/IV
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of issuance: May 11, 1994

ATTACHMENT TO LICENSE AMENDMENT NOS. 148 AND 152

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

DOCKET NOS. 50-266 AND 50-301

Revise Appendix A Technical Specifications by removing the pages identified below and inserting the enclosed pages. The revised pages are identified by amendment number and contain marginal lines indicating the area of change.

REMOVE	INSERT
TS 15.3.7-2	TS 15.3.7-2
TS 15.3.7-3	TS 15.3.7-3
TS 15.3.7-4	TS 15.3.7-4
TS 15.3.7-5	TS 15.3.7-5
TS 15.3.7-6	TS 15.3.7-6
----------	TS 15.3.7-7
Table 15.4.1-2 (page 3 of 4)	Table 15.4.1-2 (page 3 of 4)
Table 15.4.1-2 (page 4 of 4)	Table 15.4.1-2 (page 4 of 4)
TS 15.4.6-2	TS 15.4.6-2
TS 15.4.6-3	TS 15.4.6-3
TS 15.4.6-4	TS 15.4.6-4

i. 120 VAC Vital Instrument Buses Y01, Y02, Y03, Y04, Y101, Y102, Y103, and Y104 for the unit(s) to be taken critical are energized from a safety-related inverter.

A.2 Under abnormal conditions one reactor may be made critical providing the following conditions are met:

a. One 345 KV transmission line is in service; or the gas turbine is operating.

b. The 345/13.8 KV and the 13.8/4.16 KV station auxiliary transformers associated with the unit to be taken critical are in service; or the associated 13.8/4.16 KV station auxiliary transformer is in service and the gas turbine is operating.

c. Reactor power level is limited to 50% rated power until 2 or more transmission lines are restored to service.

d. 4160 Volt buses A03 and A04 for the unit to be taken critical are energized from their normal supply.

e. 4160 Volt safeguards buses A05 and A06 for the unit to be taken critical are independently energized from their normal or emergency power supply and both units' A05/A06 bus tie-breakers are removed from their cubicles.

f. 480 Volt safeguards buses B03 and B04 for the unit to be taken critical are independently energized from their normal or emergency power supply and both units' B03/B04 bus tie-breakers are open with control power removed.

g. A fuel supply of 11,000 gallons is available; and both diesel generators are operable.

h. Four of the five safety-related station batteries and all four of the main DC distribution systems are operable.

i. Four battery chargers are operable with one charger carrying the DC loads of each main DC distribution bus: D01, D02, D03 and D04.

j. 120 VAC Vital Instrument Buses Y01, Y02, Y03, Y04, Y101, Y102, Y103, and Y104 for the unit to be taken critical are energized from a safety-related inverter.

B.1 During power operation of one or both reactors, the requirements of 15.3.7.A.1 may be modified to allow the following arrangements of systems and components:

a. If the 345 KV lines are reduced to only one, any operating reactor(s) must be promptly reduced to, and limited to, 50% power. If all 345 KV lines are lost, any operating reactor(s) will be reduced to supplying its auxiliary load, until one or more 345 KV transmission lines are again available.

b. If both 345/13.8 KV auxiliary transformers are out of service and only the gas turbine is operating, only one reactor will remain operating and it will be limited to 50% power. The second reactor will be placed in the hot shutdown condition.

c. If the 13.8/4.16 KV auxiliary transformers are reduced to only one, the reactor associated with the out of service transformer must be placed in the hot shutdown condition.

d. Either bus A03 or A04 may be out of service for a period not exceeding 7 days provided both diesel generators are operable and the associated diesel generator is operating and providing power to the engineered safeguard bus normally supplied by the out of service bus.

e. With a unit in cold or refueling shutdown, one pair of buses, A05 and A06 or B03 and B04, for that shutdown unit, may be tied together through their common tie breaker for up to 8 hours. If the tie breaker cannot be opened or the conditions of 15.3.7.B.1.f met within 8 hours, the operating unit shall be placed in the hot shutdown condition within 6 hours and in cold shutdown within the following 30 hours.

f. With a unit fully defueled, one pair of buses for the defueled unit, A05 and A06 or B03 and B04, may be tied together through their common tie-breaker in excess of 8 hours provided:

1) An evaluation is performed to show that the loads that remain or can be energized by the buses will not cause a potential overload of the associated diesel generator. The applicable Limiting Conditions for Operation of the equipment removed from service shall be entered for the operating unit.

2) A single train of spent fuel cooling is adequate to cool the spent fuel pool.

g. One diesel generator may be inoperable for a period not exceeding 7 days provided the engineered safety features associated with the operable diesel are operable and were tested within their required surveillance test intervals. The other diesel generator shall be started to ensure operability within 24 hours before or after entry into this LCO and every 72 hours thereafter. This LCO shall not be allowed in conjunction with e. or f. above.

h. One of the four connected safety-related station batteries may be inoperable for a period not exceeding 24 hours provided four battery chargers remain operable with one charger carrying the DC loads of each main DC distribution bus.

i. If an operating safety-related inverter is rendered inoperable and the associated loads transfer to a non-safety-related power source, the loads shall be transferred back to an operable safety-related inverter within 8 hours or be in hot shutdown within an additional 6 hours and cold shutdown within 44 hours of inverter inoperability.

Basis

This two unit plant has four 345 KV transmission line interconnections. A 20 MW gas turbine generator and two 2850 KW diesel generators are installed at the plant. All of these energy sources will be utilized to provide depth and reliability of service to the Engineered Safeguards equipment through redundant station auxiliary power supply systems.

The electrical system equipment is arranged so that no single contingency can inactivate enough safeguards equipment to jeopardize the plant safety. The 480-volt equipment is arranged on 4 buses per unit. The 4160-volt equipment is supplied from 6 buses per unit.

Two separate outside sources can serve either unit's low voltage station auxiliary transformer. One is a direct feed from the unit's high voltage station auxiliary transformer and the second is from the other unit's high voltage station auxiliary transformer or the gas turbine via the 13,800 volt system tie bus H01.

Separation is maintained in the 4160-volt system to allow the plant auxiliary equipment to be arranged electrically so that redundant items receive their power from the two different buses. For example, the safety injection pumps are supplied from the 4160 volt buses 1-A05 and 1-A06 for Unit No. 1 and 2-A05

and 2-A06 for Unit No. 2; the six service water pumps are arranged on 480-volt buses as follows: two on bus 1-B03, one on bus 1-B04, one on bus 2-B03 and two on bus 2-B04; the four containment fans are divided between 480-volt buses 1-B03 and 1-B04 for Unit No. 1 and 2-B03 and 2-B04 for Unit No. 2 and so forth. Redundant valves are supplied from motor control centers 1-B32 and 1-B42 for Unit No. 1 and 2-B32 and 2-B42 for Unit No. 2.

The specifications for the 480 volt safeguards buses, B03 and B04, and the 4160 volt safeguards buses, A05 and A06, direct an independent lineup of power distribution, specifically stating that a normal lineup must be achieved (all safeguards buses associated with a unit are powered through their normal supply breaker with all safeguards bus tie-breakers open) prior to taking a unit critical and during subsequent power operation. Operability of the safeguards buses is based on maintaining at least one on-site AC power source and associated distribution system operable during accident conditions coincident with an assumed loss of offsite power and a single failure in the other on-site AC source. This includes a failure of a tie-breaker to trip, which under certain conditions could result in an overload and a loss of the associated diesel generator. The LCOs permit abnormal power distribution lineups for periods of time in order to facilitate such items as maintenance of normal supply breakers or transformers. In such cases, bus independence may be relaxed under the conditions specified in the LCO.

Extended use of safeguards bus tie-breakers is allowed under specified, controlled conditions. For example, when a unit is fully defueled, safeguards and safe shutdown systems and equipment dedicated to that unit are not required. However, spent fuel pool cooling must be maintained. By limiting the loads supplied by the cross-connected buses, the potential for loss of a diesel generator due to overloading caused by the failure of a tie-breaker to open is minimized. Operability of shared safeguards systems such as auxiliary feedwater and service water must be maintained as required by their applicable LCOs.

The Point Beach DC electrical system has been modified so that each of the four main DC distribution buses, which are shared between the two units, has its own power supplies consisting of a safety-related station battery (D05, D06, D105, D106) and a battery charger. In addition to these bus-specific power supplies, a swing safety-related battery (D305) is installed which is capable of being connected to any one of the four main DC distribution buses. Swing battery chargers are also provided. Under normal circumstances, one battery and one battery charger are connected in each main DC distribution bus. The battery

charger normally shall be in service on each battery so that the batteries will always be at full charge in anticipation of a loss-of-AC power incident. Under unusual circumstances, two of the five safety-related batteries may be out of service for a limited period of time provided one of the two out-of-service batteries is returned to service within the time periods specified in Specification 15.3.7.B.1.h. These limiting conditions for operation ensure that adequate DC power will always be available for starting the emergency generators and other emergency uses.

The support systems necessary to be operable to ensure the operability of the emergency diesel generators (EDGs) are the EDG starting air system, EDG fuel oil system, EDG ventilation system, and EDG DC control power.

The EDG starting air system is considered operable when 1) all three starting air bottles in each bank are operable, 2) the starting air banks can be maintained at a minimum pressure of 165 psig, 3) the air bank crossconnect valve is shut unless bank pressures are being equalized and an operator is stationed at the valve during pressure equalization, and 4) all four starting air motors and their associated valves and relays are operable.

The EDG fuel oil system is considered operable when 1) 11,000 gal. of fuel oil is initially available in the emergency fuel tank to the diesel generators [Because the EDGs consume approximately 205 gallons of fuel per hour when fully loaded, the 11,000 gallon fuel supply in the emergency fuel tank provides sufficient fuel to operate one EDG at design load for more than 48 hours.], 2) the EDG day tank and associated motor-operated fill valve are operable, 3) at least one of the two base-mounted sump tank fuel oil transfer pumps is operable, and 4) the fuel oil transfer pump associated with the EDG is operable. However, both fuel oil transfer pumps and their associated piping and valves are allowed to be out of service for four hours due to a combined four-hour supply of fuel oil in the diesel base and day tanks which do not require a fuel oil transfer pump for flow to the associated EDG. The pumps may be out of service longer than four hours if an appropriate alternate source of fuel is made available to the diesel generators.

The EDG ventilation system is considered operable when diesel room temperature can be maintained ≤120°F with the diesel engine operating at full load. Temperature will be maintained ≤120 °F if 1) all gravity-operated louvers are operable, and 2) both diesel room exhaust fans are operable OR one diesel room exhaust fan is operable and outside air temperature is ≤80°F.

Normal DC control power must energize all DC circuits for the associated EDG to be operable. The following DC circuits are required to be powered for the associated EDG to be considered operable:

G-01	Circuit	G-02
D18-20	Start 2	D16-20
D12-01	Control	D14-01
D12-11	Start 1	D14-11
D12-13	Annunciator	D14-13
D11-28	Field Flash	D13-28

If only one 345 KV transmission line is in service to the plant switchyard, a temporary loss of this line would result in a reactor trip(s) if the reactor(s) power level were greater than 50%. Therefore, in order to maintain continuity of service and the possibility of self sustaining operations, if only one 345 KV transmission line is in service to any operating reactor(s), the power level of the affected reactor(s) will be limited to 50%.

If both 345/13.8 KV station auxiliary transformers are out of service, only one reactor will be operated. The gas turbine will be supplying power to operate safeguards auxiliaries of the operating reactor and acts as a backup supply for the unit's normal auxiliaries. Therefore, to prevent overloading the gas turbine in the event of a reactor trip, the maximum power level for the operating reactor will be limited to 50%. These conservative limits are set to improve transmission system reliability only and are not dictated by safety system requirements.

References

FSAR Section 8.

TABLE 15.4.1-2 (Continued)

		Test	Frequency
24.	Integrity of Post Accident Recovery Systems Outside Containment	Evaluate	Each refueling cycle
25.	Containment Purge Supply and Exhaust Isolation Valves	Verify valves are locked closed	Monthly (9)
26.	Reactor Trip Breakers	a. Verify independent operability of automatic shunt and undervoltage trip functions.	Monthly (9)
		b. Verify independent operability of manual trip to shunt and undervoltage trip functions.	Each refueling shutdown
27.	Reactor Trip Bypass Breakers	a. Verify operability of the undervoltage trip function.	Prior to breaker use
		b. Verify operability of the shunt trip functions.	Each refueling shutdown
		c. Verify operability of the manual trip to undervoltage trip functions.	Each refueling shutdown
28.	120 VAC Vital Instr. Bus Power	Verify Energized(12)	Shiftly

(1) Required only during periods of power operation.
(2) $\bar{E}$ determination will be started when the gross activity analysis of a filtered sample indicates $\geq 10\mu Ci/cc$ and will be redetermined if the primary coolant gross radioactivity of a filtered sample increases by more than $10\mu Ci/cc$.
(3) Drop test shall be conducted at rated reactor coolant flow. Rods shall be dropped under both cold and hot condition, but cold drop tests need not be timed.
(4) Drop tests will be conducted in the hot condition for rods on which maintenance was performed.
(5) As accessible without disassembly of rotor.
(6) Not required during periods of refueling shutdown.
(7) At least once per week during periods of refueling shutdown.
(8) At least three times per week (with maximum time of 72 hours between samples) during periods of refueling shutdown.
(9) Not required during periods of cold or refueling shutdown.

TABLE 15.4.1-2 (Continued)

(10) Sample to be taken after a minimum of 2 EFPD and 20 days power operation since the reactor was last subcritical for 48 hours or longer.
(11) An approximately equal number of valves shall be tested each refueling outage such that all valves will be tested within a five year period. If any valve fails its tests, an additional number of valves equal to the number originally tested shall be tested. If any of the additional tested valves fail, all remaining valves shall be tested.
(12) The specified buses shall be determined energized in the required manner at least once per shift by verifying correct static transfer switch alignment and indicated voltage on the buses.

3. The proper operation of Emergency Lighting, including the automatic transfer switch for DC lights, will be demonstrated during each reactor shutdown for a major fuel reloading.
4. Each diesel generator shall be given an inspection, at least annually, following the manufacturer's recommendations for this class of stand-by service.
5. Operability of the diesel fuel oil system shall be verified monthly.
6. A diesel fuel oil testing program shall be maintained to test both new fuel oil upon receipt and stored fuel oil in the emergency fuel oil tank on a quarterly frequency in accordance with applicable ASTM standards.

The above tests will be considered satisfactory if all applicable equipment operates as designed.

B. Safety-Related Station Batteries

These surveillance specifications are applicable to all four safety-related station batteries: D05, D06, D105, and D106; and the safety-related station swing battery D305.

1. Every month the voltage of each cell (to the nearest 0.05 volt), the specific gravity and temperature of a pilot cell in each battery and each battery voltage shall be measured and recorded.
2. Every 3 months the specific gravity, the height of electrolyte, and the amount of water added, for each cell, and the temperature of every fifth cell, shall be measured and recorded.
3. At each time data is recorded, new data shall be compared with old to detect signs of abuse or deterioration.
4. Each Safety-Related Station Battery shall be demonstrated OPERABLE:
   a. At least once per 18 months (SERVICE TEST) by verifying that the battery capacity is adequate to supply and maintain in OPERABLE status all of the actual or simulated emergency loads for the design duty cycle.
   b. At least once per 60 months (PERFORMANCE TEST) by verifying that the battery capacity is at least 80% of the manufacturer's rating. This performance discharge test may be performed in lieu of the battery service test.

c. Annual performance discharge tests of battery capacity shall be given to any battery that shows signs of degradation or has reached 85% of the service life expected for the application. Degradation is indicated when the battery capacity drops more than 10% of rated capacity from its previous performance test, or is below 90% of the manufacturer's rating. When performance tests are required, they may be performed in lieu of the battery service test.

Basis

The tests specified are designed to demonstrate that the diesel generators will provide power for operation of equipment. They also assure that the emergency generator system controls and the control systems for the safeguards equipment will function automatically in the event of a loss of all normal AC station service power.

The testing frequency specified will be often enough to identify and correct any mechanical or electrical deficiency before it can result in a system failure. The fuel supply and starting circuits and controls are continuously monitored and any faults are alarm indicated. An abnormal condition in these systems would be signaled without having to place the diesel generators themselves on test.

Station batteries will deteriorate with time, but precipitous failure is extremely unlikely. The surveillance specified is that which has been demonstrated over the years to provide an indication of a cell becoming unserviceable long before it fails. If a battery cell has deteriorated or if a connection is loose, the voltage under load will drop excessively indicating replacement or maintenance.

A Service Test, performed at least every 18 months, demonstrates adequate battery capacity to supply power to loads required during the most demanding duty cycle. This design duty cycle occurs upon an actuation of safeguards loads in one unit coincident with a loss of off-site power. The design duty cycle is defined further in FSAR, Section 8.2.

A Performance Test will also be conducted at least every 60 months. The Performance Test is a constant discharge rate capacity test which allows comparison with the manufacturer's rating of the battery. This test is the best indicator of the effects of aging on battery capacity. Provisions are made in these specifications to change the test periodicity to annual when the battery is degraded or when the battery reaches that point in its service life at which capacity degradation with time is accelerated. Operability is satisfactorily demonstrated by achieving a capacity of at least 80% of the manufacturer's rating. Since the Performance Test entirely bounds the battery loads applied during a Service Test, when a Performance Test is conducted, the Service Test for that battery's current test cycle may be omitted.

These surveillance specifications are applicable to all five of the safety-related station batteries: D05, D06, D105, D106 and the swing battery D305.

DC emergency lights are provided in certain safeguards equipment areas which must be attended to during a loss of all AC power. The emergency lighting test verifies that the automatic transfer switch operates properly and provides DC power to the DC emergency lights.

Reference

FSAR, Section 8.2

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO LICENSEE RESPONSE TO GENERIC LETTER 89-19

AND PROPOSED TECHNICAL SPECIFICATION UPGRADES

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

1.0 BACKGROUND

By letter dated February 26, 1993, as supplemented on November 30, 1993, and February 8, 1994, Wisconsin Electric Power Company (WEPCo), the licensee for the Point Beach Nuclear Plant (PBNP), submitted Technical Specification (TS) Change Request (CR) 156 entitled "Modifications to Technical Specifications Section 15.3.7, Section 15.4.6, and Table 15.4.1-2." The proposed revisions would incorporate items that were identified during a comparison of the accident analyses in the PBNP Safety Analysis Report (FSAR) and the Limiting Conditions for Operation (LCO) and surveillance sections of the PBNP TS. The proposed changes add systems or equipment required by the accident analyses. Changes to the testing requirements for the diesel generators are also being proposed to eliminate the daily testing requirement when one diesel generator is inoperable.

2.0 EVALUATION

TS 15.3.7, "Auxiliary Electrical Systems for 120-v ac Vital Instrument Bus" Addition of TS 15.3.7.A.1.i and 15.3.7.A.2.j

The design of PBNP allows for operation with one vital ac instrument bus out of service, because the remaining ac vital buses are capable of supporting the minimum safety functions, such as shutting down the unit and maintaining it in a safe shutdown condition. Thus, the current TS permits the loss of a single inverter without entering an LCO. After the recent installation of the static transfer switch, which provides an automatic transfer capability to an alternate ac power source on an inverter failure, the licensee proposed to add the following requirements for the 120-v ac vital instrument buses in the TS:

> For normal conditions (i.e., to allow either one or both reactors to be critical), TS 15.3.7.A.1.i has been proposed which states:
>
> "120 VAC Vital Instrument Buses Y01, Y02, Y03, Y04, Y101, Y102, Y103, and Y104 for the unit(s) to be taken critical are energized from a safety-related inverter."

For abnormal conditions (i.e., to allow one reactor to be critical), TS 15.3.7.A.2.j has been proposed which states:

"120 VAC Vital Instrument Buses Y01, Y02, Y03, Y04, Y101, Y102, Y103, and Y104 for the unit to be taken critical are energized from a safety-related inverter."

The 120-v ac instrument bus system at PBNP consists of 16 buses divided among four channels. Each channel (red, white, blue, and yellow) consists of four buses. The four buses in each channel are further divided into two bus groups, one of which serves Unit 1 while the other serves Unit 2. Each channel has three inverters (two normal and one standby). Each normal inverter is dedicated to supply power to one unit; the standby inverter, which can be swung to either unit, is used as a backup whenever a normal inverter is inoperable. Of the 16 instrument buses, 8 are 120-v ac vital instrument buses, which supply power to vital plant instrumentation and for vital control functions and are required to be energized from the most reliable power sources.

The staff reviewed the power distribution subsystem listed in Table B.3.8.9-1 of NUREG-1431, "Westinghouse Standard Technical Specifications." The NUREG-1431 specification requires that each 120-v ac vital instrument bus be energized from its associated inverter in a specified manner between redundant buses within the unit. The current PBNP TS, however, do not contain such a configuration requirement or an operability restriction for an inoperable instrument bus during normal and abnormal reactor operating conditions.

With the installation of automatic bus transfer capability to the 120-v ac alternate power supply (non-inverter, non-safety-related source), the licensee proposes TS 15.3.7.A.1.i and 15.3.7.A.2.j. Although the proposed TS do not fully conform with the NUREG-1431 specifications, they provide plant operability restrictions by identifying the required vital instrument buses. The staff finds that the proposed TS 15.3.7.A.1.i and 15.3.7.A.2.j are an improvement to the current TS and represent safety enhancements. The staff, therefore, finds their addition to the current TS acceptable.

Addition of TS 15.3.7.B.1.i

For the case of an ac vital instrument bus that is not energized from its associated inverter during power operation of one or both reactors, the licensee proposes the addition of TS 15.3.7.B.1.i, which states:

"If an operating safety-related inverter is rendered inoperable and the associated loads transfer to a non-safety-related power source, the loads shall be transferred back to an operable safety-related inverter within 8 hours or be in hot shutdown within an additional 6 hours and cold shutdown within 44 hours of inverter inoperability."

The licensee believes that the 8-hour LCO is reasonable because it may take 8 hours to troubleshoot, repair, and shift all loads back to an inverter in an orderly and uninterrupted manner.

Although the alternate power supply is a non-inverter and non-safety-related power source, the licensee believes that it is extremely reliable because it is not subjected to safeguards stripping and can also be powered from the combustion turbine. Therefore, with the installation of automatic transfer capability, the licensee believes that there is a very high probability that the associated instrument bus would remain energized and provide uninterrupted power to its associated loads after an inverter fails.

The staff reviewed a similar provision in NUREG-1431 which requires that the 120-v ac vital instrument bus be restored to an operable status within 2 hours, and its associated inverter restored to an operable status within 24 hours, or be in at least hot standby within the next 6 hours, and in cold shutdown within the following 36 hours. The licensee proposes that the loads be restored to an operable status immediately by transferring to a backup power source and returned to the original safety-related inverter within 8 hours, rather than the 24 hours. The staff finds that proposed TS 15.3.7.B.1.i is more restrictive, and more conservative than the similar provision in NUREG-1431 and is, therefore, acceptable.

Modification of TS 15.3.7.B.1.g

In case of one inoperable EDG during power operation of one or both reactors, the current TS states:

> "One diesel generator may be inoperable for a period not exceeding 7 days provided the other diesel generator is tested daily to ensure operability and the engineered safety features associated with this diesel generator shall be operable."

By referencing the guidance in NUREG-1366, "Improvements to Technical Specifications Surveillance Requirements," the licensee proposed that the number of EDG tests be reduced because the NUREG states that testing too frequently is counterproductive to safety in terms of equipment availability and degradation (i.e., increased wear on the EDG during the test). Considering the above guidance, and the demonstrated high reliability of the PBNP EDGs, the licensee initially proposed the following TS revision:

> "One diesel generator may be inoperable for a period not exceeding 7 days provided the other diesel generator is load tested to each unit within 24 hours to ensure operability. The engineered safety features associated with this diesel generator shall be operable and have been tested within the required surveillance test intervals."

During a teleconference with the licensee on January 12, 1994, the staff explained that the proposed TS provision was only applicable to a nuclear unit with two EDGs and with a three-day LCO when one EDG is inoperable. Since PBNP has two units with two EDGs and a 7-day LCO for one inoperable EDG, the staff could not concur in the licensee's proposal.

As a result of discussion during the January 12, 1994, teleconference, the licensee revised their TS proposal in a letter dated February 8, 1994. The revised TS proposal states:

"One diesel generator may be inoperable for a period not exceeding 7 days provided the engineered safety features associated with the operable diesel are operable and were tested within their required surveillance test intervals. The other diesel generator shall be started to ensure operability within 24 hours, before or after entry into this LCO and every 72 hours thereafter."

Although NUREG-1431 does not address plants with a 7-day LCO, the staff finds that the proposed TS is consistent with its branch position developed for older plants with a 7-day LCO with one EDG inoperable that states that "the operable EDG should be demonstrated to be operable within 24 hours and every three days thereafter (i.e., not testing everyday)." On this basis, the staff concludes that proposed TS 15.3.7.B.1.g is acceptable.

Modifications of Basis Section of TS 15.3.7

To support the amendment to TS 15.3.7, the licensee proposes to change the text of the associated basis as follows:

1) Delete the design descriptions of the EDGs and gas turbine generator because this information is better suited for, and has been more thoroughly explained in the PBNP FSAR or other parts of the basis section.

2) Add a paragraph that defines the EDG support systems necessary to ensure the operability of the EDGs. The EDG support systems consist of the starting air system, fuel oil system, ventilation system, and dc control system.

3) Add four paragraphs that describe each of the EDG support systems and the conditions necessary for them to be considered operable.

The staff has reviewed the above deletion and additions proposed for the basis section and find that they are consistent with the licensee's proposed TS amendment request, are an improvement over the current TS, and provide more details. The staff, therefore, finds these proposed changes to the basis section acceptable.

TS 15.4.6, "Emergency Power Systems Periodic Tests for EDG Fuel Oil System" Modification of TS 15.4.6.A.5

As part of the periodic surveillance requirement (SR) to ensure all EDGs will respond promptly and properly when required, TS 15.4.6.A.5 currently states that "Each fuel oil transfer pump shall be run monthly." The licensee's rationale for considering fuel oil transfer capability in the periodic SR is based on the ability to pump fuel oil from the emergency fuel oil tank through the EDG day tank to the engine-mounted fuel tank.

The newly proposed basis section of TS 15.3.7, however, indicates that the scope of EDG support systems that ensure the operability of an EDG has been redefined to include the starting air system, fuel oil system, ventilation

system, and dc control system. The licensee, therefore, proposes redefining the SR for the EDG fuel oil system to include the inventory of fuel oil in the emergency fuel tank, and the operability of fuel oil transfer pumps, as well as their associated piping and valves. On this basis, the licensee proposes to change TS 15.4.6.A.5 to state that "Operability of the diesel fuel oil system shall be verified monthly."

The staff reviewed a similar SR (i.e., SR 3.8.3.1) in NUREG-1431, which requires that a verification of an adequate inventory of fuel oil in the storage tanks to support a design-basis accident be performed every 31 days. Under the licensee's proposal the fuel oil inventory will be verified monthly as a part of the SR for the EDG fuel oil system. Based on the above, the staff finds proposed TS 15.4.6.A.5 acceptable.

Addition of TS 15.4.6.A.6

As a means of determining whether new fuel oil and stored fuel oil are of the appropriate grade and have not been contaminated with substances that would have an immediate, detrimental impact on EDG combustion, the licensee proposes the addition of TS 15.4.6.A.6, which states:

> "A diesel fuel oil testing program shall be maintained to test both new fuel oil upon receipt and stored fuel oil in the emergency fuel oil tank on a quarterly frequency in accordance with applicable ASTM Standards."

The staff reviewed an applicable SR in NUREG-0452, "Standard Technical Specifications for Westinghouse Pressurized Water Reactors," Revision 4. Although the licensee has not cited all of the applicable ASTM standards, the staff finds that the addition of this SR is an improvement over the current TS and the testing interval is consistent with the frequency proposed in NUREG-0452, Revision 4. The staff, therefore, finds proposed TS 15.4.6.A.6 acceptable.

Addition to Table 15.4.1-2, "Minimum Frequency for Equipment and Sampling Tests"

The licensee proposes to add the following new SR, as Item No. 28, in Table 15.4.1-2 "Minimum Frequency for Equipment and Sampling Tests" to verify that the 120-v ac vital instrument buses are available:

Item No.	Test	Frequency
28. 120 VAC Vital Instr. Bus Power	Verify Energized*	Shiftly

*The specified buses shall be determined energized in the required manner at least once per shift by verifying correct static transfer switch alignment and indicated voltage on the buses.

The staff reviewed Item No. 28 and determined that the licensee's proposed method of verifying static transfer switch alignment and voltage on the buses is acceptable. The licensee also proposed that this SR be performed in conjunction with the normal shift record keeping in the control room.

The staff compared the proposed test frequency with that of NUREG-1431 and found that the proposed test frequency of once per shift is more conservative than the weekly requirement in NUREG-1431. The staff, therefore, finds that the proposed testing method and frequency of verifying the availability of the 120-v ac vital instrument buses in Table 15.4.1-2 are acceptable.

3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Wisconsin State official was notified of the proposed issuance of the amendments. The State official had no comments.

4.0 ENVIRONMENTAL CONSIDERATION

These amendments change a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 or change a surveillance requirement. 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 (58 FR 43939). 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.

5.0 CONCLUSION

The staff has 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, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

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