



Consumers
Power

**POWERING
MICHIGAN'S PROGRESS**

Big Rock Point Nuclear Plant, 10269 US-31 North, Charlevoix, MI 49720

Patrick M Donnelly
Plant Manager

October 15, 1996

Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

**DOCKET 50-155 - LICENSE DPR-6 - BIG ROCK POINT PLANT - TECHNICAL SPECIFICATION
CHANGE REQUEST - CONTAINMENT LEAK RATE TESTING PROGRAM REVISION - AND - MINOR
EDITORIAL CHANGES.**

A request for change to the Big Rock Point Technical Specifications is enclosed. This change is required to implement Option B, Performance Based Requirements, to Appendix J of 10 CFR Part 50. In addition, several editorial changes are also included.

On October 25, 1995, the Commission amended its regulations to provide a performance-based option for leakage-rate testing of containments of light-water cooled nuclear power plants. This action improves the focus of the regulations by eliminating prescriptive requirements that are marginal to safety. The amended rule allows test intervals to be based on system and component performance and provides licensees greater flexibility for cost effective implementation methods of regulatory safety objectives.

The proposed Technical Specification Change will allow the use of Option B for the Type A (containment), Type B (pneumatic tests to detect and measure local leakage rates across pressure retaining, leakage-limiting boundaries) and C (pneumatic tests to measure containment isolation valve leakage rates) tests. The Type A test to measure the containment system overall integrated leakage rate will continue to be performed under Option A. When Option B prerequisites are met, Option B will then be adopted for the Type A test.

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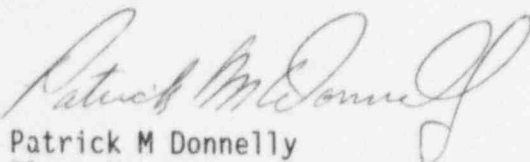
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NUCLEAR REGULATORY COMMISSION
BIG ROCK POINT PLANT
TECH SPEC CHANGE REQUEST
October 15, 1996

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The proposed Technical Specification also includes several administrative and editorial revisions.

In accordance with 10 CFR 50.92, Consumers Power Company has made a determination that the proposed amendment involves no significant hazards considerations



Patrick M Donnelly
Plant Manager

CC: Administrator, Region III, USNRC
NRC Resident Inspector - Big Rock Point

ATTACHMENTS

CONSUMERS POWER COMPANY
DOCKET 50-155

Request for Change to the Technical Specifications
License DPR-6

For the reasons hereinafter set forth, it is requested that the Technical Specifications contained in the Facility Operating License DPR-6, Docket 50-155, issued to Consumers Power Company on May 1, 1964, for the Big Rock Point Plant be changed as described in Section I below:

Revised Technical Specification pages are attached. Proposed changes are shown by a back-slash in the right-hand margin.

I. CHANGES

1) Revise Technical Specification 3.7 to read:

3.7 CONTAINMENT LEAK RATE TESTING PROGRAM

Programs shall be established to implement the leak rate testing of the containment as required by 10 CFR 50.54(o) and 10 CFR 50, Appendix J, Option A or B, as modified by approved exemptions. The Option B Program shall be in accordance with the guidelines of Regulatory Guide 1.163, "Performance-Based Containment Leakage-Test Program, dated September 1995."

For the purpose of this specification,...

- 2) Technical Specification section 4.1.2(b); Chloride Ion (Ppm) and Boron (Ppm) need to be revised to read Chloride Ion (ppm) and Boron (ppm).
- 3) Technical Specification section 6.1.3 Reactor Safety System Bypass; trip function bypassed when the mode selector switch is in the shutdown position, requires revision. Delete "None", and insert the following:

Low Steam Drum Level^(a)
Steam Line Backup Isolation Valve Closed
High Condenser Pressure
Recirculation Line Valves Closed

In the same section, note (c) also requires revision. Delete the last sentence of the note "None of the reactor safety system signals are bypassed since there is no need to withdraw control rods."

- 4) Technical Specification section 6.9.2.2.A.4, Radiological Impact on Man, needs revision to be consistent with Technical Specification section 6.9.2.2.A. Delete "to be submitted within 60 days after January 1 of each year shall", so that the paragraph reads "The Radiological Effluent Release Report shall include potential doses to individuals and populations calculated using measured effluent and averaged meteorological data in accordance with the methodologies in the Offsite Dose Calculation Manual."
- 5) Technical Specification section 6.12.1.c. has a reference to the Chemistry and Radiation Protection Supervisor. Delete "Chemistry and" so that the section reads "...specified by the Radiation Protection Supervisor in the RWP."

- 6) Technical Specification 6.12.2 needs correction. "Service" needs to be deleted and replaced with "surface", so that the sentence will read.."from the radiation source or from any surface from which the radiation penetrates..."
- 7) Technical Specification 11.3.5.3.7, Action 3 should read "Action a."
- 8) Bases for 13.1.3.1 - Gaseous Effluent Dose Rate requires a correction to the units described to measure skin dose. 3000 mr/hr should read 3000 mr/yr.

II. DISCUSSION

Change 1

On October 25, 1995, the Commission amended its regulations to provide a performance-based option (Option B) for leakage-rate testing of containments of light-water cooled nuclear power plants. This action improves the focus of the regulations by eliminating prescriptive requirements that are marginal to safety. The amended rule allows test intervals to be based on system and component performance and provides licenses greater flexibility for cost effective implementation methods of regulatory safety objectives. The NRC published a notice in the Federal Register on February 4, 1992, presenting its conclusion that Appendix J was a candidate whose requirements could be relaxed or eliminated based on cost-benefit considerations. Specifically, the NRC concluded that the allowable containment leakage rate utilized in containment may be increased and other Appendix J requirements need not be as prescriptive as the current requirements. To increase flexibility, the detailed and prescriptive technical requirements contained in Appendix J regulations could be improved and replaced with performance-based requirements and supporting regulatory guides.

The proposed Technical Specification Change allows Option B for the Type A (containment), the Type B (pneumatic tests to detect and measure local leakage rates across pressure retaining, leakage-limiting boundaries) and C (pneumatic tests to measure containment isolation valve leakage rates) tests. The Type A test to measure the containment system overall integrated leakage rate will continue to be performed under Option A, until the prerequisite(s) of Option B have been met.

Changes 2), 6), 7), and 8)

These changes correct typographical errors.

Change 3)

This change is requested to make the Technical Specifications consistent with the design basis of the plant. As evidenced by the proposed change, four trip functions are bypassed when the mode switch is in the Shutdown position.

Change 4)

This change is requested to make the Technical Specifications consistent. Technical Specification section 6.9.2.2.A.4, Radiological Impact on Man, needs revision to be consistent with Technical Specification section 6.9.2.2.A.

Change 5)

This change is required to reflect a recent organizational change that created separate supervisory positions for Chemistry and Radiation Protection.

III. ANALYSIS OF NO SIGNIFICANT HAZARDS CONSIDERATION

In accordance with 10 CFR 50.92, Consumers Power Company has made a determination that the proposed amendment involves no significant hazards considerations. To make this determination, Consumers Power Company has established that operation in accordance with the proposed amendment will not : 1) involve a significant increase in the probability or consequences of an accident previously evaluated, or 2) create the possibility of a new or different kind of accident from any accident previously evaluated, or 3) involve a significant reduction in a margin of safety.

The proposed Technical Specification Change adopting Option B for the Type A, Type B and C tests, and the other administrative/editorial revisions do not present an undue risk to the public, and does not impact common defense and security.

The proposed change does not:

- 1) Involve a significant increase in the probability or consequences of an accident previously evaluated.

Each proposed change is administrative, or editorial in nature. Proposed change 1) is a request to implement the newly approved Option B testing for Type A, B and C testing. This option is desired because it avoids unnecessary testing and thereby affords a reduction in costs, outage time and personnel radiation exposure. Type A testing will continue to be performed in accordance with Option A requirements until the prerequisites have been met for Option B. The remaining proposed changes are clarifications within the Technical Specifications. Since administrative/editorial changes do not alter the technical content of the technical specifications, plant operation or configuration is not affected. Therefore the proposed changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.

- 2) Create the possibility of a new or different kind of accident from any accident previously evaluated.

Each proposed change is administrative, or editorial in nature. Proposed change 1) is a request to implement the newly approved Option B testing for Type A, B and C testing. This option is desired because it avoids unnecessary testing and thereby affords a reduction in costs, outage time and personnel radiation

exposure. Type A testing will continue to be performed in accordance with Option A requirements until the prerequisites have been met for Option B. The remaining proposed changes are clarifications within the Technical Specifications. Since administrative/editorial changes do not alter the technical content of the technical specifications, plant operation or configuration is not affected. Therefore the proposed changes do not create the possibility of a new or different kind of accident from any accident previously evaluated.

3) Involve a significant reduction in a margin of safety

Each proposed change is administrative, or editorial in nature. Proposed change 1) is a request to implement the newly approved Option B testing for Type A, B and C testing. This option is desired because it avoids unnecessary testing and thereby affords a reduction in costs, outage time and personnel radiation exposure. Type A testing will continue to be performed in accordance with Option A requirements until the prerequisites have been met for Option B. The remaining proposed changes are clarifications within the Technical Specifications. Since administrative/editorial changes do not alter the technical content of the technical specifications, plant operation or configuration is not affected. Therefore the proposed changes do not involve a significant reduction in safety margin.

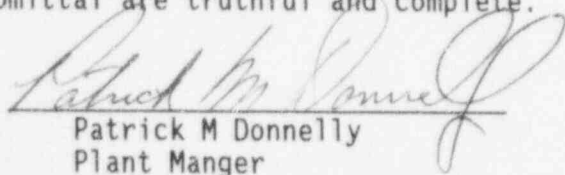
IV. CONCLUSION

The Big Rock Point Plant Review Committee has reviewed this Technical Specification Change Request and has determined this change does not involve an unreviewed safety question and, therefore, involves no significant hazards consideration. This change has been reviewed by the Nuclear Performance Assessment Department. A copy of this change request has been sent to the State of Michigan official designated to receive such Amendments to the Operating License.

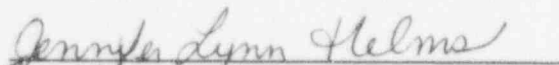
CONSUMERS POWER COMPANY

To the best of my knowledge, information and belief, the contents of this submittal are truthful and complete.

By


Patrick M Donnelly
Plant Manger

Sworn and subscribed to before me this 15th day of October 1996.


Jennifer Lynn Helms, Notary Public
Charlevoix County, Michigan

My commission expires August 29, 1999.

(SEAL)

ATTACHMENT 1

**CONSUMERS POWER COMPANY
BIG ROCK POINT PLANT
DOCKET 50-155**

As Proposed

Submitted October 15, 1996

3.5.2 Operating Requirements

Water addition to the containment sphere must be manually stopped before the accumulated water level reaches an elevation of 596 feet.

3.6 CONTAINMENT REQUIREMENTS

Containment sphere integrity shall be maintained during power operation, refueling operation, shutdown and cold shutdown conditions except as specified by a system of procedures and controls to be established for occasions containment must be breached during cold shutdown. If containment integrity cannot be maintained, the plant shall be brought to the shutdown condition within 12 hours, and to the cold shutdown condition within the following 24 hours.

3.7 CONTAINMENT LEAK RATE TESTING PROGRAM

Programs shall be established to implement the leak rate testing of the containment as required by 10 CFR 50.54(o) and 10 CFR 50, Appendix J, Option A or B, as modified by approved exemptions. The Option B Program shall be in accordance with the guidelines of Regulatory Guide 1.163, Performance Based Containment Leakage-Test Program, dated September 1995." /
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For the purpose of this specification, leakage rate is defined as the percent of the contained atmosphere (weight basis) which escapes per day (24 hrs) under the defined pressure conditions through any leaks in the containment boundary and all isolation valves and their associated piping.

The maximum allowable integrated leakage rate shall not exceed 0.5%/day of the containment atmosphere (weight basis) at the design pressure of 27 psig. The procedure for containment sphere leakage testing shall be:

- (a) At least once every 6 months, the personnel lock, the equipment lock and the sphere supply-and-exhaust ventilation valves shall be pressurized, with air to 23 psig, to test their leak tightness. The sum of leakage rates from these valves and locks shall be less than 0.25%/day of the containment atmosphere (weight basis) at 23 psig.
- (b) Each reactor shutdown for refueling, but in no case at intervals greater than two years, the following valves shall be tested for operability from both the manual and automatic modes of operation and, at the same time, shall be tested for leak tightness by means of a pressure test utilizing air or the normal working fluid at a pressure not less than 23 psig:

3.7 (Contd)

- * Main Steam Isolation (MO-7050)
- * Main Steam Drain (MO-7065)
- Clean-Up System Resin Sluice (CV-4091, CV-4092, CV-4093)
- Reactor and Fuel Pit Drain Isolation (CV-4027, CV-4117)
- Reactor Enclosure Clean Sump Isolation (CV-4031, CV-4102)
- Reactor Enclosure Dirty Sump Isolation (CV-4025, CV-4103)
- Reactor Enclosure Treated Waste Valve (CV-4049)

*Operability, automatic controls and instrumentation tests required only if valve is opened for use during operation.

6.1.3 Reactor Safety System Bypass

The following tabulation gives the permissive functional conditions during which certain reactor safety system sensors are bypassed by the reactor safety system mode selector switch. A keylock reactor mode switch shall be provided having "Shutdown," "Refuel," "Bypass Dump Tank" and "Run" positions.

These positions shall have the following functions:

<u>Mode Selector Switch Position</u>	<u>Trip Function Bypassed</u>
Run	None ^(e)
Bypass Dump Tank ^(a)	Low Steam Drum Water Level Recirculation Waterline Valves Closed Steam Line Backup Isolation Valve Closed High Water Level in Scram Dump Tank ^(b) High Condenser Pressure
Refuel ^(d)	Low Steam Drum Water Level Recirculation Waterline Valves Closed Steam Line Backup Isolation Valve Closed High condenser Pressure
Shutdown	Low Steam Drum Water Level ^(c) / Steam Line Backup Isolation Valve / Closed / High Condenser Pressure / Recirculation Waterline Valves Closed /

(a) Control rod withdrawal is prevented by interlock while switch is in this mode position.

(b) Bypass of this trip function is necessary to enable emptying the dump tank after a scram.

(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.

(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.

4.1.2 (Contd)

is above 300 psig. The shutdown cooling system shall be OPERABLE and ready for service during REFUELING OPERATIONS and the breakers for MO-7070 and MO-70 shall be tagged "open". The primary coolant shall be sampled and analyzed daily during periods of POWER OPERATION. The following are absolute limits which if exceeded shall necessitate reactor SHUTDOWN. Corrective action will necessarily be taken at more stringent limits to minimize the possibility of these absolute limits ever being reached.

Conductivity (Micromho/cm)		
Maximum	5	
Maximum Transient*	10	
pH (Lower and Upper Limits)	4.0 and 10.0	
Chloride Ion (ppm)	1.0	/
Boron (ppm)	100	/

Isotopic analysis of the primary coolant to determine the DOSE EQUIVALENT I-131 concentration shall be performed at least every 72 hours during periods of operation.

1. If the DOSE EQUIVALENT I-131 concentration exceeds $0.2 \mu\text{Ci/ml}$ and is less than or equal to $4.0 \mu\text{Ci/ml}$, isotopic analysis to determine DOSE EQUIVALENT I-131 shall be performed every 24 hours until the activity is less than $0.2 \mu\text{Ci/ml}$.
2. If the DOSE EQUIVALENT I-131 exceeds $4.0 \mu\text{Ci/ml}$, the plant shall be placed in a SHUTDOWN condition with the main steam isolation valve closed within 12 hours.

(c) Leakage Limits

1. If the primary coolant system leakage exceeds 1 gpm and the source of leakage is not identified, the reactor shall be SHUTDOWN as described in Section 1.2.5(a) within 12 hours, and cooldown to a COLD SHUTDOWN condition shall be initiated within 24 hours.
2. If leakage from the primary coolant system exceeds 10 gpm, the reactor shall be SHUTDOWN as described in Section 1.2.5(a) within 12 hours, and cooldown to a COLD SHUTDOWN condition shall be initiated within 24 hours.

*Conductivity is expected to increase temporarily after startups from cold shutdown. The maximum transient value here stated is the maximum permissible and applies only to the period subsequent to a cold shutdown between criticality and 24 hours after reaching 20% rated power.

6.9.2.2.A (Contd)

3. Solid Waste

The Radioactive Effluent Release Reports shall include the following information for each class of solid waste (as defined by 10 CFR Part 61) shipped offsite during the report period:

- a. Container burial volume,
- b. Total curie quantity (specify whether determined by measurement or estimate),
- c. Principal radionuclides (specify whether determined by measurement or estimate),
- d. Source of waste and processing employed (e.g., dewatered spent resin, compacted dry waste, evaporator bottoms),
- e. Type of container (e.g., LSA, Type A, Type B, Large Quantity), and
- f. Solidification agent or absorbent (e.g., cement, asphalt).

4. Radiological Impact on Man

The Radioactive Effluent Release Report shall include potential doses to individuals and populations calculated using measured effluent and averaged meteorological data in accordance with the methodologies in the Offsite Dose Calculation Manual. /
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- a. Total body and significant organ doses (greater than 1 milliRem) to individuals in unrestricted areas from receiving water-related exposure pathways.
- b. The maximum offsite air doses (greater than 1 milliRad) due to beta and gamma radiation at locations near ground level from gaseous effluents.
- c. Organ doses (greater than 1 milliRem) to individuals in unrestricted areas from radioactive iodine and radioactive material in particulate form from the major pathways of exposure.
- d. Total body doses (greater than 1 manRem) to the population and average doses (greater than 1 milliRem) to individuals in the population from receiving water-related pathways to a distance of 50 miles from the site.

6.12.1 (Contd)

- c. A radiation protection qualified individual (e.g., Health Physics Technician) with a radiation dose rate monitoring device, who is responsible for providing positive control over the activities within the area, and shall perform periodic radiation surveillance as specified by the Radiation Protection Supervisor in the RWP. /

6.12.2 In addition to the requirements of Specification 6.12.1, areas accessible to personnel with radiation levels greater than 1000 mrem/h at 30 cm (12 inches) but less than 500 rad/h at 1 meter from the radiation source or from any surface from which the radiation penetrates shall be provided with locked doors to prevent unauthorized entry, and the keys shall be maintained under the administrative control of the Shift Supervisor on duty and/or health physics supervision. Doors shall remain locked except during periods of access by personnel under an approved RWP which shall specify the dose rate levels in the immediate work areas and the maximum allowable stay time for individuals in that area. In lieu of the stay time specification of the RWP, direct or remote (such as closed circuit TV cameras) continuous surveillance may be made by personnel qualified in radiation protection procedures to provide positive exposure control over the activities being performed within the area. /

For individual high radiation areas accessible to personnel with radiation levels of greater than 1000 mR/h that are located within large areas where no enclosure exists for purposes of locking, and no enclosure can be reasonably constructed around the individual areas, then that individual area shall be barricaded, conspicuously posted, and a flashing light shall be activated as a warning device.

6.13 ENVIRONMENTAL QUALIFICATION

(Deleted)

6.14 PROCESS CONTROL PROGRAM (PCP)

6.14.1 Changes to the PCP shall be submitted to the Commission in the Radioactive Effluent Release Report for the period in which the change(s) was made effective. This submittal shall contain:

- a. Sufficiently detailed information to support the rationale for the change;
- b. A determination that the change did not reduce the overall conformance of the solidified waste product to existing criteria for solid wastes; and
- c. Documentation of the fact that the change has been reviewed and approved by the responsible Nuclear Operations Department per CPC-2A (Quality Program).

Limiting Conditions for Operation

11.3.5.3 EMERGENCY POWER SOURCES (Contd)

initiated within one (1) hour and the reactor shall be shutdown as described in Section 1.2.5(a) within twelve (12) hours and shutdown as described in Section 1.2.5(a) and (b) within the following 24 hours.

7. One RDS uninterruptible power supply including battery may be out of service as described in Section 3.1.5 Action a.
8. During reactor power operation, the 138 kV line may be out of service for repair for periods up to three (3) days.
9. If Specification A.8 is not met, a normal orderly shutdown shall be initiated within one (1) hour and the reactor shall be shutdown as described in Section 1.2.5(a) within twelve (12) hours and shutdown as described in Section 1.2.5(a) and (b) within the following 24 hours.

- B. During power and refueling operations the 2400 volt bus undervoltage components shall be operable or placed in the tripped condition, except during the monthly channel functional testing period.

Surveillance Requirements

11.4.5.3 EMERGENCY POWER SOURCES (Contd)

- (h) Verify that the capacity of the station battery, the RDS batteries and the alternate shutdown battery is adequate to supply and maintain in OPERABLE status all of the actual emergency loads for the design time interval when the battery is subjected to a battery service test. The design time interval / for the RDS batteries is one hour, two hours for the station battery and seventy-two hours for the alternate shutdown battery.
- (i) Test and calibrate the 2400 volt bus undervoltage trip control components as follows:
 - (1) The undervoltage relays 127-10XY, XZ and YZ will drop out on decreasing voltage of no lower than 107.1 volts, after a delay of ≤ 6 seconds.
 - (2) The auxiliary timing relay 162-104 will be actuated after a 10 ± 0.5 second time delay upon receiving a signal from all three (3) undervoltage relays.

BASES FOR 13.1.3.1 - GASEOUS EFFLUENT DOSE RATE (Contd)

or to less than or equal to 3000 mrem/yr to the skin. These release rate limits also restrict, at all times, the corresponding thyroid dose rate above background to a child via the inhalation pathway to less than or equal to 1500 mrem/yr. /

The required detection capabilities for radioactive materials in gaseous waste samples are tabulated in terms of the lower limits of detection (LLDs). Detailed discussion of the LLD and other detection limits can be found in HASL Procedures Manual, HASL-300 (revised annually), Currie, L A, "Limits for Qualitative Detection and Quantitative Determination - Application to Radiochemistry," Anal Chem 40, 586-93 (1968), and Hartwell, J K, "Detection Limits for Radioanalytical Counting Techniques," Atlantic Richfield Hanford Company Report ARH-SA-215 (June 1975).