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FACIL:50-410 Nine Mile Point Nuclear Station, Unit 2, Niagara Moha 05000410
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SCHWENCER,A. Licensing Branch 2

SUBJECT: Forwards list of concerns identified in draft SER.Areas also identified that required revs.

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NIAGARA MOHAWK

NIAGARA MOHAWK POWER CORPORATION/300 ERIE BOULEVARD WEST, SYRACUSE, N.Y. 13202/TELEPHONE (315) 474-1511

October 11, 1984
(NMP2L 0199)

Mr. A. Schwencer, Chief
Licensing Branch No. 2
Division of Licensing
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Dear Mr. Schwencer:

Re: Nine Mile Point Unit 2
Docket No. 50-410

In our review of the draft Safety Evaluation Report, we have identified several areas where we believe revisions are required.

Enclosed is the list of the various areas where we have identified a concern.

Very truly yours,

C. V. Mangan
Vice President
Nuclear Engineering & Licensing

JM:ja
Enclosure
xc: Project File (2)
R. Gramm, NRC Resident Inspector

B001
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DSER SECTION	PAGE NO:	CONCERN
1.1	1-3, Para. 5	In accordance with the provisions of the National Environmental Policy Act (NEPA) of 1969, a Draft Environmental Statement (DES) that sets forth the environmental considerations related to the proposed construction and operation of Unit 2 has been prepared by the staff and was published in August 1984.
1.2	1-6, Para. 4	The nozzles that are clad are recirculation jet pump instruments and nozzle drain.
1.2	1-9, Para. 1	A LOCA and/or loss of offsite power signal initiates start of the standby diesel generators and the generators pick up the loads in a programmed sequence - There is no sequence for Division III.
2.1.2	2-2, Para. 1	There are no residents living within the exclusion area, and there are no major highways or railways traversing the exclusion area.
2.1.4	2-5, Para. 2	The additional documentation to confirm the conclusion regarding the nearest population center is in Section 2.1.3.4 of FSAR.
2.3.2	2-11, Para. 3	The 100-year return period snow loads for the plant have been determined to be about 45 lbs/ft. A combined 48-hour probable maximum winter precipitation and 100-year snow load results in a ground snow load of 60 lbs/ft^2.
2.3.4	2-13, Para. 2	The evaluation at the 1,381m (4530 ft) exclusion area boundary (EAB) allows credit for building wake effects and effluent plume meander under light wind and stable atmospheric conditions. The 0- to 2-hour X/Q value that is expected to be exceeded less than 0.5% of the time is 1.9×10^{-4} sec/m^3 at the EAB distance of 1,381m (4,530 ft) in the most limiting direction (northwest of the plant).

DSER SECTION	PAGE NO:	CONCERN
	2-13	The entries for Table 2.3, Nine Mile Point Unit 2 LPZ Relative Concentrations, should be:

Time	X/Q sec/m^3
0-8 hours	1.03×10^{-5}
8-24 hours	8.85×10^{-7}
1-4 days	3.16×10^{-7}
4-30 days	1.03×10^{-7}

	5-26	The heat removed in the RHR heat exchangers is transported to the ultimate heat sink by the service water system.
2.5.1.3	2-36, Item 2	The use of the phrase "very high" is incorrect. The stresses in the region are not abnormally high for this region. Refer to NMPC letter to NRC dated August 27, 1984.
2.5.1.3	2-35, Para. 3	The focal mechanism solutions have been included in the applicant's analysis per letter to NRC dated August 27, 1984 addressing SER open items 9, 10, 11 and 12.
2.5.1.3	2-37, Para. 1	The regional stresses around the site are typical for the region.
	2-45, Item 3	Average maximum stress is 1,200-1,800 psi, although readings as high as 2,700 psi were measured in the deepest hole, and stress difference between the greatest and least compressive stresses generally is close to 900 psi.
2.5.4.2.1	2-56, Para. 2	The average shear wave velocity of the sandstone bedrock is 8,700 ft/sec.

DSER SECTION	PAGE NO:	CONCERN
2.5-1	2-62	The water enters the system via an offshore intake structure (approximately 1,300 ft. offshore) and is brought to the intake shaft adjoining the power block through tunnels.
2.5.4.9	2-67, Para. 5	The cooling tower was relocated approximately 500 ft. north.
3.5.1.3	3-11, Para. 1	The statement "the staff has factored into consideration the unfavorable orientation of the turbine generator" should be removed. The turbine generator has a favorable orientation.
3.6.1	3-16, Para. 2	The applicant has stated that the main feedwater lines are designed as seismic Category I out to "first restraint."
3.7.1	3-20, Para. 2	The vertical component is two-thirds of the horizontal component in the frequency region less than or equal to 0.25 cps and equal to the horizontal component in the frequency regions greater than or equal to 3.5 cps.
3.7.1	3-21, Para. 1	The phrase "adjusted in amplitude and frequency content to obtain response spectra" should be changed to "appropriately calibrated to the RG 1.60 free field spectra."
3.7.3	3-21, Para. 3	SER states that the system and subsystem analyses were performed on an elastic basis. This should be a linear elastic basis.
3.73	3-22, Para. 1	Floor spectra inputs are generated from associated acceleration time history method.
3.9.2.2	3-40, Para. 3	System and subsystem analyses are performed on a linear elastic basis. SER states that modal responses are combined by the square-root-of-the-sum-of-squares rule. This should be the double sum rule.

DSER SECTION	PAGE NO.	CONCERN
3.9.2.2	3-41, Para. 1	The phrase, "an enveloped response spectrum" should be replaced with "the multi-support response spectrum methodology in which support unique response spectra are applied to each support degree of freedom."
4.3.1.3	4-3	The phrase in parentheses "(...a capacity factor of 0.8)" should be changed to "(...at an integrated average power level of 80% of rated)."
4.4.4	4-8, Para. 3	The stability analysis maximum decay ratio is less than .6 as shown in FSAR, Page 4.4-7. However, less than .8 is correct also.
	4-23	Table 4.4.1 - Steam flow rate at final feedwater temperature NMP Unit 2 - should be 14.26, Feedwater flow rate should be 14.23.
5.2.2	5-3, Para. 1	The total capacity at set pressure is approximately 105% of rated steam flow.
5.2.2	5-3, Para. 2	Fifty percent of the valves will be tested with the valves installed. As stated on FSAR pg. 5.2-12b, they will not be removed every refueling outage.
5.4.6	5-24, Para. 2	SER states that RCIC isolation is provided by one check valve and a closed DC powered valve in the RCIC steam discharge line. There are two check valves, an inboard and outboard that are both air-operated, testable check valves.
5.4.6	5-25, Para. 1	SER states that RCIC complies with GDC 33 (in conjunction with HPCS). RCIC is not an ECCS system. Protecting against small breaks is beyond the RCIC design basis. The HPCS by itself meets the requirements of GDC 33. In the first sentence, "accident conditions" should be changed to "transient conditions".
6.2.1	6-5, Para. 3	The drywell floor at el. 240 ft. is penetrated by 121 24-in. diameter stainless steel downcomer pipes.

DSER SECTION	PAGE NO.	CONCERN
6.2.1	6-5, Para. 3	The vent system consists of the vertical pipes called downcomers, each of which has a nominal internal diameter of 23.25 in.
6.2.1.7.3	6-24, Para. 3	The applicant has indicated that the four vacuum breakers are located inside the drywell and mounted on piping that connects the drywell and suppression chamber via the drywell floor.
6.2.1.8	6-26, Para. 1	The bypass capacity for this case is 0.054 ft^2.
6.2.2	6-29, Para. 1	The strainers are 8 ft. or 9.5 ft. below the minimum water level of the suppression pool as referenced on pg. 6.3-8C of FSAR.
6.2.2	6-30, Para. 1	This should state that flow is then directed through the RHR heat exchangers to the suppression pool or the containment spray headers. The reactor vessel does not apply.
6.2.3	6-31, Para. 3	The first sentence should read: All entrances to the reactor building are through double-door air lock systems with indicating lights and therefore, building ingress and egress do not jeopardize the integrity of the secondary containment.
6.2.5.1	6-40, Para. 1	Unit 2 is provided with a seismically supported liquefied nitrogen storage and nitrogen gas distribution system for inerting the primary containment atmosphere.
6.2.6	6-42, Para. 1	The control rod drive system is under a constant operating pressure of 1015 psig.
6.2.6	6-44	Table 6.1 - NMP2 Mark II has stainless steel lined reinforced concrete and thermal power (MWt) should be 3489, instead of 3467.
6.3.1	6-48, Para. 3	SER states that LPCS flow is attained at a pressure of approximately 128 psid. From FSAR Table 6.3-1, Item B.2, the pressure is 122 psid.

DSER SECTION	PAGE NO:	CONCERN
6.3.3	6-51, Para. 4 and continued on 6-52	The nitrogen supply to the automatic depressurization system valves is provided in accident conditions by seismically qualified accumulators inside the primary containment backed up by a long-term seismically qualified accumulator in the reactor building to compensate for any leakage out of the system. The accumulators located inside the reactor building are automatically valved in upon receipt of a low pressure indication in the normal supply headers. The power supply to the automatic system is from emergency sources, and the applicant has verified that no single failure can disable the backup nitrogen supply. Furthermore, extended nitrogen supply capability is provided by nitrogen bottles which can be manually connected from outside the secondary containment to recharge the safety related accumulators.
6.3.5	6-55, Para. 3	SER states that failure of the Division 2 emergency diesel generator (LPCS and one LPCI) is assumed to occur. This should be Division I for LPCI Loop A and LPCS.
T.6.3	6-59	For a large break, the most limiting single failure is the Low Pressure Core Spray diesel generator (Div. I). Systems remaining are HPCS, ADS and two low pressure coolant injection. Table 6.3 should reflect this.
7.1.2	2, Para. 1	This paragraph discusses electrical three-line diagrams. Should be electrical one-line diagrams.
7.3.1.1	16, Para. 2	A 120 second delay is imposed before the ADS valves are actuated after the receipt of the initiation signal to allow the high pressure core spray to initiate.
7.7.1.1	62, Para. 3	The paragraph talks about the "reactor sequence control system" - should be the "rod sequence control system".
7.7.3	65	This paragraph states that the staff has concluded that the reactivity control systems and the reactor coolant systems meet the relevant requirements of GDC 13 and GDC 19. FSAR text does not address GDC 13 and GDC 19 for these systems.

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9.3.2	9-34, Para. 2	The PASS provides grab sample analysis for pH, chloride, boron, radionuclide analysis and total dissolved gas in the reactor coolant. In-line monitoring of hydrogen in the containment atmosphere can be measured by the Containment Atmosphere Monitoring System.
9.3.5	9-35, Para. 2	Sec 9.3.5 - this section will be revised and changed. The changes will be reflected in amendments to FSAR.
9.3.2	9-35	Total dissolved gas levels in the reactor coolant can be determined by measuring the pressure of the gas collected from a degassed sample of coolant. The sample flow in the PASS is diverted through a 70 ml volume. The volume is then circulated and depressurized into a gas chamber. The total dissolved gas level is determined from the pressure developed in the chamber. This statement replaces the statement on pg. 9-35 paragraph two under Criterion (4).
9.3.2	9-38	Criterion (10) - the calibration and testing of PASS equipment and training are addressed in amendment 10 to the FSAR.
9.3.3	9-41, Para. 1	Drainage from nonradioactive sources such as plumbing fixtures and roof drains are discharged to the sanitary waste treatment and storm drainage systems, respectively.
9.3.2	9-42, Para. 1	The paragraph on adequate protection against flooding of safety related equipment is addressed in Appendix 3C of FSAR.
9.5.1.5	9-61, Para. 1	The statement "and also through a separate and remote intake tunnel" should be deleted. This separate tunnel is for Unit 1 fire pumps.
15.0	15-4, Para. 7	Scram reactivity calculations incorporating a 20% safety conservatism factor are for nonpressurization transients only (transients analyzed using REDY).
15.0	15-6, Para. 6	Additional transients analyzed using ODYN are: generator load rejection, turbine trip, loss of condenser vacuum and loss of all grid connections.

DSER SECTION	PAGE NO:	CONCERN
	15-6	Item (2), "For ASME Overpressure Protection", should be deleted from Section 15. The transient analyzed is MSIV closure with position scram. This should go under Item (1). MSIV closure with position switch scram failure belongs to Ch. 5, Overpressure Protection Analysis.
15.1	15-7, Para. 2	"The change in CPR calculated by ODYN for this event is 0.18 for an initial MCPR of 1.24" is a misleading statement. The calculated CPR is 0.16 before adjustment factors are added. This statement should read, "The Operating Limit CPR (OLCPR) calculatad by ODYN for this event is 1.27 and 1.24, respectively using option A and option B ODYN adjustment factors."
15.4.2	15-12, Para. 2	In the first sentence, "Above a preset power level (approximately 25%...)", 25% should be changed to 20%.
15.4.9	15-18, Para. 3	In the first sentence, 25% should be changed to 20% for the RSCS low power setpoint.
15.9.3	15-31, II.K.3.25	In the last sentence after "level control systems", the BWR Owners Group evaluation should be supplemented with "even if the recirculation pump seal was damaged and was no longer an effective seal."