ATTACHMENT A

NIAGARA MOHAWK POWER CORPORATION
DOCKET NO. 50-220
LICENSE NO. DPR-63

Change to Technical Specification Bases

Replace existing page 52 with the attached revised page. This page has been retyped in its entirety with marginal markings to indicate changes to the text.

The turbine main condenser is normally available. The emergency cooling system (Section V-E)* is provided as a redundant backup for core decay heat removal following reactor isolation and scram. One emergency condenser system has a heat removal capacity at normal pressure of 19.0 x 10^7 Btu/hr, which is approximately three percent of maximum reactor steam flow. This capacity is sufficient to handle the decay heat production at 100 seconds following a scram. If only one of the emergency cooling systems is available, 2000 pounds of water will be lost from the reactor vessel through the relief valves in the 100 seconds following isolation and scram. This represents a minor loss relative to the vessel inventory of about 450,000 pounds (Section V-E.3.1)*.

The required heat removal capability is based on the data of Table V-1* adjusted to normal operating pressures. The only difference is manual system initiation rather than automatic initiation.

The system may be manually initiated at any time. The system is automatically initiated on high reactor pressure in excess of 1080 psig sustained for 12 seconds. The time delay is provided to prevent unnecessary actuation of the system during anticipated turbine trips (Section XV-B.3.15)*. Automatic initiation is provided to minimize the coolant loss following isolation from the main condenser.** To assist in depressurization for small line breaks the system is initiated on low-low reactor water level five feet (5 inches indicator scale) below the minimum normal water level (Elevation 302'9") sustained for 12 seconds. The timers for initiation of the emergency condensers will be set at 12 seconds delay based on the analysis (Section XV-B.3.15)*. For the MSIV closure analysis (Section XV-B.3.5)*, emergency condenser action is ignored.

The minimum water volume in each emergency condenser is 10,680 gallons and the maximum emergency condenser shell side water level is limited to the elevation of the shell overflow lines in each tank. About 72,000 gallons are available from the two gravity feed condensate storage tanks. To assure this gallonage, a level check shall be done at least once per day.

This is sufficient to provide about eight hours of continuous system operation. This time is sufficient to restore additional heat sinks or pump makeup water from the two-200,000 gallon condensate storage tanks. The fire protection is also available as a makeup water supply.

*UFSAR
**Technical Supplement to Petition to Increase Power Level

ATTACHMENT B

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Supporting Information for Technical Specification Bases Change

The Nine Mile Point Unit 1 Emergency Cooling System is a standby system for the removal of fission product decay heat without the loss of reactor water after a reactor scram, when the main condenser is not available as a heat sink, or in the event of loss of reactor feedwater. In addition, the Emergency Cooling System aids the Core Spray and Automatic Depressurization System in providing effective core cooling following a loss of coolant from the reactor. The Emergency Cooling System consists of two (2) redundant loops with each loop made up of two (2) emergency condensers.

The existing Technical Specification Bases for the Emergency Cooling System reads, in part, as follows:

> The initial water volume in each emergency condenser is 21,360 ± 1500 gallons which keeps the level within ± 6 inches of the normal water level.

Niagara Mohawk is revising the existing Technical Specification Bases to read as follows:

> The minimum water volume in each emergency condenser is 10,680 gallons and the maximum emergency condenser shell side water level is limited to the elevation of the shell overflow lines in each tank.

The existing Bases wording implies that a minimum of 21,360 gallons of water is required in each emergency condenser. In actuality, supporting analysis indicates that each emergency condenser loop (two emergency condensers) requires a minimum of 21,360 gallons of water. Therefore, each emergency condenser requires a minimum of 10,680 gallons. In addition, the existing Bases are too restrictive concerning the maximum volume of water permitted in the emergency condensers. Increasing the maximum emergency condenser water level to the elevation of the shell overflow lines is conservative and will provide additional safety margin.

Niagara Mohawk has evaluated increasing the maximum allowable emergency condenser water level to the elevation of the shell overflow lines. The bottom of the four inch overflow line is located at an elevation that precludes an overfilling of the emergency condenser and a subsequent loss of boiling surface. In addition, a high level alarm will annunciate in the Control Room in the event that the water level exceeds the top of the overflow line.

The Emergency Condenser System design basis thermal-hydraulic analysis was performed for steady state conditions at 5 psig and 225 degrees Fahrenheit. Boiling and steam flow

out the vent lines at 5 psig and 225 degrees Fahrenheit control the heat transfer process in the analysis. Increasing the maximum allowable shell water level to the elevation of the shell overflow line does not affect the emergency condenser heat removal capability. This was confirmed during the conduct of the five year interval emergency condenser heat removal capability test in 1990, where the initial shell levels were equal to the elevation of the shell overflow lines in loop 11 and loop 12. Operating with a higher water level does create the potential for larger water droplets (i.e., increased moisture carryover) to flow out the vents in the event the system is initiated. During the first few minutes of the 1990 test, large water droplets flowed out of the emergency condenser vents until thermal equilibrium was achieved and the water changed to steam. However, the radiological impact of the vent release was evaluated and concluded to be insignificant and the thermal performance of the emergency condensers during the test was acceptable. Thus, the successful performance of the emergency condenser heat removal capability test during 1990 demonstrates the acceptability of maintaining the shell water level up to the overflow line.

The adequacy of the emergency condenser supports under seismic loads was evaluated for the increased water level. Previous seismic analyses of emergency condenser supports were performed assuming the condensers were completely full and therefore these analyses bound the proposed condition. Thus, the higher water level will not cause seismic loads to exceed the previously analyzed anchor loads.

The change to permit an emergency condenser water level up to the elevation of the shell overflow line is within the original design basis and the system's margin of safety is not reduced. A higher water level provides additional safety margin to prevent the emergency condenser tube bundles from being uncovered during system operation. Therefore, the changes do not create a safety issue and do not affect the public health and safety.