ATTACHMENT B-1

MARKED UP PAGES FOR
PROPOSED CHANGES TO APPENDIX A,
TECHNICAL SPECIFICATIONS, OF
FACILITY OPERATING LICENSES NPF-37 AND NPF-66

BYRON STATION UNIT 1 AND UNIT 2
REVISED PAGES

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B 3/4 5-2
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SURVEILLANCE REQUIREMENTS

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SURVEILLANCE REQUIREMENTS

4.5.2 Each ECCS subsystem shall be demonstrated OPERABLE:

a. At least once per 12 hours by verifying that the following valves are in the indicated positions with power to the valve operators removed:

Valve Number	Valve Function	Valve Position
MOV SI8806	Suction to the SI Pumps	Open
MOV SI8835	SI Pump Discharge To RCS Cold Legs	Open*
MOV SI8813	SI Pump Recirculation To The RWST	Open
MOV SI8809A	RHR Pump Discharge to RCS Cold Legs	Open*
MOV SI8809B	RHR Pump Discharge to RCS Cold Legs	Open*
MOV SI8840	RHR Pump Discharge to RCS Hot Legs	Closed
MOV SI8802A	SI Pump Discharge to RCS Hot Legs	Closed
MOV SI8802B	SI Pump Discharge to RCS Hot Legs	Closed

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b. For Unit 1, through Cycle 8, at least once per 31 days by:

1) Venting the pump casings and discharge piping high point vent valves outside of containment (applicable to idle RH and SI systems only), and

2) Verifying that each valve (manual, power-operated, or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position (applicable to CV, RH, SI systems).

3) Verifying the CV system is full of water by ultrasonically examining the discharge portion of the idle CV pump up to the discharge check valve and the stagnant portion of the piping upstream of the 1SI8801A and B of the 1SI045 valve (applicable to CV system only).

c. By a visual inspection which verifies that no loose debris (rags, trash, clothing, etc.) is present in the containment which could be transported to the containment sump and cause restriction of the pump suctions during LOCA conditions. This visual inspection shall be performed:

*Valves may be realigned for testing pursuant to Specification 4.4.6.2.2.

SURVEILLANCE REQUIREMENTS

4.5.2 Each ECCS subsystem shall be demonstrated OPERABLE:

a. At least once per 12 hours by verifying that the following valves are in the indicated positions with power to the valve operators removed:

Valve Number	Valve Function	Valve Position
MOV SI8806	Suction to the SI Pumps	Open
MOV SI8835	SI Pump Discharge To RCS Cold Legs	Open*
MOV SI8813	SI Pump Recirculation To The RWST	Open
MOV SI8809A	RHR Pump Discharge to RCS Cold Legs	Open*
MOV SI8809B	RHR Pump Discharge to RCS Cold Legs	Open*
MOV SI8840	RHR Pump Discharge to RCS Hot Legs	Closed
MOV SI8802A	SI Pump Discharge to RCS Hot Legs	Closed
MOV SI8802B	SI Pump Discharge to RCS Hot Legs	Closed

b. At least once per 31 days by:

1) Venting the ECCS pump casings and discharge piping high point vent valves outside of containment (applicable to idle RH and SI systems only), and

2) Verifying that each valve (manual, power-operated, or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position (applicable to CV, RH, SI systems).

3) Verifying the CV system is full of water by ultrasonically examining the discharge portion of the idle CV pump up to the discharge check valve, the stagnant portion of the piping upstream of the 2SI8801 A and B at the 2SI045 valve, and the piping at the 2CV206 valve if the 2BCV pump is idle (applicable to the CV system only).

c. By a visual inspection which verifies that no loose debris (rags, trash, clothing, etc.) is present in the containment which could be transported to the containment sump and cause restriction of the pump suctions during LOCA conditions. This visual inspection shall be performed:

*Valves may be realigned for testing pursuant to Specification 4.4.6.2.2.

BASES

ECCS SUBSYSTEMS (Continued)

The limitation for a maximum of one centrifugal charging pump to be OPERABLE and the Surveillance Requirement to verify all charging pumps except the required OPERABLE Charging pump to be inoperable in MODE 4 with one or more of the RCS cold legs less than or equal to 330°F, MODE 5, and MODE 6 with the reactor vessel head on, provides assurance that a mass addition pressure transient can be relieved by the operation of a single PORV or RHR suction relief valve. Similarly, the requirement to verify all Safety Injection pumps are inoperable in MODE 4 with the temperature of one or more of the RCS Cold Legs less than or equal to 330°F, in MODE 5 with pressurizer level greater than 5 percent (Level 409.5') and in MODE 6 with pressurizer level greater than 5 percent and the reactor vessel head resting on the reactor vessel flange, provides assurance that a mass addition pressure transient can be relieved by a single PORV or RHR suction relief valve.

In MODE 5 and MODE 6 with pressurizer level less than or equal to 5 percent, at least one Safety Injection pump or gravity feed from the RWST must be available to mitigate the effects of a loss of decay heat removal during partially drained conditions. Surveillance requirements assure availability, but prevent inadvertent actuation during these modes. The desired flow path for the SI pump or gravity feed varies with RCS configuration and is, therefore, procedurally addressed.

The Surveillance Requirements define what constitutes an adequate hot side vent for various plant conditions. It was determined that removing the reactor vessel head was an adequate vent under all conditions. Other venting alternatives have restrictions based on time from shutdown and RCS temperature. The values in the surveillance were taken from the graph on page B 3/4 5-3.

The Surveillance Requirements provided to ensure OPERABILITY of each component ensures that at a minimum, the assumptions used in the safety analyses are met and that subsystem OPERABILITY is maintained. Surveillance Requirements for throttle valve position stops and flow balance testing provide assurance that proper ECCS flows will be maintained in the event of a LOCA. Maintenance of proper flow resistance and pressure drop in the piping system to each injection point is necessary to: (1) prevent total pump flow from exceeding runout conditions when the system is in its minimum resistance configuration, (2) provide the proper flow split between injection points in accordance with the assumptions used in the ECCS-LOCA analyses, and (3) provide an acceptable level of total ECCS flow to all injection points equal to or above that assumed in the ECCS-LOCA analyses. The Surveillance Requirements for leakage testing of ECCS check valves ensures that a failure of one valve will not cause an intersystem LOCA. In Mode 3, with pressurizer pressure below 1000 psig, the accumulators will be available with their isolation valves either closed but energized, or open, whenever a SI8809 valve is closed to perform check valve leakage testing.

~~For Unit 1, Surveillance Requirement 4.5.2.b.1 requires that the ECCS pump casings and discharge piping high points equipped with vent valves be vented on a 31 day frequency. This venting surveillance does not apply to subsystems in communication with operating systems because the flows and/or pressures prevalent in these systems are sufficient to provide confidence that water hammer which occurs from voiding would not result in unacceptable dynamic~~

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ECCS SUBSYSTEMS (Continued)

loads. During normal operation, this exclusion would apply to the High Head Safety Injection subsystem. During shutdown cooling operation, the exclusion would apply to the single required centrifugal charging pump and operating RH pump, in addition to the ECCS piping in communication with the operating pumps. Because the centrifugal charging pumps are not equipped with pump casing vent valves, and the pump design and system piping configuration allow the pumps to be maintained under positive pressure when in standby, manual venting of these pumps is not required.

The surveillance requirement to ultrasonically examine selected portions of piping involves the idle CV pump discharge piping up to the first check valve on the pump discharge and miniflow lines, and the stagnant portion of the piping upstream of the 1SI8801A/B adjacent to the vent valve 1SI045. This will provide added assurance that the piping is water solid.

For Unit 2, Surveillance Requirement 4.5.2.b.1 requires that the RH and SI pump casings and discharge piping high point vent valves be vented on a 31 day frequency. This venting surveillance does not apply to subsystems in communication with operating systems because the flows in these systems are sufficient to provide confidence that water hammer which could occur from voiding would not result in unacceptable dynamic loads. During shutdown cooling operation, the exclusion would apply to the operating RH pump, in addition to the ECCS piping in communication with the operating pump.

The TS 4.5.2.b.3 surveillance requirement to ultrasonically examine selected portions of piping involves the idle CV pump discharge piping up to the first check valve on the pump discharge and miniflow lines, the stagnant portion of the piping upstream of the 2SI8801A/B adjacent to the vent valve 2SI045, and the piping at the 2CV206 valve if the 2B CV pump is idle. This examination will provide added assurance that the piping is water solid.

ATTACHMENT B-2

MARKED UP PAGES FOR
PROPOSED CHANGES TO APPENDIX A,
TECHNICAL SPECIFICATIONS, OF
FACILITY OPERATING LICENSES NPF-72 AND 77

BRAIDWOOD STATION UNIT 1 AND UNIT 2
REVISED PAGES:

3/4 5-4
3/4 5-4 a
3/4 5-4 b
B 3/4 5-2
B 3/4 5-2a

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SURVEILLANCE REQUIREMENTS

4.5.2 Each ECCS subsystem shall be demonstrated OPERABLE:

a. At least once per 12 hours by verifying that the following valves are in the indicated positions with power to the valve operators removed:

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MOV SI8809A	RHR Pump Discharge to RCS Cold Legs	Open*
MOV SI8809B	RHR Pump Discharge to RCS Cold Legs	Open*
MOV SI8840	RHR Pump Discharge to RCS Hot Legs	Closed
MOV SI8802A	SI Pump Discharge to RCS Hot Legs	Closed
MOV SI8802B	SI Pump Discharge to RCS Hot Legs	Closed

b. For Unit 1, through Cycle 7, at least once per 31 days by:

1) Venting the pump casings and discharge piping high point vent valves outside of containment (applicable to idle RH and SI system only), and

2) Verifying that each valve (manual, power-operated, or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position (applicable to CV, RH, SI system).

3) Verifying the CV system is full of water by ultrasonically examining the discharge portion of the idle CV pump up to the discharge check valve and the stagnant portion of the piping upstream of 1SI8801A and B at the 1SI045 valve (applicable to CV system only).

c. By a visual inspection which verifies that no loose debris (rags, trash, clothing, etc.) is present in the containment which could be transported to the containment sump and cause restriction of the pump suctions during LOCA conditions. This visual inspection shall be performed:

*Valves may be realigned for testing pursuant to Specification 4.4.6.2.2.

4.5.2 Each ECCS subsystem shall be demonstrated OPERABLE:

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b. At least once per 31 days by:

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2) Verifying that each valve (manual, power-operated, or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position (applicable to CV, RH, SI systems).

3) Verifying the CV system is full of water by ultrasonically examining the discharge portion of the idle CV pump up to the discharge check valve, the stagnant portion of the piping upstream of the 2SI8801 A and B at the 2SI045 valve, and the piping at the ~~2CV206~~ valve if the ~~2BCV~~ pump is idle (applicable to the CV system only).

1CV207 or 2CV206

B_CV

c. By a visual inspection which verifies that no loose debris (rags, trash, clothing, etc.) is present in the containment which could be transported to the containment sump and cause restriction of the pump suctions during LOCA conditions. This visual inspection shall be performed:

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UNITS 1+2

BASES

ECCS SUBSYSTEMS (Continued)

The limitation for a maximum of one centrifugal charging pump to be OPERABLE and the Surveillance Requirement to verify all charging pumps except the required OPERABLE Charging pump to be inoperable in MODE 4 with one or more of the RCS cold legs less than or equal to 330°F, MODE 5, and MODE 6 with the reactor vessel head on, provides assurance that a mass addition pressure transient can be relieved by the operation of a single PORV or RHR suction relief valve. Similarly, the requirement to verify all Safety Injection pumps are inoperable in MODE 4 with the temperature of one or more of the RCS Cold Legs less than or equal to 330°F, in MODE 5 with pressurizer level greater than 5 percent (Level 409.5') and in MODE 6 with pressurizer level greater than 5 percent and the reactor vessel head resting on the reactor vessel flange, provides assurance that a mass addition pressure transient can be relieved by a single PORV or RHR suction relief valve.

In MODE 5 and MODE 6 with pressurizer level less than or equal to 5 percent, at least one Safety Injection pump or gravity feed from the RWST must be available to mitigate the effects of a loss of decay heat removal during partially drained conditions. Surveillance requirements assure availability, but prevent inadvertent actuation during these modes. The desired flow path for the SI pump or gravity feed varies with RCS configuration and is, therefore, procedurally addressed.

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BASES

ECCS SUBSYSTEMS (Continued)

which could result in unacceptable dynamic loadings will not occur. During normal operation, this exclusion would apply to the High Head Safety Injection subsystem. During shutdown cooling operation, the exclusion would apply to the single required Centrifugal Charging pump and operating RH pump, in addition to the ECCS piping in communication with the operating pumps. Because the centrifugal charging pumps are not equipped with pump casing vent valves, and the pump design and system piping configuration allow the pumps to be maintained under positive pressure when in standby, manual venting of these pumps is not required.

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The surveillance requirement to ultrasonically examine selected portions of piping involves the idle CV pump discharge piping up to the first check valve on the pump discharge and miniflow lines, and the stagnant portion of the piping upstream of the 1SI8801 A/B adjacent to the vent valve 1SI045. This will provide added assurance that the piping is water solid.

For Unit 2, Surveillance Requirement 4.5.2.b.1 requires that the RH and SI pump casings and discharge piping high point vent valves be vented on a 31 day frequency. This venting surveillance does not apply to subsystems in communication with operating systems because the flows in these systems are sufficient to provide confidence that water hammer which could occur from voiding would not result in unacceptable dynamic loads. During shutdown cooling operation, the exclusion would apply to the operating RH pump, in addition to the ECCS piping in communication with the operating pump.

The TS 4.5.2.b.3 surveillance requirement to ultrasonically examine selected portions of piping involves the idle CV pump discharge piping up to the first check valve on the pump discharge and miniflow lines, the stagnant portion of the piping upstream of the 2SI8801A/B adjacent to the vent valve 2SI045, and the piping at the 2CV206 valve if the 2B CV pump is idle. This examination will provide added assurance that the piping is water solid.

1CV207 or 2CV206

ATTACHMENT C

EVALUATION OF SIGNIFICANT HAZARDS CONSIDERATIONS FOR
PROPOSED CHANGES TO APPENDIX A,
TECHNICAL SPECIFICATIONS, OF
FACILITY OPERATING LICENSES
NPF-37, NPF-66, NPF-72, AND NPF-77

Commonwealth Edison has evaluated this proposed amendment and determined that it involves no significant hazards considerations. According to Title 10 Code of Federal Regulations Section 50 Subsection 92 Paragraph c (10 CFR 50.92 (c)), a proposed amendment to an operating license involves no significant hazards considerations if operation of the facility in accordance with the proposed amendment would 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.

A. INTRODUCTION

Commonwealth Edison (ComEd) proposes to revise Byron and Braidwood Technical Specification (TS) 4.5.2.b and associated bases as they relate to the requirement to vent the Emergency Core Cooling System (ECCS) pump casings and discharge piping high points outside containment. The change will revise the Unit 1 requirement for ultrasonic examinations every 31 days to also include ultrasonic examination of the piping at the 1CV206 valve for Byron (1CV207 valve for Braidwood) if the 1B CV pump is idle. These changes are required to align the surveillance requirements for Unit 1 with those of Unit 2. In addition, the condition that the Unit 1 requirements will be applicable only until the end of the current cycle is deleted consistent with the Unit 2 requirements. With these changes there will no longer be the need to maintain separate pages for Unit 1 and Unit 2 requirements.

B. NO SIGNIFICANT HAZARDS ANALYSIS

1. The proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

The proposed changes will align the surveillance requirements for both Units 1 and 2 with the installed system design and normal operating conditions. No increase in the probability of an accident will occur as a result of this change. The conduct of surveillances required by the Technical Specifications is not postulated to initiate an accident. The level of surveillance performed to date has provided confidence that the objective of the current surveillance requirement has been met. As such, the proposed change does not result in a significant increase in the probability of occurrence of a previously analyzed accident.

The consequences of a previously analyzed accident are not increased. Operating experience has shown that the level of surveillance performed to date is sufficient to provide confidence that no significant voiding has occurred in the affected piping. Ultrasonic examinations have confirmed the water solid condition of the piping. Although voiding is not expected, evaluation of postulated voided conditions confirm that unacceptable dynamic loading would not occur, and, therefore, the integrity of the ECCS piping is not compromised. Thus, the ECCS will be capable of performing its design function of cooling the reactor core and providing shutdown capability following initiation of the certain accidents. This will ensure that the consequences of a previously analyzed accident are not significantly increased.

Therefore, these proposed revisions do not result in a significant increase in the probability or consequences of an accident previously analyzed.

2. The proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

The proposed changes do not create the possibility of a new or different kind of accident. ComEd has evaluated the piping configuration for the ECCS discharge piping of the ECCS subsystems. A specific engineering evaluation of both a voided 2-inch and 8-inch RH line was performed. This evaluation concluded that the piping can withstand the dynamic loads caused by the maximum credible air void. Due to the higher-pressure rating and smaller size of the SI and CV discharge piping, this evaluation is considered bounding for the ECCS subsystems. The results of the evaluation were submitted for staff review in a letter dated March 12, 1990, in support of Amendments 47 and 36 to the Operating Licenses for Byron and Braidwood, respectively. The proposed changes will not result in new failure modes because no new equipment is installed, and installed equipment is not operated in a new or different manner. Manual venting operations have been performed as permitted by system operation and piping configuration. This venting

surveillance does not apply to subsystems in communication with operating systems because the flows and/or pressures prevalent in these systems are sufficient to provide confidence that water hammer which could occur from voiding would not result in unacceptable dynamic loads from water hammer will not occur. Accordingly this change will not create the possibility of a new or different kind of accident.

3. **The proposed change does not involve a significant reduction in a margin of safety.**

The margin of safety is not significantly reduced because the proposed change will provide sufficient assurance that excessive voiding will not occur. This will assure proper system functioning. Venting of the idle subsystems, in conjunction with the operating conditions of the subsystems in operation, provides confidence that voiding is not present. This has been confirmed by the performance of ultrasonic examinations of the piping of interest. This meets the objective of the surveillance requirement and thus preserves the margin of safety.

Therefore, based on the above evaluation, ComEd has concluded that these changes involve no significant hazards considerations.

ATTACHMENT D

ENVIRONMENTAL ASSESSMENT FOR
PROPOSED CHANGES TO APPENDIX A,
TECHNICAL SPECIFICATIONS, OF
FACILITY OPERATING LICENSES
NPF-37, NPF-66, NPF-72 AND NPF-77

Commonwealth Edison Company (ComEd) has evaluated this proposed license amendment request against the criteria for identification of licensing and regulatory actions requiring environmental assessment in accordance with Title 10, Code of Federal Regulations, Part 51, Section 21 (10 CFR 51.21). ComEd has determined that this proposed license amendment request meets the criteria for a categorical exclusion set forth in 10 CFR 51.22(c)(9). This determination is based upon the following:

1. The proposed change involves the issuance of an amendment to a license for a reactor pursuant to 10 CFR 50 which changes a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, or which changes an inspection or a surveillance requirement;

2. this proposed license amendment request involves no significant hazards considerations;

3. there is no significant change in the types or significant increase in the amounts of any effluent that may be released offsite; and

4. there is no significant increase in individual or cumulative occupational radiation exposure.

Therefore, pursuant to 10 CFR 51.22(b), neither an environmental impact statement nor an environmental assessment is necessary for this license amendment request.