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 ough 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) E determination will be started when the gross activity analysis of a filtered sample indicates ≥10μCi/cc and will be redetermined if the primary coolant gross radioactivity of a filtered sample increases by more than 10μCi/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.

(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