



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
SUPPORTING AMENDMENT NO. 79 TO FACILITY OPERATING LICENSE NO. DPR-6  
CONSUMERS POWER COMPANY  
BIG ROCK POINT PLANT  
DOCKET NO. 50-155

1.0 INTRODUCTION

By letter dated June 27, 1985, Consumers Power Company (CPC, the licensee) submitted an application for an amendment to the Technical Specifications appended to Big Rock Point (the facility) Operating License DPR-6. The amendment proposes changes to several Technical Specification surveillance frequencies. The changes would provide for continued operation of the facility between refueling shutdowns without the potential of surveillance test performances interrupting continued power operation. These changes are consistent with existing Standard Technical Specification (STS) surveillance intervals.

A Notice of Consideration of Issuance of Amendment to License and Proposed No Significant Hazards Consideration Determination and Opportunity for Hearing related to the requested action was published in the Federal Register on September 11, 1985 (50 FR 37077). No public comments or requests for hearing were received.

2.0 EVALUATION

The proposed changes to Technical Specification Section 6.1.5 and 7.6 surveillance requirements for the reactor safety system scram circuits, containment sphere isolation trip circuits, and emergency condenser trip circuits, are identical. The testing surveillance intervals for this equipment would be changed from, "each refueling shutdown but not less frequently than once every 12 months," to, "each refueling shutdown but not less frequently than once every 18 months." These changes are consistent with STS surveillance intervals for equivalent equipment. The new surveillance intervals for these items would provide for the cases in which a planned 12-month fuel cycle was completed in 13 months (due to unplanned delays or circumstances causing middle of fuel cycle outages). Current requirements found in Technical Specifications Sections 6.1.5 and 7.6, would force a plant shutdown for performance of these surveillance tests (since the bounding limit is 12 months). The STS definition for an "R" surveillance interval is "at least once per 18 months." The system circuitry for the reactor safety system scram circuits, containment sphere isolation trip circuits and emergency condenser trip circuits must be tested while the facility is shut down. The above surveillance intervals remain coincident with refueling shutdowns; however,

the bounding limit is established at 18 months. Therefore, at minimum, the conservatism incorporated in the existing STS is established. The staff has reviewed these surveillance frequency changes and has concluded that the results of the changes are within all acceptable criteria with respect to the system or component specified in the Standard Review Plan (SRP). Therefore, the staff finds the changes to be acceptable.

The licensee has proposed changes to the surveillance and replacement frequencies for the squib primer and trigger assembly components of the liquid poison system. The surveillance frequency for one squib primer and trigger assembly located on the equalizing line is proposed to be changed from, "at least every 12 months and replaced every 24 months," to "at least every 18 months and replaced every 36 months." Also, "One squib primer and trigger assembly from the remaining five units shall be removed and test-fired at least every 18 months" rather than every 12 months as currently required. The proposed change still requires that these valves continue to be replaced at least every 5 years.

Although these surveillance frequencies have been decreased, they are consistent with the surveillance specifications provided in the Standby Liquid Control System STS. Also, the replacement frequency currently existing for these valves has remained at 5 years. This continues to limit the valves' longest service life to the manufacturer's recommended limit. Also, the provision for an 18-month surveillance for these units allows for testing to be performed during any cold shutdown, rather than a refueling shutdown as current specifications require. The staff has evaluated these proposed changes and has concluded that the results of the changes are within all acceptable criteria with respect to the system or component specified in the SRP, and therefore, finds these changes to be acceptable.

A change is proposed to the surveillance frequency for functional testing of the control rod permissive circuits. The current Technical Specification surveillance frequency provided in section 6.2.2 and in section 7.6, requires functional testing of the permissive circuits to be "not less frequent than once every 12 months." The proposed change allows the functional testing to be performed "no less frequent than every 18 months." Also, since the capability exists to accomplish this testing while at power, there is no need to tie the functional testing to a refueling shutdown (as does current Technical Specifications). Consequently, the proposed change provides for testing prior to each major refueling shutdown. The staff has evaluated these proposed changes and has determined that these changes bring the surveillance frequency for this circuitry in line with the current surveillance frequency established in the STS for equivalent equipment. The staff has also determined that the results of the changes are within all acceptable criteria with respect to the system or component specified in the SRP, and therefore, finds these changes to be acceptable.

### 3.0 ENVIRONMENTAL CONSIDERATION

This amendment involves a change to 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 and changes to the surveillance requirements. The staff has determined that the amendment involves 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 issued a proposed finding that this amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, this amendment meets 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 this amendment.

### 4.0 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, and (2) such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

### 5.0 ACKNOWLEDGEMENT

This evaluation was prepared by Thomas S. Rotella.

Dated: October 22, 1985



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

October 22, 1985

Docket No. 50-155  
LS05-85-10-029

Mr. Kenneth W. Berry  
Director, Nuclear Licensing  
Consumers Power Company  
1945 West Parnall Road  
Jackson, Michigan 49201

Dear Mr. Berry:

SUBJECT: SURVEILLANCE FREQUENCIES

Re: Big Rock Point Plant

The Commission has issued the enclosed Amendment No. 79 to Facility Operating License No. DPR-6 for the Big Rock Point Plant. This amendment is in response to your application dated June 27, 1985.

The amendment changes several Technical Specification surveillance frequencies. These surveillances are currently required to be performed at various intervals regardless of scheduled refueling shutdowns. The changes will provide for operation of the facility between refueling shutdowns without the potential surveillance test performances interrupting continued power operation.

A Notice of Consideration of Issuance of Amendment to License and Proposed No Significant Hazards Consideration Determination and Opportunity for Hearing related to the requested action was published in the Federal Register on September 11, 1985 (50 FR 37077). No public comments or requests for hearing were received.

A copy of our related Safety Evaluation is also enclosed. This action will appear in the Commission's biweekly notice publication in the Federal Register.

Sincerely,

A handwritten signature in dark ink, appearing to read "J. A. Zwolinski", is written over the typed name.

John A. Zwolinski, Chief  
Operating Reactors Branch #5  
Division of Licensing

Enclosures:

1. Amendment No. 79 to  
License No. DPR-6
2. Safety Evaluation

cc w/enclosures:  
See next page

Mr. Kenneth W. Berry  
Consumers Power Company

Big Rock Point Plant

cc:  
Mr. Thomas A. McNish, Secretary  
Consumers Power Company  
212 West Michigan Avenue  
Jackson, Michigan 49201

Judd L. Bacon, Esquire  
Consumers Power Company  
212 West Michigan Avenue  
Jackson, Michigan 49201

Big Rock Point Plant  
ATTN: Mr. David P. Hoffman  
Plant Superintendent  
Route 3  
Post Office Box 591  
Charlevoix, Michigan 49720

Mr. I. Lee Moerland  
Chairman, Board of Commissioners  
P. O. Box 218  
Charlevoix, Michigan 49720

Office of the Governor  
Room 1 - Capitol Building  
Lansing, Michigan 48913

Regional Administrator  
Nuclear Regulatory Commission, Region III  
799 Roosevelt Road  
Glen Ellyn, Illinois 60137

Nuclear Facilities and Environmental  
Monitoring Section Office  
Division of Radiological Health  
P. O. Box 30035  
Lansing, Michigan 48909

Resident Inspector  
Big Rock Point Plant  
c/o U.S. NPC  
RR #3, Box 600  
Charlevoix, Michigan 49720



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

CONSUMERS POWER COMPANY

DOCKET NO. 50-155

BIG ROCK POINT PLANT

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 79  
License No. DPR-6

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Consumers Power Company (the licensee) dated June 27, 1985 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.

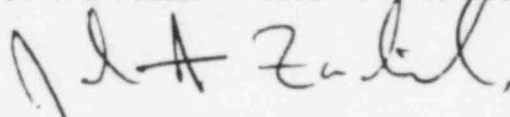
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and Paragraphs 2.C.(2) of Facility Operating License No. DPR-6 are hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A as revised through Amendment No. 79, 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



John A. Zwolinski, Chief  
Operating Reactors Branch #5  
Division of Licensing

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: October 22, 1985

ATTACHMENT TO LICENSE AMENDMENT NO. 79

FACILITY OPERATING LICENSE NO. DPR-6

DOCKET NO. 50-155

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

REMOVE

5-16a  
6-7  
6-7a  
6-7b  
6-9  
7-9

INSERT

5-16a  
6-7  
--  
--  
6-9  
7-9



### 5.2.3 Liquid Poison System

The liquid poison system shall be available for operation at all time during refueling and power operation. The reactor shall be shutdown in any situation where the poison solution tank level drops below an equivalent of 850 gallons 19 weight percent sodium pentaborate or where the poison solution storage temperature drops to less than 5°F above saturation temperature. The maximum allowable concentration shall be 30 weight percent of sodium pentaborate. The minimum worth of the liquid poison system (based on normal water level) shall be  $25\% \Delta k_{eff}$ . Components of the system shall be checked at one to two month intervals for proper operation except for actuation of the injection valves. The liquid poison system shall be used at any time when subcriticality cannot be assured by the normal shutdown mechanism. Injection shall be continued until a minimum shutdown margin of  $0.01 \Delta k_{eff}/k_{eff}$  is assured in the most reactive core. The reactor shall not be operated after poison has been injected until the boron concentration in the reactor water has been reduced to 100 ppm or less. One squib primer and trigger assembly from the equalizing line shall be removed and test-fired at least every 18 months. These shall be tested on an alternate basis ensuring valve replacement every 36 months. One squib primer and trigger assembly from the remaining five units shall be removed and test-fired at least every 18 months. These shall be tested on an alternate basis. In no case shall a squib primer and trigger assembly remain in service longer than five years. The tests shall consist of monitoring of the input firing current and shearing of the integral inlet cap.

### 6.1.3 (Contd.)

- (c) With the mode switch in the "shutdown" position, both the scram circuit and the control rod withdrawal circuit are open. The ventilating duct circuit power supply is transferred to a point which provides penetration closure protection through signals from "high containment sphere pressure" and "low water level in reactor vessel." This permits normal ventilation in the containment sphere during shutdown when the control rods are held in the full-in position. None of the reactor safety system signals are bypassed since there is no need to withdraw control rods.
- (d) With the mode switch in the refuel position and the crane positioned over the reactor vessel, crane operation is prevented if any one rod is withdrawn from full-in position.
- (e) High condenser pressure reactor trip is automatically bypassed any time steam drum pressure is below a set point maximum of 500 psig.

### 6.1.4 Related Systems

- (a) Emergency Condenser Control

A pressure switch shall initiate automatic operation of the emergency condenser if the reactor pressure reaches  $100 \pm 10$  psi above the reactor operating pressure.

### 6.1.5 Operating Requirements

- (a) Except as otherwise provided in these Technical Specifications, the reactor safety system shall be operable during power operation as indicated in Section 6.1.3. This system shall be functionally tested during each major refueling shutdown, but not less frequently than once every 18 months and in addition shall be tested not less frequently than once a month using the switches provided to simulate sensor trips.
- (b) The emergency condenser system control initiation sensors shall be functionally tested at each major refueling shutdown but not less frequently than once every 18 months.

## 6.2 CONTROL ROD WITHDRAWAL PERMISSIVE SYSTEM

### 6.2.1 Interlocks

Interlocks shall prevent control rod withdrawal when any of the following conditions exist:

- (a) When any two of the thirty-two scram accumulators are at pressure below 700 psig.
- (b) When two of the three power range channels read below 5 percent on their 0 to 125 percent scales (or below 2 percent on their 0-40 percent scales) when reactor power is above the minimum operating range of these channels. This interlock may be bypassed when all three of the power range channels are set on the minimum operable range.
- (c) When the scram dump tank is bypassed.
- (d) When the mode selector switch is in the shutdown position.

### 6.2.2 Operating Requirements

The control rod withdrawal permissive interlocks shall always be operable. No further withdrawal of control rods will be permitted if one of these circuits is found to be inoperable.

Permissive circuits shall be functionally tested prior to each major refueling but no less frequently than every 18 months. However, the refueling interlocks will be functionally tested prior to each major refueling.

## 6.3 REFUELING OPERATION INTERLOCK SYSTEM

### 6.3.1 Reactor Refueling System

All of the trip devices not bypassed by the mode selector switch in the refuel position shall be operative during all refueling operations. This shall include the sensors and trip devices of the reactor safety system as specified for power operation as follows:

- High Reactor Pressure
- Low Reactor Water Level
- High Containment Sphere Pressure
- High Scram Dump Tank Level
- Loss of Auxiliary Power Supply
- High Neutron Flux
- Short Period
- Manual Scram

<u>System or Function Undergoing Test</u>	<u>Frequency of Routine Tests</u>	<u>Reference Procedure Within These Specifications</u>
Containment sphere access airlocks leakage rate	6 months or less	
Control rod performance	At each major refueling shutdown**	Section 5.2.2
Liquid poison system component operability	Two months or less during power operation. One equalizing line squib and one remaining squib assembly test fired at least every 18 months.	Section 5.2.3
Reactor safety system scram circuits requiring plant shutdown to check	At each major refueling shutdown*	Section 6.1.5
Reactor safety system scram circuits not requiring plant shutdown to check	One month or less	Section 6.1.5
Containment sphere isola- tion trip circuits	At each major refueling shutdown*	Section 6.1.5
Emergency Condenser Trip Circuits	At each major refueling shutdown*	Section 6.1.5
Control rod withdrawal per- missive interlocks function	Prior to each major refueling shutdown*	Section 6.2.2
Refueling operation controls function	At each major refueling shutdown	Section 6.3.3
Calibration and functional test of air ejector off-gas and stack-gas monitors	Per Table 13-2	Section 13.2
Calibration of emergency condenser vent monitors	One month or less	Section 6.4.1
Calibration of process liquid monitors	Per Table 13-2	Section 13.2

\*But no less than once every 18 months

\*\*But no less than once every 20 months



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
SUPPORTING AMENDMENT NO. 79 TO FACILITY OPERATING LICENSE NO. DPR-6

CONSUMERS POWER COMPANY

BIG ROCK POINT PLANT

DOCKET NO. 50-155

1.0 INTRODUCTION

By letter dated June 27, 1985, Consumers Power Company (CPC, the licensee) submitted an application for an amendment to the Technical Specifications appended to Big Rock Point (the facility) Operating License DPR-6. The amendment proposes changes to several Technical Specification surveillance frequencies. The changes would provide for continued operation of the facility between refueling shutdowns without the potential of surveillance test performances interrupting continued power operation. These changes are consistent with existing Standard Technical Specification (STS) surveillance intervals.

A Notice of Consideration of Issuance of Amendment to License and Proposed No Significant Hazards Consideration Determination and Opportunity for Hearing related to the requested action was published in the Federal Register on September 11, 1985 (50 FR 37077). No public comments or requests for hearing were received.

2.0 EVALUATION

The proposed changes to Technical Specification Section 6.1.5 and 7.6 surveillance requirements for the reactor safety system scram circuits, containment sphere isolation trip circuits, and emergency condenser trip circuits, are identical. The testing surveillance intervals for this equipment would be changed from, "each refueling shutdown but not less frequently than once every 12 months," to, "each refueling shutdown but not less frequently than once every 18 months." These changes are consistent with STS surveillance intervals for equivalent equipment. The new surveillance intervals for these items would provide for the cases in which a planned 12-month fuel cycle was completed in 13 months (due to unplanned delays or circumstances causing middle of fuel cycle outages). Current requirements found in Technical Specifications Sections 6.1.5 and 7.6, would force a plant shutdown for performance of these surveillance tests (since the bounding limit is 12 months). The STS definition for an "R" surveillance interval is "at least once per 18 months." The system circuitry for the reactor safety system scram circuits, containment sphere isolation trip circuits and emergency condenser trip circuits must be tested while the facility is shut down. The above surveillance intervals remain coincident with refueling shutdowns; however,

the bounding limit is established at 18 months. Therefore, at minimum, the conservatism incorporated in the existing STS is established. The staff has reviewed these surveillance frequency changes and has concluded that the results of the changes are within all acceptable criteria with respect to the system or component specified in the Standard Review Plan (SRP). Therefore, the staff finds the changes to be acceptable.

The licensee has proposed changes to the surveillance and replacement frequencies for the squib primer and trigger assembly components of the liquid poison system. The surveillance frequency for one squib primer and trigger assembly located on the equalizing line is proposed to be changed from, "at least every 12 months and replaced every 24 months," to "at least every 18 months and replaced every 36 months." Also, "One squib primer and trigger assembly from the remaining five units shall be removed and test-fired at least every 18 months" rather than every 12 months as currently required. The proposed change still requires that these valves continue to be replaced at least every 5 years.

Although these surveillance frequencies have been decreased, they are consistent with the surveillance specifications provided in the Standby Liquid Control System STS. Also, the replacement frequency currently existing for these valves has remained at 5 years. This continues to limit the valves' longest service life to the manufacturer's recommended limit. Also, the provision for an 18-month surveillance for these units allows for testing to be performed during any cold shutdown, rather than a refueling shutdown as current specifications require. The staff has evaluated these proposed changes and has concluded that the results of the changes are within all acceptable criteria with respect to the system or component specified in the SRP, and therefore, finds these changes to be acceptable.

A change is proposed to the surveillance frequency for functional testing of the control rod permissive circuits. The current Technical Specification surveillance frequency provided in section 6.2.2 and in section 7.6, requires functional testing of the permissive circuits to be "not less frequent than once every 12 months." The proposed change allows the functional testing to be performed "no less frequent than every 18 months." Also, since the capability exists to accomplish this testing while at power, there is no need to tie the functional testing to a refueling shutdown (as does current Technical Specifications). Consequently, the proposed change provides for testing prior to each major refueling shutdown. The staff has evaluated these proposed changes and has determined that these changes bring the surveillance frequency for this circuitry in line with the current surveillance frequency established in the STS for equivalent equipment. The staff has also determined that the results of the changes are within all acceptable criteria with respect to the system or component specified in the SRP, and therefore, finds these changes to be acceptable.

### 3.0 ENVIRONMENTAL CONSIDERATION

This amendment involves a change to 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 and changes to the surveillance requirements. The staff has determined that the amendment involves 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 issued a proposed finding that this amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, this amendment meets 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 this amendment.

### 4.0 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, and (2) such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

### 5.0 ACKNOWLEDGEMENT

This evaluation was prepared by Thomas S. Rotella.

Dated: October 22, 1985