



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

COMMONWEALTH EDISON COMPANY

DOCKET NO. STN 50-454

BYRON STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 54
License No. NPF-37

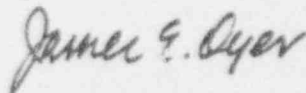
1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Commonwealth Edison Company (the licensee) dated March 31, 1992, as supplemented May 18, 1992, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) 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 2.C.(2) of Facility Operating License No. NPF-37 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A as revised through Amendment No. 54 and the Environmental Protection Plan contained in Appendix B, both of which are attached hereto, are hereby incorporated into this license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of the date of its issuance, to be implemented within 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION



James E. Dyer, Director
Project Directorate III-2
Division of Reactor Projects - III/IV/V
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: May 17, 1993



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

COMMONWEALTH EDISON COMPANY

DOCKET NO. STN 50-455

BYRON STATION, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 54
License No. NPF-66

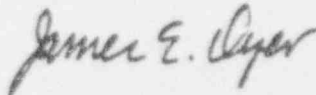
1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Commonwealth Edison Company (the licensee) dated March 31, 1992, as supplemented May 18, 1992, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations set forth in 10 CFR Chapter 1;
 - 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 2.C.(2) of Facility Operating License No. NPF-66 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A (NUREG-1113), as revised through Amendment No. 54 and revised by Attachment 2 to NPF-66, and the Environmental Protection Plan contained in Appendix B, both of which were attached to License No. NPF-37, dated February 14, 1985, are hereby incorporated into this license. Attachment 2 contains a revision to Appendix A which is hereby incorporated into this license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of the date of its issuance, to be implemented within 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION



James E. Dyer, Director
Project Directorate III-2
Division of Reactor Projects - III/IV/V
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: May 17, 1993

ATTACHMENT TO LICENSE AMENDMENT NOS. 54 AND 54
FACILITY OPERATING LICENSE NOS. NPF-37 AND NPF-66
DOCKET NOS. STN 50-454 AND STN 50-455

Revise the Appendix A Technical Specifications by removing the pages identified below and inserting the attached pages. The revised pages are identified by the captioned amendment number and contain marginal lines indicating the area of change. The page indicated by an asterisk is provided for convenience.

<u>Remove Pages</u>	<u>Insert Pages</u>
3/4 7-13	3/4 7-13
3/4 7-14	3/4 7-14
3/4 7-14a	3/4 7-14a
3/4 7-15	3/4 7-15
* 3/4 7-16	* 3/4 7-16
B 3/4 7-3	B 3/4 7-3
B 3/4 7-4	B 3/4 7-4

PLANT SYSTEMS

3/4.7.5 ULTIMATE HEAT SINK

LIMITING CONDITIONS FOR OPERATION

3.7.5 The ultimate heat sink (UHS) shall be OPERABLE with:

- a. A water level in each of the UHS cooling tower basins of at least 50%,
- b. A total of 6 fans OPERABLE (high speed),
- c. Two OPERABLE essential service water makeup pumps,
- d. An essential service water pump discharge temperature of less than or equal to 80°F or less than or equal to 96°F with all OPERABLE fans running in high speed,
- e. Two OPERABLE UHS cooling tower basin level switches,
- f. The National Weather Service (NWS) does not forecast the Rock River level to exceed 702.0 feet MSL,
- g. Rock River water level greater than 670.6 feet MSL, and
- h. The National Weather Service (NWS) has not issued a tornado watch that includes the Byron Site Area.

APPLICABILITY: MODES 1, 2, 3, and 4

ACTION:

- a. With a water level of less than 50% in either UHS cooling tower basin, restore the water level to at least 50% in each UHS cooling tower basin within 6 hours or be in HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- b. With only 5 fans OPERABLE, within 1 hour verify the 5 OPERABLE fans are capable of being powered by their respective emergency diesel generators. Restore at least 6 fans to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and COLD SHUTDOWN within the following 30 hours.

LIMITING CONDITION FOR OPERATION (Continued)ACTION (Continued)

- c. With one essential service water makeup pump inoperable, within 72 hours either:
 - 1) Restore the inoperable essential service water makeup pump to OPERABLE status, or
 - 2) Verify that the same train deep well pump is OPERABLE with both UHS cooling tower basin levels $\geq 82\%$. Continue to verify both basin levels are $\geq 82\%$ every two hours and restore the inoperable essential service water makeup pump to OPERABLE status within *7 days. (*This can be extended to 14 days for Essential Service Water Makeup pump inspection and extended maintenance during the time when at least one unit is in MODE 5 or 6.) The provisions of Specification 3.0.4 are not applicable.
 - 3) Otherwise be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- d. With the essential service water pump discharge water temperature not meeting the above requirement, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- e. 1) With one UHS cooling tower basin switch inoperable:
 - a) Restore the level switch to OPERABLE status within 72 hours or verify both basin levels are $\geq 82\%$ within the next hour and every 2 hours thereafter. The provisions of Specification 3.0.4 are not applicable.
 - b) Otherwise be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- 2) With both UHS cooling tower basin level switches inoperable:
 - a) Restore one level switch to OPERABLE status within 1 hour and follow the provisions of 4.7.5.e.1 above, or verify both basin levels are $\geq 82\%$ within the next hour and every 2 hours thereafter. The provisions of Specification 3.0.4 are not applicable.
 - b) Otherwise be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- 3) With any UHS cooling tower basin level switch inoperable for more than 30 days, prepare and submit a special report to the Commission pursuant to Specification 6.9.2 within the next 10 days outlining the cause of the inoperability and the plans for restoring the switch(es) to OPERABLE status.
- f. With Rock River water level forecasted by NWS to exceed 702.0 feet MSL:

LIMITING CONDITION FOR OPERATION (Continued)

ACTION (Continued)

- 1) Within one hour verify that both deep well pumps are OPERABLE with both UHS cooling tower basin levels $\geq 82\%$ and at least once every 2 hours thereafter, verify both basin levels are $\geq 82\%$. The provisions of Specification 3.0.4 are not applicable.
 - 2) With one deep well pump inoperable restore both deep well pumps to OPERABLE status with both basin levels $\geq 82\%$ before the Rock River level exceeds 702 feet MSL or within 72 hours, whichever comes first and follow provisions of ACTION f.1).
 - 3) Otherwise be in HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- g. With Rock River water level at or below 670.6 feet MSL within one hour verify Rock River level and flow, and:
- 1) If Rock River level > 664.7 feet MSL and flow ≥ 700 cfs verify Rock River level > 664.7 feet MSL and flow ≥ 700 cfs every 12 hours thereafter. The provisions of Specification 3.0.4 are not applicable.
 - 2) If Rock River level ≤ 664.7 feet MSL or flow < 700 cfs, within one hour:
 - a) Verify that both deep well pumps are OPERABLE with both UHS cooling tower basin levels $\geq 82\%$ and at least once every 2 hours thereafter, verify both basin levels are $\geq 82\%$. The provisions of Specification 3.0.4 are not applicable.
 - b) With one deep well pump inoperable, within 72 hours restore both deep well pumps to OPERABLE status with both basin levels $\geq 82\%$ and follow provisions of ACTION g.2)a).
 - c) Otherwise be in at least HOT STANDBY within the next 6 hours and at least HOT SHUTDOWN within the following 6 hours and at least COLD SHUTDOWN within the subsequent 24 hours.
- h) With a tornado watch issued by NWS that includes Byron site area:
- 1) Within one hour verify that both deep well pumps are OPERABLE with both UHS cooling tower basin levels $\geq 82\%$ and at least once every 2 hours thereafter, verify both basin levels $\geq 82\%$. The provisions of Specification 3.0.4 are not applicable.
 - 2) With one deep well pump inoperable, within 30 minutes take action to restore both deep well pumps to OPERABLE status with both basin levels $\geq 82\%$ and at least once every 2 hours thereafter, verify both basin levels $\geq 82\%$.
 - 3) Otherwise be in HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS

4.7.5 The UHS shall be determined OPERABLE at least once per:

- a. 24 hours by verifying the water level in each UHS cooling tower basin to be greater than or equal to 50%,
- b. 24 hours by verifying the essential service water pump discharge water temperature is within its limit,
- c. 24 hours by verifying that the Rock River water level is within its limits,
- d. 31 days by starting from the control room each UHS cooling tower fan that is required to be OPERABLE and not already in high speed operation and operating each of those fans in high speed for at least 15 minutes,
- e. 31 days by
 - 1) Verifying that the fuel supply for each diesel powered essential service water makeup pump is at least 36% of the fuel supply tank volume,
 - 2) Starting the diesel from ambient conditions on a low basin level test signal and operating the diesel powered pump for at least 30 minutes,
 - 3) Verifying that each valve (manual, power operated, or automatic) in the flow path is in its correct position,
 - 4) Starting each deep well pump and operating it for at least 15 minutes and verifying that each valve (manual, power-operated, or automatic) in the flow path is in its correct position,
- f. 92 days by verifying that a drain sample of diesel fuel from the fuel storage tank, obtained in accordance with ASTM D4057-1981, is within the acceptable limits specified in Table 1 of ASTM-D975-1977 when checked for viscosity, water, and sediment,
- g. 18 months by performing a CHANNEL CALIBRATION on each of the UHS cooling tower basin level switches,
- h. 18 months by subjecting each diesel that powers an essential service water makeup pump to an inspection in accordance with procedures prepared in conjunction with its manufacturer's recommendations for the class of service and by cycling each testable valve in the flow path through at least one complete cycle of full travel,
- i. 18 months by verifying each deep well pump will provide at least 550 gpm flow rate, and
- j. 18 months by visually inspecting and verifying no abnormal breakage or degradation of the fill materials in the UHS cooling tower.

PLANT SYSTEMS

3/4.7.6 CONTROL ROOM VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.6 Two independent Control Room Ventilation Systems shall be OPERABLE.

APPLICABILITY: ALL MODES.

ACTION:

MODES 1, 2, 3 and 4:

With one Control Room Ventilation System inoperable, restore the inoperable system to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

MODES 5 and 6:

- a. With one Control Room Ventilation System inoperable, restore the inoperable system to OPERABLE status within 7 days or initiate and maintain operation of the remaining OPERABLE Control Room Ventilation System in the makeup mode.
- b. With both Control Room Ventilation Systems inoperable, or with the OPERABLE Control Room Ventilation System, required to be in the makeup mode by ACTION a. not capable of being powered by an OPERABLE emergency power source, suspend all operations involving CORE ALTERATIONS or positive reactivity changes.

SURVEILLANCE REQUIREMENTS

4.7.6 Each Control Room Ventilation System shall be demonstrated OPERABLE:

- a. At least once per 12 hours by verifying that the control room air temperature is less than or equal to 90°F;
- b. At least once per 31 days on a STAGGERED TEST BASIS by initiating, from the control room, flow through the Emergency Makeup System HEPA filters and charcoal adsorbers and verifying that the system operates for at least 10 continuous hours with the heaters operating; and flow through the recirculation charcoal adsorber for 15 minutes.
- c. At least once per 18 months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire or chemical release in any ventilation zone communicating with the Emergency Makeup System filter plenum by:
 - 1) Verifying that the cleanup system satisfies the in-place penetration testing acceptance criteria of less than 0.05% and uses the test procedure guidance in Regulatory Positions C.5.a, C.5.c, and C.5.d of Regulatory Guide 1.52, Revision 2, March 1978, and the system flow rate is 6000 cfm \pm 10% for the Emergency Makeup System;

PLANT SYSTEMS

BASES

3/4.7.1.5 MAIN STEAM LINE ISOLATION VALVES

The OPERABILITY of the main steam line isolation valves ensures that no more than one steam generator will blowdown in the event of a steam line rupture. This restriction is required to: (1) minimize the positive reactivity effects of the Reactor Coolant System cooldown associated with the blowdown, and (2) limit the pressure rise within containment in the event the steam line rupture occurs within containment. The OPERABILITY of the main steam isolation valves within the closure times of the Surveillance Requirements are consistent with the assumptions used in the safety analyses.

3/4.7.2 STEAM GENERATOR PRESSURE/TEMPERATURE LIMITATION

The limitation on steam generator pressure and temperature ensures that the pressure-induced stresses in the steam generators do not exceed the maximum allowable fracture toughness stress limits. The limitations of 70°F and 200 psig are based on a steam generator RT_{NDT} of 60°F and are sufficient to prevent brittle fracture.

3/4.7.3 COMPONENT COOLING WATER SYSTEM

The OPERABILITY of the Component Cooling Water System ensures that sufficient cooling capacity is available for continued operation of safety-related equipment during normal and accident conditions. The redundant cooling capacity of this system, assuming a single failure, is consistent with the assumptions used in the safety analyses.

3/4.7.4 ESSENTIAL SERVICE WATER SYSTEM

The OPERABILITY of the Essential Service Water System ensures that sufficient cooling capacity is available for continued operation of safety-related equipment during normal and accident conditions. The redundant cooling capacity of this system, assuming a single failure, is consistent with the assumptions used in the accident conditions within acceptable limits.

3/4.7.5 ULTIMATE HEAT SINK

The limitations on the ultimate heat sink ensure 1) sufficient cooling capacity is available for continued operation of safety related equipment during normal and accident conditions and 2) adequate inventory is available to provide a 30-day cooling water supply to safety related equipment. The limiting design basis event for the UHS is a loss of coolant accident coincident with a loss of offsite power on one unit, in conjunction with the other unit proceeding to an orderly shutdown and cooldown from maximum power to Mode 5, assuming a single active failure.

PLANT SYSTEMS

BASES

ULTIMATE HEAT SINK (Continued)

The minimum UHS cooling tower basin water level of 50% indicated (873.75 feet above Mean Sea Level) and the service water pump discharge temperature limits assure that adequate thermal capacity is available in the SX water inventory to absorb the initial accident heat input. Six of eight cooling tower fans are required to be operable so that the required number of fans are available after a single active failure. The SX cooling tower basin temperature will remain less than 100°F.

A volume of 200,000 gallons in each cooling tower basin is available to supply the auxiliary feedwater system. The basin inventory is also available for transporting heat from safety related equipment during normal and accident conditions. Due to evaporation, blowdown, and auxiliary feedwater supply the basin inventory alone is not adequate for the required 30-day cooling water supply, therefore makeup systems are provided to replenish the basin inventory.

Adequate inventory is maintained by the SX makeup system that uses the Rock River as a water source. The SX makeup system is designed to withstand all design basis natural phenomena events and combination of events except for seismic events during low Rock River flow or level (loss of SX makeup pump suction), tornado, and river flood. A backup makeup system uses the deep wells as a water source. The deep well system is designed for seismic, tornado, and river flood events.

Each essential service water makeup pump is powered by a diesel engine with a fuel supply adequate for approximately 3 days of operation. Achievement of the design basis 30-day operation is dependent upon successful implementation of plant procedures to replenish the fuel supply following design basis events.

The operability requirements for the basin level switches, Rock River level limitations, and tornado watch limitations assure that the SX makeup system is available to provide makeup water. The corresponding actions assure that the backup deep well system is available and increases the minimum cooling tower basin level to assure that adequate basin water inventory is available after a two hour delay to manually start the deep well pumps after an accident.

3/4.7.6 CONTROL ROOM VENTILATION SYSTEM

The OPERABILITY of the Control Room Ventilation System ensures that: (1) the ambient air temperature does not exceed the allowable temperature for continuous duty rating for the equipment and instrumentation cooled by this system, and (2) the control room will remain habitable for operations personnel during and following all credible accident conditions. Operation of the system with the heaters operating for at least 10 continuous hours in a 31-day period is sufficient to reduce the buildup of moisture on the adsorbers and HEPA filters. The OPERABILITY of this system in conjunction with control room