



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. 134  
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 22, 1989, as supplemented August 25, 1992, 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. 134, 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



Robert B. Samworth, Sr. Project Manager  
Project Directorate III-3  
Division of Reactor Projects III/IV/V  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Technical  
Specifications

Date of issuance: September 18, 1992



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. 138  
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 22, 1989, as supplemented August 21, 1992, 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. 138, 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



Robert B. Samworth, Sr. Project Manager  
Project Directorate III-3  
Division of Reactor Projects III/IV/V  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Technical  
Specifications

Date of issuance: September 18, 1992

ATTACHMENT TO LICENSE AMENDMENT NOS. 134 AND 138  
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.

<u>REMOVE</u>	<u>INSERT</u>
15.3.7-1	15.3.7-1
15.3.7-2	15.3.7-2
15.3.7-3	15.3.7-3
15.3.7-4	15.3.7-4
15.3.7-5	15.3.7-5
	15.3.7-6

### 15.3.7 AUXILIARY ELECTRICAL SYSTEMS

#### Applicability

Applies to the availability of off-site and on-site electrical power for plant power operation and for the operation of plant auxiliaries.

#### Objective

To define those conditions of electrical power availability necessary (1) to provide for safe reactor operation, and (2) to provide for the continuing availability of engineered safeguards.

#### Specification

- A.1 Under normal conditions neither one nor both reactors shall be made critical unless the following conditions are met:
- a. At least two 345 KV transmission lines are in service.
  - b. The 345/13.8 KV and the 13.8/4.16 KV station auxiliary transformers associated with the reactor(s) to be taken critical are in service; or one 345/13.8 KV station auxiliary transformer and the associated 13.8/4.16 KV station auxiliary transformer(s) are in service with the gas turbine operating.
  - c. 4160 Volt unit supply buses A03 and A04 for the unit to be taken critical are energized from their normal supply.
  - d. 4160 Volt safeguards buses A05 and A06 for the unit(s) to be taken critical are independently energized from their normal supply and both units' A05/A06 bus tie breakers are removed from their cubicles.
  - e. 480 Volt buses B03 and B04 for the unit(s) to be taken critical are independently energized from their normal supply and both units' B03/B04 tie breakers are open with control power removed.
  - f. A fuel supply of 11,000 gallons is available; and both diesel generators are operable.
  - g. All four batteries and their associated DC systems are operable.
  - h. Four battery chargers are operable with one charger carrying the DC loads on each DC main distribution bus.

A.2 Under abnormal conditions including Black Plant startup, 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. All four batteries and their associated DC systems are operable.
- i. Four battery chargers are operable with one charger carrying the DC loads of each DC main distribution bus.

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 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 other diesel generator is tested daily to ensure operability and the engineered safety features associated with this diesel generator shall be operable. This LCO shall not be allowed in conjunction with e. or f. above.
- h. One of the batteries D05 or D06 may be inoperable for a period not exceeding 24 hours provided the other three batteries and four battery chargers remain operable with one charger carrying the DC loads of each DC main distribution bus.
- i. One of the batteries D105 or D106 may be inoperable for a period not exceeding 72 hours provided the other three batteries and four battery chargers remain operable with one charger carrying the DC loads of each DC main distribution bus.



## 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 difference 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 Plant DC electrical system has been modified so that each of the four instrument bus power supplies has its own battery and battery charger. One battery charger 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. This insures that adequate dc power will be available for starting the emergency generators and other emergency uses.

The emergency generator sets are General Motors Corporation, Electro-Motive Division, Model 999-20 Units rated at 2850 KW continuous, 0.8 power factor 900 RPM, 4160 volts 3 phase, 60 cycle and consume 205 gallons of fuel per hour. Thus the 11,000 gallon supply in the Emergency Fuel Tank provides sufficient fuel to operate one diesel at design load for more than 48 hours. In addition, it will be normal for Point Beach to keep one, or the equivalent of one, bulk storage tank full at all times (55,000 gallons which is equal to about 10 days' supply). They are each capable of providing 3050 KW for a 30 minute period. The gas turbine is capable of providing 20,000 KW.

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.

Unit 1 - Amendment No. ~~84~~, 87, 134

Unit 2 - Amendment No. ~~88~~, 92, 138

15.3.7-6