January 9, 1984

Docket No. 50-410

APPLICANT: Niagara Mohawk Power Corporation (NMPC)

FACILITY: Nine Mile Point Unit 2

SUBJECT: SUMMARY OF MEETING WITH NIAGARA MOHAWK POWER CORPORATION ON POWER SYSTEMS AT NINE MILE POINT 2

On November 4, 1983, the NRC staff met with representatives from Niagara Mohawk Power Corporation (NMPC), Stone and Webster Engineering Corporation (SWEC), and General Electric (GE) in Bethesda, Maryland to discuss power systems at Nine Mile Point Unit 2.

During this meeting, the Request for Additional Information transmitted in a letter to Gerald K. Rhode from A. Schwencer on October 3, 1983 was used as a basis for the discussion. Each of the requests for information was discussed and clarification was provided for the request on the Nine Mile Point 2 system as required. It was noted during the discussion that an omission was made in Item 430.72 of the request. The last sentence should read "Demonstrate by analysis that the standpipes and expansion tank size are adequate to maintain required pump NPSH and makeup water for seven days continuous operation of the diesel engine at full rated load without makeup water supply to the diesel generators..."

A list of attendees at this meeting is included as Attachment 1.

Original signed by

Mary F. Haughey, Project Manager
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Attachment:
As stated

cc w/attachment:
See next page

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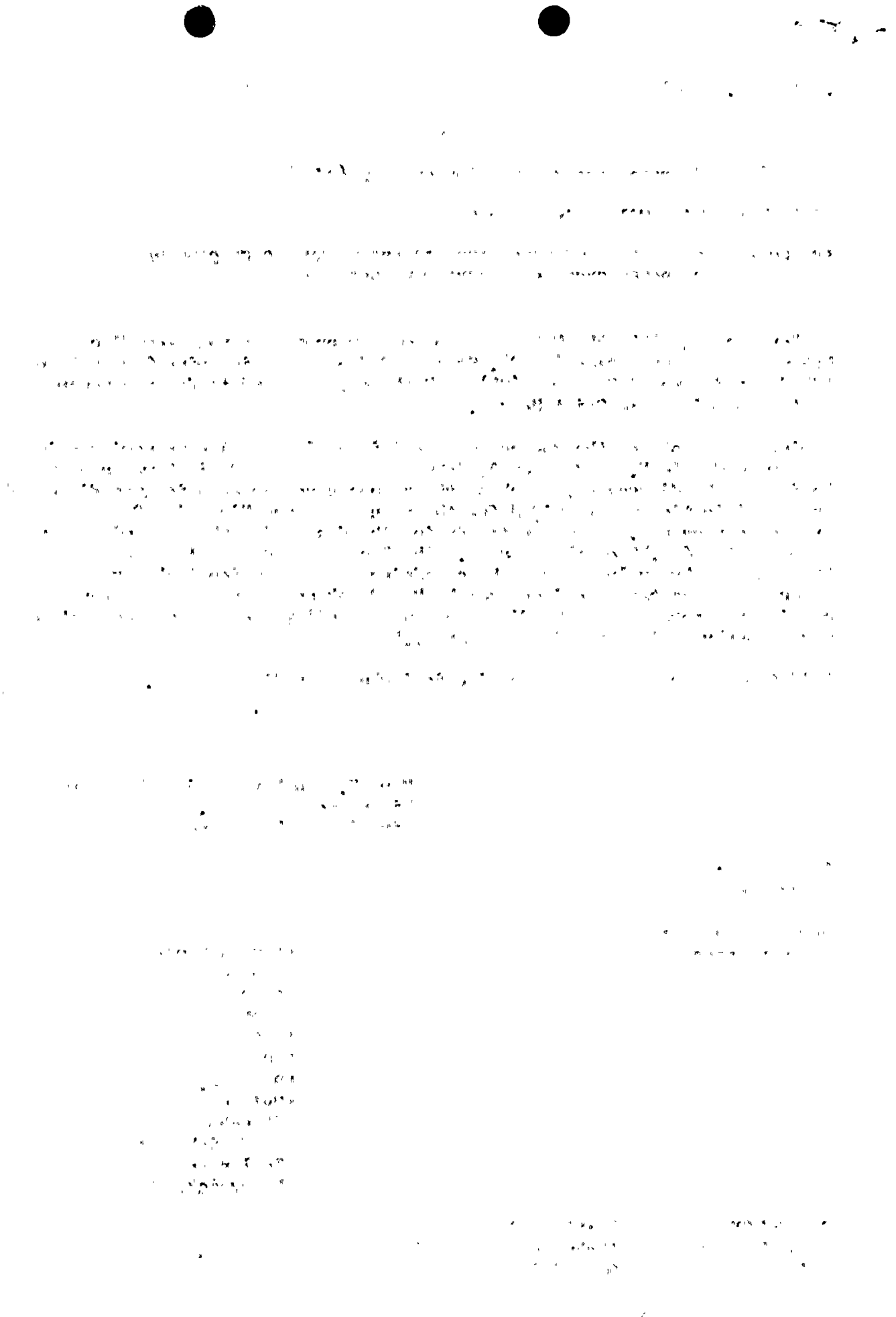

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HUMPHREY CONTAINMENT CONCERNS

1. Effects of Local Encroachments on Pool Swell Loads

1.1

1.2

1.3 N/A for Mark I and Mark II Containments

1.4

1.5

1.6

1.7

2. Safety Relief Valve Discharge Line Sleeves

2.1

2.2 N/A for Mark I and Mark II Containments

2.3

3. ECCS Relief Valve Discharge Lines Below the Suppression Pool Level

3.1 The design of the STRIDE plant did not consider vent clearing, condensation oscillation and chugging loads which might be produced by the actuation of these relief valves.

3.2 The STRIDE design provided only nine inches of submergence above the RHR relief valve discharge lines at low suppression pool levels.

3.3. Discharge from the RHR relief valves may produce bubble discharge or other submerged structure loads on equipment in the suppression pool.

3.4 The RHR heat exchanger relief valve discharge lines are provided with vacuum breakers to prevent negative pressure in the lines when discharging steam is condensed in the pool. If the valves experience repeated actuation, the vacuum breaker sizing may not be adequate to prevent drawing slugs of water back through the discharge piping. These slugs of water may apply impact loads to the relief valve or be discharged back into the pool at the next relief valve actuation and apply impact loads to submerged structures.

3.5 The RHR relief valves must be capable of correctly functioning following an upper pool dump which may increase the suppression pool level as much as five feet creating higher back pressures on the relief valves.

3.6 If the RHR heat exchanger relief valves discharge steam to the upper levels of the suppression pool following a design basis accident, they will significantly aggravate suppression pool temperature stratification.

3.7 The concerns related to the RHR heat exchanger relief valve discharge lines should also be addressed for all other relief lines that exhaust into pool. (p. 132 of 5/27/82 transcript)

4. Suppression Pool Temperature Stratification

4.1 The present containment response analyses for drywell break accidents assume that the ECCS systems transfer a significant quantity of water from the suppression pool to the lower regions of the drywell through the break. This results in a pool in the drywell which is essentially isolated from the suppression pool at a temperature of approximately 135°F. The containment response analysis assumes that the drywell pool is thoroughly mixed with the suppression pool. If the inventory in the drywell is assumed to be isolated and the remainder of the heat is discharged to the suppression pool, an increase in bulk pool temperature of 10°F may occur.

4.2 The existence of the drywell pool is predicated upon continuous operation of the ECCS. The current emergency procedure guidelines require the operators to throttle ECCS operation to maintain vessel level below level 8. Consequently, the drywell pool may never be formed.

4.3 All Mark III analyses presently assume a perfectly mixed uniform suppression pool. These analyses assume that the temperature of the suction to the RHR heat exchangers is the same as the bulk pool temperature. In actuality, the temperature in the lower part of the pool

Nine Mile Point 2

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