ATTACHMENT A

NIAGARA MOHAWK POWER CORPORATION
LICENSE NO. NPF-69
DOCKET NO. 50-410

Proposed Changes to the Current Technical Specifications (TSs)

Replace the existing pages xii, xix, 3/4 3-105, 3/4 3-106, 3/4 3-108, 3/4 7-1 through 3/4 7-6, and B3/4 7-1 with the attached revised pages (including B3/4 7-1a). These pages have been retyped in their entirety, incorporating the changes, and include marginal markings (revision bars) to indicate the changes.

PAGE

TABLE 3.3.9-1

PLANT SYSTEMS ACTUATION INSTRUMENTATION

TRIP FUNCTION	INSTRUMENT NUMBER	MINIMUM OPERABLE CHANNELS (a)	APPLICABLE OPERATIONAL CONDITIONS	ACTION
1. Feedwater System/Main Turbine Trip System				
Reactor Vessel Water Level - High, Level 8	2ISC*LSH1624A,B,C	3	1	140
2. Service Water System				
a. Discharge Bay Level	2SWP*LS30A,B	2	1, 2, 3, 4, 5, *	142
b. Intake Tunnel 1 & 2 Water Temperature	2SWP*TSL64A, 65A 2SWP*TSL64B, 65B	1/Division 1/Division	1, 2, 3, 4, 5, * 1, 2, 3, 4, 5, *	144 144
c. Service Water Bay	2SWP*LS73A,B	2	1, 2, 3, 4, 5, *	143
d. Service Water Pumps Discharge Strainer Differential Pressure - Train "A"	2SWP*PDSH1A,C,E	1/Strainer	1, 2, 3, 4, 5, *	146
e. Service Water Pumps Discharge Strainer Differential Pressure - Train "B"	2SWP*PDSH1B,D,F	1/Strainer	1, 2, 3, 4, 5, *	146
f. Service Water Supply Header Discharge Water Temperature	2SWP*TY31A,B	2	1, 2, 3, 4, 5, *	147
g. Service Water Inlet Pressure for EDG*2 (HPCS, Division III)				
1) Division I Supply Header	2SWP*PSL95A	1	1, 2, 3, 4, 5, *	145
2) Division II Supply Header	2SWP*PSL95B	1	1, 2, 3, 4, 5, *	145

(a) A channel may be placed in an inoperable status for up to 2 hours for required surveillance without placing the Trip System in the tripped condition, except for discharge bay level and service water bay level which may be placed in an inoperable status for up to 4 hours without placing the Trip System in a tripped condition and Reactor Vessel Level-High, Level 8 channel, which may be placed in an inoperable status for up to 6 hours for required surveillance without placing the Trip System in the tripped condition.

* When handling irradiated fuel in the secondary containment.

PLANT SYSTEMS ACTUATION INSTRUMENTATION

ACTION

ACTION 140 - a. With the number of OPERABLE channels one less than required by the Minimum OPERABLE Channels requirement, restore the inoperable channel to OPERABLE status within 7 days or be in at least STARTUP within the next 6 hours.

b. With the number of OPERABLE channels two less than required by the Minimum OPERABLE Channels requirement, restore at least one of the inoperable channels to OPERABLE status within 72 hours or be in at least STARTUP within the next 6 hours.

ACTION 141 - Not used.

ACTION 142 - Monitor discharge bay level continuously if level reaches trip setpoint, provide an alternate flow discharge path by locking closed 2SWP*MOV30A or 2SWP*MOV30B.

ACTION 143 - Monitor service water bay level continuously if level reaches Trip Setpoint provide an alternate intake to the service bay by locking open 2SWP*MOV77A or 2SWP*MOV77B.

ACTION 144 - Place intake heaters in service if lake temperature < 38°F or take the ACTIONS required by Specifications 3.7.1.1 and 3.7.1.2, as appropriate.

ACTION 145 - Lock closed 2SWP*MOV95A or 2SWP*MOV95B and declare EDG-2 (HPCS, Division III) inoperable and take the ACTION required by Specification 3.8.1.

ACTION 146 - Monitor the effected pump discharge pressure and the applicable service water loop header pressure to determine the differential pressure across the strainer; if the differential pressure exceeds the setpoint manually start the strainer or declare the effected service water pump inoperable and take the ACTION required by Specifications 3.7.1.1 and 3.7.1.2, as appropriate.

ACTION 147 - Monitor service water local discharge temperature indicators as applicable per Specification 4.7.1.1.1.a.2 or 4.7.1.2.1.a.2.

TABLE 4.3.9.1-1

PLANT SYSTEMS ACTUATION INSTRUMENTATION SURVEILLANCE REQUIREMENTS

TRIP FUNCTION	CHANNEL CHECK	CHANNEL FUNCTIONAL TEST	CHANNEL CALIBRATION	OPERATIONAL CONDITIONS FOR WHICH SURVEILLANCE REQUIRED
1. Feedwater System/Main Turbine Trip System				
a. Reactor Vessel Water Level - High Level 8	NA	Q	R	1
2. Service Water System				
a. Discharge Bay Level	NA	R	R	1, 2, 3, 4, 5, *
b. Intake Tunnel 1 & 2 Water Temperature	W	R	R**	1, 2, 3, 4, 5, *
c. Service Water Bay	NA	R	R	1, 2, 3, 4, 5, *
d. Service Water Pumps Discharge Strainer Differential Pressure - Train "A"	S	R	R	1, 2, 3, 4, 5, *
e. Service Water Pumps Discharge Strainer Differential Pressure - Train "B"	S	R	R	1, 2, 3, 4, 5, *
f. Service Water Supply Header Discharge Water Temperature	S	R	R	1, 2, 3, 4, 5, *
g. Service Water Inlet Pressure for EDG*2 (HPCS, Division III)				
1) Division I Supply Header	NA	R	R	1, 2, 3, 4, 5, *
2) Division II Supply Header	NA	R	R	1, 2, 3, 4, 5, *

* When handling irradiated fuel in the secondary containment.
** Calibration excludes sensors; a comparison test of the four RTDs will be done.

3/4.7.1 SERVICE WATER SYSTEM

SERVICE WATER SYSTEM - OPERATING

LIMITING CONDITIONS FOR OPERATION

3.7.1.1.a Two independent service water system loops shall be OPERABLE. Each loop shall be comprised of two OPERABLE service water pumps capable of taking suction from Lake Ontario and transferring the water to the associated safety-related equipment.

b. Four OPERABLE service water pumps shall be in operation.

c. Service water supply header discharge water temperature shall be 82°F or less.

d. The intake deicing heater system shall be OPERABLE and in operation when intake tunnel water temperature is less than 38°F; Division I shall have 14 heaters in operation in each intake structure and Division II shall have 14 heaters in operation in each intake structure.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3

ACTION:

a. With one or more required service water pumps inoperable in one loop or one loop inoperable for reasons other than specified in ACTION b or c, restore the inoperable service water loop 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.

b. With one service water supply header cross connect valve inoperable, verify the service water supply header cross connect valve is open within 1 hour and restore the service water supply header cross connect valve 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.

c. With one or more nonsafety-related service water header flow paths with one service water isolation valve inoperable, isolate the affected nonsafety-related service water flow path(s) 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 the service water system inoperable for reasons other than specified in ACTION a, b, or c, be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

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* May be cycled intermittently, under administrative control, to permit testing associated with restoring the valve to OPERABLE status.

LIMITING CONDITIONS FOR OPERATION

3.7.1.1 (Continued)

ACTION:

e. With one required service water pump not in operation, restore four service water pumps to operation within 72 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

f. With two or more required service water pumps not in operation, restore three service water pumps to operation within 1 hour or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

g. With the service water supply header discharge water temperature exceeding 82°F, be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

h. With one required Division of heaters either inoperable or not in operation or both, when the intake tunnel water temperature is less than 38°F, restore the heaters to OPERABLE status and in operation within 72 hours or 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 service water system shall be demonstrated OPERABLE.

a. By verifying the service water supply header discharge water temperature to be less than or equal to 82°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 75°F, and

   3. At least once per 2 hours when the last recorded water temperature is greater than or equal to 79°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 24 hours by verifying four service water pumps in operation.

SURVEILLANCE REQUIREMENTS

4.7.1.1.1 (Continued)

d. 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.

e. 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.

f. At least once per 18 months:

1. Perform a LOGIC SYSTEM FUNCTIONAL TEST of the service water pump starting logic.

2. Verify each pump runs and maintains service water pump differential pressure equal to or greater than 70 psid with a pump flow equal to or greater than 9000 gpm.

4.7.1.1.2 The Intake Deicing Heater System shall be demonstrated OPERABLE:

a. At least once per 12 hours by verifying the intake tunnel water temperature is greater than or equal to 38°F, or

b. At least once per 7 days by verifying that the current of the heater feeder cables at the motor control centers is 20 amps* or more (total for three phases when adjusted to degraded voltage conditions) per division in each intake structure.

c. At least once per 18 months by verifying the resistance is ≥ 28 ohms for each feeder cable and associated heater elements in the intake deicing heater systems.

* For 14 heater elements in operation.

PLANT SYSTEMS

SERVICE WATER SYSTEM

SERVICE WATER SYSTEM - SHUTDOWN

LIMITING CONDITIONS FOR OPERATION

3.7.1.2.a The necessary portions of the service water system needed to support equipment required to be OPERABLE shall be OPERABLE.

b. Service water supply header discharge water temperature shall be 82°F or less.

c. The necessary Divisions of the intake deicing heater system shall be OPERABLE and in operation when intake tunnel water temperature is less than 38°F; each required Division shall have 14 heaters in operation in each intake structure.

APPLICABILITY: OPERATIONAL CONDITIONS 4, 5, and *.

ACTION:

a. With required portions of the service water system inoperable, declare the associated equipment inoperable and take ACTIONS required by the applicable Specifications.

b. With the service water supply header discharge temperature exceeding 82°F, suspend CORE ALTERATIONS, handling of irradiated fuel in the secondary containment and all operations that have a potential for draining the reactor vessel.

c. With one or more required Divisions of heaters either inoperable or not in operation or both, when the intake tunnel water temperature is less than 38°F, suspend CORE ALTERATIONS, handling of irradiated fuel in the secondary containment and all operations that have a potential for draining the reactor vessel.

SURVEILLANCE REQUIREMENTS

4.7.1.2.1 The service water system shall be demonstrated OPERABLE:

a. By verifying the service water supply header discharge water temperature to be less than or equal to 82°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 75°F, and

3. At least once per 2 hours when the last recorded water temperature is greater than or equal to 79°F.

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* When handling irradiated fuel in the secondary containment.

SURVEILLANCE REQUIREMENTS

4.7.1.2.1 (Continued)

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.

e. At least once per 18 months:

1. Perform a LOGIC SYSTEM FUNCTIONAL TEST of the service water pump starting logic.

2. Verify each pump runs and maintains service water pump differential pressure equal to or greater than 70 psid with each pump flow equal to or greater than 9000 gpm.

SERVICE WATER SYSTEM

SERVICE WATER SYSTEM - SHUTDOWN

SURVEILLANCE REQUIREMENTS

4.7.1.2.2 The Intake Deicing Heater System shall be demonstrated OPERABLE:

a. At least once per 12 hours by verifying the intake tunnel water temperature is greater than or equal to 38°F, or

b. At least once per 7 days by verifying that the current of the heater feeder cables at the motor control centers is 20 amps* or more (total for three phases when adjusted to degraded voltage conditions) per division in each intake structure.

c. At least once per 18 months by verifying the resistance is ≥ 28 ohms for each feeder cable and associated heater elements in the intake deicing heater systems.

* For 14 heater elements in operation.

BASES

3/4.7.1 SERVICE WATER SYSTEM

The OPERABILITY of the service water system ensures that sufficient cooling capacity is available for continued operation of safety-related equipment during normal or 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. Pumps that are required to be in operation shall also be OPERABLE.

Independence in the service water system, as required by the Specification, is achieved by OPERABILITY of the divisional separation logic and valves (2SWP*MOV50A, 2SWP*MOV50B). During normal plant operating conditions, the two divisions of the service water system must be interconnected to meet the LOCA analyses assumptions.

The nonsafety-related service water header flow paths refer to the two supply and two return headers. Each flow path contains two isolation valves (a total of eight valves). When one isolation valve is inoperable, the affected flow path must be isolated by closing one of the isolation valves in the associated flowpath within 72 hours (i.e., 2SWP*MOV3A or 3B, 2SWP*MOV19A or 19B, 2SWP*MOV93A or 93B, or 2SWP*MOV599). In the case when 2SWP*MOV599 is inoperable and cannot be closed, 2SWP*MOV3A or 3B and 2SWP-V8 shall be closed.

The intake deicing heater Specification ensures that adequate intake flow area is available for the service water system. In order to prove that the system is supplying adequate heat to the bar racks, a portable ammeter shall be used to check the full load current of the heaters. The current should be checked on a weekly basis. Current shall be measured for each phase at each of the four motor control center locations. The measured current is adjusted to degraded voltage conditions (518 volts). If a major deviation from rated current is detected, further investigation is required to determine if an open circuit exists in the individual heater circuits. The 18-month verification of circuit resistance readings provides a check for long-term degradation of circuit insulation.

The heat load during Operational Conditions 4, 5, and * can vary significantly, depending on the time since plant shutdown and the equipment/heat loads that are required to be in service. As a result, the number of service water pumps required to be operable or in operation can vary. In addition, service water is only required to be operable for the equipment which is required to be operable for the current plant conditions. Maintaining service water flow rates and pressure within acceptable limits assures the availability of flow to safety related components and prevents pump runout following automatic initiation of LOCA loads. When the required portions of the service water system are inoperable (e.g., pumps, flow paths, valves), the associated equipment must be declared inoperable and the Actions required by the applicable Specifications must be taken.

3/4.7.2 REVETMENT-DITCH STRUCTURE

The purpose of the revetment-ditch structure is to protect the plant fill and foundation from wave erosion, expected during the probable maximum windstorm for a maximum still water elevation of 254 feet.

The revetment-ditch structure is Seismic Category I and is designed to withstand the impact of waves. So long as the fill is in place, waves cannot impact Category I structures because of the lack of sufficient depth of water to sustain such waves.

The revetment-ditch structure can sustain a high degree of damage and still perform its function, protecting the site fill from erosion. Thus, the operability condition for operation of the revetment-ditch structure has been written to ensure that severe damage to the structure will not go undetected for a substantial period of time and to provide for prompt corrective action and NRC notification.

3/4.7.3 CONTROL ROOM OUTDOOR AIR SPECIAL FILTER TRAIN SYSTEM

The OPERABILITY of the control room outdoor air special filter train 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 design-basis-accident conditions. Continuous operation of the system with the heaters OPERABLE for 10 hours during

ATTACHMENT B

NIAGARA MOHAWK POWER CORPORATION
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Supporting Information and No Significant Hazards Consideration Analysis

INTRODUCTION

The Service Water (SW) System is a once-through system which supplies water from Lake Ontario to various essential and non-essential components, as required, during normal plant operation and shutdown conditions. The System is designed with suitable redundancy to provide a reliable source of cooling water for the removal of heat from essential plant components, including the Residual Heat Removal (RHR) heat exchangers, the emergency diesel generators (EDGs), and room coolers for Emergency Core Cooling System (ECCS) equipment, which are required for safe reactor shutdown following a loss of coolant accident (LOCA).

The SW System is described in Section 9.2.1 of the Updated Final Safety Analysis Report (UFSAR) and consists of the Ultimate Heat Sink (UHS), two essential cooling water headers (Loops A and B), and their associated pumps, piping, valves, and instrumentation. Based on recent analysis, any three SW pumps will provide sufficient cooling capacity to support the required essential components during safe shutdown of the reactor following the limiting LOCA. Loops A and B are configured to provide cooling water to essential equipment in Divisions 1 and 2, respectively.

The UHS System is described in Section 9.2.5 of the UFSAR and consists of Lake Ontario (the UHS) and the SW Intake and Discharge Systems. The Intake System includes two intake structures, an Intake Deicing Heater System, two intake tunnels, and a pump intake bay. The Discharge System includes an onshore discharge bay, a portion of one intake tunnel, a discharge tunnel, and a two-port discharge diffuser. The UHS system is capable of providing sufficient cooling for all SW System post-LOCA cooling requirements for a 30-day period.

Lake Ontario water enters the two offshore intake structures through vertical bar racks which prevent large debris from entering the Intake System. The bar racks are electrically heated by the Intake Deicing Heater System to minimize ice formation in the flow passages. There are 21 Division 1 and 21 Division 2 (42 total) heater elements per intake structure. From the intake structures, the water flows through two intake tunnels (one tunnel per intake structure), then passes through trash racks and traveling water screens, and enters the onshore SW pump intake bay. Cooling water from the pump intake bay is then pumped by the SW pumps through strainers to a common header. Two normally open divisional cross connect valves in the header separate (when closed) the SW System into two redundant headers (Loops A and B) which supply the essential (safe shutdown) components. Three pumps are available for each of the two loops (six pumps total). During normal plant operation, SW is supplied to non-essential components from taps off the Loop A side of the common header and the Loop A main supply header. Each of the

non-essential supply and return lines is provided with two isolation valves located in series. Two cross-connections have also been provided to allow Loop B to supply the non-essential components during plant outages or for periodic hydrostatic testing.

After removing heat from the essential and non-essential components, the SW discharge is directed to two redundant and separate discharge headers and is conveyed to the SW discharge bay. From the discharge bay, the discharge water gravity flows through the discharge portion of one intake tunnel. The water then enters the discharge tunnel and continues to gravity flow to the discharge diffuser, where it is discharged to Lake Ontario via the diffuser nozzles.

During a loss of offsite power (LOOP) or a LOCA coincident with a LOOP, the SW supply header (divisional) cross connect valves close automatically and the non-essential components required for normal operation are isolated from the SW System, and cooling is directed only to essential components. However, if a partial LOOP occurs (i.e., one offsite power circuit is lost, resulting in deenergization of either the Division 1 or Division 2 4.16 KV emergency bus), the non-essential components will still isolate, but the SW supply header cross connect valves will not close automatically. In addition, during the LOOP or LOCA coincident with a LOOP, one pump in each loop is restarted automatically in a timed sequence (provided the associated pump discharge valve has automatically closed). During a LOCA (without a coincident LOOP), the SW pumps that are operating remain in operation (no SW pumps are automatically started on a LOCA signal), the SW supply headers remain cross connected (the SW supply header cross connect valves are not automatically closed), and the non-essential components are not automatically isolated from the SW System.

Limiting Condition for Operation (LCO) 3.7.1.1, "Plant Service Water System - Operating," and LCO 3.7.1.2, "Plant Service Water System - Shutdown," each currently requires two independent Service Water (SW) System loops to be operable, with one of the loops (which requires two pumps) in operation. However, a recent analysis concluded that, in order to support a LOCA without a coincident LOOP, a minimum of three operating SW pumps are required to be operating during plant operation (Operational Conditions 1, 2, and 3) when the divisional cross connect valves and essential to non-essential interface valves are open. Niagara Mohawk Power Corporation (NMPC) proposes to revise LCO 3.7.1.1 and its associated Actions and Surveillance Requirements (SRs) to provide assurance that four SW pumps are operable and are operating within acceptable system parameters, with the divisional cross connect valves open, during Operational Conditions 1, 2, and 3 to meet the current limiting LOCA analysis assumptions.

TS Section 3/4.7.1 currently specifies a value for SW supply header discharge water temperature of 81 degrees F. However, existing analyses support a supply header discharge temperature of 82 degrees F, which is the analytical limit. The one degree difference between these values was intended to provide a margin to account for the accuracy of the monitoring instrumentation. NMPC has determined that TS LCO 3.7.1.1, including its associated Actions and SRs should specify the analytical limit of 82 degrees F, rather than 81 degrees F. This change is consistent with other NMP2 TSs where analytical limits are used (e.g., drywell temperature, suppression pool temperature, suppression pool level).

TS Table 3.3.9-1, "Plant Systems Actuation Instrumentation," Action 144, requires the Intake Deicing Heater System heaters to be placed in service when the Lake Ontario water temperature reaches 39 degrees F. In addition, TS Section 3/4.7.1 currently specifies 39 degrees F as the limiting temperature for Intake Deicing Heater System operability. NMPC has determined that TS Table 3.3.9-1, Action 144, and TS LCO 3.7.1.1, including its associated Actions and SRs should specify 38 degrees F. This change is consistent with the Allowable Value listed in TS Table 3.3.9-2, "Plant Systems Actuation Instrumentation Setpoints."

Appropriate changes to LCO 3.7.1.2 and its associated Actions and SRs are also proposed in order to assure consistency with the SW System analyses assumptions during shutdown conditions. While the current TSs require the same number of SW pumps to be operable in Operational Conditions 4 and 5 as are required in Operational Conditions 1, 2, and 3, the current TS Actions only require (after some allowed outage time) the associated components to be declared inoperable and the applicable Actions taken as required by the associated TSs. The current LCO Actions do not account for the varying heat load that may be required for various plant shutdown conditions. In addition, NMPC proposes to revise the Applicability for LCO 3.7.1.2, TS Table 3.3.9-1, "Plant Systems Actuation Instrumentation," and TS Table 4.3.9.1-1, "Plant Systems Actuation Instrumentation Surveillance Requirements," to include periods when handling irradiated fuel in the secondary containment. These changes will assure that the necessary portions of the SW System are operable that are supporting equipment required to be operable for these conditions.

It is further proposed to change the system title identified in the Index and in TS Section 3/4.7.1, including the LCOs and SRs, from "Plant Service Water System" to "Service Water System" to be consistent with the NMP2 UFSAR. The Bases for 3/4.7.1 have been revised to reflect the title change and provide clarification of certain Actions consistent with the changes described above.

EVALUATION

LCO 3.7.1.1 currently requires the operability of Loops A (Division 1) and B (Division 2) of the SW System to assure the effective operation of the RHR heat exchangers in removing heat from the reactor, and the effective operation of other essential plant components during a LOCA. The requirements to have both loops operable and one loop (two pumps) in operation are to assure that either Loop A or Loop B will be available to provide adequate capability to meet the cooling requirements of the components required for safe shutdown of the reactor in the event of a single failure. However, a recent analysis determined that three pumps are required to be in operation in certain LOCA scenarios to meet the safe shutdown cooling requirements.

The SW System is designed to remove heat from essential plant components such as the RHR heat exchangers, EDGs, and room coolers for ECCS equipment. Cooling water for the RHR suppression pool cooling mode limits suppression pool temperature and primary containment pressure during a LOCA. The SW System also provides cooling to limit the air temperature routed to the Standby Gas Treatment System (SGTS) to maintain the secondary containment at a negative pressure. These cooling functions provide assurance that the primary and secondary containments can perform their intended functions of

limiting the release of radioactive materials to the environment following a LOCA. Previous analyses concluded that two SW pumps in one loop are adequate to perform the long-term containment cooling function during a LOCA coincident with a LOOP and a worst-case single failure of the Division 1 or Division 2 EDG. During this event, the non-essential cooling loads are automatically isolated and one SW pump is automatically started and is sufficient to meet the short-term cooling requirements, while a second SW pump is manually started to meet the long-term cooling requirements. The limiting design basis event with a single failure affecting the performance of the SW System is four pumps operating during a LOCA (without a coincident LOOP) with a trip of one of the pumps. This event is limiting because the non-essential cooling loads are not isolated during a LOCA. A recent analysis concluded that a minimum of three SW pumps are required to be operating during plant operation (Operational Conditions 1, 2, and 3) when the divisional cross connect valves and essential to non-essential interface valves are open. Three operating pumps (all three pumps can be in the same loop) are adequate to perform the containment cooling functions, as well as provide cooling water to essential components. Three pumps remain running when the accident occurs and are sufficient to meet the short-term cooling requirements, while additional pumps are started or isolation of non-essential cooling loads is accomplished to meet the long-term cooling requirements.

Based on the above evaluation, the current requirements of LCO 3.7.1.1 are inadequate since only two SW pumps are required to be in operation, whereas three pumps are necessary to satisfy the limiting LOCA analysis assumptions. As a result, NMPC is proposing the following changes to LCO 3.7.1.1 and its associated Actions and SRs:

LCO 3.7.1.1.a (resequenced to "a" and "b") is being revised to require four operable SW pumps to be in operation since a minimum of three SW pumps are required to be in operation during Operational Conditions 1, 2, and 3 to support a LOCA. Currently, only the two pumps associated with one loop are required to be in operation. The change does not include a restriction related to loop operation since any combination of four operating SW pumps will meet the analysis assumptions.

LCO 3.7.1.1 (resequenced to "d") is being revised to increase the number of operating Division 1 and Division 2 heaters from 7 per Division per intake structure to 14 per Division per intake structure. As previously described, these heaters are designed to minimize ice formation on the UHS System intake structure bar racks. Based on the available information related to the prevention of frazil ice on submerged intake structures, maintaining intake structure surfaces just above freezing (approximately 0.2 degree F) is sufficient to prevent the adherence of ice. Maintaining 14 heaters in operation in each intake structure, when the intake tunnel water temperature is less than 38 degrees F, will maintain the surface temperature of the associated intake bars at least 1 degree F above a bulk water temperature of 32 degrees F, even with the maximum expected SW flow through only one intake structure with one Division of heaters. This change provides assurance that both intake structures will remain sufficiently free of ice blockage in order to assure adequate flow in the event of a LOCA with or without a LOOP.

LCO 3.7.1.1 Action a is being revised to address the conditions of one or more SW pumps being inoperable in one loop or a loop that is inoperable for reasons other than those specified in Action b or c (see evaluations below). The 72 hour Allowed

Outage Time (AOT) is acceptable since the LCO and other Actions provide assurance that three SW pumps are in operation (Action f) and the supply header cross connect valves are open (Action b). This change credits the fact that the operable and operating SW pumps and the remaining operable loop and open supply header cross connect valves are adequate to perform the heat removal function. However, the overall reliability is reduced because a single failure of a pump or the closure of a cross connect valve could result in a loss of the SW function during a LOCA. The 72 hour AOT was developed taking into account that the cross connect valves are normally open during plant operation, the redundant capabilities afforded by the operable SW pumps, and the low probability of a LOCA occurring during this period.

LCO 3.7.1.1 Actions b, c, and d are being replaced with five new Actions labeled b, c, d, e, and f. These new Actions are discussed below:

Action b requires an inoperable SW supply header cross connect valve to be verified open within 1 hour and restored to operable status within 72 hours or the reactor must be shutdown. As previously described, the SW System provides cooling to limit suppression pool temperature and primary containment pressure following a LOCA to assure primary containment integrity. The SW System also provides cooling to limit the air temperature routed to the SGTS to maintain the secondary containment at a negative pressure. This assures secondary containment integrity. Currently, for Operational Conditions 1, 2, and 3, the LCO 3.6.1.1 Action for restoring primary containment includes a 1 hour AOT and the LCO 3.6.5.1 Action for restoring secondary containment includes a 4 hour AOT. The 1 hour AOT for verifying that the supply header cross connect valve is open was developed taking into account the impact of the SW System on primary and secondary containment integrity and the low probability of a LOCA occurring during this period. Once the inoperable SW supply header cross connect valve is verified to be open, the remaining operable cross connect valve is adequate to separate the two Divisions in the event of a LOOP or a LOCA coincident with a LOOP. However, the overall reliability is reduced because a single failure of the operable cross connect valve could result in a loss of the SW heat removal function during a LOOP or a LOCA coincident with a LOOP. The 72 hour AOT was developed taking into account the redundant capabilities afforded by the operable SW supply header cross connect valve and the low probability of a LOOP or a LOCA coincident with a LOOP occurring during this period. A footnote has been added to allow post maintenance testing of an inoperable SW supply header cross connect valve in order to restore it to operable status. This provision is necessary to allow the valve to be stroke tested to provide assurance that it will close automatically during a LOOP or a LOCA coincident with a LOOP.

Action c requires isolation of non-essential SW header flow path(s) with one SW isolation valve inoperable within 72 hours. If isolation is not completed within 72 hours, the reactor must be shutdown. This change credits the fact that when one or more non-essential SW header flow paths have one SW isolation valve that is inoperable, the remaining operable SW isolation valve

in each affected flow path is adequate to assure that the non-essential flow path(s) can be isolated. This provides assurance that the SW heat removal function is maintained. However, the overall reliability is reduced because a single failure of the operable SW isolation valve in an affected non-essential flow path could result in a loss of the SW function during a LOOP or a LOCA coincident with a LOOP. Isolating the affected non-essential flow path(s) is acceptable since this action performs the function of the SW isolation valves. The 72 hour AOT was developed taking into account the redundant capabilities afforded by the operable SW isolation valve in each affected non-essential flow path and the low probability of a LOOP or a LOCA coincident with a LOOP occurring during this period. A footnote has been added to allow post maintenance testing of inoperable non-essential SW header flow path isolation valve(s) in order to restore them to operable status. This provision is necessary to allow the valve(s) to be stroke tested to provide assurance that they will close automatically during a LOOP or a LOCA coincident with a LOOP.

Action d requires reactor shutdown if the SW System is inoperable for reasons other than those specified in Actions a, b, or c, discussed above. There is no AOT associated with this Action because the inoperable condition of the SW System could result in a loss of its heat removal function during a LOOP, LOCA, or a LOCA coincident with a LOOP. This Action is more restrictive relative to the current requirements specified in Actions b, c, and d.

Action e requires that, if a SW pump is not in operation but is required to be in operation (to satisfy the four SW pump in operation requirement of LCO 3.7.1.1, discussed above), four pumps must be restored to operation within 72 hours. If a required SW pump is not restored to operation within 72 hours, the reactor must be shutdown. This change credits the fact that the remaining operating SW pumps are adequate to perform the SW heat removal function. However, overall reliability is reduced because a single failure of a remaining operating pump could result in a loss of the SW function during a LOCA. The 72 hour AOT was developed taking into account the redundant capabilities afforded by the operating pumps and the low probability of a LOCA occurring during this period.

Action f requires that, if two or more required pumps are not in operation, three pumps must be restored to operation within 1 hour. If three SW pumps are not restored to operation within 1 hour, the reactor must be shutdown. As previously described, the SW System provides cooling to limit suppression pool temperature and primary containment pressure following a LOCA to assure primary containment integrity. The SW System also provides cooling to limit the air temperature routed to SGTS to maintain the secondary containment at a negative pressure. This assures secondary containment integrity. Currently, for Operational Conditions 1, 2, and 3, the LCO 3.6.1.1 Action for restoring primary containment includes a 1 hour AOT and the LCO 3.6.5.1 Action for restoring secondary containment includes a 4 hour AOT. The 1 hour AOT for verifying that three SW pumps are in

operation was developed taking into account the impact of the SW System on primary and secondary containment integrity and the low probability of a LOCA occurring during this period.

SR 4.7.1.1.1.c is being added to verify four SW pumps in operation at least once every 24 hours to assure that proposed LCO 3.7.1.1.b is met. The 24 hour frequency is acceptable since four SW pumps are normally in operation and selected performance parameters are monitored in the Control Room.

SR 4.7.1.1.1.e.2 (resequenced to "f.2") is being revised such that the SW pump pressure and flow requirements reflect the current analyses assumptions. The modified SW pump parameters are acceptable since they were used in the limiting analysis and are well within the design limits of the pumps.

SR 4.7.1.1.2.b is being revised to increase the current measured during operation of the heaters from 10 amps per Division to 20 amps per Division when adjusted to degraded voltage conditions. The associated footnote is also being revised to indicate 14 operating heater elements instead of 7. As previously described, these heaters are designed to minimize ice formation on the UHS System intake structure bar racks. Adjusting the current reading to degraded voltage conditions assures that the required heater elements are operable. These changes provide assurance that both intake structures will remain sufficiently free of ice blockage in order to assure adequate flow in the event of a LOOP or a LOCA coincident with a LOOP during plant operation.

The design basis maximum temperature for the NMP2 UHS (Lake Ontario) is 82 degrees F as specified in Sections 2.4.11.5 and 9.2.5 of the UFSAR. The NRC staff acknowledged in the Safety Evaluation Report (SER) for NMP2 TS Amendment No. 3 that analyses support the design limit of 82 degrees F. This is the analytical limit for the SW supply header discharge water temperature. The essential components cooled by the SW System are designed for a maximum inlet water temperature of 82 degrees F. However, TS Section 3/4.7.1 currently specifies a maximum SW supply header discharge water temperature of 81 degrees F. The one degree difference between these values, as stated in NMPC's letters dated August 3, 1981 (NMP2L 1066) and November 24, 1987 (NMP2L 1094), was intended to provide a margin to account for the accuracy of the monitoring instrumentation. Based on a review of the NMP2 UFSAR, the TSs, and the limiting LOCA analysis, NMPC has determined that use of the analytical limit for SW supply header discharge water temperature is consistent with other NMP2 TSs where parameters are listed (e.g., drywell temperature, suppression pool temperature and level). The SW supply header discharge water temperature surveillance procedures include appropriate allowances to reflect measurement uncertainty.

As previously described, Lake Ontario water enters the two offshore UHS System intake structures through vertical bar racks which are electrically heated by the Intake Deicing Heater System heaters to minimize ice formation in the flow passages. The Intake System is designed for a minimum lake temperature of 32 degrees F. The heaters are controlled by temperature elements located in the intake tunnel shafts leading to the SW pump intake bay. Because of the rapid fluctuations in temperature sometimes experienced in the lake,

TS Table 3.3.9-2 specifies a setpoint for actuation of the Intake Deicing Heater System heater elements at a lake temperature of ≥39 degrees F (well above freezing) to prevent the onset of ice formation; the TS Allowable Value is ≥38 degrees F. The setpoint and Allowable Value are based on an analytical limit of 34 degrees F. TS Table 3.3.9-1, Action 144, requires the Intake Deicing Heater System heaters to be in service when the intake (Lake Ontario) water temperature reaches 39 degrees F. This requirement is verified using separate instrumentation that is in parallel with the automatic intake heater actuation instrumentation. The measurement uncertainty associated with the indication instrumentation is lower than that of the intake heater automatic actuation instrumentation. Based on the difference in instrumentation uncertainties, NMPC has determined that adequate margin exists to reduce the limiting temperature for Intake Deicing Heater System operability, as specified in TS Table 3.3.9-1, Action 144, and TS LCO 3.7.1.1, including its associated Actions and SRs, from 39 degrees F to 38 degrees F. This change is consistent with the Allowable Value listed in TS Table 3.3.9-2 for the Intake Deicing Heater System heater actuation instrumentation.

Based on the above information, NMPC is proposing the following changes to TS Table 3.3.9-1, Action 144, and LCO 3.7.1.1 and its associated Actions and SRs:

Table 3.3.9-1, Action 144, is being revised to decrease the temperature at which the Intake Deicing Heater System heaters are required to be placed in service from ≤39 degrees F to <38 degrees F. This is consistent with the change proposed for LCO 3.7.1.1 (see discussion below). This change is acceptable since the action performs the function of the associated instrumentation at the setpoint Allowable Value listed in Table 3.3.9-2 for the Intake Deicing Heater System heater actuation instrumentation.

LCO 3.7.1.1.b (resequenced to "c") is being revised to increase the SW supply header discharge water temperature from 81 degrees F to 82 degrees F. This change is acceptable since 82 degrees F is the design basis analytical limit for the UHS and is consistent with the UFSAR and other NMP2 TSs where parameters are listed.

LCO 3.7.1.1 (resequenced to "d") is being revised to decrease the temperature at which the Intake Deicing Heater System is required to be operable and in operation from 39 degrees F to 38 degrees F. This change is acceptable since the measurement uncertainty associated with the indication instrumentation is lower than that of the intake heater automatic actuation instrumentation.

LCO 3.7.1.1 Action e (resequenced to "g") is being revised to increase the temperature at which a reactor shutdown is required from 81 degrees F to 82 degrees F. This change is acceptable since 82 degrees F is the design basis analytical limit for the UHS and is consistent with the UFSAR and other NMP2 TSs where parameters are listed. In addition, the current provision allowing the UHS temperature to exceed 81 degrees F for a period of eight hours is being removed since the condition could exceed current analyses assumptions. Also, the unnecessary reference to the requirement for two operable SW System loops is being removed since it is redundant to the LCO requirement.

LCO 3.7.1.1 Action f (resequenced to "h") is being revised by establishing an AOT of 72 hours when one Division of Intake Deicing Heater System heaters is inoperable or not in operation or both, and the intake tunnel (lake) water temperature is less than 38 degrees F. If the required heaters are not restored to operable status and are not in operation within 72 hours, the reactor must be shutdown. This change credits the fact that the remaining operable and operating heaters in one Division (14 heaters per Division per intake structure) are adequate to maintain both intake structures sufficiently free of ice blockage, thus providing assurance that the UHS is adequate to perform its heat removal function. However, overall reliability is reduced because a single failure of the remaining Intake Deicing Heater System Division could result in a loss of the UHS function during a LOOP or a LOCA coincident with a LOOP. The 72 hour AOT was developed taking into account the redundant capabilities afforded by the Intake Deicing Heater System and the low probability of a LOOP or a LOCA coincident with a LOOP occurring during this period. The reference to 38 degrees F (rather than 39 degrees F) is acceptable since the measurement uncertainty associated with the indication instrumentation is lower than that of the intake heater automatic actuation instrumentation.

SR 4.7.1.1.1.a is being revised to increase the SW supply header discharge water (UHS) temperature from 81 degrees F to 82 degrees F for verification of SW System operability. This change is acceptable since 82 degrees F is the design basis analytical limit for the UHS and is consistent with the UFSAR and other NMP2 TSs where parameters are listed.

SR 4.7.1.1.2.a is being revised to decrease the intake tunnel water (UHS) temperature from 39 degrees F to 38 degrees F for verification of Intake Deicing Heater System operability. This change is acceptable since the measurement uncertainty associated with the indication instrumentation is lower than that of the intake heater automatic actuation instrumentation.

Based on a review of the SW System shutdown requirements contained in LCO 3.7.1.2 and the associated Actions and SRs, NMPC has determined that changes are necessary in order to assure consistency with the SW System analyses assumptions during shutdown conditions. The heat load during Operational Conditions 4 and 5 can vary significantly depending on the time since plant shutdown, the heat loads that are required to be in service, and the status of non-essential loads. As a result, the number of service water pumps required to be operable or in operation can vary.

The SW System is a support system for many TS required components (e.g., EDGs, RHR heat exchangers). The TS definition of operability includes cooling requirements; thus for a component to be considered operable, necessary cooling must be provided. This requirement is similar to the Actions of LCO 3.7.1.2, which require the associated components to be declared inoperable when sufficient SW pumps are not operable. While the current TSs require the same number of SW pumps to be operable in Operational Conditions 4 and 5 as are required in Operational Conditions 1, 2, and 3, the Actions only require (after some allowed outage time) the associated components to be declared inoperable and the applicable Actions taken as required by the associated TSs. In some cases, no actions will be required by TSs, since the components are not required to be

operable (e.g., the division of SW that provides cooling to the Division 1 EDG is inoperable, but the Division 1 EDG is not the EDG being credited with meeting the requirements of TS 3.8.1.2).

The current LCO Actions do not account for the varying heat load, and as such, must be revised to account for this. Therefore, appropriate proposed changes to the SW System shutdown requirements contained in LCO 3.7.1.2, its associated Actions and SRs are also included in this TS amendment application. Evaluations of these proposed changes follow:

LCO 3.7.1.2.a is being revised to require the necessary portions of the SW System to be operable that are supporting equipment required to be operable. In Operational Conditions 4 and 5, the operability requirements for the SW System are determined by the systems they support. This LCO will assure that the SW System is capable of providing the required flow under varying plant shutdown conditions. This revision is consistent with the Improved Technical Specification (ITS) philosophy, in that the SW System (Shutdown) TSs are relocated to documents which will be controlled by the provisions of 10 CFR 50.59. This revision is also similar to Section 3/4.7.1 of the Washington Nuclear Plant - Unit 2 (WNP-2) TSs prior to the conversion to ITS, which required, in part, that "the subsystem(s) associated with systems and components required OPERABLE by Specifications 3.4.9.1, ..." be operable in Operational Conditions 4 and 5. Adequate procedural guidance has been provided to assure sufficient SW System pumps and flowpaths are available to provide the required cooling.

LCO 3.7.1.2.b is being revised to increase the SW supply header discharge water temperature from 81 degrees F to 82 degrees F. This change is consistent with the proposed change to LCO 3.7.1.1.b (resequenced to "c") and is acceptable since 82 degrees F is the design basis analytical limit for the UHS and is consistent with the UFSAR and other NMP2 TSs where parameters are listed.

LCO 3.7.1.2 (resequenced to "c") is being revised to require the necessary Divisions of the Intake Deicing Heater System to be operable and in operation in each intake structure when intake tunnel (lake) water temperature is less than 38 degrees F. In addition, the number of operating heaters is being increased from 7 per Division per intake structure to 14 per Division per intake structure. The required number of heaters per Division is consistent with the proposed change to LCO 3.7.1.1 (resequenced to "d"). The change allows for continued shutdown operation with a single Division, similar to TS 3.8.3.2, which only requires one electrical Division to be operable. As previously described, these heaters are designed to minimize ice formation on the UHS System intake structure bar racks. Based on the available information related to the prevention of frazil ice on submerged intake structures, maintaining intake structure surfaces just above freezing (approximately 0.2 degree F) in each intake structure is sufficient to prevent the adherence of ice. This LCO will maintain at least 14 heaters in operation in each intake structure when the intake tunnel water temperature is less than 38 degrees F. Thus, the surface temperature of the associated intake bars will be maintained at least 1 degree F above a bulk water temperature of 32 degrees F, even with the maximum expected SW flow through only one intake structure with one Division of heaters. This change is acceptable since it provides assurance that both intake structures will

remain sufficiently free of ice blockage in order to assure adequate flow in the event of a LOOP during plant shutdown. Adequate procedural guidance has been provided to assure at least 14 heaters are in operation in each intake structure to support the SW System flow requirements for Operational Conditions 4 and 5.

LCO 3.7.1.2 (resequenced to "c") is further revised to decrease the temperature at which the Intake Deicing Heater System is required to be operable and in operation from 39 degrees F to 38 degrees F. This change is consistent with the proposed change to LCO 3.7.1.1 (resequenced to "d") and is acceptable since the measurement uncertainty associated with the indication instrumentation is lower than that of the intake heater automatic actuation instrumentation, and will therefore maintain TS compliance above the 34 degree F analytical limit.

The Applicability for LCO 3.7.1.2 is being revised to include Operational Condition *, which involves handling irradiated fuel in the secondary containment. This is being added to assure that the SW System is operable during periods when irradiated fuel is being handled in the secondary containment and essential loads cooled by the SW System are required to be operable (e.g., EDG). Since the SW System supports some of these loads, it is appropriate to include this Operational Condition in the Applicability. A footnote has been added to define Operational Condition * and is consistent with similar footnotes in the TSs.

TS Tables 3.3.9-1, "Plant Systems Actuation Instrumentation," and 4.3.9.1-1, "Plant Systems Actuation Instrumentation Surveillance Requirements," are also being revised to include Applicability of Operational Condition *. This assures that the associated instrumentation needed to support SW System operability will be operable. A footnote has been added to define Operational Condition * and is consistent with similar footnotes in the TSs. In addition, the existing "*" footnote in TS Table 4.3.9.1-1 with regard to the Intake Tunnel Water Temperature Channel Calibration is being revised to "**". This will maintain consistent use of Operational Condition * such that it is associated with handling irradiated fuel in the secondary containment.

LCO 3.7.1.2 Actions a, b, c, and d are being deleted and are replaced with Action a, which is consistent with the revision to LCO 3.7.1.2.a. This Action will assure that the associated equipment is declared inoperable and the appropriate TS Actions are taken when there are inoperable portions of the SW System (e.g., pumps, flowpaths, isolation valves) which are required to be operable.

LCO 3.7.1.2 Action e (resequenced to "b") is being revised to increase the temperature at which suspension of core alterations and operations having the potential of draining the reactor vessel is required from 81 degrees F to 82 degrees F. This change is consistent with the proposed change to LCO 3.7.1.1 Action e (resequenced to "g") and is acceptable since 82 degrees F is the design basis analytical limit for the UHS and is consistent with the UFSAR and other NMP2 TSs where parameters are listed.

LCO 3.7.1.2 Action f (resequenced to "c") is being revised consistent with the changes proposed for LCO 3.7.1.1 Action f (resequenced to "h"), as it applies to

the Intake Deicing Heater System operability requirements established for shutdown conditions in proposed LCO 3.7.1.2.c. This change provides assurance that, for core alterations or operations having the potential for draining the reactor vessel to continue, the required Divisions of heaters, consistent with TS 3.8.3.2, remain operable and in operation in each intake structure when the intake tunnel (lake) water temperature is less than 38 degrees F. The reference to 38 degrees F (rather than 39 degrees F) is acceptable since the measurement uncertainty associated with the indication instrumentation is lower than that of the intake heater automatic actuation instrumentation. Maintaining the required Divisions of Intake Deicing Heater System heaters operable and in operation provides assurance that both intake structures will remain sufficiently free of ice blockage in order to assure adequate flow in the event of a LOOP during plant shutdown. This proposed Action, in conjunction with the proposed LCO, is equivalent to the current Action, in that core alterations and operations with the potential to drain the reactor vessel are suspended when the required heaters are not operable.

LCO 3.7.1.2 Action e (resequenced to "b") and Action f (resequenced to "c") are further revised to include suspension of the handling of irradiated fuel in the secondary containment. This change is consistent with the revision to the Applicability to include Operational Condition * and will assure that appropriate activities are suspended in accordance with the Action requirements. This change is consistent with other TS Actions which apply to the handling of irradiated fuel in the secondary containment.

SR 4.7.1.2.1.a is being revised to increase the SW supply header discharge water (UHS) temperature from 81 degrees F to 82 degrees F for verification of SW System operability. This change is consistent with the proposed change to SR 4.7.1.1.1.a and is acceptable since 82 degrees F is the design basis analytical limit for the UHS and is consistent with the UFSAR and other NMP2 TSs where parameters are listed.

SR 4.7.1.2.1.e.2 is being revised such that the SW pump pressure and flow requirements reflect the current analyses assumptions. This change is consistent with the proposed change to SR 4.7.1.1.1.e.2 (resequenced to "f.2") and is acceptable since the modified SW pump parameters were used in the limiting analysis and remain well within the design limits of the pumps.

SR 4.7.1.2.2.a is being revised to decrease the intake tunnel water (UHS) temperature from 39 degrees F to 38 degrees F for verification of Intake Deicing Heater System operability. This change is consistent with the proposed change to SR 4.7.1.1.2.a and is acceptable since the measurement uncertainty associated with the indication instrumentation is lower than that of the intake heater automatic actuation instrumentation.

SR 4.7.1.2.2.b is being revised to increase the current measured during operation of the heaters from 10 amps per Division to 20 amps per Division when adjusted to degraded voltage conditions. The associated footnote is also being revised to indicate 14 operating heater elements instead of 7. As previously described, these heaters are designed to minimize ice formation on the UHS System intake structure bar racks. The doubling of the required operating heaters (per Division) and their

associated current is consistent with the proposed changes for LCOs 3.7.1.1 and 3.7.1.2 (both resequenced to "d") and SR 4.7.1.1.2.b. Adjusting the current reading to degraded voltage conditions assures that the required heater elements are operable. These changes provide assurance that both intake structures will remain sufficiently free of ice blockage in order to assure adequate flow in the event of a LOOP during shutdown conditions.

In addition to the above changes, NMPC proposes to change the system title identified in the Index and in TS Section 3/4.7.1, including the LCOs and SRs, from "Plant Service Water System" to "Service Water System." This change is consistent with the system description provided in Section 9.2.1 of the NMP2 UFSAR. The Bases for 3/4.7.1 have been revised to reflect the title change and provide clarification of certain Actions consistent with the changes described above.

CONCLUSIONS

The SW System is designed to remove heat from essential plant components such as the RHR heat exchangers, EDGs, and room coolers for ECCS equipment. Cooling water for the RHR suppression pool cooling mode limits suppression pool temperature and primary containment pressure during a LOCA. The SW System also provides cooling to limit the air temperature routed to the SGTS to maintain the secondary containment at a negative pressure. These cooling functions provide assurance that the primary and secondary containments can perform their intended functions of limiting the release of radioactive materials to the environment following a LOCA. The limiting design basis event with a single failure affecting the performance of the SW System is four pumps operating during a LOCA with a trip of one of the pumps. This event is limiting because the non-essential cooling loads are not isolated during a LOCA. The analysis concluded that a minimum of three SW pumps are required to be operating during plant operation (Operational Conditions 1, 2, and 3) when the divisional cross connect valves and essential to non-essential interface valves are open. Three operating pumps (all three pumps can be in the same loop) are adequate to perform the containment cooling functions, as well as provide cooling water to essential components. Three pumps remain running when the accident occurs and are sufficient to meet the short-term cooling requirements, while non-essential cooling loads are manually isolated to meet the long-term cooling requirements.

The proposed changes and additions to LCO 3.7.1.1, LCO Actions a, b, c, and d, and SRs 4.7.1.1.1.e.2 and 4.7.1.1.2.b, and the addition of a new SR (4.7.1.1.1.c) provide assurance that four SW pumps are operable and are operating within acceptable system parameters, with the divisional cross connect valves open, during Operational Conditions 1, 2, and 3, to meet the limiting LOCA analysis assumptions. The changes to the LCO AOTs are either consistant with or are more conservative than the current AOTs.

The proposed changes to LCO 3.7.1.1, LCO Action f, and SR 4.7.1.1.2.b provide assurance that adequate Intake Deicing Heater System heaters are available such that both intake structures will remain sufficiently free of ice blockage during plant operation. Maintaining the intake bar surface temperature at least 1 degree F above freezing provides an adequate margin to prevent the adherence of ice. Since this provides assurance that

sufficient flow area is always heated, the SW System will remain capable of providing adequate cooling flow in the event of a LOCA, and there is no reduction in safety margin.

The proposed changes to TS LCO 3.7.1.1.b, LCO Action e, and SR 4.7.1.1.1.a increase the SW supply header discharge water temperature from 81 degrees F to the analytical limit of 82 degrees F. This change is consistent with other NMP2 TSs where analytical limits are used. Since the SW supply header discharge water temperature surveillance procedures include appropriate allowances to reflect measurement uncertainty, there will be no reduction in margin to the analytical limit.

The proposed changes to TS Table 3.3.9-1, Action 144, LCO 3.7.1.1 (last paragraph), LCO Action f, and SR 4.7.1.1.2.a reduce the limiting temperature for Intake Deicing Heater System operability from 39 degrees F to 38 degrees F. This change will make the limiting temperature for the Intake Deicing Heater System Action and operability requirements consistent with the setpoint Allowable Value listed in TS Table 3.3.9-2 for the Intake Deicing Heater System heater actuation instrumentation. The measurement uncertainty associated with the indication instrumentation is lower than that of the intake heater automatic actuation instrumentation. Based on the difference in instrumentation uncertainties, adequate margin exists such that there will be no reduction in the margin to the analytical limit of 34 degrees F.

The proposed changes to LCO 3.7.1.2 and the associated Actions and SRs will assure consistency with the SW System analyses assumptions during shutdown conditions. The current LCO Actions do not account for the varying flows and heat loads that may be required for various plant shutdown conditions. The revision to the Applicability for LCO 3.7.1.2, and TS Tables 3.3.9-1 and 4.3.9.1-1 will assure that the SW System is operable during periods when irradiated fuel is being handled in the secondary containment and essential loads cooled by the SW System are required to be operable (e.g., EDG). A footnote has been added to define Operational Condition * and is consistent with similar footnotes in the TSs. The proposed changes will assure that the necessary portions of the SW System and the necessary Divisions of the Intake Deicing Heater System heaters are operable that are supporting equipment required to be operable for the given plant conditions. Since the proposed changes assure sufficient cooling flow and design basis temperature requirements are met, there will be no impact on the essential equipment required for Operational Conditions 4, 5, and *.

The proposed change to the system title identified in the Index and in TS Section 3/4.7.1 from "Plant Service Water System" to "Service Water System," is consistent with the system description provided in Section 9.2.1 of the NMP2 UFSAR. The revisions to the Bases for 3/4.7.1 reflect the title change and provide clarification of certain Actions consistent with the changes described above.

Based on the above evaluation, the proposed changes will not degrade the quality or performance of the SW System to mitigate the consequences of a LOCA or to provide adequate cooling during plant operation and plant shutdown conditions. Therefore, there is reasonable assurance that the proposed changes can be implemented without adversely affecting the health and safety of the public.

ANALYSIS

No Significant Hazards Consideration Analysis

According to 10 CFR 50.91, at the time a licensee requests an amendment to its operating license, the licensee must provide to the NRC its analysis using the standards in 10 CFR 50.92 concerning the issue of no significant hazards consideration. According to 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.

NMPC has evaluated this proposed amendment pursuant to 10 CFR 50.91 and has determined that it involves no significant hazards considerations.

The following analyses have 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.

The SW System is a once-through system which supplies water from Lake Ontario to various essential and non-essential components, as required, during normal plant operation and shutdown conditions. The System is designed with suitable redundancy to provide a reliable source of cooling water for the removal of heat from essential plant components, including the RHR heat exchangers, the EDGs, and room coolers for ECCS equipment, which are required for safe reactor shutdown following a LOCA.

LCO 3.7.1.1 and LCO 3.7.1.2 each currently requires two independent SW System loops to be operable, with one of the loops in operation. The current LCOs do not provide adequate guidance regarding the minimum number of operating pumps. NMPC proposes to revise LCO 3.7.1.1 and its associated Actions and SRs to provide assurance that four SW pumps are operable and are operating within acceptable system parameters, with the divisional cross-connect valves open, during Operational Conditions 1, 2, and 3 to meet the limiting LOCA analysis assumptions.

TS Section 3/4.7.1 currently specifies a maximum SW supply header discharge water temperature of 81 degrees F and a limiting temperature for Intake Deicing Heater System operability (intake water) temperature of 39 degrees F. In addition, TS Table 3.3.9-1, Action 144, requires the Intake Deicing Heater System heaters to be placed in service when the Lake Ontario water temperature reaches 39 degrees F. NMPC proposes to revise Action 144 of TS Table 3.3.9-1 and TS LCO 3.7.1.1, including its associated Actions and

SRs, to increase the supply header discharge water temperature to its analytical limit of 82 degrees F and reduce the limiting temperature for the Intake Deicing Heater System Action and operability requirements to 38 degrees F.

Appropriate changes to LCO 3.7.1.2 and its associated Actions and SRs are also proposed in order to assure consistency with the SW System analyses assumptions during shutdown conditions. The current LCO Actions do not account for the varying flows and heat loads that may be required for various plant shutdown conditions. The revision to the Applicability for LCO 3.7.1.2 and TS Tables 3.3.9-1 and 4.3.9.1-1 will assure that the SW System is operable during periods when irradiated fuel is being handled in the secondary containment and essential loads cooled by the SW System are required to be operable (e.g., EDG). A footnote has been added to define Operational Condition * and is consistent with similar footnotes in the TSs. The proposed changes will assure that the necessary portions of the SW System and the necessary Divisions of the Intake Deicing Heater System heaters are operable that are supporting equipment required to be operable.

It is further proposed to change the system title identified in the Index and in TS Section 3/4.7.1, including the LCOs and SRs, from "Plant Service Water System" to "Service Water System" to be consistent with the NMP2 UFSAR.

The changes do not involve any physical alteration of the plant, and the SW System will remain capable of providing sufficient cooling flow for the essential cooling loads during plant operation and also during plant shutdown. The changes will have no impact on the design or function of the SW System and its components, thus assuring that the characteristics and functional performance are maintained consistent with the event precursors and the conditions and assumptions of the current design basis accident and transient analyses. The changes to the LCO AOTs are either consistent with or are more conservative than the current AOTs. Based on the above, adequate assurance is provided that the probability of event initiation will remain as previously analyzed. Maintaining four pumps operating within acceptable system parameters, with the divisional cross connect valves open, during Operational Conditions 1, 2, and 3 provides assurance that the essential functions supported by the SW System are maintained. Particularly, adequate SW flow assures that the primary and secondary containments can perform their intended functions of limiting the release of radioactive materials to the environment following a LOCA. The small (1 degree F) change in the SW supply header discharge water (UHS) temperature and Intake Deicing Heater System actuation temperature maintain the current design basis for the UHS and SW Systems such that there will be no impact on the LOCA analyses assumptions or conclusions. The proposed changes to the SW System TSs do not adversely affect the capability of plant systems, structures, and components to respond to any accident in Operational Conditions 4, 5, and *. As a result, there will be no degradation of the primary or secondary containment or any other fission product barriers which could increase the radiological consequences of an accident. In addition, other essential accident mitigation equipment supported by the SW System will not be adversely impacted. It is, therefore, concluded that operation of NMP2, in accordance with the proposed amendment, will not involve a significant increase in the probability or consequences of an accident previously evaluated.

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 changes do not result in any hardware changes or physical alteration of the plant which could introduce new equipment failure modes, and there will be no impact on the design or function of the SW System or its components. The primary and secondary containment post-LOCA responses remain within previously assessed limits of temperature and pressure. Furthermore, adequate cooling flow is assured during plant operation and also during shutdown conditions such that essential systems and components remain within their applicable design limits. It is, therefore, concluded that no requirements are eliminated or new requirements imposed which could affect equipment or plant operation such that new credible accidents are introduced. Accordingly, operation of NMP2, 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 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 changes provide assurance that the SW System will remain capable of providing sufficient cooling flow for the essential cooling loads during plant operation and also during plant shutdown such that essential systems and components remain within their applicable design limits. The changes will have no impact on the design or function of the SW System and its components, thus assuring that the characteristics and functional performance are maintained consistent with the conditions and assumptions of the current design basis accident and transient analyses. Maintaining four pumps operating within acceptable system parameters, with the divisional cross connect valves open, during Operational Conditions 1, 2, and 3 provides assurance that post-LOCA radioactive releases are maintained within 10 CFR 100 limits. The small (1 degree F) change in the SW supply header discharge water (UHS) temperature and the limiting temperature for the Intake Deicing Heater System Action and operability requirements maintains the current design basis for the UHS and SW Systems such that there will be no impact on the LOCA analyses assumptions or conclusions. These changes will not result in a reduction in margin to the System analytical limits. Furthermore, maintaining the intake bar surface temperature at least 1 degree F above freezing provides an adequate margin to prevent the adherence of ice, and provides assurance that sufficient flow area is always heated such that the SW System will remain capable of providing adequate cooling flow in the event of a LOCA. Similarly, maintaining the required SW System flow and temperature during Operational Conditions 4, 5, and * will assure that the associated equipment is operable such that radioactive releases are maintained within 10 CFR 100 limits. It is, therefore, concluded that the changes do not eliminate any requirements, impose any new requirements, or alter any physical parameters which significantly reduce the margin to an acceptance limit or adversely affect the margins associated with the fission product barriers as established by the design basis accident and transient analyses. Accordingly, operation of NMP2, in accordance with the proposed amendment, will not involve a significant reduction in a margin of safety.

ATTACHMENT C

NIAGARA MOHAWK POWER CORPORATION
LICENSE NO. NPF-69
DOCKET NO. 50-410

Eligibility for Categorical Exclusion from Performing an Environmental Assessment

10 CFR 51.22 provides criteria for, and identification of, licensing and regulatory actions eligible for exclusion from performing an environmental assessment. Niagara Mohawk Power Corporation (NMPC) has reviewed the proposed amendment and has determined that it does not involve a significant hazards consideration, and there will be no significant change in the types or a significant increase in the amounts of any effluents that may be released offsite, nor will there be any significant increase in individual or cumulative occupational radiation exposure. Therefore, the proposed amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9) and, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment is required to be prepared in connection with this license amendment application.

ATTACHMENT D

NIAGARA MOHAWK POWER CORPORATION
LICENSE NO. NPF-69
DOCKET NO. 50-410

Marked-Up Copy of the Proposed Changes to the Current Technical Specifications (TSs)

Pages xii, xix, 3/4 3-105, 3/4 3-106, 3/4 3-108, 3/4 7-1 through 3/4 7-6, and B3/4 7-1 have been marked up by hand to reflect the proposed changes to the current TSs, as well as the changes to the Bases.

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

TABLE 3.3.9-1

PLANT SYSTEMS ACTUATION INSTRUMENTATION

TRIP FUNCTION	INSTRUMENT NUMBER	MINIMUM OPERABLE CHANNELS (a)	APPLICABLE OPERATIONAL CONDITIONS	ACTION
1. Feedwater System/Main Turbine Trip System				
Reactor Vessel Water Level - High, Level 8	2ISC*LSH1624A,B,C	3	1	140
2. Service Water System				
a. Discharge Bay Level	2SWP*LS30A,B	2	1,2,3,4,5,*	142
b. Intake Tunnel 1 & 2 Water Temperature	2SWP*TSL64A,65A 2SWP*TSL64B,65B	1/Division 1/Division	1,2,3,4,5,* 1,2,3,4,5,*	144 144
c. Service Water Bay	2SWP*LS73A,B	2	,2,3,4,5,*	143
d. Service Water Pumps Discharge Strainer Differential Pressure - Train "A"	2SWP*PDSH1A,C,E	1/Strainer	1,2,3,4,5,*	146
e. Service Water Pumps Discharge Strainer Differential Pressure - Train "B"	2SWP*PDSH1B,D,F	1/Strainer	1,2,3,4,5,*	146
f. Service Water Supply Header Discharge Water Temperature	2SWP*TY31A,B	2	1,2,3,4,5,*	147
g. Service Water Inlet Pressure for EDG*2 (HPCS, Division III)				
1) Division I Supply Header	2SWP*PSL95A	1	1,2,3,4,5,*	145
2) Division II Supply Header	2SWP*PSL95B	1	1,2,3,4,5,*	145

(a) A channel may be placed in an inoperable status for up to 2 hours for required surveillance without placing the Trip System in the tripped condition, except for discharge bay level and service water bay level which may be placed in an inoperable status for up to 4 hours without placing the Trip System in a tripped condition and Reactor Vessel Level-High, Level 8 channel, which may be placed in an inoperable status for up to 6 hours for required surveillance without placing the Trip System in the tripped condition.

* When handling irradiated fuel in the secondary containment.

TABLE 3.3.9-1 (Continued)

PLANT SYSTEMS ACTUATION INSTRUMENTATION

ACTION

ACTION 140 - a. With the number of OPERABLE channels one less than required by the Minimum OPERABLE Channels requirement, restore the inoperable channel to OPERABLE status within 7 days or be in at least STARTUP within the next 6 hours.

b. With the number of OPERABLE channels two less than required by the Minimum OPERABLE Channels requirement, restore at least one of the inoperable channels to OPERABLE status within 72 hours or be in at least STARTUP within the next 6 hours.

ACTION 141 - Not used.

ACTION 142 - Monitor discharge bay level continuously if level reaches trip setpoint, provide an alternate flow discharge path by locking closed 2SWP*MOV30A or 2SWP*MOV30B.

ACTION 143 - Monitor service water bay level continuously if level reaches Trip Setpoint provide an alternate intake to the service bay by locking open 2SWP*MOV77A or 2SWP*MOV77B.

ACTION 144 - Place intake heaters in service if lake temperature < 38°F or take the ACTIONS required by Specifications 3.7.1.1 and 3.7.1.2, as appropriate.

ACTION 145 - Lock closed 2SWP*MOV95A or 2SWP*MOV95B and declare EDG-2 (HPCS, Division III) inoperable and take the ACTION required by Specification 3.8.1.

ACTION 146 - Monitor the effected pump discharge pressure and the applicable service water loop header pressure to determine the differential pressure across the strainer; if the differential pressure exceeds the setpoint manually start the strainer or declare the effected service water pump inoperable and take the ACTION required by Specifications 3.7.1.1 and 3.7.1.2, as appropriate.

ACTION 147 - Monitor service water local discharge temperature indicators as applicable per Specification 4.7.1.1.1.a.2 or 4.7.1.2.1.a.2.

TABLE 4.3.9.1-1

PLANT SYSTEMS ACTUATION INSTRUMENTATION SURVEILLANCE REQUIREMENTS

TRIP FUNCTION	CHANNEL CHECK	CHANNEL FUNCTIONAL TEST	CHANNEL CALIBRATION	OPERATIONAL CONDITIONS FOR WHICH SURVEILLANCE REQUIRED
1. Feedwater System/Main Turbine Trip System				
a. Reactor Vessel Water Level - High Level 8	NA	Q	R	1
2. Service Water System				
a. Discharge Bay Level	NA	R	R	1, 2, 3, 4, 5, *
b. Intake Tunnel 1 & 2 Water Temperature	W	R	R*(**)	1, 2, 3, 4, 5, *
c. Service Water Bay	NA	R	R	1, 2, 3, 4, 5, *
d. Service Water Pumps Discharge Strainer Differential Pressure - Train "A"	S	R	R	1, 2, 3, 4, 5, *
e. Service Water Pumps Discharge Strainer Differential Pressure - Train "B"	S	R	R	1, 2, 3, 4, 5, *
f. Service Water Supply Header Discharge Water Temperature	S	R	R	1, 2, 3, 4, 5, *
g. Service Water Inlet Pressure for EDG*2 (HPCS, Division III)				
1) Division I Supply Header	NA	R	R	1, 2, 3, 4, 5, *
2) Division II Supply Header	NA	R	R	1, 2, 3, 4, 5, *

(**) Calibration excludes sensors; a comparison test of the four RTDs will be done.

* When handling irradiated fuel in the secondary containment.

3/4.7 PLANT SYSTEMS

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 OPERABLE plant service water pumps capable of taking suction from Lake Ontario and transferring the water to the associated safety-related equipment.

b. Four OPERABLE service water pumps shall be in operation.

c. Service water supply header discharge water temperature 81°F or less.

d. 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 14 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.

Replace with INSECT I

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 81°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.

* May be cycled intermittently, under administrative control, to permit testing associated with restoring the valve to OPERABLE status.

INSERT 1

a. With one or more required service water pumps inoperable in one loop or one loop inoperable for reasons other than specified in Action b or c, restore the inoperable service water loop 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.

b. With one service water supply header cross connect valve inoperable, verify the service water supply header cross connect valve is open within 1 hour and restore the service water supply header cross connect valve 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.

c. With one or more nonsafety-related service water header flow paths with one service water isolation valve inoperable, isolate the affected nonsafety-related service water flow path(s) 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 the service water system inoperable for reasons other than specified in ACTION a, b, or c, be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

e. With one required service water pump not in operation, restore four service water pumps to operation within 72 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

f. With two or more required service water pumps not in operation, restore three service water pumps to operation within 1 hour or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

PLANT SERVICE WATER SYSTEM

PLANT SERVICE WATER SYSTEM - OPERATING

LIMITING CONDITIONS FOR OPERATION

3.7.1.1 (Continued)

ACTION:

h. With less than the required Division I and Division II heaters OPERABLE (one required of either inoperable or not in operation or both, when the intake tunnel water temperature is less than 38°F, restore the heaters to OPERABLE status and in operation within 72 hours or) 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 82°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 75°F, and

3. At least once per 2 hours when the last recorded water temperature is greater than or equal to 79°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.

d. 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.

e. 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.

c. At least once per 24 hours by verifying four service water pumps in operation.

PLANT SERVICE WATER SYSTEM

PLANT SERVICE WATER SYSTEM - OPERATING

SURVEILLANCE REQUIREMENTS

4.7.1.1.1 (Continued)

f. At least once per 18 months:

1. Perform a LOGIC SYSTEM FUNCTIONAL TEST of the service water pump starting logic.

2. Verify each pump runs and maintains service water pump differential pressure equal to or greater than 70 psid with a pump flow equal to or greater than 9000 gpm.

4.7.1.1.2 The Intake Deicing Heater System shall be demonstrated OPERABLE:

a. At least once per 12 hours by verifying the intake tunnel water temperature is greater than or equal to 38°F, or

b. At least once per 7 days by verifying that the current of the heater feeder cables at the motor control centers is 20 amps* or more (total for three phases) ~~at ≥ 518 volts~~ when adjusted to degraded voltage conditions per divisional heater in each intake structure.

c. At least once per 18 months by verifying the resistance is ≥ 28 ohms for each feeder cable and associated heater elements in the intake deicing heater systems.

* For 14 heater elements in operation.

PLANT SYSTEMS

~~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.

Add INSERT 2

b. Service water supply header discharge water temperature shall be 81°F or less.

c. The necessary Divisions of the intake deicing heater system shall be OPERABLE each required and in operation when intake tunnel water temperature is less than 38°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.~~ 14

APPLICABILITY: OPERATIONAL CONDITIONS 4, ~~and~~ 5, and *,

Add INSERT 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 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.

b. With the service water supply header discharge temperature exceeding 82°F suspend CORE ALTERATIONS, handling of irradiated fuel in the secondary containment, and all operations that have a potential for draining the reactor vessel.

* When handling irradiated fuel in the secondary containment.

INSERT 2

The necessary portions of the service water system needed to support equipment required to be OPERABLE shall be OPERABLE.

INSERT 3

a. With required portions of the service water system inoperable, declare the associated equipment inoperable and take ACTIONS required by the applicable Specifications.

PLANT SERVICE WATER SYSTEM

PLANT SERVICE WATER SYSTEM - SHUTDOWN

LIMITING CONDITIONS FOR OPERATION

3.7.1.2 (Continued)

either inoperable or not in operation or both, when the intake tunnel water temperature is less than 38°F,

ACTION: One or more required Divisions of

C. 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, handling of irradiated fuel in the secondary containment

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 81 82 °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 75°F, and

3. At least once per 2 hours when the last recorded water temperature is greater than or equal to 79°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.

PLANT SERVICE WATER SYSTEM

PLANT SERVICE WATER SYSTEM - SHUTDOWN

SURVEILLANCE REQUIREMENTS

4.7.1.2.1 (Continued)

e. At least once per 18 months:

1. Perform a LOGIC SYSTEM FUNCTIONAL TEST of the service water pump starting logic.

2. Verify each pump runs and maintains service water pump differential pressure equal to or greater than 70 psid with each pump flow equal to or greater than 9000 gpm.

4.7.1.2.2 The Intake Deicing Heater System shall be demonstrated OPERABLE:

a. At least once per [illegible] hours by verifying the intake tunnel water temperature is greater than or equal to 38°F, or

b. At least once per 7 days by verifying that the current of the heater feeder cables at the motor control centers is 20 amps* or more (total for three phases) ~~at ≥ 518 volts~~ when adjusted to degraded voltage conditions per divisional heater in each intake structure.

c. At least once per 18 months by verifying the resistance is ≥ 28 ohms for each feeder cable and associated heater elements in the intake deicing heater systems.

* For 14 heater elements in operation.

3/4.7 PLANT SYSTEMS

BASES

3/4.7.1 ~~PLANT~~ SERVICE WATER SYSTEMS

The OPERABILITY of the service water systems ensures that sufficient cooling capacity is available for continued operation of safety-related equipment during normal or accident conditions. The redundant cooling capacity of ~~these~~ this systems, assuming a single failure, is consistent with the assumptions used in the accident conditions within acceptable limits. Add INSERT 4

must be Independence in the ~~plant~~ service water system, as required by the specification, is achieved by OPERABILITY of the divisional separation logic and valves (2SWP*MOV50A, 2SWP*MOV50B). During normal plant operating conditions, the two divisions of the service water system ~~are~~ interconnected. The intake deicing heater specification ensures that adequate ~~water~~ is available ~~to~~ for the service water system. In order to prove that the system is supplying adequate heat to the bar racks, a portable ammeter shall be used to check the full load current of the heaters. The current should be checked on a weekly basis. Current shall be measured for each phase at each of the four motor control center locations. If a major deviation from rated current is detected, further investigation is required to determine if an open circuit exists in the individual heater circuits.

intake flow area

Add INSERT 5

Add INSERT 6

The 18-month ~~check~~ verification of circuit resistance readings ~~will~~ provides a check ~~against~~ for long-term degradation of circuit insulations.

Add INSERT 7

3/4.7.2 REVETMENT-DITCH STRUCTURE

The purpose of the revetment-ditch structure is to protect the plant fill and foundation from wave erosion, expected during the probable maximum windstorm for a maximum still water elevation of 254 feet.

The revetment-ditch structure is Seismic Category I and is designed to withstand the impact of waves. So long as the fill is in place, waves cannot impact Category I structures because of the lack of sufficient depth of water to sustain such waves.

The revetment-ditch structure can sustain a high degree of damage and still perform its function, protecting the site fill from erosion. Thus, the operability condition for operation of the revetment-ditch structure has been written to ensure that severe damage to the structure will not go undetected for a substantial period of time and to provide for prompt corrective action and NRC notification.

3/4.7.3 CONTROL ROOM OUTDOOR AIR SPECIAL FILTER TRAIN SYSTEM

The OPERABILITY of the control room outdoor air special filter train 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 design-basis-accident conditions. Continuous operation of the system with the heaters OPERABLE for 10 hours during

INSERT 4

Pumps that are required to be in operation shall also be OPERABLE.

INSERT 5

to meet the LOCA analyses assumptions.

The nonsafety-related service water header flow paths refer to the two supply and two return headers. Each flow path contains two isolation valves (a total of eight valves). When one isolation valve is inoperable, the affected flow path must be isolated by closing one of the isolation valves in the associated flowpath within 72 hours (i.e., 2SWP*MOV3A or 3B, 2SWP*MOV19A or 19B, 2SWP*MOV93A or 93B, or 2SWP*MOV599). In the case when 2SWP*MOV599 is inoperable and cannot be closed, 2SWP*MOV3A or 3B and 2SWP-V8 shall be closed.

INSERT 6

The measured current is adjusted to degraded voltage conditions (518 volts).

INSERT 7

The heat load during Operational Conditions 4, 5, and * can vary significantly, depending on the time since plant shutdown and the equipment/heat loads that are required to be in service. As a result, the number of service water pumps required to be operable or in operation can vary. In addition, service water is only required to be operable for the equipment which is required to be operable for the current plant conditions. Maintaining service water flow rates and pressure within acceptable limits assures the availability of flow to safety related components and prevents pump runout following automatic initiation of LOCA loads. When the required portions of the service water system are inoperable (e.g., pumps, flow paths, valves), the associated equipment must be declared inoperable and the Actions required by the applicable Specifications must be taken.