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SUBJECT: Forwards comments on SSER 5, reflecting differences between SER & SSERs, FSAR through Amend 27 & Tech Specs. Comments do not address open issues. Encl FSAR changes will be incorporated into FSAR Amend 28.

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NIAGARA MOHAWK

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November 26, 1986
(NMP2L 0943)

Ms. Elinor G. Adensam, Director
BWR Project Directorate No. 3
U.S. Nuclear Regulatory Commission
7920 Norfolk Avenue
Washington, DC 20555

Dear Ms. Adensam:

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

Enclosed is a list of Niagara Mohawk's comments on the Safety Evaluation Report Supplement 5. Our comments reflect differences between the Safety Evaluation Report and Supplements, the Final Safety Analysis Report through Amendment 27, and Technical Specifications. Generally, the comments do not address the status of open issues. The attached Final Safety Analysis Report changes will be incorporated into Amendment 28.

Very truly yours,

C. V. Mangan
C. V. Mangan
Senior Vice President

TS/pns
2245G
Enclosures

xc: W. A. Cook, NRC Resident Inspector
Project File (2)

UNITED STATES OF AMERICA
NULCEAR REGULATORY COMMISSION

In the Matter of)
Niagara Mohawk Power Corporation) Docket No. 50-410
(Nine Mile Point Unit 2))

AFFIDAVIT

C. V. Mangan, being duly sworn, states that he is Senior Vice President of Niagara Mohawk Power Corporation; that he is authorized on the part of said Corporation to sign and file with the Nuclear Regulatory Commission the documents attached hereto; and that all such documents are true and correct to the best of his knowledge, information and belief.

C V Mangan

Subscribed and sworn to before me, a Notary Public in and for the State of New York and County of Onondaga, this 26th day of November, 1986.

Beth A. Menikheim
Notary Public in and for
Onondaga County, New York

My Commission expires:
BETH A. MENIKHEIM
Notary Public in the State of New York
Qualified in Onondaga County No. 4804074
My Commission Expires August 31, 19 88

(1998G)

Pg. 5-4 — 5.4.8.1 Change the last portion of the clarification statement from "... low water level and the leak detection system. Actuation of the standby liquid control system, and non-regenerative heat exchanger high outlet temperature close the outside isolation valve only." to "... low water level, the leak detection system, and actuation of the standby liquid control system. A non-regenerative heat exchanger high outlet temperature closes the outside isolation valve only." This is consistent with actual system performance. An associated FSAR change is attached with justification.

Pg. 6-12 — Section 6.2.5 A performance test was performed in accordance with the preoperational test and actual flow did not reach the prescribed system flow of 150 cfm. This problem is still under evaluation and further information to clarify or correct this SER section will be submitted under separate cover.

Pg. 6-21 — Please change Table 6.4 to be consistent with current FSAR Table 6.2-56 and Technical Specifications Table 3.3.2-4.

1) Remove reference to "differential" High temperature for Reactor Core Isolation Cooling (RCIC) in Signal "K".
2) Remove reference to "differential" in Signal "M".
3) Change Signal "H" to read "Low RCIC steam supply pressure".

Pg. 7-5 — 7.3.1.2 Under the description of Reactor Water Cleanup System, change Division 1 isolation valves from <u>inside</u> isolation valves to <u>outside</u> isolation valves and Division 2 from <u>outside</u> isolation valves to <u>inside</u> isolation valves. Under the description of Residual Heat Removal System, change the following: "... to Division 1, the RHR outside isolation valve is signaled to close. Similarly, any one of the two sensors/switches assigned to Division 2 exceeding its setpoint will signal the RHR inside isolation valve to close." to "... to Division 1, the associated RHR Division 1 isolation valves are signaled to close. Similarly, any one of two sensors/switches assigned to Division 2 exceeding its setpoint will signal the associated RHR Division 2 isolation valves to close." This is consistent with actual system performance. An associated FSAR change with justification is attached.

Pg. 7-8 — 7.4.1.1 Remove "RCIC emergency area cooler high temperature," and add "pipe routing or" before "equipment room high ambient temperature". This is consistent with system performance and FSAR Table 6.2-56.

Pg. 11-3 — Table 11.3 Please make the following changes to be consistent with FSAR Table 11.2-1:

1) Flatbed filter - add "1" under the number column.
2) Remove "sample tank" under phase separator subsystem. This was previously addressed in our comments on SER Supplements 1&2 (July 16, 1986 NMP2L 0783).

Pg. 11-4;5 Table 11.5 Please make the following changes to be consistent with FSAR Table 11.5-1:

1) Main Steam Line - identify "**" in notes.
2) Liquid radwaste effluent - add "*" at ODCM - provides trip isolation.
3) Turbine plant closed loop cooling notes - change trip/high setpoint from $\leq 1.1\text{x}10^{-2}$ to $\leq 1.1\text{x}10^{-3}$.
* 4) Main stack exhaust - change to "offline" monitor.
5) Offgas pretreatment - add "*" to "ODCM". This provides isolation.

*FSAR change attached with justification.

Pg. 14-1 Preoperational Testing of the permanent plant Solid Radwaste System will not be completed prior to 5% rated thermal power. The NRC Safety Evaluation Report, Supplement 3 indicated approval for use of the NUS mobile system until the completion of the staff review of the Waste Chem Topical Report on 10 CFR 61 Waste Form Conformance Program. Niagara Mohawk intends to continue the use of the mobile system past the 5% power threshold. A letter of clarification to confirm compliance to Niagara Mohawk's commitments will be submitted under separate cover.

Pg. 15-2 Next to last paragraph should be revised to correctly reflect the updated NMP-2 Administrative Procedure (AP) AP-3.3.1, "Control of Equipment Markups," Revision 2, July 10, 1986, paragraph 3.1.1 and 3.1.2.

NMP-2 Administrative Procedure (AP) AP-3.3.1, "Control of Equipment Markups," Revision 2, July 10, 1986, paragraphs 3.1.1 and 3.1.2 requires testing or verification of operability in accordance with the Technical Specifications which shall be performed on the remaining redundant system prior to removal of a safety-related system from service. In addition, a licensed operator, independent of the person performing the test or verification, shall verify that the equipment is correctly returned to the normal operable status.

Technical Specifications do not always require performance of an operability test on the redundant system prior to removal of a safety-related system from service. However, verification of operability will be performed when a test is not required. The Revision 2 change to AP-3.3.1 conforms with the Technical Specifications and Niagara Mohawk's position on TMI II.K.1.10 OPERABILITY STATUS, NUREG-0737 Positions as described in IE Bulletin 79-08 (FSAR Section 1.10).

The vent line from each filter demineralizer is routed to the phase separator tanks which are vented directly to the reactor building HVAC system (Section 9.4.2).

In the event of low flow or loss of flow in the system, flow is maintained through each filter demineralizer by its own holding pump. This ensures that the precoat and resin material are held in place on the septum screens. Sample points are provided in the common influent header and in each effluent line of the filter demineralizer units for continuous indication and recording of system conductivity. High conductivity is annunciated in the main control room. The control room alarm setpoints of the conductivity meters at the inlet and outlet lines are 1.0 umho/cm and 0.1 umho/cm, respectively. The influent sample point is also used as the normal source of reactor coolant grab samples. Sample analysis also indicates the effectiveness of the filter demineralizer units.

The suction line (RCPB portion) of the RWCU system contains two motor-operated isolation valves, which automatically close in response to signals from the RPV (low water level) and the leak detection system (LDS). Actuation of the SLCS and nonregenerative heat exchanger high outlet temperature close the outside isolation valve only. Section 7.6 describes the LDS requirements, which are summarized in Table 5.2-8. This isolation prevents the loss of reactor coolant and release of radioactive material from the reactor. In addition, the outside isolation valve closes automatically to prevent removal of liquid boron reactivity control material from the reactor vessel in the event of standby liquid control system activation and to prevent damage of the filter demineralizer resins if the outlet temperature of the nonregenerative heat exchanger is high. The RCPB isolation valves may be remote manually operated to isolate the system equipment for maintenance or servicing. The requirements for the RCPB are specified in Section 5.2.

Replace with attachment 1

A remote manually operated globe valve on the return line to the reactor provides long-term leakage control. Instantaneous reverse flow isolation is provided by check valves in the RWCU system piping.

Operation of the RWCU system is controlled from the main control room. Resin-changing operations, which include backwashing and precoating, are controlled from a local control panel. The time required to remove a filter demineralizer unit from the line, backwash, and precoat it, is less than 1 hr.

18 A functional control diagram is provided on Figure 7.3-7.

Attachment 1

Activation of the SLCS closes the outside isolation valve from Division I logic and the inside isolation valve from Division II logic. Non-regenerative heat exchanger high outlet temperature closes the outside isolation valve only.

Justification for Change to FSAR Page 5.4-46

The current FSAR wording is unclear in combining two considerations in one sentence. The initiation of Standby Liquid Control (SLS) Loop A automatically closes the Reactor Water Cleanup (WCS) outboard isolation valve, and initiation of SLS Loop B closes the WCS inboard isolation valve. This is consistent with FSAR Table 6.2-56, Sheet 6, and Technical Specification Tables 3.3.2-4 (page 3/4 3-22) and 3.6.3-1 (page 3/4 6-26).

return to feedwater or flow to the main condenser and/or radwaste).

Two redundant differential flow sensing channels compare the RWCU system inlet-outlet flow. Each of the flow monitoring sensing channels provides an input to one of the two (inside or outside) logic trip channels. When an increase in RWCU system differential flow is detected, the PCRVICS initiates closure of all RWCU system isolation valves.

Diversity of trip initiation signals for an RWCU system line
break is provided by instrumentation for reactor water
23 level, differential flow, and ambient temperature in RWCU
equipment areas. The RWCU system high differential flow
trip is bypassed by an automatic timing circuit during normal RWCU system surges. This time delay bypass prevents
inadvertent system isolations during system operational
changes.

<u>Reactor Water Cleanup System - Area High Ambient Temperature</u>
23 High temperature in the equipment room areas of the
RWCU system could indicate a breach in the reactor cleanup
23 system. Six ambient temperature sensor/switches (TSS)
monitor the RWCU system area (pump rooms and heat exchanger
23 room) temperatures. Three of the six ambient TSSs are associated with each of the two (Division I and II) trip
logics. One of each of the three ambient TSSs within a
division is assigned to pump room 1, pump room 2, and the
heat exchanger room. When a predetermined increase in RWCU
23 system area ambient temperature is detected by any one or
more of the three TSSs within Division I, the RWCU ~~inside~~ outside
isolation valve is signaled to close. A similar predetermined temperature increase detected by any one or more of
the three Division II TSSs will signal the ~~outside~~ inside RWCU
isolation valve to close. Isolation signals for RWCU are
also provided by eight ambient TSSs located in the reactor
building pipe chase, utilizing a similar trip logic as the
23 TSSs in the RWCU equipment area. The TSSs located in the
reactor building pipe chase also provide an isolation signal
to RCIC and RHR.

<u>Reactor Water Cleanup Standby Liquid Control System (SLCS) Actuation</u> Actuation of the SLCS initiates isolation of the RWCU. The RWCU outside isolation valve closes when SLCS pump A is started; the RWCU inside isolation valve closes when SLCS pump B is started. Both valves also receive isolation signals from the redundant reactivity control system (see Section 7.2.1.8.). Use of both isolation

Reactor Water Cleanup High Temperature at Outlet of Nonregenerative Heat Exchanger A predetermined increase in temperature at the outlet of the nonregenerative heat exchanger will initiate isolation of the RWCU by closing the RWCU outboard isolation valve.

RHR System - Area High Ambient Temperature High temperature 23
in the equipment/pump room areas of the RHR system could indicate a breach in the RHR system. Four ambient TSSs 23
monitor the RHR system area (pump rooms) temperatures. Two of the four ambient TSSs are associated with each of the two 23
(Division I and II) divisional trip logics. Within each division, one ambient TSS is assigned to each of the two RHR 23
pump rooms.

When a predetermined increase in RHR system area ambient is 23
detected by any one of the two TSSs within Division I, the RHR ~~outside~~ isolation valves is signaled to close. A similar predetermined temperature increase detected by any one of the two TSSs within Division II will signal the RHR ~~inside~~ isolation valve to close. Isolation signals for RWCU are also provided by eight ambient TSSs located in the reactor building pipe chase, utilizing a similar trip logic as the TSSs in the RWCU equipment area. The TSSs located in the reactor building pipe chase also provide an isolation signal to RCIC and RHR. Valves are identified on Table 6.2-56.

Main Condenser Vacuum Trip The main condenser low vacuum signal could indicate a leak in the condenser. Four redundant vacuum switches monitor the main condenser vacuum. Each switch provides an input to one of the four trip logics. When a significant decrease in main condenser vacuum is detected, the PCRVICS initiates closure of all MSIVs and drain valves. Main condenser low vacuum trip can be bypassed manually when the turbine stop valve is not fully open and the reactor mode switch is in the SHUTDOWN, REFUEL, or STARTUP position. Placing the mode switch in the RUN position prevents or removes the bypass. The bypass is also prevented or removed when the turbine stop valve is more than 90 percent open.

High Reactor Pressure High reactor pressure indicates that the reactor is in operation, calling for isolation of

Justification for FSAR Pages 7.3-16, 7-3-17

1. Reactor Water Cleanup - Area High Ambient Temperature

   The description in SSER 5 Section 7.3.1.3, page 7-5, 1st paragraph, and the corresponding FSAR Section 7.3.1.1.2, page 7.3-16, should be revised to show that the outside RWCU system isolation valve is closed by the Division I isolation signal, and that the inside RWCU system isolation valve is closed by the Division II isolation signal. The Division I and Division II descriptions are correctly shown in Table 6.2-56, Sheet 6 (Penetration No. Z-23), but were inadvertently reversed in FSAR Section 7.3.1.1.2.

2. Residual Heat Removal System - Area High Ambient Temperature

   The description in SSER 5 Section 7.3.1.3, page 7-5, 2nd paragraph, and the corresponding FSAR Section 7.3.1.1.2, page 7.3-17, should be revised as marked to clarify the system operation and to be consistent with FSAR Table 6.2-56. Sheet 4 and 6 of Table 6.2-56 show the correct divisional alignment.

   For containment penetration Z-11, the FSAR and SSER 5 are correct in stating that the Division I isolation signal closes the outside RHR isolation valve, and the Division II isolation signal closes the inside RHR isolation valve. However, for penetration Z-22, RHR head spray line, there is only a single Division I RHR isolation valve, located outside containment. This valve is closed by the associated Division I isolation signals.

   For the RHR shutdown cooling return lines (penetrations Z-10A and Z-10B), the situation is slightly different. The RHR system includes two independent shutdown cooling loops; Loop A (Division I) and Loop B (Division II). As described in FSAR Section 5.4.7, each loop is completely redundant, and all mechanical and electrical components, except for the common cooling shutdown suction line, are separate. Thus, for the Loop A (Division I) RHR shutdown cooling return line (penetration No. Z-10A), both the inboard and outboard isolation valves are Division I valves and are closed by Division I area high ambient temperature isolation signals. A similar design is used for RHR Loop B (Division II). Sheet 4 of FSAR Table 6.2-56, shows the correct divisional alignment. However, FSAR Section 7.3 is revised to correct this inconsistency.

TABLE 11.5-1

PROCESS AND EFFLUENT RADIATION MONITORING SYSTEMS

Monitor Location	Monitor Type	Range(4)	Isotope	Trip/High Set Point	Function
Monitors Required for Safety					
Reactor building ventilation above and below refueling floor (2HVR*CAB14A,B; 2HVR*CAB32A,B)	Offline gaseous	10^{-7} to 10^{-1} uCi/cc	Xe-133, Kr-85	Tech. Spec.	Monitors radiation levels in the reactor building ventilation system. Isolates reactor building(5)
Main control room intake (2HVC*CAB18A,B,C,D)	Offline gaseous	10^{-7} to 10^{-1} uCi/cc	Xe-133, Kr-85	Tech. Spec.	Monitors incoming control room air; activates Category I HEPA/Charcoal Filters(5)
RHR heat exchanger service water(2) (2SWP*CAB23A,B)	Offline liquid	10^{-7} to 10^{-1} uCi/cc	Cs-137	$\leq 3.0 \times 10^{-4}$ uCi/cc	Monitors service water effluent from heat exchangers for contamination(6)
Main steam line (3) (2MSS*CAB46A,B,C,D)	Online steam	1-10^{6} mr/hr	N-16	Tech. Spec.	Monitors main steam lines for fuel damage and carry over to turbine building; scrams reactor and isolates steam lines(5) 23
Monitors Required for Plant Operation					
Drywell and containment atmosphere(1) (2CMS*CAB10A,B)	Offline gaseous Particulate	10^{-7} to 10^{-1} uCi/cc 10^{-11} to 10^{-5} uCi/cc	Xe-133, Kr-85 I-131	$\leq 1.0 \times 10^{-4}$ uCi/cc $\leq 5.7 \times 10^{-7}$ uCi/cc	Monitors drywell for airborne radiation - RCPB leak detection(5)
Service water system discharge monitors (2SWP*CAB146A,B)	Offline liquid	10^{-7} to 10^{-1} uCi/cc	Cs-137	ODCM	Monitors service water system discharge(5)
Radwaste/reactor building vent(2) (2RMS-CAB180)	Offline isotopic	10^{-6} to 10^{4} uCi/cc 10^{-11} to 10^{2} uCi/cc 10^{-11} to 10^{2} uCi/cc	Xe-133, Kr-85 I-131, particulates	ODCM NA NA	Monitors reactor and radwaste building ventilation effluent releases for RG 1.21 report generation(5)
Main stack exhaust(2) (2RMS-CAB170)	offline Online isotopic	10^{-6} to 10^{5} uCi/cc 10^{-11} to 10^{2} uCi/cc 10^{-11} to 10^{2} uCi/cc	Xe-133, Kr-85 I-131, particulates	ODCM NA NA	Monitors isotopic content of effluent releases for RG 1.21 report generation(5)

Justification for Changes to FSAR Table 11.5-1

Main Stack Exhaust Monitor

This monitor type is offline isotopic, rather than online isotopic. FSAR Section 11.5 was revised in Amendment 23. At that time, the description of the gaseous effluent monitoring system was revised to indicate that it provided offline monitoring capability. However, the entry under the "Monitor Type" column of FSAR Table 11.5-1 was not corrected at that time. It should indicate that the main stack exhaust is an offline isotopic monitor.