

3/4.7 PLANT ITEMS

3/4.7.1 PLANT SERVICE WATER SYSTEM

PLANT SERVICE WATER SYSTEM - OPERATING

LIMITING CONDITIONS FOR OPERATION

3.7.1.1 Two independent plant service water system loops shall be OPERABLE with one loop in operation. Each loop shall be comprised of:

- a. Two plant service water pumps capable of taking suction from Lake Ontario and transferring the water to the associated safety related equipment.
- b. Service water supply header discharge water temperature of 76°F* or less.

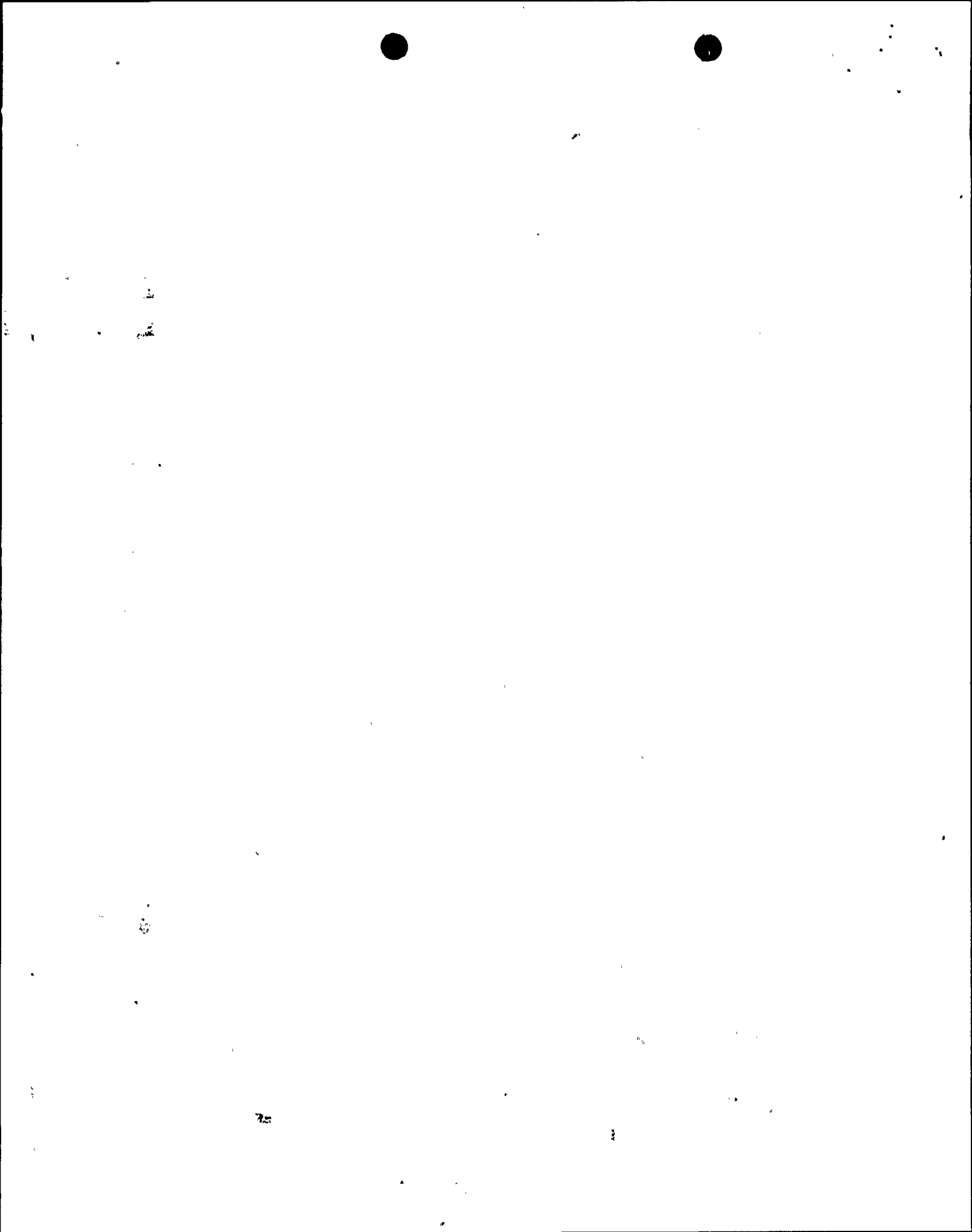
The intake deicing heater system shall be OPERABLE and in operation when intake tunnel water temperature is less than 39°F; Division I shall have 7 heaters in operation in each intake structure and Division II shall have 7 heaters in operation in each intake structure.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3

ACTION:

- a. With one less than the required number of OPERABLE plant service water pumps in one loop, restore the inoperable pump to OPERABLE status within 14 days or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
- b. With one less than the required number of OPERABLE plant service water pumps in each loop, restore at least one inoperable pump to OPERABLE status within 7 days or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
- c. Within two less than the required number of OPERABLE plant service water pumps in one loop or with one plant service water loop otherwise inoperable, restore at least one pump to OPERABLE status within 72 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
- d. With two less than the required number of OPERABLE plant service water pumps in one loop and one less than the required number of plant service water pumps in the other loop, restore at least one of the two inoperable pumps in the same loop to OPERABLE status within 12 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
- e. With two plant service water system loops OPERABLE and the service water supply header discharge water temperature continuously exceeding 76°F* for any 8 hour period, within one hour initiate action to be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

* Prior to achieving power levels greater than 50% of Rated Thermal Power during the startup test program, the service water supply header discharge temperature shall be 77°F or less.



PLANT SYSTEM

PLANT SERVICE WATER SYSTEM

PLANT SERVICE WATER SYSTEM - OPERATING

LIMITING CONDITIONS FOR OPERATION

3.7.1.1 (Continued)

ACTION:

- f. With less than the required Division I and Division II heaters OPERABLE within one hour initiate action to be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

SURVEILLANCE REQUIREMENTS

4.7.1.1.1 The plant service water system shall be demonstrated OPERABLE.

- a. By verifying the plant service water supply header discharge water temperature to be less than or equal to 76°F*.
1. At least once per 24 hours, and
 2. At least once per 4 hours when the last recorded water temperature is greater than or equal to 70°F, and
 3. At least once per 2 hours when the last recorded water temperature is greater than or equal to 74°F.
- b. At least once per 12 hours by verifying the water level at the service water pump intake is greater than or equal to elevation 233.1 feet.
- c. At least once per 31 days by verifying that each valve - manual, power-operated, or automatic, servicing safety-related equipment that is not locked, sealed or otherwise secured in position - is in its correct position.
- d. At least once per 18 months during shutdown, by verifying:
1. After a simulated test signal, each automatic valve servicing nonsafety-related equipment actuates to its isolation position.
 2. After a simulated test signal, each service water system cross connect and pump discharge valve actuates automatically to its isolation position.
 3. For each service water pump, after a simulated test signal, the pump starts automatically and the associated pump discharge valve opens automatically, in order to supply flow to the system safety-related components.

* Prior to achieving power levels greater than 50% of Rated Thermal Power during the startup test program, the service water supply header discharge temperature shall be 77°F or less.



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PLANT SYSTEM

PLANT SERVICE WATER SYSTEM

PLANT SERVICE WATER SYSTEM - SHUTDOWN

LIMITING CONDITIONS FOR OPERATION

3.7.1.2 Two independent plant service water system loops shall be OPERABLE with one loop in operation. Each loop shall be comprised of:

- a. Two OPERABLE plant service water pumps capable of taking suction from Lake Ontario and transferring the water to the associated safety-related equipment.
- b. Service water supply header discharge water temperature of 76°F* or less.

The intake deicing heater system shall be OPERABLE and in operation when intake tunnel water temperature is less than 39°F; Division I shall have 7 heaters in operation in each intake structure and Division II shall have 7 heaters in operation in each intake structure.

APPLICABILITY: OPERATIONAL CONDITIONS 4 and 5.

ACTION:

- a. With one less than the required number of OPERABLE plant service water pumps in one loop, restore the inoperable pump to OPERABLE status within 30 days or declare the associated safety-related equipment inoperable and take ACTIONS required by Specifications 3.5.2 and 3.8.1.2.
- b. With one less than the required number of OPERABLE plant service water pumps in each loop, restore at least one inoperable pump to OPERABLE status within 7 days or declare the associated safety-related equipment inoperable and take ACTIONS required by Specification 3.5.2 and 3.8.1.2.
- c. With two less than the required number of OPERABLE plant service water pumps in one loop, restore at least one inoperable pump to OPERABLE status within 72 hours or declare the associated safety-related equipment inoperable and take ACTIONS required by Specification 3.5.2 and 3.8.1.2.
- d. With two less than the required number of OPERABLE plant service water pumps in one loop and one less than the required number of plant service water pumps in the other loop, restore at least one of the two inoperable pumps in the same loop to OPERABLE status within 12 hours or declare the associated safety-related equipment inoperable and take ACTIONS required by Specification 3.5.2 and 3.8.1.2.
- e. With the service water supply header discharge temperature exceeding 76°F* suspend CORE ALTERATIONS and all operations that have a potential for draining the reactor vessel.

- * Prior to achieving power levels greater than 50% of Rated Thermal Power during the startup test program, the service water supply header discharge temperature shall be 77°F or less.



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PLANT SYSTEM

PLANT SERVICE WATER SYSTEM

PLANT SERVICE WATER SYSTEM - SHUTDOWN

LIMITING CONDITIONS FOR OPERATION

3.7.1.2 (Continued)

ACTION:

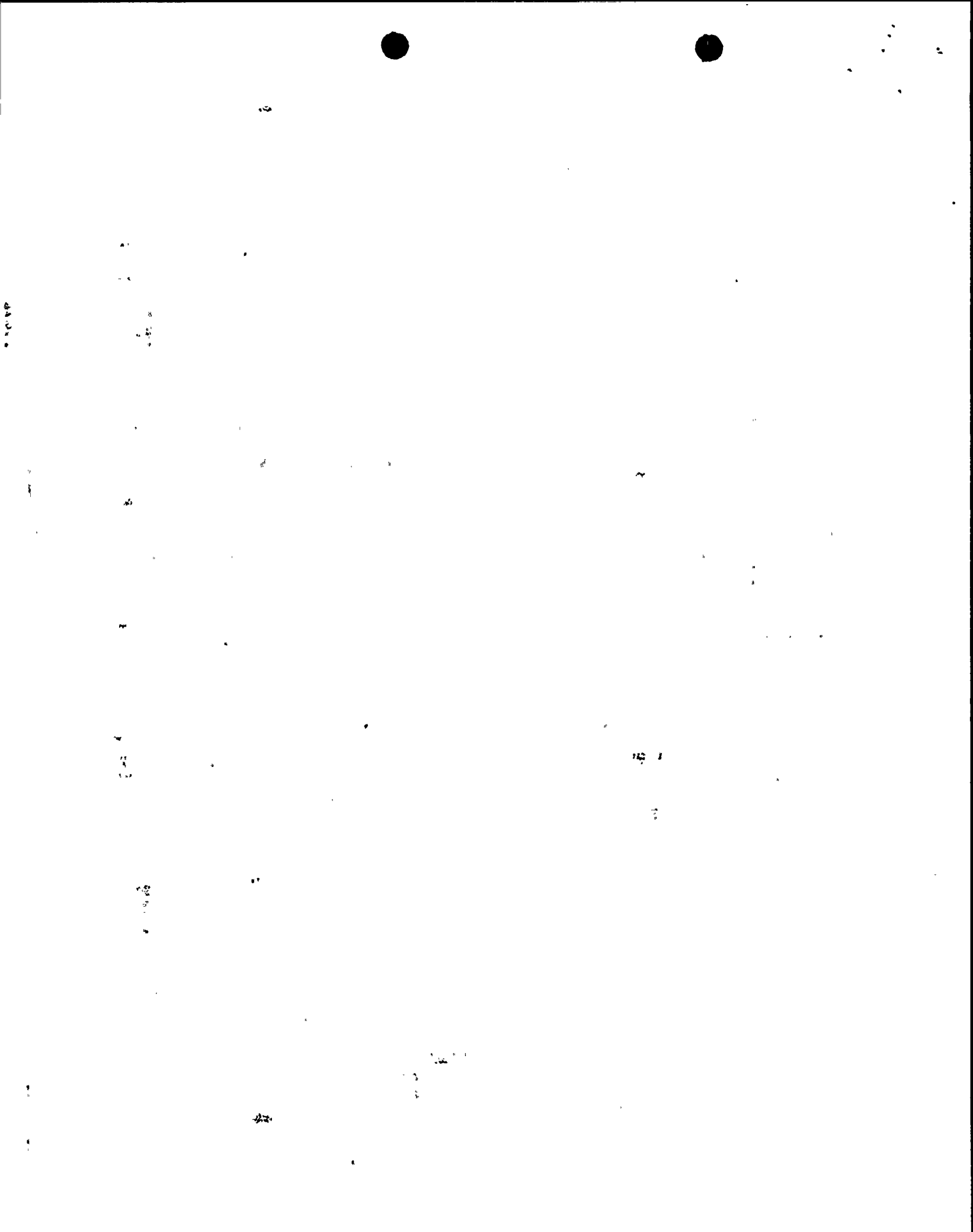
- f. With less than the required Division I and Division II heaters OPERABLE, suspend CORE ALTERATIONS and all operations that have a potential for draining the reactor vessel.

SURVEILLANCE REQUIREMENTS

4.7.1.2.1 The plant service water system shall be demonstrated OPERABLE:

- a. By verifying the plant service water supply header discharge water temperature to be less than or equal to 76°F*:
1. At least once per 24 hours, and
 2. At least once per 4 hours when the last recorded water temperature is greater than or equal to 70°F, and
 3. At least once per 2 hours when the last recorded water temperature is greater than or equal to 74°F.
- b. At least once per 12 hours by verifying the water level at the service water pump intake is greater than or equal to elevation 233.1 feet.
- c. At least once per 31 days by verifying that each valve - manual, power-operated, or automatic, servicing safety-related equipment that is not locked, sealed, or otherwise secured in position - is in its correct position.
- d. At least once per 18 months during shutdown, by verifying:
1. After a simulated test signal, each automatic valve servicing nonsafety-related equipment actuates to its isolation position.
 2. After a simulated test signal, each service water system cross connect and pump discharge valve actuates automatically to its isolation position, and
 3. For each service water pump, after a simulated test signal, the pump starts automatically and the associated pump discharge valve opens automatically, in order to supply flow to the system safety-related components.

* Prior to achieving power levels greater than 50% of Rated Thermal Power during the startup test program, the service water supply header discharge temperature shall be 77°F or less.



ATTACHMENT B

NIAGARA MOHAWK POWER CORPORATION

LICENSE NPF-69

DOCKET NO. 50-410

Supporting Information and No Significant Hazards Consideration Analysis

Background and Scope

The temperature used as the original design basis of the Service Water System is 77°F (See Final Safety Analysis Report, Section 2.4.11.5 and 9.2.1.2). To provide margin to account for instrumentation accuracies, e.g., 0.6°F for instrument accuracy, and to allow for operator action in the event temperature approached the design limit, the Nuclear Regulatory Commission staff imposed a Technical Specification limit on service water temperature of 76°F (See Safety Evaluation Report, NUREG 1047, Section 2.4.11.2).

Service water temperature exceeded 76°F at 1:00 a.m. on July 13, 1987. The unit had been shut down for scheduled maintenance, so operation was not affected. Service water temperature again exceeded 76°F on the mornings of July 18 and 19.

This safety evaluation addresses the impact of increasing the service water temperature limit to 77°F during the time that reactor power is less than 50%.

Analyses for Nine Mile Point Unit 2 were based upon a design service water temperature of 77°F. Safety related systems and equipment supplied with cooling water from the service water system were evaluated for a service water supply header temperature of 77°F. The engineering analyses to support this design involved the use of several conservative assumptions to account for aging of the equipment. In particular, the performance of the heat exchangers was considered to be deteriorated over time as a result of corrosion and fouling of heat exchanger surfaces. At the present time, Nine Mile Point 2 is operating with essentially new components where fouling and corrosion are minimal and therefore heat exchange capability is maximized. For this reason, the actual margin in the plant is considerably higher than it would be at a point much later in life. Although the instrument error of approximately 0.6°F remains constant over the life of the facility, the additional margin for fouling and aging of the system more than offsets this instrument error. For this reason, operation of Nine Mile Point 2 with service water supply header temperature at 77°F would not result in decreased margins for any of the safety analyses.

The safety-related systems and equipment supplied with cooling water from the service water system are:

- Standby Emergency Diesel Generators (Division I, II and III)
- Hydrogen Recombiners
- Spent Fuel Cooling Heat Exchangers
- Residual Heat Removal Pump Seal Coolers
- Residual Heat Removal Heat Exchangers
- Category I Unit Coolers and Chillers



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There will be no decrease in the margins of safety relating to release of radioactive nuclides to the environment in the event of a postulated accident during the period of applicability of this Technical Specification change. Additionally, since the unit will not be operated above 50% power, the associated heat loads during an accident scenario will be significantly lower than at full power, in as much as the core power level and activity is less than assumed in the evaluation of the design basis accidents analyzed in the Final Safety Analysis Report.

10CFR50.91 requires that at the time a licensee requests an amendment, it must provide to the Commission its analysis using the standards in 10CFR50.92 as to whether no significant hazards consideration associated with the amendment exists. Therefore, in accordance with 10CFR50.91, the following analysis has been performed:

The operation of Nine Mile Point Unit 2 in accordance with the proposed amendment will not involve a significant increase in the probability or consequences of an accident previously evaluated.

Increasing the plant service water supply header temperature operating temperature limit to 77°F will not involve a significant increase in the probability or consequences of an accident previously evaluated, as safety-related components cooled by the plant service water system were designed to perform their intended safety function at temperatures up to 77°F.

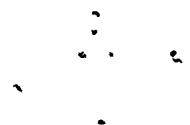
The operation of Nine Mile Point Unit 2 in accordance with the proposed amendment will not create the possibility of a new or different kind of accident from any accident previously evaluated.

The proposed amendment involves increasing the plant service water system operating temperature limit. As previously indicated, the effects on safety-related components cooled by the plant service water system have been evaluated and the increase has been found to have no effect on their operation. Therefore, the proposed amendment will not create a new or different kind of accident from any accident previously evaluated.

The operation of Nine Mile Point Unit 2 in accordance with the proposed amendment will not involve a significant reduction in a margin of safety.

The original plant service water system operating temperature limit had a 1°F margin between the technical specification limit of 76°F and the temperature at which the maximum temperature service water system had been evaluated.

Originally the plant service water system had been analyzed/evaluated for a maximum temperature of 77°F. Therefore, there was a 1°F margin between this temperature and the technical specification operating temperature limit of 76°F. The design calculations that justify a temperature of 77°F contain considerable margin to allow for aging of heat exchangers with fouling. When the components are new, this margin is sufficient to off-set the allowance for instrument error. In addition, since the plant will not be operated above 50% power during the period of applicability of this Technical Specification change, the core power level and activity, and therefore the heat loads associated with an accident scenario, will be less than assumed in the evaluation of the design basis accidents analyzed in the Final Safety Analysis Report. Therefore, the proposed changes do not involve a significant reduction in a margin of safety.



ATTACHMENT C

NIAGARA MOHAWK POWER CORPORATION

LICENSE NPF-69

DOCKET NO. 50-410

Explanation of Why Emergency Situation Occurred and
Why it Could Not Be Avoided

When the Technical Specifications for Nine Mile Point Unit 2 were being developed, Niagara Mohawk proposed a temperature limit of 77°F for the service water supply header discharge water temperature. However, the NRC set this limit at 76°F when the low power Technical Specifications were issued for Nine Mile Point Unit 2. At that time, Niagara Mohawk reviewed this change and concluded that since the lake temperature had exceeded 76°F only occasionally in the past and only twice since 1978, both instances being in August of 1983, the 76°F Technical Specification operating limit would not impose significant operating restraint on the plant.

A recent heat wave has occurred in the area where the plant is located (and the northeastern United States) for an extended period of time, increasing the lake temperature to between 76°-78°F for this time period. The first time this occurred was on July 13, 1987. This has been an unexpected and unusually long heat wave for this area. As a result, a review of the margin in the service water maximum operating temperature has been conducted. This review, which was just completed, indicates that a supply header discharge temperature of up to 77°F is acceptable. Therefore, Niagara Mohawk proposes that the Technical Specification limit for service water supply header discharge water temperature be increased to 77°F. A further analysis is being performed on an expedited basis and is expected to be completed by July 31, 1987. This analysis is expected to show that a further increase in the Technical Specification maximum service water supply discharge header temperature to approximately 81°F can be justified.

Since the lake temperature is continuing to peak between 76°F and 77°F and is projected to continue at this or higher levels, Niagara Mohawk requests this change be considered an emergency Technical Specification change, so that Nine Mile Point Unit 2 can continue operation. Every day of delay of plant operation due to the lake temperature exceeding 76°F will add to the delay in the commercial operation of the plant. Since the review of the margins to support the operation of the service water system at 77°F was only completed on July 21, 1987, Niagara Mohawk has applied for the license amendments in a timely manner. The licensee is also expediting the more complicated analyses to support a service water supply header discharge temperature of approximately 81°F and will submit such further analyses as soon as these analyses have been reviewed, verified and accepted.

Niagara Mohawk, therefore, requests that its license amendment be considered an emergency situation as defined in 10 CFR 50.91 and that prior notice and opportunity for a hearing or for public comment be dispensed with.



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ATTACHMENT D

NIAGARA MOHAWK POWER CORPORATION

LICENSE NPF-69

DOCKET NO. 50-410

Environmental Considerations

This amendment involves a change to a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10CFR Part 20. Therefore, although the change will involve an increase in the plant effluent discharge temperature, it will not affect the differential discharge temperature to the lake. In addition, the maximum discharge temperature of 110°F permitted by the SPDES permit will not be exceeded. Niagara Mohawk has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite and that there is no significant increase in individual or cumulative occupational radiation exposure. Niagara Mohawk has determined that this amendment involves no significant hazards consideration. Accordingly, this amendment meets the eligibility criteria for categorical exclusion set forth in 10CFR 51.22(c)(9). Pursuant to 10CFR 41.22(b), no environmental impact statement nor environmental assessment need be prepared in connection with the issuance of this amendment.

