UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

July 27, 1971

Docket No. 50-155

Consumers Power Company
ATTN: Mr. Gerald J. Walke
Nuclear Fuel Management
Administrator
212 West Michigan Avenue
Jackson, Michigan 49201

Change No. 26
License No. DPR-6

Gentlemen:

Your Proposed Change No. 27 dated February 2, 1971, and supplements thereto by telegrams dated February 16 and 26, March 2 and 5, and April 8, 1971, requested changes to the Technical Specifications of Facility License No. DPR-6 to permit operation of the Big Rock Point Nuclear Reactor using a modified post-incident cooling system. We have redesignated your request and supplements thereto as Proposed Change No. 26. Our review of this proposed change is related to our review of the emergency core cooling system for the Big Rock Point facility in connection with your proposal dated February 9, 1970, and to our comments thereon contained in my letter to you dated June 29, 1970.

On the basis of our review of your request, we have concluded that the proposed modifications to the post-incident cooling system, which include a new backup core spray system and automatic delayed actuation of the alternate containment spray system, should be made as soon as possible to increase the reliability of emergency core cooling. Your current evaluation to determine the need for additional modifications to assure an adequate supply of water to the feedwater pumps which must be relied upon for high pressure core cooling in the event of certain small size breaks (0.4 to 7.2 square inches) should be continued and needed modifications should be implemented. The reanalysis of your ECCS capability, as described in our letter to you of July 20, 1971, should be performed as soon as practical. However, the proposed plant modifications and Technical Specification changes need not be delayed until these further evaluations are completed.

Consequently, we have concluded that the proposed modification of the Big Rock Point Nuclear Reactor post-incident spray system will provide

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increased safety and that operation with the modified system does not present significant hazards considerations not described or implicit in your Safety Analysis Report. There is reasonable assurance that the health and safety of the public will not be endangered by the proposed modifications of the Big Rock Point Nuclear Reactor.

Accordingly, pursuant to Section 50.59 of 10 CFR Part 50, the Technical Specifications of Facility License No. DPR-6 are hereby changed as indicated in Attachment A to this letter.

Sincerely,

Peter A. Morris

Peter A. Morris, Director
Division of Reactor Licensing

Enclosure:
Attachment A - Changes to
Technical Specifications

cc w/enclosure:
George F. Trowbridge, Esquire
Shaw, Pittman, Potts, Trowbridge & Madden
910 - 17th Street, N. W.
Washington, D. C. 20006

ATTACHMENT A

CHANGE NO. 26 TO THE TECHNICAL SPECIFICATIONS

FACILITY LICENSE NO. DPR-6

CONSUMERS POWER COMPANY

DOCKET NO. 50-155

1. Change Section 3.5.1(d) to read as follows:

   "(d) System Actuation — 1 Set Automatic dc Operated, 1 Set Automatic ac Operated"

2. Change Section 3.5. a) to read as follows:

   "(a) Automatic operation of the containment spray system and backup containment spray system involves a time delay not to exceed five minutes after system actuation to allow the operator to override a possible spurious actuation. This time delay feature may be manually overridden to actuate the spray system prior to the expiration of the five-minute delay period."

3. Change Section 4.1.2(a) to add the following new section under Reactor Emergency Cooling between "Core Spray System" and "Core Spray System Recirculation":

   "Backup Core Spray System:

Type	Sparger Nozzle Centered Over Core
Capacity of Sparger, gpm	470
Nozzle Pressure, psia	115"

4. Change Section 4.1.2(b), except the tabulation at the end, to read as follows:

   "(b) Operating Requirements

   A minimum of one reactor recirculating loop or its equivalent shall be used during all reactor power operations when reactor power level is above 1.0 MWt. The maximum operating pressure and temperature shall be the same as the reactor vessel. The controlled rate of change of temperature in the reactor vessel shall be limited to 100°F per hour. All other components in the system shall be capable of following this temperature change rate. The safety relief valves shall be set appropriately for all planned reactor operating pressures so that the allowable pressure of 1870 psia (1700 plus 10%) in the nuclear steam supply system is not exceeded. The emergency condenser, core spray and backup core spray systems shall be operable and ready for service at all times during power operation. The core spray system and shutdown cooling system shall be operable and ready for service during refueling operations and the breakers for MO7070 and MO7071 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."

5. In Section 4.2.1(a), add the following items to the list of equipment which receive their power supply from the 125-volt dc battery system:

   "Post-Incident Enclosure Spray Valves

   Core Spray Valves"

6. In the first paragraph of Section 4.2.6 - Fire Protection System, change "Alternate method of core cooling by flooding the reactor pressure vessel" to read "Backup Core Spray Cooling System,"

7. In item 6 [High enclosure pressure (4 pressure switches)] of the tabulation in Section 6.1.2, change the two columns indicated below to read as follows:

" Scram Setting and Tolerance	Special Features
1.5 ± 0.2 psi above atmospheric	Closes containment sphere isolation valves."

8. In Section 6.1.4 - Related Systems:

   a. Renumber present Section "6.1.4(b) <u>Emergency Condenser Control</u>" to "6.1.4(d) ...".

   b. Insert new paragraphs 6.1.4(b) and (c) as follows:

      "(b) <u>Backup Core Spray System Control</u>

      The backup core spray system shall be automatically actuated by simultaneous tripping of the low reactor water level sensor along with the 'low reactor pressure device'. The 'low reactor pressure device' consists of a pressure switch interlock which prevents backup core spray system admission valves opening while reactor pressure is above 200 psig."

      "(c) <u>Core Spray, Backup Core Spray, Containment Spray and Backup Containment Spray System Set Points</u>

      The following tabulation gives the actuation set points for devices associated with the core spray, backup core spray, containment spray and backup containment spray systems:

      (See next page)

Sensor	Actuation Contacts	Setting and Tolerance	Function
Low reactor water level (4 level switches)	2 switches/valve 1 out of 2 coincidence	Elevation 610' 6" $\pm$ 1 inch	Actuates MO7051 and 7061 in conjunction with reactor pressure.
Low reactor water level (4 level switches)	2 switches/valve 1 out of 2 coincidence	Elevation 610' 6" $\pm$ 1 inch	Actuates MO7070 and 7071 in conjunction with reactor pressure.
Low reactor pressure switches (4 pressure switches)	2 switches/valve 1 out of 2 coincidence	200 psig $\pm$ 20 psi	Actuates MO7051 and 7061 in conjunction with low reactor water level.
Low reactor pressure switches	2 switches/valve 1 out of 2 coincidence	200 psig $\pm$ 20 psi	Actuates MO7070 and 7071 in conjunction with low reactor water level.
High enclosure pressure switches (2 pressure switches)	2 - 1 of 2 required	1.5 $\pm$ 0.2 psig	Actuates a time-delay mechanism that initiates MO7064 (containment spray system) within 5 minutes unless the control is manually overridden.
High enclosure pressure switches	2 - 1 of 2 required	2.0 $\pm$ 0.2 psig	Actuates a time-delay mechanism that initiates MO7068 (backup containment spray system) within five minutes unless MO7064 is open or the control is manually overridden.
Valve position switch MO7064	1	75-100% of full open	Blocks automatic actuation of MO7068 when MO7064 is full open."

9. Change Section 6.1.5(b) to read as follows:

"(b) The core spray system, backup core spray system and emergency condenser system control initiation sensors shall be functionally tested not less frequently than once every 12 months. This testing of the control initiation sensors of the core spray system and backup spray system shall include actuation of valves MO7051, MO7061, MO7070 and MO7071. The check valves between MO7051 and MO7061 and MO7070 and MO7071 will be tested once every 12 months to assure that they are operable."

10. Change Section 6.1.6 to read as follows:

"The automatic actuation of the containment spray system and the backup containment spray system shall occur within five minutes of the receipt of a high containment pressure signal if more than one-half of the fuel bundles in the core are zirconium-clad."

11. Delete paragraph (d), Supplemental Core Cooling, of Section 8.2.1 in its entirety.

~~APR 2 0 1971~~

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Consequently, we have concluded that the proposed modification of the Big Rock Point Nuclear Reactor post-incident spray system will provide

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increased safety and that operation with the modified system does not present significant hazards considerations not described or implicit in your Safety Analysis Report. There is reasonable assurance that the health and safety of the public will not be endangered by the proposed modifications of the Big Rock Point Nuclear Reactor.

Accordingly, pursuant to Section 50.59 of 10 CFR Part 50, the Technical Specifications of Facility License No. DPR-6 are hereby changed as indicated in Attachment A to this letter.

Sincerely,

Peter A. Morris, Director
Division of Reactor Licensing

Enclosure:
Attachment A - Changes to
Technical Specifications

cc: George F. Trowbridge, Esquire
Shaw, Pittman, Potts, Trowbridge & Madden
910 - 17th Street, N. W.
Washington, D. C. 20006

Distribution
W. Dooly, DR
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SURNAME ▶	RMDiggs:sjg	JJShea	DLZiemann	DJSkovholt	FSchroeder	PAMorris
DATE ▶	3/24/71	3/24/71	3/24/71	3/24/71	4/3/71	4/ /71

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Original Signed by
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Notified Mr. G. Walker who was absent at the time via M. Swartz. Time 10am July 28, 1971 Shea

Distribution
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Dispatched 8/2/71

OFFICE ▶	DRL	DRL	DRL	DRL	DRL	DRL
SURNAME ▶	RMDiggs:sjg	JJShea	DLZiemann for by Shea	DJSkovholt	[illegible]	PAMorris
DATE ▶	7/26/71	7/27/71	7/27/71	7/27/71		7/27/71