



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

DUQUESNE LIGHT COMPANY

OHIO EDISON COMPANY

PENNSYLVANIA POWER COMPANY

DOCKET NO. 50-334

BEAVER VALLEY POWER STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 193
License No. DPR-66

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Duquesne Light Company, et al. (the licensee) dated July 11, 1995, 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.

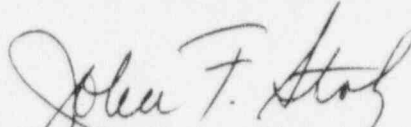
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-66 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 193, 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, to be implemented within 60 days.

FOR THE NUCLEAR REGULATORY COMMISSION



John F. Stolz, Director
Project Directorate I-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: September 26, 1995

ATTACHMENT TO LICENSE AMENDMENT NO. 193

FACILITY OPERATING LICENSE NO. DPR-66

DOCKET NO. 50-334

Replace the following pages of Appendix A, Technical Specifications, with the enclosed pages as indicated. The revised pages are identified by amendment number and contain vertical lines indicating the areas of change.

<u>Remove</u>	<u>Insert</u>
3/4 1-7	3/4 1-7
3/4 1-11	3/4 1-11
3/4 4-27a	3/4 4-27a
3/4 4-27b	3/4 4-27b
B 3/4 1-2	B 3/4 1-2
B 3/4 4-10e	B 3/4 4-10e
B 3/4 4-10g	B 3/4 4-10g
B 3/4 4-10h	B 3/4 4-10h
B 3/4 4-10j	B 3/4 4-10j

DPR-66
REACTIVITY CONTROL SYSTEMS

3/4.1.2 BORATION SYSTEMS

FLOW PATHS - SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.1.2.1 As a minimum, one of the following boron injection flow paths shall be OPERABLE:

- a. A flow path from the boric acid storage system via a boric acid transfer pump to a charging pump to the Reactor Coolant System if only the boric acid storage tank in Specification 3.1.2.7.a is OPERABLE, or
- b. The flow path from the refueling water storage tank via a charging pump or a low head safety injection pump (with an open RCS vent of greater than or equal to 2.07 square inches) to the Reactor Coolant System if only the refueling water storage tank in Specification 3.1.2.7.b is OPERABLE.

APPLICABILITY: MODES 5 and 6.

ACTION:

With none of the above flow paths OPERABLE, suspend all operations involving CORE ALTERATIONS or positive reactivity changes until at least one injection path is restored to OPERABLE status.

SURVEILLANCE REQUIREMENTS

4.1.2.1 At least one of the above required flow paths shall be demonstrated OPERABLE:

- a. At least once per 7 days by:
 1. Cycling each testable power operated or automatic valve in the flow path through at least one complete cycle of full travel.

CHARGING PUMP - SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.1.2.3 At least one charging pump⁽¹⁾ in the boron injection flow path required by Specification 3.1.2.1 or low head safety injection pump (with an open reactor coolant system vent of greater than or equal to 2.07 square inches) shall be OPERABLE and capable of being powered from an OPERABLE bus.

APPLICABILITY: MODES 5 and 6.

ACTION:

With none of the above pumps OPERABLE, suspend all operations involving CORE ALTERATIONS or positive reactivity changes until one charging pump or low head safety injection pump is restored to OPERABLE status.

SURVEILLANCE REQUIREMENTS

4.1.2.3.1 The above required charging pump shall be demonstrated OPERABLE by verifying, on recirculation flow, that the pump develops a discharge pressure greater than or equal to 2402 psig when tested pursuant to Specification 4.0.5.

4.1.2.3.2 When the low head safety injection pump is used in lieu of a charging pump, the low head safety injection pump shall be demonstrated OPERABLE by:

- a. Verification of an operable RWST pursuant to 4.1.2.7,
- b. Verification of an operable low head safety injection pump pursuant to Specification 4.5.2.b.2,
- c. Verification of an operable low head safety injection flow path from the RWST to the Reactor Coolant System once per shift, and
- d. Verification that the vent is open in accordance with 4.4.9.3.3.

(1) With two charging pumps OPERABLE, follow Specification 3.4.9.3.

OVERPRESSURE PROTECTION SYSTEMS

LIMITING CONDITION FOR OPERATION

3.4.9.3 An overpressure protection system shall be OPERABLE with a maximum of one charging pump⁽¹⁾ capable of injecting into the RCS and the accumulators isolated⁽²⁾ and either a or b below:

- a. Two power operated relief valves (PORVs) with a lift setting less than or equal to 432 psig, or
- b. The RCS depressurized and an RCS vent of greater than or equal to 2.07 square inches.

APPLICABILITY: Mode 4 when any RCS cold leg temperature is less than or equal to an enable temperature of 329°F, Mode 5,
Mode 6 when the reactor vessel head is on.

ACTION:

- a. With two or more charging pumps capable of injecting into the RCS, immediately initiate action to verify a maximum of one charging pump is capable of injecting into the RCS or depressurize and vent the RCS through a 2.07 square inch or larger vent within 12 hours.
- b. With an accumulator not isolated when the accumulator pressure is greater than or equal to the maximum RCS pressure for the existing RCS cold leg temperature allowed by the heatup and cooldown curves, isolate the affected accumulator within 1 hour or increase the RCS cold leg temperature above the enable temperature within the next 12 hours or depressurize the affected accumulator to less than the maximum RCS pressure for the existing cold leg temperature allowed by the heatup and cooldown curves within the next 12 hours.
- c. With one PORV inoperable in MODE 4 (when any RCS cold leg temperature is less than or equal to the enable temperature), restore the inoperable PORV to OPERABLE status within 7 days or depressurize and vent the RCS through a 2.07 square inch or larger vent within the next 12 hours.

(1) Two charging pumps may be capable of injecting into the RCS for pump swap operation for less than or equal to 15 minutes.

(2) Accumulator isolation with power removed from the discharge isolation valves is only required when the accumulator pressure is greater than or equal to the maximum RCS pressure for the existing RCS cold leg temperature allowed by the heatup and cooldown curves.

LIMITING CONDITION FOR OPERATION (Continued)

ACTION: (Continued)

- d. With one PORV inoperable in MODES 5 or 6, restore the inoperable PORV to OPERABLE status within 24 hours or depressurize and vent the RCS through a 2.07 square inch or larger vent within the next 12 hours.
- e. With two PORVs inoperable, depressurize and vent the RCS through a 2.07 square inch or larger vent within 12 hours.

SURVEILLANCE REQUIREMENTS

4.4.9.3.1 Verify at least once per 12 hours that:

- a. A maximum of one charging pump is capable of injecting into the RCS, and
- b. Each accumulator is isolated; however, with the accumulator pressure less than the low temperature overpressure protection setpoint, the accumulator discharge isolation valves may be opened to perform accumulator discharge check valve testing.

4.4.9.3.2 When PORVs are being used for overpressure protection, demonstrate each PORV is OPERABLE by:

- a. Verifying each PORV block valve is open for each required PORV at least once per 72 hours, and
- b. Performance of a CHANNEL FUNCTIONAL TEST on the PORV actuation channel, but excluding valve operation, within 31 days prior to entering a condition in which the PORV is required to be OPERABLE and placed in operation after decreasing the RCS cold leg temperature to less than or equal to the enable temperature and at least once per 31 days, and
- c. Performance of a CHANNEL CALIBRATION on each required PORV actuation channel at least once per 18 months.

REACTIVITY CONTROL SYSTEMSBASES3/4.1.1.4 MODERATOR TEMPERATURE COEFFICIENT (MTC) (Continued)

fuel cycle. The surveillance requirement for measurement of the MTC at the beginning and near the end of each fuel cycle is adequate to confirm the MTC value since this coefficient changes slowly due principally to the reduction in RCS boron concentration associated with fuel burnup.

3/4.1.1.5 MINIMUM TEMPERATURE FOR CRITICALITY

This specification ensures that the reactor will not be made critical with the Reactor Coolant System average temperature less than 541°F. This limitation is required to ensure (1) the moderator temperature coefficient is within its analyzed temperature range, (2) the pressurizer is capable of being in an OPERABLE status with a steam bubble, (3) the reactor pressure vessel is above its minimum RT_{NDT} temperature, and (4) the protective instrumentation is within its normal operating range.

3/4.1.2 BORATION SYSTEMS

The boron injection system ensures that negative reactivity control is available during each mode of facility operation. The components required to perform this function include (1) borated water sources, (2) charging pumps, (3) separate flow paths, (4) boric acid transfer pumps, (5) associated heat tracing systems, and (6) an emergency power supply from OPERABLE diesel generators.

With the RCS average temperature above 200°F, a minimum of two separate and redundant boron injection systems are provided to ensure single functional capability in the event an assumed failure renders one of the systems inoperable. Allowable out-of-service periods ensure that minor component repair or corrective action may be completed without undue risk to overall facility safety from injection system failures during the repair period.

With the RCS average temperature less than 200°F, a low head safety injection pump may be used in lieu of the operable charging pump with a minimum open RCS vent of 2.07 square inches. This will provide latitude for maintenance and ISI examinations on the charging system for repair or corrective action and will ensure that boration and makeup are available when the charging pumps are out-of-service. An open vent ensures that the RCS pressure will not exceed the shutoff head of the low head safety injection pumps.

MOV-1SI-890C is the low head safety injection pump discharge isolation valve to the RCS coldlegs, the valve must be closed prior to reducing RCS pressure below the RWST head pressure to prevent draining into the RCS. Emergency backup power is not required since this valve is outside containment and can be manually operated if required, this will allow the associated diesel generator to be taken out of service for maintenance and testing.

BASES (Continued)

3/4.4.9 PRESSURE/TEMPERATURE LIMITS (Continued)

HEAT INPUT TYPE TRANSIENTS (Continued)

- c. Disallowing start of an RCP if secondary temperature is more than 25°F above primary temperature in any one loop. LCO 3.4.1.6, "Reactor Coolant Pump Startup," provides this protection.

The analyses demonstrate that either one RCS relief valve or the depressurized RCS and RCS vent can maintain the RCS pressure below the limits when only one charging pump is actuated by SI. Thus, the LCO allows only one charging pump OPERABLE during the OPPS MODES. Since neither one RCS relief valve nor the RCS vent can handle a full SI actuation, the LCO also requires the accumulators isolated.

The isolated accumulators must have their discharge valves closed with power removed. Fracture mechanics analyses established the temperature of OPPS Applicability at the enable temperature.

PORV PERFORMANCE

The fracture mechanics analyses show that the vessel is protected when the PORVs are set to open at or below the limit. The setpoint is derived by analyses that model the performance of the OPPS assuming the limiting OPPS transient of SI actuation of one charging pump. These analyses consider pressure overshoot and undershoot beyond the PORV opening and closing, resulting from signal processing and valve stroke times. The PORV setpoints at or below the derived limit ensures the P/T limits will be met.

The PORV setpoint will be updated when the revised P/T limits conflict with the OPPS analysis limits. The P/T limits are periodically modified as the reactor vessel material toughness decreases due to neutron embrittlement caused by neutron irradiation. Revised limits are determined using neutron fluence projections and the results of examinations of the reactor vessel material irradiation surveillance specimens. The Bases for LCO 3.4.9.1, "Pressure/Temperature Limits," discuss these examinations.

The PORVs are considered active components. Thus, the failure of one PORV is assumed to represent the worst case, single active failure.

RCS VENT PERFORMANCE

With the RCS depressurized, analyses show that a PORV or equivalent opening with a vent size of 2.07 square inches is capable of mitigating the allowed OPPS overpressure transient. The capacity of

BASES (Continued)

3/4.4.9 PRESSURE/TEMPERATURE LIMITS (Continued)

LCO (Continued)

An RCS vent is OPERABLE when open with an area of 2.07 square inches.

Each of these methods of overpressure prevention is capable of mitigating the limiting OPSS transient.

APPLICABILITY

This LCO is applicable in MODE 4 when any RCS cold leg temperature is less than or equal to the enable temperature, in MODE 5, and in MODE 6 when the reactor vessel head is on. When the reactor vessel head is off, overpressurization cannot occur.

Low temperature overpressure prevention is most critical during shutdown when the RCS is water solid, and a mass or heat input transient can cause a very rapid increase in RCS pressure when little or no time allows operator action to mitigate the event.

ACTION

- a. With two or more charging pumps capable of injecting into the RCS, RCS overpressurization is possible.

To immediately initiate action to restore restricted coolant input capability to the RCS reflects the urgency of removing the RCS from this condition.

- b. An unisolated accumulator requires isolation within 1 hour. This is only required when the accumulator pressure is at or more than the maximum RCS pressure for the existing temperature allowed by the P/T limit curves.

If isolation is needed and cannot be accomplished in 1 hour, the ACTION provides two options, either of which must be performed in the next 12 hours. By increasing the RCS temperature to more than the enable temperature, the accumulator pressure cannot exceed the OPSS limits if the accumulators are fully injected. Depressurizing the accumulators below the OPSS limit also gives this protection.

The completion times are based on operating experience that these activities can be accomplished in these time periods indicating that an event requiring OPSS is not likely in the allowed times.

BASES (Continued)

3/4.4.9 PRESSURE/TEMPERATURE LIMITS (Continued)

ACTION (Continued)

- c. In MODE 4 when any RCS cold leg temperature is less than or equal to the enable temperature, with one required RCS relief valve inoperable, the RCS relief valve must be restored to OPERABLE status within a completion time of 7 days. Two RCS relief valves are required to provide low temperature overpressure mitigation while withstanding a single failure of an active component.

The completion time considers the facts that only one of the RCS relief valves is required to mitigate an overpressure transient and that the likelihood of an active failure of the remaining valve path during this time period is very low. If plant operation results in transitioning to MODE 5, the completion time to restore an inoperable PORV may not exceed 7 days as required by this ACTION.

- d. The consequences of operational events that will overpressurize the RCS are more severe at lower temperature. Thus, with one of the two RCS relief valves inoperable in MODE 5 or in MODE 6 with the head on, the completion time to restore two valves to OPERABLE status is 24 hours.

The completion time represents a reasonable time to investigate and repair several types of relief valve failures without exposure to a lengthy period with only one OPERABLE RCS relief valve to protect against overpressure events. If a PORV is inoperable when the plant enters MODE 5 from MODE 4, the completion time to restore an inoperable PORV changes to 24 hours but the cumulative inoperable time may not exceed 7 days before taking action to depressurize and vent.

- e. The RCS must be depressurized and a vent must be established within 12 hours when both required RCS relief valves are inoperable. The vent must be sized greater than or equal to 2.07 square inches to ensure that the flow capacity is greater than that required for the worst case mass input transient reasonable during the applicable MODES. This action is needed to protect the RCPB from a low temperature overpressure event and a possible brittle failure of the reactor vessel.

BASES (Continued)

3/4.4.9 PRESSURE/TEMPERATURE LIMITS (Continued)

SURVEILLANCE REQUIREMENTS (SR) (Continued)

The SR is required to be performed prior to entering the condition for the OPPTS to be OPERABLE. This assures low temperature overpressure protection is available when the RCS cold leg temperature is less than or equal to the enable temperature. Performing the surveillance every 31 days on each required PORV permits verification and adjustment, if necessary, of its lift setpoint, and considers instrumentation reliability which has been shown through operating experience to be acceptable. The CHANNEL FUNCTIONAL TEST will verify the setpoint is within the allowed maximum limits. PORV actuation could depressurize the RCS and is not required.

Performance of a CHANNEL CALIBRATION on each required PORV actuation channel is required every 18 months to adjust the whole channel so that it responds and the valve opens within the required range and accuracy to known input.

SR 4.4.9.3.3

The RCS vent of greater than or equal to 2.07 square inches is proven OPERABLE by verifying its open condition either:

- a. Once every 12 hours for an open vent or valve that cannot be locked, except
- b. Once every 31 days for a valve that is locked, or provided with remote position indication, or sealed, or secured in position. A removed pressurizer safety valve fits this category.

The passive vent arrangement must only be open to be OPERABLE. This surveillance is required to be performed if the vent is being used to satisfy the pressure relief requirements of the LCO.