

Constellation Energy

Nine Mile Point Nuclear Station

P.O. Box 63
Lycoming, New York 13093

December 22, 2004
NMP1L 1905

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555-0001

SUBJECT: Nine Mile Point Units 1 and 2
Docket Nos. 50-220 and 50-410
Facility Operating License Nos. DPR-63 and NPF-69

License Renewal Application – Responses to NRC Requests for Additional Information Regarding Sections 2.2, 2.3.3, and 2.3.4 (TAC Nos. MC3272 and MC3273)

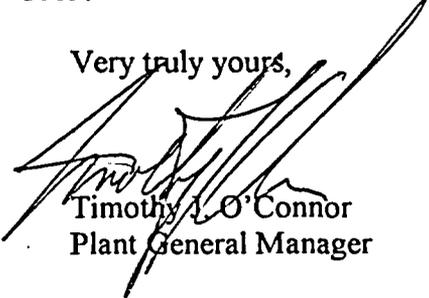
Gentlemen:

By letter dated May 26, 2004, Nine Mile Point Nuclear Station, LLC (NMPNS) submitted an application to renew the operating licenses for Nine Mile Point Units 1 and 2.

In a letter dated November 19, 2004, the NRC requested additional information regarding the information contained in Sections 2.2, 2.3.3, and 2.3.4 of the License Renewal Application. The NMPNS responses to these requests for additional information are provided in Attachments 1 through 4. Attachment 5 provides a list of the regulatory commitments associated with this submittal.

If you have any questions about this submittal, please contact Peter Mazzaferro, NMPNS License Renewal Project Manager, at (315) 349-1019.

Very truly yours,



Timothy J. O'Connor
Plant General Manager

TJO/DEV/jm

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ATTACHMENT 1

Nine Mile Point Nuclear Station

Responses to NRC Requests for Additional Information (RAI) Regarding

Sections 2.2, 2.3.3, and 2.3.4 of the License Renewal Application

This attachment provides Nine Mile Point Nuclear Station, LLC (NMPNS) responses to the requests for additional information contained in the NRC letter dated November 19, 2004, regarding Sections 2.2, 2.3.3, and 2.3.4 of the License Renewal Application (LRA). For each identified LRA section, the NRC RAI is repeated, followed by the NMPNS response for Nine Mile Point Unit 1 (NMP1) and/or Nine Mile Point Unit 2 (NMP2), as applicable. Revisions to the LRA are described where appropriate. The revisions are highlighted by shading unless otherwise noted.

LRA Section 2.2, Plant Level Scoping Results

RAI 2.2-1

During the LRA review the staff identified license renewal drawings in multiple LRA sections, that all or in part, appeared to conflict with the LRA. The staff discussed the apparent discrepancies with the applicant to determine whether they were intentional or editorial in nature. A large number of the discrepancies the applicant identified as editorial in nature and agreed that corrections to the LRA or LRA drawings would be required to correct the discrepancies.

In order to complete its review, the staff requires the license renewal drawings in which the apparent discrepancies were identified be corrected. LRA sections found to contain discrepancies are as follows:

LRA Sections

2.3.3.A.4	2.3.3.A.8	2.3.3.A.16	2.3.3.A.17	2.3.3.A.20	2.3.3.A.21
2.3.3.A.23	2.3.3.B.1	2.3.3.B.13	2.3.3.B.14	2.3.3.B.15	2.3.3.B.21
2.3.3.B.25	2.3.3.B.27	2.3.3.B.29	2.3.3.B.30	2.3.3.B.31	2.3.4.A.5
2.3.4.B.2					

In response to this RAI, identify those license renewal drawings that have been corrected and the corrections made to the drawings.

Response

For each of the LRA sections identified in this RAI, answers have been provided to specific RAIs from those LRA sections that address drawing issues. The responses to those specific RAIs identify where there are drawing anomalies and whether a change to the LRA was required. It is NMPNS's understanding that the original LRA, the docketed LRA supplemental letters, and the docketed responses to NRC requests for additional information serve as the bases for the results of the NRC's review. The drawings that were submitted concurrent with, but separate from, the LRA were provided as information-only aids to assist the NRC reviewers with their evaluations. They were not intended to be part of the formal application. Therefore, it is not the intent of NMPNS to revise these drawings and resubmit them as part of the LRA review process.

NMPNS does plan, however, upon completion of the LRA review and approval process, to update the License Renewal (LR) drawings, as well as the Scoping and Screening Reports, the aging management review (AMR) Reports, and the Program Basis Documents, to be consistent with the content of the final NRC safety evaluation. With the exception of the Program Basis Documents, which will be controlled documents, the remaining documents, including the drawings, will not be controlled but will be archival documents that will be maintained within the NMPNS documentation and drawing system for historical reference purposes.

RAI 2.2-2

During the LRA review the staff identified in multiple LRA sections, apparent omissions of component types that were described in the LRA, from the LRA component type tables. The staff discussed the apparent omissions of component types from the LRA component type tables with the applicant to determine whether they were intentional or editorial in nature. The applicant agreed to describe where the following component type tables if they were intentionally omitted, and to include those component types in component type tables that had components unintentionally omitted.

In order for the staff to complete its review, the staff requires explanation of how the following component types were represented in the LRA sections previously discussed with the applicant: flanges, bolting, orifices, tubing, vacuum breakers, elbows, unions, tees, couplings, thermo wells, compressors, reducers, caps, floor drains, flexible hoses, expansion joints, vents, diffusers, manholes, and piping.

Response

The following summarizes how each of the components identified in this RAI, when subjected to AMR, were represented in the AMR Results sections of the LRA:

- Flanges, tubing, elbows, unions, tees, couplings, reducers, caps, floor drains, vents, and piping were all included with the component type "Piping and Fittings."
- Bolting, where not specifically identified as its own component type within a system, was included with the component for which it was a subcomponent. For example, it would be

included with component types “Piping and Fittings,” “Pumps,” “Valves,” etc., as applicable. In general, Bolting was identified as its own component type within a system when it was identified as a separate component type in the GALL Report for that respective system. When not identified as its own component type, bolting was managed for aging based on its material in the applicable air environment.

- Orifices were identified as their own component type, as either “Orifices” or “Flow Elements.” However, not all “Flow Elements” were orifices. The terms “Orifices” or “Flow Elements” were used depending on how the components were called out in the plant Mechanical Equipment List databases. The term “Flow Elements” was also used for other types of flow measurement devices such as venturis.
- Vacuum breakers were included with the component type “Valves.”
- Thermowells were included with “Piping and Fittings” when they were fabricated of the same material as the piping in which they were a subcomponent. If they were fabricated of a different material than the piping in which they were a subcomponent, they were identified separately as a “Temperature Element.”
- Compressors were identified as either “Pumps” or as a “Chiller” subcomponent.
- Expansion joints were included with the component type of “Bellows” or “Piping and Fittings.”
- Flexible hoses were included with the component type of “Flexible Hoses,” “Flex Hoses,” or “Piping and Fittings.”
- Diffusers were included with the component type of “Piping and Fittings” or “Structural Steel.”
- Based on the other components in the RAI list, it is assumed that the components of interest are manways in large components such as tanks or heat exchangers. These manways are included with the component type in which they are a subcomponent since, consistent with that component, they also serve as a pressure boundary and are typically fabricated of the same material.

LRA Section 2.3.3.A.2, NMP1 Circulating Water System

RAI 2.3.3.A.2-1

The circulating water system is shown on drawings LR-18022-C, sheet 1 and LR-26941-C. Because of the unique interface between the circulating water system, the emergency service water pumps, and the intake structure, the staff needs more information to complete its review to understand the configuration of the components requiring AMR. This information is not clearly depicted in the LR drawings. Supply the following figures from the NMP1 FSAR: XI-4, Circulating Water System; III-19, Circulating Water Channels under the Screen and Pump House - Normal Operation; III-20, Circulating Water Channels under the Screen and Pump House - Special Operations; and III-21, Intake and Discharge Tunnels Plan and Profile.

Response

Copies of NMP1 Updated Final Safety Analysis Report (UFSAR) Figures III-19, III-20, III-21, and XI-4 are provided in Attachment 2.

RAI 2.3.3.A.2-2

10CFR54, section 54.4(b) states that “the intended functions that these systems, structures and components must be shown to fulfill in section 54.21 are those functions that are the bases for including them within the scope of license renewal as specified in paragraphs (a)(1) through (a)(3) of this section.”

LRA Table 2.3.3.A.2-1 includes the component type “Circulating water gates” and assigns the intended function “NSR Functional Support.” In order to complete its review, the staff needs more information about this intended function for components in circulating water system components. The staff requests that the applicant provide further explanation of the intended function NFS in order to verify that the SSC’s with this intended function meet the requirements of paragraphs (a)(1), (a)(2) or (a)(3) of section 54.4 of 10CFR54.

Response

Per LRA Table 2.0-1, “Intended Functions Abbreviations & Definitions,” NSR Functional Support (NFS) is defined as “Provide Non-Safety Related (NSR) functional support to satisfy License Renewal (LR) criterion 2 or 3 (applies only to NSR equipment, including pressure boundaries).” As applied to the Circulating Water System gates, these are NSR components that support a Circulating Water System intended function to maintain greenhouse forebay level and temperature.

LRA Section 2.3.3.A.3, NMP1 City Water System

RAI 2.3.3.A.3-1

LRA Section 2.1.4.1 states that the intended functions relative to the criteria of 10CFR54.4(a)(1) were identified and documented.

LRA Section 2.3.3.A.3 states that the city water system performs a safety related function per 10CFR54.4(a)(1). However, Section 2.3.3.A.3 does not specify the intended function, nor does it identify the system evaluation boundary of the city water system that meets 10CFR54.4(a)(1).

Furthermore, the applicant did not provide an LR drawing for the city water system, which would provide information identifying the portions of the City Water System containing components potentially subject to AMR.

In order for the staff to complete its review identify the intended function of the city water system that satisfies 10CFR54.4(a)(1) and provide an LR drawing for the system.

Response

The only safety-related component in the City Water System that supports a system intended function is a circuit breaker that provides isolation and fault protection for a safety-related power board. The circuit breaker is active and, therefore, not subject to AMR.

The components in the City Water System in-scope for LR and subject to AMR include NSR piping, fittings, and equipment containing liquid in the Reactor Building, Radwaste Solidification and Storage Building, Screen and Pump House Building, and Turbine Building. These components are in-scope for LR based on criterion 10 CFR 54.4(a)(2) since they contain fluid-filled components in the vicinity of safety-related equipment. Consistent with LR drawing convention, components within scope and subject to AMR for the (a)(2) criterion only are not shown in red on LR drawings. Therefore, there are no LR drawings for this system.

LRA Section 2.3.3.A.4, NMP1 Compressed Air System

RAI 2.3.3.A.4-1

LRA Section 2.3.3.A.4 states that the compressed air system provides air to inflate the reactor building track bay door seal. The component type inflatable seals are not listed in the LRA tables as requiring AMR. The LRA tables list the fire protection barrier penetration seals only as requiring AMR. Provide the basis for excluding inflatable seals from AMR.

Response

The Reactor Building track bay door inflatable seal is in-scope and subject to AMR. It is part of the Reactor Building Structure and is covered by the "Polymer in Air" component type in LRA Section 2.4.A.2.

RAI 2.3.3.A.4-2

The LR drawings do not show air cylinders that are the actuators for valves, as being subject for AMR. This is based on the assumption that the valves will go to their fail-safe position on loss of air pressure. This would be true for single acting air cylinders with springs. But for double acting cylinders, one of the cylinders requires air pressure to effect valve repositioning to its fail-safe position. Therefore the double acting cylinders have a pressure boundary function. Provide the basis for excluding the double acting cylinders from AMR.

Response

NMPNS agrees that safety-related, double acting actuators are in-scope for LR and subject to AMR for a "Pressure Boundary" intended function. The subject actuators will be identified, and an AMR of those actuators will be performed. LRA revisions to incorporate the AMR results, and any other associated LRA changes, will be submitted to the NRC by February 28, 2005.

RAI 2.3.3.A.4-3

There is an inconsistency between LR drawings LR-22108-0 sheet 34 and LR-18017-C sheet 1. LR drawing LR-22108-0 sheet 34 shows that the air supply tubing and solenoid valves associated with valve BV60-13 are not subject to an AMR. However, LR drawing LR-18017-C sheet 1(E-2), shows that the air supply piping and solenoid valves associated with valve BV60-13 as being subject to AMR. Resolve this inconsistency and provide the basis for the resolution.

Response

Drawing LR-18017-C, Sheet 1, is incorrect. The air supply piping to valve BV-60-13 is not in-scope for LR. Valve BV-60-13 fails closed on loss of air and is not relied upon for any licensing basis accident mitigation. As such, the air supply piping does not perform any intended function for LR.

RAI 2.3.3.A.4-4

On several LR drawings (e.g., LR-22111-0 sheet5) the air supply and solenoid valves associated with the safety related valves (BV54-40, 54-39 etc) are excluded from AMR. Provide the criteria used to exclude some of the compressed air system auxiliaries to safety related valves from AMR.

Response

The safety-related air supply and solenoid valves identified in the RAI (BV-54-39, BV-54-40, etc.) are normally closed fuel pool cooling system isolation valves which fail safe (closed) on loss of air. None of the air system components to these loads are required to be safety-related for instrument air system integrity or operation. Therefore, the subject instrument air valves and piping are classified as non-safety-related.

Based upon the scoping criteria for LR, the subject instrument air valves and piping are not in-scope for LR and, therefore, are not subject to AMR. Since this system has no liquid-filled components, there are no NSR components within the system that are in-scope for LR and subject to AMR to satisfy criterion 10 CFR 54.4(a)(2).

LRA Section 2.3.3.A.8, NMP1 Emergency Diesel Generator System

RAI 2.3.3.A.8-1

LR drawing LR-18026-C sheet-1 (B-1) for diesel #102, shows that the line leading to the fuel injectors is not subject to AMR. LR-18026-C, sheet-2 (C-1) for diesel #103, shows that the line leading to the injectors was highlighted as being subject to AMR. Provide the basis for not including the injector line on sheet-1 in the license renewal scope or correct the drawing.

Response

Drawing LR-18026-C, Sheet 1, for Diesel #102 is incorrect. Consistent with the depiction on drawing LR-18026-C, Sheet 2, for Diesel #103, the line to the injectors for Diesel #102 should be shown in red as subject to AMR and the boundary flag should not be present. The line is included in LRA Table 2.3.3.A.8-1 under the component type "Piping and Fittings."

RAI 2.3.3.A.8-2

LR drawing LR-18026-C sheet-1 (E-3), and Sheet-2 (F-3) do not show, the pipes and expansion joints leading to air start motor as not being subject to AMR. It is noted that the pipe and the expansion joints are not shown on sheet-2. Unit 2 LRA table 2.3.3.B.1-1 lists air start motors as being subject to an AMR. Please provide the basis for not requiring AMR for these unit 1 components.

Response

Drawing LR-18026-C, Sheet 2, is incorrect. It should show the air start motor, associated piping, and expansion joints as subject to AMR. These components have a "Pressure Boundary" intended function. The air start motors will be added to LRA Table 2.3.3.A.8-1. The piping and expansion joints are included with the component type "Piping and Fittings."

Additionally, on drawing LR-18026-C, Sheets 1 and 2, the air intake silencer, filter, and exhaust muffler (location D-4) should be shown in red to indicate they are subject to AMR, consistent with LRA Table 2.3.3.A.8-1.

LRA Revisions

LRA Table 2.3.3.A.8-1 (page 2.3-77) is revised to add the air start motors, as follows:

Component Type	Intended Functions
Air Start Motors	Pressure Boundary

RAI 2.3.3.A.8-3

LR drawing LR-18026-C sheets 1 and 2 (G-1 through H-1) shows that the tubing to the pressure gauges, PI 96-21, -22, -23, -24, -25 (for diesel #102), and -53, -54, -55, -56, and -57 (for diesel #103) on the air receiver tanks was not highlighted as being subject to an AMR. This tubing has a passive pressure boundary function and meets the criteria of 10CFR54.4 (a)(1). Additionally, Note 5 on the LR drawings indicate that there are root valves for these pressure indicators. Provide the basis for not requiring AMR for this tubing and associated root valves.

Response

LR drawing LR-18026-C, Sheets 1 and 2, are incorrect. The tubing between the air receiver tanks and the pressure gauges should be shown in red to indicate they are subject to AMR. The tubing and instrument root valves are included in LRA Table 2.3.3.A.8-1 under the component type "Piping and Fittings" and "Valves," respectively. The pressure gauges are active and not subject to AMR; therefore, they are correctly shown in black.

RAI 2.3.3.A.8-4

LR drawing LR-18026-C sheets 1 and 2 do not clearly indicate whether immersion heaters 79-49 and 79-50, shown at location G-6 are being subject to an AMR. Depending on the heater design, these heaters can have a pressure boundary function. Please clarify whether these heaters should be subject to an AMR and whether the component type heat exchangers in Table 2.3.3.A.8-1 represents these heaters.

Response

LR drawing LR-18026-C, Sheets 1 and 2, is incorrect. Immersion Heaters H-79-49 (location G5 on Sheet 1) and H-79-50 (location G5 on Sheet 2) do have a "Pressure Boundary" function. Additionally, Sheet 2 of the drawing should look like Sheet 1 indicating that there is a chamber around the heating coils. On both drawings, those chambers should be shown in red indicating that they are in-scope for LR and subject to AMR. The chambers are treated as part of the "Piping and Fittings" component type. The heaters themselves are also in-scope; however, since they are active components, per Nuclear Energy Institute (NEI) 95-10, Revision 3, Appendix B, they are not subject to AMR.

LRA Section 2.3.3.A.16, NMP1 Radioactive Waste System

RAI 2.3.3.A.16-1

LRA Section 2.3.3.A.16 states that the radioactive waste system components subject to an AMR are the drywell equipment drain tanks, the reactor building equipment drain tank, the drywell equipment drain pumps, the reactor building equipment drain pump, and the piping and associated isolation valves upstream of the tanks for the drains leading to the tanks that are within the scope of license renewal. Also, drywell equipment drain tanks 11 and 12 are shown on the LR drawing LR-18045-C, Sheet 7, at locations B1 and B2 as subject to an AMR. However, these tanks are shown on the LR drawing LR-18045-C, Sheet 7A, at locations C2 and C3 as excluded from being subject to an AMR. Please clarify this inconsistency. Also, identify the piping and associated isolation valves of the drywell equipment drain tanks and the reactor building equipment tank that are within the scope of license renewal and are subject to an AMR. Please justify the exclusion of others from the scope of license renewal and being subject to an AMR in accordance with the requirements of 10 CFR 54.4(a) and 10 CFR 54.21(a)(1).

Response

Consistent with the description in LRA Section 2.3.3.A.16 and with Table 2.3.3.A.16-1, both Drywell Equipment Drain Tanks (DWEDT) and the Reactor Building Equipment Drain Tank (RBEDT) are subject to AMR. LR drawing LR-18045-C, Sheet 7, should show all three of those tanks in red. The three pumps associated with these three tanks and their associated piping are in-scope for LR and subject to AMR for criterion 10 CFR 50.54.4(a)(2) only. For this reason, per LR drawing convention, these components would not be shown in red on the LR drawing. See the additional discussion in the response to RAI 2.3.3.A.16-3 relative to these pumps.

For further clarification relative to these tanks, two additional lines coming into the RBEDT should be indicated in red. These are the Equipment Drains line coming into the tank from the right (continuation flag should show "LR-RWS" on both sides of the flag) and the Hydraulic Scram System line coming into the tank from the left (continuation flag should show "LR-CRD" on the side pointing away from the tank and LR-RWS pointing toward the tank). The continuation is from drawing LR-18016-C, Sheet 1, location B3. None of the other RBEDT inputs have intended functions associated with their respective systems that would bring those drain lines into scope for LR.

Consistent with LRA Section 2.3.3.A.16, on drawing LR-18045-C, Sheet 7, the piping and components shown in black that contain liquid and are in Containment, the Reactor Building, the Radwaste Solidification and Storage Building, the Turbine Building, and the Waste Disposal Building are in-scope for LR and subject to AMR to meet criterion 10 CFR 54.4(a)(2). This is the case since these liquid containing components are in the vicinity of safety-related components. Per LR drawing convention, components within scope and subject to AMR for the (a)(2) criterion only are not shown in red on LR drawings.

There is an inadvertent omission in LRA Section 2.3.3.A.16. The last sentence on page 2.3-91 should include Containment in the list of structures for which Radioactive Waste System NSR piping, fittings, and equipment are in-scope for LR and subject to AMR.

Drawing LR-18045-C, Sheet 7A, provides no additional information to that shown on Sheet 7; therefore, it should be disregarded.

LRA Revisions

In LRA Section 2.3.3.A.16 (page 2.3-91), the last sentence at the bottom of the page is revised as follows:

"The components subject to an AMR for this system also include the NSR piping, fittings, and equipment containing liquid in Containment, the Reactor Building, Radwaste Solidification and Storage Building, Turbine Building, and Waste Disposal Building."

RAI 2.3.3.A.16-2

LR drawing LR-18045-C, Sheets 7 at location B2 and 7A at location B3 shows equalizing line 105-4-C (the same pipeline on both sheets), as excluded from being subject to an AMR. It appears this line supports the intended function of the drywell equipment drain tanks and serves an NSR functional support intended function. Please justify the exclusion of this equalizing line from the scope of license renewal and being subject to an AMR in accordance with the requirements of 10 CFR 54.4(a) and 10 CFR 54.21(a)(1).

Response

LR drawing LR-18045-C, Sheets 7 and 7A, is incorrect. The equalizing line referenced in the RAI is in-scope for LR and subject to AMR since it connects the two tanks that are subject to AMR. Therefore, it should be shown in red on the drawing.

RAI 2.3.3.A.16-3

LRA Section 2.3.3.A.16 states that the radioactive waste components subject to an AMR are the drywell equipment drain tanks, the reactor building equipment tank, the drywell equipment tank pumps, the reactor building equipment drain pump, and the piping and associated isolation valves upstream of the tanks for the in-scope drains going to the tanks. LRA Table 2.3.3.1A.16-1 lists "pumps" with intended function of "NSR Functional Support" as a component type subject to an AMR. However, drywell equipment tank drain pumps 11 and 12 and reactor building equipment drain pump are shown on LR drawings LR-18006-C and LR-18045-C, Sheets 7 and 7A as excluded from the scope of license renewal and being subject to an AMR. In addition, an AMR boundary flag on drawing LR-18045C at location G6 indicates that the reactor building equipment drain tank pump is not subject to an AMR. Please clarify this inconsistency between the LRA Section 2.3.3.A.16 and LR drawings. Explain how failure of these non-safety related pumps provide functional support to satisfy license renewal criteria. Also, explain whether the components associated with these pumps discharge pipelines to the waste collector tank are considered as within the scope of license renewal and subject to an AMR. If not, justify the exclusion of these components from the scope of license renewal and being subject to an AMR in accordance with the requirements of 10 CFR 54.4(a) and 10 CFR 54.21(a)(1).

Response

See the response to RAI 2.3.3.A.16-1. This response states that the three subject pumps and their discharge piping are in-scope for LR and subject to AMR for criterion 10 CFR 54.4(a)(2). The depiction of these components in black on LR drawings LR-18045-C, Sheets 7 and 7A, and LR-18006-C, Sheet 3, is, therefore, correct.

Failure of these NSR pumps (RBEDT and DWEDT) could cause a loss of the intended function "Prevent Failure from Affecting Safety-Related Equipment" by preventing level control of the tanks once they are full. Pump failure would also prevent the system from fulfilling its function of transferring waste water for further processing. Per LRA Section 2.3.3.A.16, these pumps and all other NSR liquid-filled piping and components in the system that are located in the Reactor

Building, the Radwaste Solidification and Storage Building, the Turbine Building, and the Waste Disposal Building are in-scope for LR and subject to AMR to meet criterion 10 CFR 54.4(a)(2) since these NSR components are located in the vicinity of safety-related components.

RAI 2.3.3.A.16-4

LR drawing LR-18006-C, Sheet 3 shows piping sleeves for pipelines 83.1-4-LT and 83.1-3-LT at locations G3 and G4, respectively, as within the scope of license renewal and subject to an AMR. The piping sleeves are passive and long-lived components. Clarify if these components are included with a component type which is listed in LRA Table 2.3.3.A.16-1. If not, please justify the exclusion of these components from being subject to an AMR in accordance with the requirements of 10 CFR 54.21(a)(1).

Further, LR drawing LR-18006-C, Sheet 3 shows pipelines 201.2-673 and 201.2-674 at locations H3 and H4, respectively, from the N2 leak test on drawing LR-18014-C to the above mentioned sleeve pipes as being subject to AMR. The AMR boundary flag for pipeline 201.2-674 indicates that this pipeline is included in the containment system. No boundary flag is shown for the pipeline 201.2-673. Clarify whether these pipelines are included in the NMP1 radioactive waste system. If not, show the location of the radioactive waste AMR boundary interface with other LR systems.

Response

The “sleeve pipes” represent Primary Containment Penetrations X-25 and X-26, respectively. These penetrations are subject to AMR, and are addressed in LRA Section 2.4.A.1, “NMP1 Primary Containment Structure.”

Those pipelines referenced in the RAI (note that the referenced pipeline numbers actually refer to valves in the lines) are both subject to AMR and are part of the Containment Systems (LRA Section 2.3.3.A.5). On LR drawing LR-18006-C, Sheet 3, there should be a flag indicating this boundary at location H3, similar to the flag at location G2.

RAI 2.3.3.A.16-5

LR drawing LR-18018-C, Sheet 1 shows the pipeline 89-1-C from the shutdown cooling heat exchangers #11 and 12 to RBEDT at locations D3 and D5, respectively, as being subject to an AMR. However, the pipeline 89-1-C from the shutdown cooling heat exchanger #11 to RBEDT at location D2 is shown as excluded from being subject to an AMR (although, an AMR boundary indicates that this line should be within the scope of the radioactive waste system). Please clarify whether this is an advertent error in highlighting the LR drawing. Otherwise, explain how the latter pipeline differs from the former pipelines.

In addition, LR drawing LR-18045-C, Sheet 7 shows the shutdown cooling system drains line, at location C3, to RBEDT which appears to be the continuation of the above mentioned pipelines to RBEDT. However, an AMR boundary flag indicates that the portion of this line that is shown on

this drawing is within the scope of the compressed air system (CAS). Please explain why this line is included in the compressed air system.

Response

LR drawing LR-18018-C, Sheet 1, is incorrect for the pipeline from shutdown cooling heat exchanger #11 to the RBEDT. The boundary flag at location D2 indicates the components are subject to AMR as part of the RWS. Valve VLV-89-60, pipeline 89-1-C, and the boundary flag should all be red.

LR drawing LR-18045-C, Sheet 7, is also incorrect. The boundary flag at location C3 should indicate that the components are subject to AMR as part of RWS, not CAS. Also, the boundary flag at location A3 that shows "LR-CAS|LR-RWS" is incorrect and should not be there.

RAI 2.3.3.A.16-6

LR drawings LR-69014C, LR-69015C, LR-69017C, LR-69014C, and LR-69020C show the pressure and level instruments drain lines and their associated components (fittings and valves) tie in to the pipeline 89-2-C which runs to RBEDT. Pipeline 39-2-C is shown on these drawings as within the scope of license renewal and being subject to an AMR. Also, LR drawing LR-18045-C Sheet 7A shows pipeline 89-2-C at location G-5, which connects fuel pool cooling system drains to the reactor building drain tanks, as being subject to an AMR. However, LR drawing LR-18008-C, Sheet 1 shows pipeline 89-2-C, at location C-3, as excluded from being subject to an AMR. Also, this pipeline is not highlighted in red on LR drawing LR-18045-C, Sheet 7, at location B-3, although an AMR boundary flag shows it as being within the scope of RWS. Further, this AMR boundary flag indicates that a portion of the pipeline 89-2-C from the fuel pool cooling drains on LR-18008-C is within the scope of the compressed air system (CAS).

To resolve the above discrepancies, please:

- a. Provide drawings or descriptive information that show how the instrumentation drains header 89-2-C connects to the fuel pool cooling system drains pipeline 89-2-C.*
- b. Provide drawings or descriptive information that clearly identify portions of the radioactive waste system to RBEDT which are within the scope of license renewal and subject to an AMR, and eliminate inconsistencies between the above mentioned drawings.*

Response

- a. The instrument drain headers identified in the RAI do not connect to the fuel pool cooling system drains pipeline. For NMP1, the line identification (i.e., 89-2-C) is not a unique piping component number. Using the line identification legend shown on LR drawing LR-18000-C, Sheet 1 (location E3), the line identifier "89-2-C" indicates a pipe in system 89 (RWS) that is 2 inches in diameter and made of carbon steel. Therefore, this identification applies to every 2-inch, carbon steel line in system 89 (RWS) regardless of its function. This identification does not, therefore, imply a connection between the identically designated piping segments described in this RAI.

- b. See the response to RAI 2.3.3.A.16-1 for a complete descriptive answer to this request.

The depiction of the input lines to the RBEDT on drawing LR-18045-C, Sheets 7 and 7A, that are contrary to the above-referenced description are drafting errors. AMR boundary flag designators contrary to this description, including the ones referencing the CAS, are also drafting errors.

As stated in the response to RAI 2.3.3.A.16-1, drawing LR-18045-C, Sheet 7A, provides no additional information to that shown on Sheet 7 and should, therefore, be disregarded.

LRA Section 2.3.3.A.17, NMP1 Reactor Building Closed Loop Cooling Water System

RAI 2.3.3.A.17-1

On LR drawing LR-18022-C sheet 2, the license renewal boundary stops at open valves (70-47 and 70-48) at A-4. The interconnecting drawing is not included in the application. Similarly, on LR drawing LR-18041-C sheet 7, the license renewal boundary stops at an open valve (78-67) at location F-6. Since the boundary is not isolated any leakage in the down stream piping could potentially impact the safety function of the reactor building closed loop cooling system. Piping down steam of the open valves has a pressure boundary function. Please provide the basis for stopping the license renewal boundary at the open manual valves.

Response

In both cases, the boundary is located at the class break between safety-related and non-safety-related portions of the RBCLC system. The NSR portions of the RBCLC system are also in-scope in accordance with 10 CFR 54.4(a)(2) and subject to AMR. Per the convention adopted for the LR drawings, components in-scope for LR and subject to AMR for (a)(2) criterion only are not identified in red. LRA Section 2.3.3.A.17 states that the NSR portions of the system are in-scope and subject to AMR. The NSR components are included in the component type of "NSR piping, fittings and equipment" listed in Tables 2.3.3.A.17-1 and 3.3.2.A-16.

RAI 2.3.3.A.17-2

On LR drawing LR-18022-C sheet 3, the makeup tank for the reactor building closed loop cooling system (LR drawing LR-18022-C sheet 3) is not included in the license renewal boundary. This tank has a pressure boundary function to supply makeup water to the system. Please provide the basis for excluding the makeup tank and its auxiliaries from AMR.

Response

Consistent with LRA Section 2.3.3.A.25, the Closed Loop Cooling Makeup Water Tank, and its auxiliaries, are NSR components that are not relied upon for safe shutdown but are within scope and subject to AMR based on criterion 10 CFR 54.4(a)(2) since they are liquid-filled

components within the vicinity of safety-related components. Per the convention adopted for the LR drawings, components in-scope for LR and subject to AMR for criterion (a)(2) only are not identified in red.

LRA Section 2.3.3.A.19, NMP1 Reactor Water Cleanup System

RAI 2.3.3.A.19-1

LR drawing LR-18009-C, sheet 1 (location H-2) shows oil coolers for the clean-up pumps to be within the "CU" system boundary and requiring an AMR. LRA Table 2.3.3.A-19 lists heat exchangers as a component type, however, LRA Table 3.3.2.A-17 does not include heat exchangers with a lubricating oil environment and Section 3.3.2.A.17 does not list lubricating oil as an environment that the reactor water cleanup system is exposed to. Please confirm that the clean-up pump oil coolers have been properly evaluated within the LRA or justify their exclusion from requiring an AMR.

Response

LR drawing LR-18009-C, Sheet 1, shows the cooling water side of the heat exchangers as being subject to AMR. This is because of the "Pressure Boundary" intended function for the Reactor Building Closed Loop Cooling (RBCLC) System. The shell side of the heat exchanger is not safety-related so it is not shown as in-scope for LR (depicted in black on the drawing), and the heat exchanger itself does not have an LR intended function of heat transfer. Therefore, the drawing boundary flags are incorrect. The "LR-CU" side of each of those flags should be solid blue. Consistent with LRA Section 2.3.3.A.19, the pump oil coolers are in-scope for LR and subject to AMR to meet criterion 10 CFR 54.4(a)(2), since they are NSR equipment containing liquid in the vicinity of safety-related components. Per LR drawing convention, components in-scope for LR and subject to AMR for criterion 10 CFR 54.4(a)(2) only are not identified in red. The only heat exchanger within the Reactor Water Cleanup (CU) System that is subject to AMR for criterion 10 CFR 54.4(a)(1) is the Non-Regenerative Heat Exchanger, which does not have a lube oil environment.

RAI 2.3.3.A.19-2

LR drawing LR-18005-C, sheet 2 (location A1, A2, A3, B1, B2, B3) shows 18" feed water piping as part of the CU system AMR boundary. This drawing is not listed in LRA Section 2.3.3.A.19 as a license renewal drawing. Please explain the basis for not listing LR drawing LR-18005-C in LRA Section 2.3.3.A.19 and confirm that this piping received an AMR as part of the reactor water cleanup system.

Response

The boundary flags at the cited locations on LR drawing LR-18005-C, Sheet 2, are incorrect. As described in LRA Sections 2.3.3.A.19 and 2.3.4.A.3, the boundary between the CU system and Feedwater/High Pressure Coolant Injection (FW/HPCI) system is where the CU lines intersect with the FW/HPCI lines at location A/B3. There should be flags at those two intersection points

showing the junction of “LR-CU” and “LR-FW/HPCI.” The flags at the reactor vessel (location A1) should show the interface as being between “LR-RPV” and “LR-FW/HPCI.” The flags at locations B1, B2, and A5 showing interfaces at valves IV-31-07 and IV-31-08 between “LR-CU” and “LR-FW/HPCI” should not be there. Those are FW/HPCI valves as is the piping on both sides of these valves. Therefore, at locations B1 and A5, on the downstream side of these valves, there should be no continuation flags. Since there is CU piping on drawing LR-18005-C, Sheet 2, at location A/B-2/3, this drawing should have been included with the drawing references in LRA Section 2.3.3.A.19.

As a further clarification, per LRA Section 2.3.4.A.3, the FW/HPCI piping, fittings, and equipment on LR drawing LR-18005-C, Sheet 2, that are shown in black are also in-scope for LR and subject to AMR for criterion 10 CFR 54.4(a)(2) since they are liquid-filled components in the vicinity of safety-related components. Per LR drawing convention, components in-scope for LR and subject to AMR for 10 CFR 54.4(a)(2) only are not shown in red on LR drawings.

LRA Revisions

In Section 2.3.3.A.19 (page 2.3-101), under the “License Renewal Drawings” heading, add the following:

- LR-18005-C, Sheet 2, Revision 0, Feedwater Flow, High Pressure

RAI 2.3.3.A.19-3

LR drawing LR-18009-C, sheet 1 (location G-1) shows piping and penetration (XS-365) downstream of check valves CU-37 in black and therefore not subject to an AMR, however LR drawing LR-18006, sheet 2 (location E4, and F4) shows this piping in red and requiring an AMR. Please explain the apparent discrepancy between these drawings and confirm that the piping downstream of check valve CU-37 and penetration XS-365 received an AMR.

Response

LR drawing LR-18009-C, Sheet 1, is incorrect. The piping and penetration downstream of valve CU-37 (CKV-63.1-02) is subject to AMR. The penetration itself is part of the Primary Containment Structure, which is addressed in LRA Sections 2.4.A.1 and 3.5.2.A.1. The penetration piping is covered in the CU system, which is covered in LRA Sections 2.3.3.A.19 and 3.3.2.A.17. Additionally, LR drawing LR-18006-C, Sheet 2, is incorrect at the referenced location. There should be no flag at location E-4. There should, however, be a flag at location F-4 where the Emergency Condenser (EC) vent piping intersects the CU piping. The flag should indicate “LR-EC” on the side pointing toward the vent piping and “LR-CU” on the other side at the CU penetration. The EC vent piping is covered in LRA Sections 2.3.2.A.4 and 3.2.2.A.3. There should also be a flag at the end of the penetration itself showing “LR-CU” on the side toward the penetration isolation check valves and dark blue on the side toward the suppression pool. Once the piping is inside the pool, it is not safety-related. It is however, in-scope for LR and subject to AMR for criterion 10 CFR 54.4(a)(2) since it is within a safety-related component

or structure. Per LR drawing convention, components in-scope for LR and subject to AMR for 10 CFR 54.4(a)(2) only are not shown in red on LR drawings.

LRA Revisions

In LRA Section 2.3.3.A.19, the paragraph on page 2.3-101 that provides a description of the portions of the system that are subject to AMR is revised as follows (changed text is indicated by italics):

“The components subject to an AMR include the piping and valves from the containment isolation valves inboard to the system connections with Reactor Recirculation Loop A and the Feedwater System; the piping and valves from the relief valve to the *end of the penetration inside containment* for the system relief valve downstream of the pressure control valve after the non-regenerative heat exchanger; and the RBCLC pressure boundaries of the non-regenerative heat exchanger. The components subject to an AMR for this system also include the NSR piping, fittings, and equipment containing liquid in the Reactor Building.”

RAI 2.3.3.A.19-4

LR drawing LR-18009-C, sheet 1 (location C1) shows piping upstream of valve 33-03 as black and therefore not subject to an AMR, however, LR drawing LR-18006-C, sheet 1 (location F1) shows this piping in red and therefore subject to an AMR. Explain the apparent discrepancy between these drawings and confirm that the piping upstream of valve 33-03 does not require an AMR as indicated on LR drawing LR-18009-C, sheet 1.

Response

With respect to the inconsistency between LR drawings LR-18009-C, Sheet 1 and LR-18006-C, Sheet 1, the former drawing is correct. However, as stated in LRA Section 2.3.3.A.19, the NSR portions of the Reactor Water Cleanup System are in-scope per 10 CFR 54.4(a)(2) and subject to AMR. Per the convention adopted for the LR drawings, components in-scope for LR and subject to AMR for the (a)(2) criterion only are not identified in red. Therefore, on LR drawing LR-18009-C, Sheet 1, the components shown in red and black are actually in-scope and subject to AMR.

LRA Section 2.3.3.A.20, NMP1 Sampling System

RAI 2.3.3.A.20-1

LR drawing LR-18041-C sheet 1 (location D6, E6) shows condensate and feedwater heater sample points passing through eight heat exchangers (110-444 through 110-451). These heat exchangers are highlighted red and within the sampling system AMR boundary flags. The closed loop cooling system that is providing cooling to these heat exchangers is referenced from LR drawing LR-18022-C, Sheet 3 (location H4); however, this drawing does not identify any of these associated heat exchangers that are subject to an AMR. Please explain the apparent

discrepancy between LR drawings LR-18041-C sheet 1 and LR-18022-C sheet 3 and identify where these sample coolers are shown in the closed loop cooling system.

Response

The subject sample coolers (110-444 through 110-451) are used in conjunction with the Turbine Building Sample Sink to obtain samples from the Feedwater and Condensate Systems. These sample coolers use the Turbine Building Closed Loop Cooling (TBCLC) System as their cooling medium. The correct continuation location on LR drawing LR-18022-C, Sheet 3, is E1. At this drawing location, there is a continuation flag that indicates "Conductivity Panel & Sample Coolers;" however, this section of the Turbine Building Closed Loop Cooling System is not in-scope for criteria 10 CFR 54.4(a)(1) or (a)(3). These sample coolers (110-444 through 110-451) are, therefore, incorrectly shown in red as in-scope for LR and subject to AMR for one of these criteria. They are, however, in-scope for LR and subject to AMR for criterion 10 CFR 54.4(a)(2) since, per LRA Section 2.3.3.A.20, they are liquid-filled NSR components in the vicinity of safety-related components in the Turbine Building. Consistent with LR drawing convention, components in-scope for LR and subject to AMR for 10 CFR 54.4(a)(2) only are not shown in red on LR drawings. The AMR boundary flags on LR drawing LR-18041-C, Sheet 1, which show "LR-SS|LR-RBCLC" should show "LR-SS|solid blue," since the TBCLC system is in-scope for criterion 10 CFR 54.4(a)(2) only.

RAI 2.3.3.A.20-2

LR drawing LR-18041-C sheet 1 (location B3), shows condensate sampling points at BV 110-72 and BV 110-73 as not being subject to an AMR. LR-18003-C (location D5) indicates that the condensate line leading to CS 50-233 is within the condensate system AMR boundary flags and subject to an AMR. Identify where the AMR boundary exists between the condensate system and the sampling points at BV 110-72 and BV 110-73 and explain the basis for excluding these blocking valves from being subject to an AMR.

Response

Note that the component referenced in the RAI should read "CE 50-233," not "CS 50-233."

LR drawing LR-18041-C, Sheet 1, is incorrect. The AMR boundary should include valves 110-251, 110-252, and 110-598, and all associated piping up to and including Condensate Pumps 50-01, 50-02, and 50-03, back to the Main Condenser, inclusive.

As a further clarification, per LRA Section 2.3.4.A.20, the Sampling System liquid-filled piping, fittings, equipment on LR drawing LR-18041-C, Sheet 1, that are shown in black are also in-scope for LR and subject to AMR for criterion 10 CFR 54.4(a)(2) since they are liquid-filled components in the vicinity of safety-related components. Per LR drawing convention, components in-scope for LR and subject to AMR for 10 CFR 54.4(a)(2) only are not shown in red on LR drawings.

RAI 2.3.3.A.20-3

LR drawing LR-18041-C sheet 1 (location A1 through C2) indicates that sampling system points off main steam system piping (4 locations) are not subject to an AMR while the associated main steam piping is subject to an AMR. Explain the basis for excluding blocking valves 110-12, 110-13, 110-25 and 110-26 and associated piping from the scope of license renewal and being subject to an AMR.

Response

The NMP1 Sampling System blocking valves 110-12, 110-13, 110-25, and 110-26 and associated piping are in-scope for LR and subject to AMR, as described in LRA Section 2.3.3.A.20 (NSR piping, fittings, and equipment containing liquid in the Turbine Building). Per the convention adopted for the LR drawings, components in-scope for LR and subject to AMR for criterion 10 CFR 54.4(a)(2) only are not identified in red.

AMR boundary flags on LR drawing LR-18041-C, Sheet 1 (locations A2 and B2), are, however, shown incorrectly. The flags should be shown at the 90-degree bend upstream of the piping tee at valves 110-300 and 110-302 (locations A1 and B1), respectively. The red boundary lines and boundary flags should not be present downstream of this point to correctly reflect the detail for the main steam lines on LR drawing LR-18002-C, Sheet 1.

RAI 2.3.3.A.20-4

10 CFR 54.4(a)(2) states that all non-safety related SSC's whose failure could prevent the satisfactory accomplishment of any of the functions described in 10 CFR 54.4(a)(1) is within scope of license renewal.

LR drawing LR-18041-C sheet 2 (location B1 through B3) indicates that sampling system points off the reactor shutdown cooling system at valves 110-504, 110-508 and 110-512 are not subject to an AMR and shows the associated piping leading to the RBEDT as outside the AMR boundary. LR drawing LR-18018 sheet 1 (locations B1, B3, B5) shows the piping leading to the RBEDT within the AMR boundary up to reactor shutdown cooling valves 38-118, 38-121 and 38-124. Failure of the sampling piping up to and including sampling valves 110-503, 110-507 and 110-511 could affect reactor shutdown cooling integrity; therefore, explain the basis for excluding sampling piping up to and including sampling valves 110-503, 110-507 and 110-511 from being subject to an AMR.

Response

LR drawings LR-18041-C, Sheet 2, and LR-18018-C, Sheet 1, are incorrect. The shutdown cooling lines leading to the RBEDT (Vent) up to and including valves 38-118, 38-121, and 38-124 should be shown in red (in-scope for LR and subject to AMR) as shown on LR drawing LR-18018-C, Sheet 1 (locations B1, B3, and B5). Additionally, the sampling lines that branch off these lines should also be shown in red (in-scope for LR and subject to AMR) up to and including valves 110-503, 110-507, and 110-511.

See also the response to RAI 2.3.3.A.20-2 relative to the piping and components on LR drawing LR-18041-C, Sheet 2, which are shown in black.

RAI 2.3.3.A.20-5

10 CFR 54.4(a)(2) states that all non-safety related SSCs whose failure could prevent the satisfactory accomplishment of any of the functions described in 10 CFR 54.4(a)(1) is within scope of license renewal.

LR drawing LR-18041-C sheet 2 (location B5 through D5) shows the shell side of the sample coolers (seven heat exchangers) within the AMR boundary flags of the RBCLC system, however, the tubes of these heat exchangers (on sampling system side) are not subject to an AMR. Failure of the sampling system tubes within these heat exchangers could affect the integrity of the reactor building closed loop cooling system. Explain the basis for excluding the tubes of these heat exchangers from being subject to an AMR.

Response

LR drawing LR-18041-C, Sheet 2, is incorrect. As stated in LRA Section 2.3.3.A.20, the Sampling System sample coolers are in-scope for LR and subject to AMR. Therefore, the tubes of heat exchangers HTX-110-586 through HTX-110-592 should be shown in red on LR drawing LR-18041-C, Sheet 2. The sample coolers, including the tubes, are included in LRA Table 2.3.3.A.20-1, under the component type "Heat Exchangers."

See also the response to RAI 2.3.3.A.20-2 relative to the piping and components on LR drawing LR-18041-C, Sheet 2, which are shown in black.

RAI 2.3.3.A.20-6

10 CFR 54.4(a)(2) states that all non-safety related SSCs whose failure could prevent the satisfactory accomplishment of any of the functions described in 10 CFR 54.4(a)(1) is within scope of license renewal.

LR drawing LR-18041-C sheet 7 (location F5 through G5) shows heat exchangers 122-44 and 122-45 outside the AMR boundary flags of the reactor building closed loop cooling system and the sampling system. However, these heat exchangers are shown within the reactor building closed loop cooling system and sampling system AMR boundary on LR drawing LR-18022-C sheet 2 (location E4). Failure of either the tube side or shell side of these heat exchangers could affect the integrity of the reactor building closed loop cooling system. Explain the basis for excluding these heat exchangers from being subject to an AMR as indicated on LR drawing LR-18041-C sheet 7.

Response

The Post Accident Sample System (PASS) is non-safety-related; therefore, supplying RBCLC cooling water to PASS sample coolers 122-44 and 122-45 is a non-safety-related function. The RBCLC line supplying the PASS system includes an excess flow check valve (70-274) to

prevent high flow rates resulting from a downstream line break. The return line includes a check valve (70-272) that prevents back flow from the RBCLC system.

Drawing LR-18041-C, Sheet 7, correctly shows the boundary at the check valves based on the above evaluation; however, per LRA Section 2.3.3.A.20, all of the piping and liquid-filled components shown in black on this drawing are in-scope for LR and subject to AMR for criterion 10 CFR 54.4(a)(2) since they are liquid-filled components in the vicinity of safety-related components. Per LR drawing convention, components in-scope for LR and subject to AMR for this criterion only are not shown in red on LR drawings.

Drawing LR-18022-C, Sheet 2, incorrectly shows the sample coolers 122-44 and 122-45 as subject to AMR. Based on the function of the excess flow check valve 70-274 and the return line check valve 70-272, the NSR portion of the RBCLC system cannot affect the performance of the required safety-related function. The boundary at the check valves meets criterion 10 CFR 54.4(a)(2); therefore, drawing LR-18022-C, Sheet 2, should not have the AMR boundary at the sample coolers and associated piping. The RBCLC scope boundary flag should be at the drawing continuation flags. Even though the subject heat exchanger shells should be shown in black, per LRA Section 2.3.3.A.20, they are still in-scope for LR and subject to AMR for criterion 10 CFR 54.4(a)(2) since they are liquid-filled components in the vicinity of safety-related components. Per LR drawing convention, components in-scope for LR and subject to AMR for this criterion only are not shown in red on LR drawings.

RAI 2.3.3.A.20-7

LR drawing LR-18041-C sheet 2 (location C-5) shows the air supply to AOV 110-83A as being subject to AMR for the NMP1 sampling system. The staff believes that this valve should be evaluated as part of the instrument air system. Please confirm that this valve and its environment are within the sampling system or explain this apparent discrepancy.

Response

Air supply valve SOV-110-83A is incorrectly shown as in-scope for LR and subject to AMR for criterion 10 CFR 54.4(a)(1) or (a)(3) on LR drawing LR-18041-C, Sheet 2. The valve operator is not required for block valve BV-110-83 to perform its intended function; therefore, it is not in-scope for LR and not subject to AMR for criterion 10 CFR 54.4(a)(1) or (a)(3). Since it is not liquid-filled, it is also not in-scope for LR for criterion 10 CFR 54.4(a)(2).

LRA Section 2.3.3.A.21, NMP1 Service Water System

RAI 2.3.3.A.21-1

Drawing LR-18022-C, Sheet 1 (location C-2) shows the AMR boundary flag for the service water system ending downstream of valve 72-889. This portion of the service water system appears to provide a flow path for emergency service water returning from the reactor building cooling water heat exchangers. Failure of the piping downstream of valve 72-889 could have an

adverse effect on the emergency service water system or possibly the reactor building closed loop cooling system. Similarly, LR drawing LR-18022-C sheet 1 (location G3) shows return lines from the containment spray raw water loops discharging into a common service water header leading to the discharge tunnel. This common discharge header is not within the AMR boundary flags for the service water system. Failure of this common discharge header or the discharge tunnel could have an adverse effect on the containment spray raw water system.

Failure of these portions of the service water system or the discharge tunnel could adversely affect the intended functions of any safety related systems, confirm that they are within the scope of license renewal as required 10 CFR 54.4(a)(2) and are subject to an AMR, or explain the basis for excluding these portions of the service water system and/or the discharge tunnel from being subject to an AMR.

Response

The AMR boundary flags shown on drawing LR-18022-C, Sheet 1, downstream of valve 72-889 and the return lines from the containment spray raw water loops, indicate those portions of the Service Water System that are in-scope for LR and subject to AMR. Those portions highlighted in red are the safety-related portions of the system. The downstream portions shown in black are the non-safety-related portions that are also in-scope and subject to AMR per the 10 CFR 54.4(a)(2) criterion since the liquid-filled sections of piping and the inclusive components are located in the vicinity of safety-related equipment in the Turbine Building and Screen and Pump House Building, as described in LRA Section 2.3.3.A.21. Per the convention adopted for the LR drawings, components in-scope for LR and subject to AMR per the 10 CFR 54.4(a)(2) criterion only are not identified in red. However, the NSR portion of the service water system in the Turbine Building and Screen and Pump House Building is included in the component type "NSR piping, fittings, and equipment" listed in LRA Tables 2.3.3.A.21-1 and 3.3.2.A-19. The NMP1 Discharge Tunnel is underground; therefore, there is no safety-related equipment in the vicinity and degradation of the tunnel would not prevent discharged water from finding its way to the lake. For these reasons, the Discharge Tunnel is not in-scope for LR, but is monitored and maintained as a plant asset.

RAI 2.3.3.A.21-2

LR drawing LR-18022-C sheet 1 (location A1) shows a service water line (72-3-C) leaving this drawing and continuing on drawing LR-18027-C sheet 2. This service water line is shown to be within the AMR boundary flags of the service water system. In addition, LR drawing LR-18022-C sheet 1 (location B2) shows a service water AMR boundary flag downstream of valve 72-70 (SW-130), however this boundary flag appears to conflict with the red highlighted lines leading to drawing LR-18027-C sheet 2. Drawing LR-18027-C sheet 2 could not be located within the LRA. Please provide a copy of LR drawing LR-18027-C sheet 2 to facilitate further review of the service water system and LRA section 2.3.3.A.21.

Response

The AMR boundaries should stop at valve BV-72-123 (location A-2) and valve BV-72-70 (location B-2). Drawing LR-18022-C, Sheet 1, incorrectly has the AMR boundary extending

past valve VLV-72-123. There should be a boundary flag on the downstream side of that valve with the side toward the valve identified as "LR-SW" and the side away from the valve shown as solid blue. The piping downstream of the valve should be shown as black. There is no drawing LR-18027-C, Sheet 2, because there are no components on that drawing that are in-scope for LR for criteria 10 CFR 54.4(a)(1) or (a)(3). Thus, the drawing is not referenced within the LRA or submitted with the other drawings. At BV-72-70, the boundary flag has been inadvertently reversed. The "LR-SW" side should point toward the valve and the solid blue side should point away from the valve toward the black piping. Per LRA Section 2.3.3.A.21, NSR piping, fittings, and equipment containing liquid in the Offgas Building, Reactor Building, Screen and Pump House Building, and Turbine Building are in-scope for LR and subject to AMR; therefore, the piping and components downstream of valves 72-123 and 72-70 are in-scope for LR and subject to AMR to meet criterion 10 CFR 54.4(a)(2). This is the case because they are liquid-filled components located in the vicinity of safety-related components in the Reactor Building. Consistent with the convention adopted for the LR drawings, components in-scope for LR and subject to AMR per the 54.4(a)(2) criterion only are not identified in red.

LRA Section 2.3.3.A.22, NMP1 Shutdown Cooling System

RAI 2.3.3.A.22-1

LR drawing LR-18018-C sheet 1 (location A1 and A2) shows shutdown cooling pump casing vents and drains outside the AMR boundary flags for the shutdown cooling system. It appears that if any of these pump casing vents and drains up to and including the 1st isolation valve failed, it would have an adverse effect on the integrity of the shutdown cooling system to perform its intended function. It also appears that these pump casing vents and drains are part of the shutdown cooling system pressure boundary. Please explain the basis for excluding the shutdown cooling pump casing vent and drain piping and valves from requiring an AMR.

Response

The casing vent and drain valves for the Shutdown Cooling Pumps were inadvertently omitted as being in-scope for LR and subject to AMR. These valves include: VLV-38-103, VLV-38-104, VLV-38-105, VLV-38-106, VLV-38-107, VLV-38-108, VLV-38-94, VLV-38-95, and VLV-38-96. LR drawing LR-18018-C, Sheet 1, should show these valves in red as being in-scope and subject to AMR along with the pump casing consistent with locations F2, F3, and F5. The LRA, however, does not require revision. The pertinent information for these valves is included in LRA Sections 2.3.3.A.22 (page 2.3-105), 3.3.2.A.20 (page 3.3-34) and LRA Table 3.3.2.A-20 (page 3.3-179).

As a further clarification, per LRA Section 2.3.4.A.22, the Shutdown Cooling System liquid-filled piping, fittings, equipment on LR drawing LR-18018-C, Sheet 1, that are shown in black are also in-scope for LR and subject to AMR for criterion 10 CFR 54.4(a)(2) since they are liquid-filled components in the vicinity of safety-related components. Per LR drawing convention, components in-scope for LR and subject to AMR for 10 CFR 54.4(a)(2) only are not shown in red on LR drawings.

RAI 2.3.3.A.22-2

LRA Table 2.3.3.A.22-1 does not list temperature elements or thermowells as component types within the shutdown cooling system. LR drawing LR-18018-C sheet 1 (location B-3) shows temperature element 38-115 within the AMR boundary of the shutdown cooling system. General note number 6 on LR drawing LR-18018-C sheet 1 states that all temperature devices including temperature elements have thermowells. Please explain the basis for excluding temperature elements and/or thermowells (pressure boundary function) as component types in Table 2.3.3.A.22-1 from requiring an AMR.

In addition, LRA Table 2.3.3.A.22-1 does not list bolting as a component type within the shutdown cooling system. Bolted connections appear to be used on a number of flow elements within the shutdown cooling system. Explain the basis for excluding bolting as a component type in LRA Table 2.3.3.A.22-1 from requiring an AMR.

Response

The thermowell for TE-38-115, "Temperature Primary Element - Water To Reactor Recirc Loop," is constructed of the same material as the piping; therefore, there is no reason to create a thermowell subcomponent for TE-38-115 or to list thermowells as a separate component type in LRA Tables 2.3.3.A.22-1 and 3.3.2.A-20. The convention adopted for the LRA was that thermowells made of the same material as the piping were included under the component type of "Piping and Fittings" as being a portion of the pressure boundary of the pipe. Drawing LR-18018-C, Sheet 1, incorrectly highlighted temperature element TE-38-115 as being subject to AMR. It is actually not in-scope for LR. The following additional instruments are also incorrectly shown as being subject to AMR on drawing LR-18018-C, Sheet 1: PT-38-141, PT-38-153, PT-38-148, TE-38-130, and TE-38-136. Pressure transmitters PT-38-141, PT-38-153, and PT-38-148 are in-scope for LR, but are not subject to AMR.

Bolting is not specifically identified in the LRA for this system because it is not identified in the GALL Report for the Shutdown Cooling System. More specifically, bolting is not listed against any GALL line item in Table VII.E4 of NUREG-1801; therefore, a specific bolting component was not created for the NMP1 Shutdown Cooling System. Bolting was, however, captured by the creation of a generic component identification for all external carbon steel surfaces of the Shutdown Cooling System. Additionally, a "Bolting" subcomponent would have been created, if necessary, to define a new material/environment/aging effect requiring management (AERM) group. As for the component type "Valves" fabricated of carbon steel in an air environment, Table 3.3.2.A-20 (page 3.3-178) will be revised to add a corresponding line item for the component type "Piping and Fittings."

LRA Revisions

LRA Table 3.3.2.A-20 is revised to add a row for "Piping and Fittings" fabricated of carbon steel in an air environment, as shown on the following page.

**Table 3.3.2.A-20 Auxiliary Systems
NMP1 Shutdown Cooling System – Summary of Aging Management Evaluation**

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping and Fittings	PB	Carbon or Low Alloy Steel (Yield Strength < 100 Ksi)	Air	Loss of Material	Systems Walkdown Program	VII.1.1-b	3.3.1.A-05	A, 3

LRA Section 2.3.3.A.23, NMP1 Spent Fuel Pool Filtering and Cooling System

RAI 2.3.3.A.23-1

LR drawing LR-18008-C, sheet 1, at drawing location B1, identifies that valves 54-144 and 54-145 are not subject to AMR. These valves serve as an interface between spent fuel pool cooling and filtering (SFPC&F) system and the radioactive waste system. It appears that these valves serve a pressure boundary intended function in the SFPC&F system when valves 54-74 and 54-75 are open. Therefore the staff believes that valves 54-144 and 54-145 should be highlighted as requiring AMR in accordance with 10 CFR 54.21. Please justify the exclusion of these valves from being subject to AMR in accordance with the requirements of 10 CFR 54.21(a)(1).

Response

The valves in question, VLV-54-144 and VLV-54-145, shown on drawing LR-18008-C, Sheet 1, are closed during reactor refueling operations. The valves form part of the Spent Fuel Pool Filtering and Cooling System pressure boundary when valves 54-74 and 54-75 are open to align Spent Fuel Cooling return flow to the Reactor Head Cavity. For this reason, the subject valves are in-scope for LR and subject to AMR. Drawing LR-18008-C, Sheet 1, should show the AMR boundary flags to the left of valves 54-144 and 54-145 and show the valves in red to indicate they are in-scope and subject to AMR.

As a further clarification, per LRA Section 2.3.4.A.23, the Spent Fuel Pool Filtering and Cooling System liquid-filled piping, fittings, equipment on LR drawing LR-18008-C, Sheet 1, that are shown in black are also in-scope for LR and subject to AMR for criterion 10 CFR 54.4(a)(2) since they are liquid-filled components in the vicinity of safety-related components. Per LR drawing convention, components in-scope for LR and subject to AMR for 10 CFR 54.4(a)(2) only are not shown in red on LR drawings.

RAI 2.3.3.A.23-2

On LR drawing LR-18008-C, sheet 1 there are two lines labeled 54-6-B shown in black that run from the reactor head cavity and the reactor internals storage pit to the fuel pool surge tanks. The staff believes that these lines are part of the SFPC&C system and should be subject to AMR according to 10 CFR 54.21 although they are not identified with AMR boundary flags or other system acronyms. Please justify the exclusion of these lines from being subject to AMR in accordance with the requirements of 10 CFR 54.21.

Response

The lines in question, labeled 54-6-B on drawing LR-18008-C, Sheet 1, are overflow lines for the Reactor Internals Storage Pit and the Reactor Head Cavity. These lines return overflow from the storage pit and head cavity to the fuel pool surge tanks. In this capacity, these overflow lines do not support any LR intended functions per criteria 10 CFR 54.4(a)(1) or (a)(3); therefore, they are not shown in red. Consistent with the response to the previous RAI, however, they are in-scope for LR and subject to AMR for criterion 10 CFR 54.4(a)(2).

LRA Section 2.3.3.B.1, NMP2 Air Startup Standby Diesel Generator System

RAI 2.3.3.B.1-1

LR drawing LR-104A-0 shows the license renewal boundary stops at valves AOV323B (location K-5) and AOV323A (location K-6). Downstream piping and equipment has a safety related pressure boundary function. LRA Table 2.3.3.B-1 shows that starting air lubricators are subject to AMR. The LRA drawing shows that lubricators LU325A and LU325B are not part of the boundary. Please provide the basis for not including this piping and the equipment LU325A and LU325B in the license renewal boundary.

Response

The boundary flag upstream of Air Startup Lubricators, 2EGA*LU325A and 2EGA*LU325B, on drawing LR-104A-0, is incorrect. These components are safety-related and subject to AMR, and the boundary flag should be downstream of these components but upstream of the High Pressure Core Spray (HPCS) Diesel Generator 2EGS*EG2. The HPCS Diesel Generator remains in-scope but is not subject to AMR (since it is an active component).

As a clarification, there is no piping or equipment in this system that is in-scope for LR and subject to AMR for criterion 10 CFR 54.4(a)(2) since there is no liquid in the system.

RAI 2.3.3.B.1-2

USAR Section 9.5.8 states that turbocharger and intercooler heaters are part of the combustion air intake and exhaust system. These components are not listed in LRA Table 2.3.3.B-1. These components have a pressure boundary function. Please provide the basis for not subjecting these components to AMR.

Response

The turbocharger is an engine-mounted subcomponent of the Division I and II Standby Diesel Generators. The Division III HPCS Diesel Generator also has an engine-mounted turbocharger. The Division I and II and HPCS Diesel Generators are safety-related and in-scope for LR but are not subject to AMR since they are active components. Accordingly, their turbocharger subcomponents are also in-scope for LR. As part of the engine, however, they are not subject to AMR. The description of these subcomponents can be found in NMP2 Updated Safety Analysis Report (USAR) Section 9.5.8.2. See the responses to RAIs 2.3.3.B.30-2 and 2.3.3.B.30-3 regarding the heat exchangers and heaters associated with the diesels.

This position relative to the diesel engines and turbochargers is consistent with the NRC-approved Hatch LRA, as cited from the following paragraph on Page 2-71 of the NRC Safety Evaluation Report for the Hatch LRA:

“In reviewing drawing HL-11631, the staff also found that the scavenging air heat exchanger, engine supply header, diesel engine crankcase, and turbo superchargers were

highlighted as being within the scope of license renewal, but were not included in Table 2.3.4-I2 of the LRA as being subject to an AMR. The staff requested that the applicant justify the exclusion of these components from being subject to an AMR. The applicant responded that these components are part of the diesel generator, which is an active component. Therefore, the applicant determined that these components are not subject to an AMR.”

RAI 2.3.3.B.1-3

LRA Table 2.3.3.B-1 does not list component type moisture separator as being subject to an AMR. LRA drawing LR-104A-0 shows that moisture separators (at locations D-3, D-5, D-8, D-10) are within the license renewal boundary. Provide the basis for not including moisture separators as a component type requiring AMR in LRA Table 2.3.3.B-1.

Response

LRA Table 2.3.3.B.1-1 does list the component type of “Air Separators.” This is an abbreviated form of the description “Moisture Air Separator” listed for components 2EGA*SP1A, 2EGA*SP1B, 2EGA*SP2A, and 2EGA*SP2B. These Air Separators are subject to AMR as shown in LRA Table 3.3.2.B-1 (page 3.3-191); therefore, LRA drawing LR-104A-0 is correct as drawn with respect to the moisture separators. Table 2.3.3.B.1-1 will be revised to call these components “Moisture Air Separators.”

LRA Revisions

LRA Table 2.3.3.B.1-1 (page 2.3-120) is revised to replace the component type “Air Separators” with “Moisture Air Separators,” as follows:

Component Type	Intended Functions
Moisture Air Separators	Pressure Boundary

LRA Table 3.3.2.B-1 (page 3.3-191) is revised to make the same component type description change as above, and to remove “and Ductile/Malleable Cast Iron” from the material description for this component, as shown on the following page.

**Table 3.3.2.B-1 Auxillary Systems
NMP2 Air Startup Standby Diesel Generator System – Summary of Aging Management Evaluation**

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Moisture Air Separators	PB	Carbon or Low Alloy Steel (Yield Strength < 100 Ksi)	Air	Loss of Material	<u>Preventive Maintenance Program</u>	VII.H2.2-a	<u>3.3.1.B-05</u>	<u>C, 20</u>

LRA Section 2.3.3.B.5, NMP2 Compressed Air System

RAI 2.3.3.B.5-1

LR drawing LR-006 Sheet A, air operated control valves FV2A, 2B, and 2C (locations F-3, F-7 and F-10) shown as being subject to an AMR. However, the air supply tubing and solenoid valves are not shown as requiring an AMR. Please provide the basis for excluding the compressed air system auxiliaries to these valves from requiring AMR.

Response

Drawing LR-6A-0 is incorrect. Air operated valves 2FWR-FV2A, 2FWR-FV2B, and 2FWR-FV2C are not in-scope for LR for criterion 10 CFR 54.4(a)(1) or (a)(3) since these valves are non-safety-related and part of the Feedwater Pump Recirculation Balance Drum Leakoff System which supports feedwater control and Main Feedwater in their functions to maintain reactor water level during normal plant operation. As such, the system and the subject valves are not credited for safe shutdown of the plant; therefore, the air supply tubing and the solenoid valves are not in-scope for LR. Per LRA Section 2.3.4.B.3, however, the referenced FWR valves and their associated piping are in-scope for LR and subject to AMR per criterion 10 CFR 54.4(a)(2) since they are liquid-filled components located in the Turbine Building that are in the vicinity of safety-related components.

RAI 2.3.3.B.5-2

LR drawing LR-013 sheet E, (location D-10), fail closed valve AOV38B is shown as being subject to an AMR. However the air supply tubing and solenoid valves are not shown as requiring an AMR. Please provide the basis for excluding the compressed air system auxiliaries to this valve from requiring AMR.

Response

Drawing LR-13E-0 is correct for the air supply tubing to valve 2CCP*AOV37B (location D7), but incorrect for the air supply tubing to valve 2CCP*AOV38B. The tubing to the actuator for 2CCP*AOV38B should also be shown in red as safety-related and subject to AMR. The actuators for both of these fail-safe, air-operated valves (AOV) are safety-related and in-scope for LR but are not subject to AMR since they are active components per NEI 95-10, Revision 3, Appendix B. As such, the actuators are correctly colored black; however, both actuators should have a boundary flag at the actuator air inlet with an indicating arrow "LR-CAS" towards the air supply side of the actuator and a solid blue arrow towards the actuator itself.

Similar corrections apply on drawing LR-13E-0 for the air supplies to valves 2CCP*AOV37A and 2CCP*AOV38A (coordinates K2 and K4, respectively).

RAI 2.3.3.B.5-3

LR drawings LR-019 sheets L & M, main steam isolation valves are shown as being subject to an AMR. However the air supply tubing and solenoid valves are not shown on detail A on drawing

LR-019 sheet L as requiring an AMR. Please provide the basis for excluding the compressed air system auxiliaries to these valves from requiring AMR.

Response

Detail A of drawing LR-19L-0 is incorrect. The instrument air tubing and solenoid valves should all be highlighted in red up to the operator for valve 2MSS*AOV6C as being safety-related, in-scope for LR, and subject to AMR, consistent with the indication for these lines and components at the other locations for the AOV-6s on this drawing. Since the MSS*AOV-6s are safety-related valves, the supply air tubing and in-line components are also safety-related.

RAI 2.3.3.B.5-4

The LR drawings do not show the air cylinders as part of the license renewal boundary. This is based on the assumption that the valves will go to their fail-safe position on loss of air pressure. This would be true for single acting air cylinders with springs. But for double acting cylinders, one of the cylinders requires air pressure to effect valve repositioning to its fail-safe position. Therefore the double acting cylinders have a pressure boundary function. Please provide the basis for excluding the double acting cylinders from AMR.

Response

NMPNS agrees that safety-related, double acting actuators are in-scope for LR and subject to AMR for a "Pressure Boundary" intended function. The subject actuators will be identified, and an AMR of those actuators will be performed. LRA revisions to incorporate the AMR results, and any other associated LRA changes, will be submitted to the NRC by February 28, 2005.

LRA Section 2.3.3.B.14, NMP2 Floor and Equipment Drains System

RAI 2.3.3.B.14-1

LR drawings LR-63C, LR-63D, LR-63E, and LR-66B do not show in scope flagging as depicted in the typical boundary flagging legend on each drawing. Red colored piping and fittings and black colored piping and fittings are both shown beyond the license renewal floor and equipment drain's blue flagging on the drawings. Please explain why the black colored piping and fittings are shown beyond the license renewal blue flagging. Also please discuss if the black colored piping and fittings are within scope of license renewal due to 10CFR54.4(a)(2) and, if not in scope, justify how their failure would not affect the pressure boundary function of the in scope piping that this piping connects with.

Response

The AMR boundary flags were purposely drawn this way so as not to obscure the depiction of the floor on the drawings. In all cases, the AMR boundary is correctly shown by the components highlighted in red. NSR components of this system containing liquid in the Auxiliary Service

Building, Control Room Building, Diesel Generator Building, Main Stack, Primary Containment Structure, Radwaste Building, Reactor Building (secondary containment), Screenwell Building, and Turbine Building are in-scope and subject to AMR per criterion 10 CFR 54.4(a)(2). Per the convention adopted for the LR drawings, components in-scope for LR and subject to AMR for criterion (a)(2) only are not identified in red on the LR drawings.

RAI 2.3.3.B.14-2

LR drawing LR-67A shows the drywell equipment drain tank 1, associated discharge piping and fittings, downstream valves and downstream equipment drain pumps in red and within blue flagging boundaries, indicating that these components are in scope for license renewal per 10 CFR 54.4(a)(3). However, the inlet piping and fittings to the drywell equipment drain tank 1, upstream valves and upstream drywell equipment drain cooler are shown in black, indicating these components are functionally outside the scope of license renewal. In order for the staff to complete its review, identify the intended function of the portion of the system beyond the drywell equipment drain tank 1 that satisfies 10 CFR 54.4(a)(3) and explain how the function is performed without relying on the inlet piping to the tank to be functional and within the scope of license renewal.

Response

Consistent with the description of equipment subject to an AMR in LRA Section 2.3.3.B.14, the identified liquid-filled inlet piping and components are in-scope for LR and subject to AMR per the 10 CFR 54.4(a)(2) criterion since they are located in the Reactor Building in the vicinity of safety-related components. Per the convention adopted for the LR drawings, components in-scope for LR and subject to AMR for criterion (a)(2) only are not identified in red on the LR drawings.

LRA Section 2.3.3.B.15, NMP2 Generator Standby Lube Oil System

RAI 2.3.3.B.15-1

LR drawing 104E-0 shows sight glasses SG-1, SG-2, and SG-3 at locations E2 and F1. Sight glasses are passive and long-lived components and are not shown as being subject to an AMR. Please clarify if this is an omission. If not, justify the exclusion of this component from being subject to an AMR in accordance with the requirements of 10 CFR 54.21(a)(1).

Response

Sight glasses SG-1, SG-2, and SG-3 were inadvertently omitted from the LR scope. They should be identified in-scope for LR and subject to AMR. As such, they should be highlighted in red on drawing LR-104E-0. LRA Table 2.3.3.B.15-1 will be revised to include the "Sight Glass" component type and its intended function of "Pressure Boundary." LRA Section 3.3.2.B.15 and Table 3.3.2.B-15 will also be revised to include AMR information for these components. As glass or a polymer in an oil environment, they have no aging effects. The components

connecting the sight glasses to the system piping will be included with the “Piping and Fittings” component type.

LRA Revisions

LRA Table 2.3.3.B.15-1 (page 2.3-152) is revised to add “Sight Glasses,” as follows:

Component Type	Intended Functions
Sight Glasses	Pressure Boundary

In LRA Section 3.3.2.B.15 (page 3.3-56), under the “Materials” heading, the following is added:

- Glass

LRA Table 3.3.2.B-15 is revised to add a row for sight glasses, as shown on the following page.

**Table 3.3.2.B-15 Auxiliary Systems
NMP2 Generator Standby Lube Oil System – Summary of Aging Management Evaluation**

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Sight Glasses	PB	Glass	Lubricating Oil	None	None			None

RAI 2.3.3.B.15-2

LR drawing 104E-0 shows the turbo lube oil pressure trip valves, PEV-18 for the Div. I and II diesels and connecting tubing, at location A7 as not being subject to an AMR. It appears that failure of this component and its connecting tubing could prevent its associated standby diesel generator from performing its intended function. Describe the function of this component and its effects on the intended function standby diesel generator. If PEV-18 is found to have an intended function, then include it as a component requiring AMR.

Response

The AMR boundary depiction shown on Drawing LR-104E-0 for valve PEV-18 and associated tubing components is incorrect. Valve PEV-18 is the turbocharger lube oil pressure trip valve. Its function is to trip the diesel engine on low turbocharger oil pressure. PEV-18 and connecting tubing, as well as valves 2EGS*HV118A, B, C, and D, are in-scope for LR and are subject to AMR, similar to valve PEV-14 and its associated tubing components depicted at location B-7. The valves and tubing are already covered in LRA Table 2.3.3.B.15-1 under the component types "Valves" and "Piping and Fittings," respectively.

RAI 2.3.3.B.15-3

LR drawing 104E-0 shows restricting orifices 2EG0-00001, 00002, and 00003, for the Div. III diesel as being subject to AMR. Table 2.3.3.15.B-1 includes the component type "Orifices" with an intended function of "Pressure Boundary." Restricting orifices also have a flow restriction function (as defined in LRA Table 2.0-1) that has not been identified in Table 2.3.3.15.B-1. Please confirm that the loss of flow restriction is not an intended function for restricting orifices in the generator lube oil system that requires AMR.

Response

A component function would only be considered a LR intended function if failure of that component function would cause the failure of a system LR intended function. Failure of the "Flow Restriction" function of the orifices in question would not prevent the system from performing its LR intended function; therefore, the only LR intended function credited for these components is "Pressure Boundary" as identified in LRA Table 2.3.3.15.B-1.

RAI 2.3.3.B.15-4

LR drawing 104E-0 shows Y-strainers item 5, 17, and 69 for the Div. III diesel as being subject to AMR. Table 2.3.3.15.B-1 includes the component type "Filters/Strainers" with an intended function of "Pressure Boundary." Y-strainers also have a filtration function (as defined in LRA Table 2.0-1) that has not been identified in Table 2.3.3.15.B-1. Please confirm that the loss of filtration is not an intended function for Y-strainers in the generator lube oil system that requires AMR.

Response

A component function would only be considered a LR intended function if failure of that component function would cause the failure of a system LR intended function. Failure of the "Filtration" function of the Y-strainers in question would not prevent the system from performing its LR intended function. The filtration function of the Y-strainers is to establish an "initial condition" for the generator lube oil system; therefore, the only LR intended function credited for these components is "Pressure Boundary" as identified in LRA Table 2.3.3.15.B-1.

RAI 2.3.3.B.15-5

NMP U2 FSAR Section 9.5.7 states that each standby diesel generator has an independent lubrication system to lubricate engine bearings and other moving parts. LR drawing 104E-0 shows a line labeled, "To Engine Bearings" at location C8 for the Div. I and II diesels as not requiring AMR. It appears that this line supports the intended function for the generator standby lube oil system. Please explain why this line is not subject to AMR.

Response

Drawing LR-104E-0 is incorrect. The lubrication line to the engine bearing is in-scope for LR and subject to AMR, and is included in LRA Table 2.3.3.B.15-1, under the component type "Piping and Fittings." As such, it should be highlighted in red on the drawing.

LRA Section 2.3.3.B.16, NMP2 Glycol Heating System

RAI 2.3.3.B.16-1

LRA Section 2.1.4.2.4 states that the intended functions relative to the criteria of 10CFR54.4(a)(2) were identified and documented and LRA Section 2.3.3.B.16 states that the only components of the Glycol Heating System that are subject to an AMR are NSR piping, fittings and equipment containing liquid, which are not shown on any LR drawings. Please identify the portions of the Glycol Heating System NSR piping, fittings and equipment containing liquid that are subject to an AMR.

Response

Consistent with LR drawing convention, marked-up LR drawings were not provided for systems where the only system intended function was to meet the 10 CFR 54.4(a)(2) criterion since these components are not identified in red. A piping and instrumentation diagram (P&ID) for the glycol system (NMP2 USAR Figure 9.4-22b through 9.4-22d) is provided in Attachment 3. The system description from LRA Section 2.3.3.B.16, in conjunction with this P&ID, provides an adequate description of the components that are subject to AMR.

The components subject to AMR for this system include the NSR piping, fittings and equipment containing liquid or steam physically located in the Screenwell Building, Standby Gas Treatment Building, and Turbine Building.

RAI 2.3.3.B.16-2

The System Description section of LRA Section 2.3.3.B.16 states that the Glycol Heating system consists of three subsystems with one subsystem in the Turbine Building, one subsystem in the Standby Gas Treatment Building and one subsystem in the Radwaste Building. The System Description section also states that the components subject to an AMR include NSR piping, fittings and equipment containing liquid in the Screenwell Building, Standby Gas Treatment Building and Turbine Building; however, no LR drawings were provided for this system. Please clarify the absence of components subject to an AMR in the Radwaste Building and the presence of components subject to AMR in the Screenwell Building.

Response

There are no components of the Glycol Heating System in-scope for LR per criterion 10 CFR 54.4(a)(2) in the Radwaste Building since there are no system components in the Radwaste Building. There are safety-related components present in the Screenwell Building; therefore, since there are also liquid-filled, non-safety-related Glycol Heating System components present in the vicinity of the safety-related components, these Glycol Heating System components meet the 10 CFR 54.4(a)(2) criterion for being in-scope for LR and subject to AMR. Consistent with LR drawing convention, components in-scope for LR and subject to AMR for criterion (a)(2) only are not shown in red. Since all of the components in-scope for LR and subject to AMR for this system are to meet criterion (a)(2) only, there are no components to be shown in red. There are, therefore, no LR drawings provided for this system.

LRA Section 2.3.3.B.17, NMP2 Hot Water Heating System

RAI 2.3.3.B.17-1

The System Description section of LRA Section 2.3.3.B.17 states that reactor water may be supplied to the shell side of the building heating auxiliary heat exchangers and the intermediate heat exchangers. No LR drawings were provided for this system. Table 2.3.3.B.17 indicates that NSR piping, fittings, and equipment with the intended function of preventing failure from affecting safety related equipment are subject to an AMR. Please provide information that describes the interface between the reactor water and the hot water system that precludes the interface from being a pressure boundary.

Response

The description in LRA Section 2.3.3.B.17 is incorrect. Reactor water does not interface with the Hot Water Heating System. LRA Section 2.3.3.B.17 will be revised to remove “reactor water” and replace it with “auxiliary steam.”

LRA Revisions

In Section 2.3.3.B.17 (page 2.3-154), under the “System Description” heading, the second sentence of the second paragraph is revised as follows:

“Depending upon the operating mode, electric boiler, auxiliary steam, or extraction steam is supplied to the shell side of both the building heating auxiliary heat exchangers and the intermediate heat exchangers.”

RAI 2.3.3.B.17-2

The System Description section of LRA Section 2.3.3.B.17 states that components subject to an AMR include the NSR piping, fittings, and equipment containing liquid in the Control Room Building, Reactor Building (secondary containment), Radwaste Building, Screenwell Building, Standby Gas Treatment Building, and Turbine Building (emphasis added). No LR drawings were provided for this system. Please provide information that describes the boundaries of this system and confirms that there are no other components subject to an AMR.

Response

Consistent with LR drawing convention, marked-up LR drawings were not provided for systems where the only system intended function was to meet the 10 CFR 54.4(a)(2) criterion. A P&ID that includes this system is included with the response to RAI 2.3.3.B.16-1. The system description from LRA Section 2.3.3.B.17, in conjunction with the P&ID, provides an adequate description of the components that are subject to AMR.

The components subject to an AMR for this system include the NSR piping, fittings and equipment containing liquid or steam physically located in the Control Room Building, Radwaste Building, Reactor Containment (secondary containment), Screenwell Building, Standby Gas Treatment Building, and Turbine Building.

LRA Section 2.3.3.B.21, NMP2 Process Sampling System

RAI 2.3.3.B.21-1

While performing a review of the NMP2 process sampling (PS) system the following was noted for the residual heat removal (RHR) system that interfaces with the PS system. LR drawings LRA-31 sheet D (location G7) and LRA-31 sheet E (location D8) show valves 2-RHS-SOV-35A and 2-RHS-SOV-35B highlighted in red and within the residual heat removal system AMR boundary flags. However, LR drawing LR-17 sheet G (locations I1, K1) does not show these valves within the AMR boundary of the residual heat removal system. Please confirm that valves 2-RHS-SOV-35A and 2-RHS-SOV-35B are within the scope of license renewal and subject to an AMR or explain the discrepancy between the LR drawings.

Response

Valves 2RHS*SOV35A and 2RHS*SOV35B are safety-related, in-scope for LR, and subject to AMR. Drawing LR-17G for these valves and their associated piping should be highlighted in red, consistent with the depiction of the respective valves on drawings LR-31D and LR-31E. Additionally, at continuation locations I1 and K1 on drawing LR-17G, the continuation flags should be marked as "LR-31D" and "LR-31E," as appropriate, and include LR continuation flags showing "LR-RHS" in both directions.

LRA Section 2.3.3.B.22, NMP2 Radiation Monitoring System

RAI 2.3.3.B.22-1

LRA Section 2.3.3.B.22 states that:

"The NMP2 radiation monitoring system is designed to initiate appropriate manual or automatic protective action to limit the potential release of radioactive materials from the reactor vessel, primary and secondary containment, and fuel storage areas if predetermined radiation levels are exceeded in major/process effluent streams, and to provide main control room personnel with radiation level indication throughout the course of accident. The radiation monitoring system consists of a computer-based digital radiation monitoring system, a computer-based gaseous effluent monitoring system, and a main stem line radiation monitors."

LRA Section 2.3.3.B.22 regarding the NMP2 radiation monitoring system states that "portions of the system consists of off-line gas and liquid monitors which consist of piping, filters, pumps, sampler/detectors, valves, and instrument." The applicant did not identify the radiation monitoring system components that are in scope of license renewal due to 10CFR54.4(a)(1) and 10CFR54.4(a)(2). Furthermore, an LR drawing for the NMP2 radiation monitoring system was not provided to show the portions of this system containing components within the scope of license renewal. Please identify the components of the radiation monitoring system that are in-scope of license renewal in accordance with the requirements of 10CFR54.4(a)(1) and 10CFR54.4(a)(2), and justify the exclusion of these components from being subject to an AMR in accordance with the requirements of 10 CFR 54.21(a)(1).

Response

NMPNS agrees that safety-related radiation monitors and their inclusive mechanical components are in-scope for LR and subject to AMR for a "Pressure Boundary" intended function. The subject components that perform the LR intended function will be identified, and an AMR of those components will be performed. LRA revisions to incorporate the AMR results, and any other associated LRA changes, will be submitted to the NRC by February 28, 2005.

LRA Section 2.3.3.B.25, NMP2 Reactor Water Cleanup System

RAI 2.3.3.B.25-1

LR drawing LR-37A-0 shows components downstream of EFV222 and EFV300 (location H7) and downstream of EFV223 and EFV224 (location H-4) not highlighted in red indicating that they require no AMR. In addition, LR drawing LR-37B-0 (location C-9) shows FE119 and associated tubing and root valves to FT68X and FT68Y are also not highlighted in red. However as denoted by the asterisks preceding these component numbers (per note 1 of the mentioned drawings), these components are part of the nuclear safety feature systems. The staff believes that these components are meet criterion 10 CFR 54.4(a)(1) and should require AMR according to 10 CFR 54.21(a)(1). Please justify the exclusion of these components from the scope of license renewal and from requiring AMR.

Response

The AMR boundary depiction on drawing LR-37A-0 is incorrect for the lines downstream of valves 2WCS*EFV222, 2WCS*EFV223, 2WCS*EFV224, and 2WCS*EFV300. The lines up to and including the pressure and flow instruments, 2WCS*PDIS115, 2WCS*FT67X, and 2WCS*FT67Y, are safety-related and in-scope for LR; however, these instruments are active and not subject to AMR. Drawing LR-37A-0 should not, therefore, include boundary flags at 2WCS*EFV222, 2WCS*EFV223, 2WCS*EFV224, and 2WCS*EFV300. The red highlighting should be extended up to, but not include, the pressure and flow instruments 2WCS*PDIS115, 2WCS*FT67X, and 2WCS*FT67Y.

The AMR boundary depiction on drawing LR-37B-0 is incorrect for 2WCS*FE119 and its associated tubing and root valves up to 2WCS*FT68X and 2WCS*FT68Y. These instruments are used as part of the Leak Detection System to detect leakage from the Reactor Coolant Pressure Boundary. 2WCS*FE119 and its associated tubing and root valves up to, but not including, 2WCS*FT68X and 2WCS*FT68Y are safety-related and subject to AMR and should be highlighted in red on the drawing.

As a clarification, per LRA Section 2.3.3.B.25, the non-safety-related liquid filled piping and components shown in black on LR drawing LR-37A-0 are in-scope for LR and subject to AMR for criterion 10 CFR 54.4(a)(2), since all of these components are located in the Reactor Building and are, therefore, in the vicinity of safety-related components. The LR drawing convention is that components in-scope for LR and subject to AMR for criterion (a)(2) only are not shown in red on the LR drawings.

RAI 2.3.3.B.25-2

The introduction to NMP2 USAR Table 3.9B-2 states that this table lists the major safety related components in the plant. Item W and X identify the reactor water cleanup system pumps and the reactor water cleanup heat exchangers respectively, as part of this table however, neither of these components are highlighted in red on LR drawing LR-37B-0 as within the scope of license

renewal and subject to an AMR. Also LRA Table 2.3.3.B.25-1 does not include the "component type" pumps or heat exchangers. The staff believes that these components are meet criterion 10 CFR 54.4(a)(1) and should require AMR according to 10 CFR 54.21(a)(1). Please justify the exclusion of these components from the scope of license renewal and from requiring AMR.

Response

NMP2 USAR Table 3.2-1 describes in additional detail the portions of the Reactor Water Cleanup System that perform a safety function and are, therefore, in-scope for LR for criteria 10 CFR 54.4(a)(1) or (a)(3). The Reactor Water Cleanup System pumps and heat exchangers are not safety-related per NMP2 USAR Table 3.2-1 or the NMP2 Master Equipment List, and are not required for safe shutdown of the reactor. Consistent with 10 CFR 54.4(b), these components do not support any system intended functions pursuant to 10 CFR 54.4(a)(1) or (a)(3).

As a clarification, per LRA Section 2.3.3.B.25, the non-safety-related liquid filled piping and components shown in black on LR drawing LR-37B-0 are in-scope for LR and subject to AMR for criterion 10 CFR 54.4(a)(2), since all of these components are located in the Reactor Building and are, therefore, in the vicinity of safety-related components. The LR drawing convention is that components in-scope for LR and subject to AMR for criterion (a)(2) only are not shown in red on the LR drawings.

LRA Section 2.3.3.B.27, NMP2 Service Water System

RAI 2.3.3.B.27-1

*LR drawings LR-11 sheet A (location C-10) shows component number *EJ12F within the AMR boundary flags of the service water system. It appears that this component is an expansion joint or bellows. Similarly, LR drawing LR-11 sheet L (location I-5) shows two components that appear to be expansion joints or bellows connecting to the CSH diesel generator cooler. However, LRA Table 2.3.3.B.27-1 does not list expansion joints or bellows as a component subject to an AMR within the NMP2 Service Water System. In addition, a review of LRA Table 3.3.2.B-26, NMP2 Service Water System – Summary of Aging Management Evaluation, did not identify expansion joints or bellows as a component type. Please confirm that this component is included in the AMR of piping and fittings or explain the basis for excluding these component types from LRA Table 2.3.3.B.27-1 and excluding these component types from requiring an AMR.*

Response

Drawing LR-11A-0, at locations C5, G5, C10, and G10, identifies expansion joints EJ12D, EJ12B, EJ12F, and EJ12C, respectively. These are expansion joints in the suction lines for Service Water Pumps 2SWP*P1D, B, F, and C, respectively. They are in-scope for LR, subject to AMR, and included with the component type "Piping and Fittings" in LRA Sections 2.3.3.B.37 (page 2.3-173), 3.3.2.B.26 (page 3.3-67) and Table 3.3.2.B-26 (page 3.3-258).

RAI 2.3.3.B.27-2

LR drawing LR-11 sheet B (location L-3) shows piping and components that are within the service water system AMR boundary flags continuing on to license renewal drawing LR-11 sheet J (location A-11). However, LR drawing LR-11 sheet J (location A-11) shows the continuation of this piping and components in black with no AMR boundary flag. Please identify the AMR boundary for this portion of the service water system that provides cooling water to the turbine building closed loop cooling water heat exchangers and other turbine building heat loads and confirm that this portion of the service water system is not subject to an AMR.

Response

For the portion of the NMP2 Service Water System shown on drawing LR-11B-0, an AMR boundary flag should be located on the downstream side of valve 2SWP*MOV3B (location L3). This valve represents the boundary between the safety-related and non-safety related portions of the system. The boundary flag should indicate "LR-SW" pointing towards the valve and a solid blue flag pointing away from it.

For the portion of the Service Water System shown on drawing LR-11J-0, the NSR piping, fittings and equipment located in the Turbine Building are in-scope per the 10 CFR 54.4(a)(2) criterion. LRA Section 2.3.3.B.27 states that the NSR piping, fittings, and equipment located in the Turbine Building are in-scope and subject to AMR. Per the convention adopted for the LR drawings, components in-scope for LR and subject to AMR for the 10 CFR 54.4(a)(2) criterion only are not identified in red. However, the NSR portion of the service water system in the Turbine Building is included in the component type "NSR piping, fittings, and equipment" listed in LRA Tables 2.3.3.B.27-1 and 3.3.2.B-26.

RAI 2.3.3.B.27-3

LR drawing LR-43 sheet G (location G-6) shows piping coming from the service water system on license renewal drawing LR-11 sheet L (location G-8) and going to the fire protection water system as being within the AMR boundary flags of the service water system and subject to an AMR. However, LR drawing LR-11 sheet L (location G-8) shows this same service water piping as outside the AMR boundary flags of the service water system. Please explain the basis for excluding this portion of the service water system as shown on license renewal drawing LR-11 sheet L (location G8) from being subject to an AMR and identify the AMR boundary for this portion of the service water system.

Response

The Service Water System (SWP) does not have a LR intended function to supply water to the Fire Protection Water System (FPW). The subject AMR boundary flags on drawing LR-43G-0 (Location G6) are incorrect. The appropriate AMR boundaries are at valves 2FPW-V532 and 2FPW-V476, inclusive. The piping and components downstream of these valves are in-scope for LR and subject to AMR as currently shown on the drawing. The boundary flags should be located on the upstream side of these two valves, should indicate "LR-FPW" on the downstream

side pointing toward the tank, and should be solid blue pointing in the opposite direction. The piping and components on the upstream side of the boundary and these valves should be black.

Even though the AMR boundary flags should be relocated to valves 2FPW-V532 and 2FPW-V476, the service water piping, fittings and valves upstream of these components are in-scope per the 10 CFR 54.4(a)(2) criterion. As stated in LRA Section 2.3.3.B.27, the NSR service water piping, fittings and equipment in the Screenwell Building are also in-scope and subject to AMR. Per the convention adopted for the LR drawings, components in-scope for LR and subject to AMR per the 10 CFR 54.4(a)(2) criterion only are not identified in red. However, the NSR portion of the service water system in the Screenwell Building connected to the fire water piping is included in the component type "NSR piping, fittings, and equipment" listed in LRA Tables 2.3.3.B.27-1 and 3.3.2.B-26.

RAI 2.3.3.B.27-4

*LR drawing LR-11 sheet E (location B-3) shows discharge piping from relief valve *RVY 46A going to the floor and equipment drains system (DER system) on LR drawing LR-63 sheet B. The AMR boundary flag at this location shows this portion of the DER system within the AMR boundary flags of the DER system and highlighted in red. However, this is not consistent with other relief valve discharge drain lines within the service water system. In addition, LR drawing LR-63 sheet B was not included in the LRA to permit further review of this portion of the floor and equipment drains system. Please determine if this portion of the floor and equipment drains system (DER) system is within the scope of license renewal and subject to an AMR and provide a copy of LR drawing LR-63 sheet B to permit further review by the staff.*

Response

Drawing LR-11E-0 (location B3) identifies relief valve RVY46A. This is a safety-related relief valve with discharge piping 2-SWP-001-779-4 to equipment drain 2DER-ED6402. The drawing incorrectly shows the discharge piping and the equipment drain as in-scope for LR for criteria 10 CFR 54.4(a)(1) or (a)(3). There should be a boundary flag on the discharge side of the relief valve in solid blue pointing away from the valve and with "LR-SWP" pointing toward the valve. The piping downstream of the valve should be black and the continuation flag "LR-DCR|LR-SWP" should not be there.

Drawing LR-11E-0 (location F3) shows the same equipment drain for discharge piping 2-SWP-001-777-4. Below the equipment drain is Note 9. This note states that no flag is shown on the corresponding plant design drawing. Thus, there is no LR drawing LR-63B.

Note that a total of four relief valve discharge piping lines on this drawing are incorrectly shown as in-scope for LR (locations B3, F3, I/J3, and K3). All four of these should be shown as described in the first paragraph of this response.

RAI 2.3.3.B.27-5

*LR drawing LR-11 sheet F (location I-5) shows flow element root valves *V53B and 54B and associated piping outside the scope of license renewal and not subject to an AMR. Failure of these pipes could affect the integrity of the service water system; therefore, explain the basis for excluding these components from being subject to an AMR.*

Response

Drawing LR-11F-0 (location I5) incorrectly shows root valves V53B and V54B and their associated piping in black. Both are safety-related globe root valves that are in-scope for LR and subject to AMR. As such, these valves and their associated piping, back to flow element FE-161B, should be highlighted in red as in-scope and subject to AMR.

LRA Section 2.3.3.B.28, NMP2 Spent Fuel Pool Cooling and Cleanup System

RAI 2.3.3.B.28-1

The spent fuel pool cooling and cleanup system is shown primarily on LR drawings LR-038, sheets A, B, and C. The drawings do not contain all the detail for the staff to understand the configuration of the components requiring AMR, because the cooling and cleanup systems operate independently of one another, and the majority of the cleanup system does not contain components subject to AMR. Please provide the following figures from the NMP2 USAR 9.1.5 Spent Fuel Pool Cooling and Cleanup System, sheets A through D and LR drawing LR-38D-0.

Response

NMP2 USAR Figures 9.1-5a through 9.1-5d are provided in Attachment 4. Additionally, drawing LR-38D-0 does not exist. There are no components on that drawing that are in-scope to meet the requirements of 10 CFR 54.4(a)(1) or (a)(3).

RAI 2.3.3.B.28-2

There are spargers noted on LR drawings at the bottom of the spent fuel pool (LR-38B-0, locations 6A through D), the reactor refueling cavity (LR-38A-0, locations G/H-6/7) and the reactor internals storage pit (LR-38A-0, locations 7-J/K) as being subject to AMR. Please clarify whether these spargers are included in the component type "piping and fittings" in LRA Table 2.3.3.B.28-1, or indicate if they are included on the table under another component type.

Response

These spargers, also known as spray nozzles, are included with the component type "Piping and Fittings" in Table 2.3.3.B.28-1.

RAI 2.3.3.B.28-3

LRA Tables 2.3.3.B.28-1 and 3.3.2.B-27 list the component filter/strainer as being subject to AMR. LRA drawings for the spent fuel pool cooling and cleanup system show no filters or strainers. Please clarify whether there are any filters or strainers in the spent fuel cooling and cleanup system which are subject to AMR. If not, remove the reference from the LRA Tables.

Response

Drawing LR-038A-0 (location C10) identifies strainer 2SFC*STRT1B, and drawing LR-038B-0 (location C3) identifies strainer 2SFC*STRT1A. Both components are in-scope for LR and subject to AMR. Both components are included with the component type "Filters/Strainers" in LRA Tables 2.3.3.B.28-1 and 3.2.2.B-27.

LRA Section 2.3.3.B.29, NMP2 Standby Diesel Generator Fuel Oil System

RAI 2.3.3.B.29-1

On LR drawing LR-104F-0 at locations K2 and K3, orifices are shown to be within the scope of license renewal and subject to an AMR. However, orifice is not included as a component type in LRA Table 2.3.3.B.29-1. LRA Table 2.0-1 identifies "Flow Restriction" as a component intended function that is applicable to an orifice. Clarify whether this component is included with another component type that is within the scope of license renewal and subject to an AMR. If not, justify its exclusion from the scope of license renewal and from being subject to an AMR or update the corresponding table to include this component.

Response

Flow orifices 2EGF*FE100A and 2EGF*FE100B are included with the component type "Flow Element." Not all orifices have an intended function of "Flow Restriction." This is only an intended function if it is required for the system in which it is installed to meet one of its intended functions for safe shutdown of the plant. Most orifices have a "Pressure Boundary" function only.

RAI 2.3.3.B.29-2

On LR drawing LR-104B-0 at locations L-3, L-4 and L-5, flexible hoses are shown to be within the scope of license renewal and subject to an AMR. However, flexible hose is not included as a component type in LRA Table 2.3.3.B.29-1. Please clarify whether this component is included with another component type that is within the scope of license renewal and subject to an AMR. If not, justify its exclusion from the scope of license renewal and from being subject to an AMR or update the corresponding table to include this component.

Response

These flexible hoses are stainless steel and are included with the component type "Piping and Fittings" in LRA Table 2.3.3.B.29-1.

RAI 2.3.3.B.29-3

NMP2 USAR Section 9.5.4 states that the standby diesel generator fuel oil storage and transfer system consists of six electric motor-driven, vertical, turbine-type fuel oil transfer pumps. The pumps are mounted in duplex sets on top of each fuel oil storage tank and each duplex set is connected in parallel to its respective day tank to permit the transfer of fuel oil by the pumps. LR drawing LR-104C-0 shows two of these pumps "P1C" and "P1A" at locations C-6 and E-6 respectively, and LR drawing LR-104B-0 shows four of these pumps, "P1D," "P1B," "P2B," and "P2A" at locations C-8, E-8, C-3 and E-3 respectively to be within the scope of license renewal and subject to an AMR. However, the LR drawings do not show the piping within the standby diesel generator storage tanks connecting to these pumps as being subject to an AMR. The staff believes that this piece of piping should be within the scope of license renewal and subject to an AMR in order for the standby diesel generator fuel oil storage tanks to perform its intended function which is to ensure the transfer of fuel oil to the day tanks. Please justify the exclusion of this piece of piping from the scope of license renewal and from an AMR.

Response

NMPNS agrees with the staff. The suction piping inside the diesel fuel oil storage tanks is in-scope for LR and subject to AMR. The piping is included with the component type "Piping and Fittings" in LRA Table 2.3.3.B.29-1. Drawings LR-104B and LR-104C should show these piping segments highlighted in red.

RAI 2.3.3.B.29-4

LR drawings LR-104B-0 shows piping within the standby diesel generator fuel oil storage and transfer system connecting to the level switches "103," "106," "108," "109," "12B," "10B," "5B," "7B," and "8B" at locations D-3 and H-4, D-8 and H-9 respectively, as not within the scope of license renewal and subject to an AMR. LR drawings LR-104C-0 shows piping within the standby diesel generator fuel oil storage and transfer system connecting to the level switches "12A," "5A," "7A," and "8A," at locations D6 and I6 respectively, as not within the scope of license renewal and subject to an AMR. The staff believes that the level switches are used to monitor the oil level in their associated day tanks and that the piece of piping connecting to these level switches should be within the scope of license renewal and subject to an AMR. Please justify the exclusion of this piece of piping from the scope of license renewal and from requiring an AMR.

Response

The sensing lines up to the referenced level switches are in-scope for LR and subject to AMR. See Note 3 on drawing LR-000-2F-0 for an explanation regarding sensing lines subject to AMR

for criteria 10 CFR 54.4(a)(1) or (a)(3). Drawing LR-104-B-0 should, however, indicate that the sensing lines are subject to AMR by highlighting them in red.

RAI 2.3.3.B.29-5

On LR drawing LR-104B-0, LR-104C-0, and LR-104F-0 vents are shown to be within the scope of license renewal and subject to an AMR. However, vents are not included as a component type in LRA Table 2.3.3.B.29-1. Please clarify whether this component is included with another component type that is within the scope of license renewal and subject to an AMR. If not, justify its exclusion from the scope of license renewal and from being subject to an AMR or update the corresponding table to include this component.

Response

Vents were evaluated as part of the component type "Piping and Fittings." Relative to vents, see Notes 2 and 4 on drawing LR-000-2F.

LRA Section 2.3.3.B.30, NMP2 Standby Generator Protection System

RAI 2.3.3.B.30-1

LR drawing LR-104D-0 (C-3) shows the turbocharger as not subject to AMR. The turbocharger is required for the proper operation of the diesel and has a passive pressure boundary function. This component meets the 10CFR54.4(a)(1) criteria. Provide the basis for excluding the turbo charger from the scope of license renewal and from being subject to AMR.

Response

The emergency diesel generators, including the turbochargers, are in-scope for LR; however, since they are active components, they are not subject to AMR. This designation is consistent with the guidance provided in NEI 95-10, Revision 3, Appendix B.

RAI 2.3.3.B.30-2

LR drawing LR-104D-0 (H-4 and H-5) shows lube oil coolers, fuel oil coolers, and inter coolers that were not highlighted as being subject to AMR. These components have a passive pressure boundary function and meets 10CFR54.4(a)(1) criteria. Provide the basis for excluding these components from the scope of license renewal and from being subject to AMR.

Response

Drawing LR-104D-0 (locations H4 and H5) identifies intercoolers, fuel oil coolers, and lube oil coolers. These heat exchangers are passive and long-lived. They are in-scope for LR and subject to AMR. As such they should be shown in red on this drawing. They are included in LRA Sections 2.3.3.B.29 (page 2.3-178), 2.3.3.B.30 (page 2.3-180), 3.3.2.B.28 (page 3.3-69),

and 3.3.2.B.29 (page 3.3-70), and in Tables 3.3.2.B-29 (page 3.3-266) and 3.3.2.B-30 (page 3.3-269).

RAI 2.3.3.B.30-3

LR drawing LR-104D-0 (F-5 and H-10) shows that the jacket water circulation heaters are not subject to AMR. The description provided in the USAR does not clearly indicate how the heater functions. If the immersion heater works by immersing the heating element in the cooling fluid, then the heater that is containing the cooling fluid has a passive pressure boundary function and is required to be subject to AMR per 10CFR54.4 (a)(1). Drawing LR-104E-0 (E9) shows a similar heater as being subject to AMR. Please provide the basis for not including the heaters on drawing LR-104D-0 in the license renewal boundary.

Response

Drawing LR-104D-0 is incorrect. Jacket Water Heaters 2EGT*CH4/5 (location F5) and Immersion Heater 2EGT*CH1 (location H10) do have a pressure boundary function, similar to Lube Oil Heaters 2EGT*CH2 and 2EGT*CH3 on drawing LR-104E-0 (location E9). The chamber for 2EGT*CH4/5, containing the fluids, should be shown in red, as they are on drawing LR-104E-0, indicating that it is in-scope for LR and subject to AMR. These chambers are treated as part of the "Piping and Fittings" component type. The heaters themselves are also in-scope but are active components per NEI 95-10, Revision 3, Appendix B, and, as such, are not subject to AMR.

RAI 2.3.3.B.30-4

LR drawing LR-104D-0 (H-8) shows that the water expansion tank and overflow line as being subject to AMR. However, the tubing leading to the level switches and the sight glass on the expansion tank are specifically excluded from AMR. LRA Table 2.3.3.B.30-1 does not identify tanks as a component type requiring an AMR. Provide the basis for excluding the sight glass and tubing from the scope of license renewal and not including the component type tank in the referenced table.

Response

Drawing LR-104D-0 (location H8) is incorrect. The sight glass is considered safety-related, in-scope for LR, and subject to AMR. As such, the drawing should show the sight glass and associated tubing from the water tank to the sight glass in red and subject to AMR. The tubing is addressed as part of the component type "Piping and Fittings." The sight glass will be added to LRA Table 2.3.3.B.30-1 as a component type with a "Pressure Boundary" function, and it will also be added to Table 3.3.2.B-29.

Level switch LS1503 is correctly shown as not subject to AMR; however, the associated tubing from the water tank to the level switch is considered safety-related and subject to AMR. The drawing should show the associated tubing from the water tank to the level switch in red and subject to AMR.

The water expansion tank is considered safety-related and subject to AMR. The component type "Tanks" will be added to LRA Table 2.3.3.B.30-1, and it will also be added to Table 3.3.2.B-29.

LRA Revisions

LRA Table 2.3.3.B.30-1 (page 2.3-181) is revised to add the "Sight Glass" and "Tank" component types, as follows:

Component Type	Intended Functions
Sight Glass	Pressure Boundary
Tank	Pressure Boundary

LRA Table 3.3.2.B-29 is revised to add rows for the "Sight Glass" and "Tank" component types, as shown on the following page.

**Table 3.3.2.B-29 .Auxiliary Systems
NMP2 Standby Diesel Generator Protection (Generator) System – Summary of Aging Management Evaluation**

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Sight Glass	PB	Glass or Polymer	Treated Water, temperature $\geq 140^{\circ}\text{F}$ but $< 212^{\circ}\text{F}$	None	None			None
Tank	PB	Carbon or Low Alloy Steel (Yield Strength < 100 Ksi)	Treated Water, temperature $\geq 140^{\circ}\text{F}$ but $< 212^{\circ}\text{F}$	Loss of Material	Closed-Cycle Cooling Water System Program	VII.C2.4-a	3.3.1.B-15	B

RAI 2.3.3.B.30-5

On drawing LR-104D-0 at F-4 the tube side of the jacket water coolers are not highlighted as being subject to an AMR. Please provide the basis for not including this portion of the component within the scope of license renewal.

Response

Drawing LR-104D-0 (location F4) identifies jacket water coolers 2EGS*E1A, 2EGS*E1B, 2EGS*E2A, and 2EGS*E2B. These coolers and their subcomponents are safety-related, in-scope for LR, and subject to AMR. The drawing should, therefore, show the tube side of the jacket water coolers in red.

RAI 2.3.3.B.30-6

On drawing LR-104E-0 at location D-10, the license renewal boundary stops at an open valve HV31J. The tubing beyond this valve has a pressure boundary function and is needed to be subject to AMR. Same concern exists at location B-7 for piping downstream of valve HV18C. Provide the basis for not subjecting the piping/tubing down stream of an open valve to AMR

Response

Drawing LR-104E-0 has several errors. At location D10, hand valves 2EGS*HV131J, 2EGS*HV131K, 2EGS*HV231J, and 2EGS*HV231K are shown in black. These components are safety-related, in-scope for LR, and should be shown in red as subject to AMR. In addition, the associated piping (from 2EGS*V165 and 2EGS*V265 up to but not including 2EGS*PS4002A and 2EGS*PS4002B) should also be shown in red as in-scope and subject to AMR.

With respect to hand valve 2EGS*HV118C (location B7), the same issue exists. This is also addressed in the response to RAI 2.3.3.B.15-2.

RAI 2.3.3.B.30-7

There is a discrepancy between drawings LR-104B-0 and LR-104F-0. On drawing LR-104B-0 at Location F-8 it is shown that the interconnecting piping on LR-104F-0 at G-4 as not being subject to AMR. On LR-104F-0 this piping is subject to AMR. Please provide explanation that would resolve this apparent discrepancy.

Response

This response is based on the assumption that the location referenced in the RAI for LR drawing LR-104B-0 is in error. Based on the location referenced in the RAI for LR drawing LR-104F-0 (G4) and the description of the discrepancy, it appears that the correct location reference in the

RAI for LR drawing LR-104B-0 should be M8. At this location, LR drawing LR-104B-0 is incorrect. The LR continuation flag at location M8 should indicate "LR-EGF" in both directions as opposed to "LR-EGF|solid blue." The drawing continuation flag directs the reader to "LR-104F (G4)." The LR continuation flag at location G4 on LR drawing LR-104F-0, showing "LR-EGF" in both directions, is correct and the lower of the two drawing continuation flags at this location correctly sends the reader to "LR-104B (M-8)."

LRA Section 2.3.3.B.31, NMP2 Standby Liquid Control System

RAI 2.3.3.B.31-1

LR drawing LR-36A-0 shows Y-strainers at locations G5 and G9 and a strainer element plate at location B9 as being subject to AMR. LRA Table 2.3.3.31.B-1 includes the component type "Filters/Strainers" with an intended function of "Pressure Boundary." Strainers also have a filtration function (as defined in LRA Table 2.0-1) that has not been identified in LRA Table 2.3.3.31.B-1. Please confirm that the loss of filtration is not an intended function for the strainers in the SLC system that requires an AMR.

Response

Strainers 2SLS*STRT1A and 2SLS*STRT1B only have a "Pressure Boundary" intended function. A component function would only be considered a LR intended function if failure of that component function would cause the failure of a system LR intended function. Failure of the "Filtration" function of the Y-strainers in question would not prevent the system from performing its LR intended function; therefore, the only intended function credited for the strainers is "Pressure Boundary," as identified in LRA Table 2.3.3.31.B-1.

RAI 2.3.3.B.31-2

LR drawing LR-36A-0 shows a manhole at location B8 as being subject to an AMR. However, manhole is not listed in the LRA Table 2.3.3-B.31-1 as a component type subject to an AMR. Manholes serve as a pressure boundary intended function, and are passive and long-lived components. Please clarify if this component is considered as a sub-component of a component type which is listed in LRA Table 2.3.3.B.31-1. If not, justify the exclusion of manhole component from being subject to an AMR in accordance with the requirements of 10 CFR 54.21(a)(1).

Response

The subject manway shown at location B8 is in-scope for LR, subject to AMR, and is evaluated with the component type "Tanks" in LRA Table 2.3.3-B.31-1.

RAI 2.3.3.B.31-3

LR drawing LR-36A-0 shows a valve (V2) at location C-3 as being subject to an AMR. However, the pipe line downstream of this valve to the air sparger in the storage tank (TK1) is shown as excluded from the scope of license renewal and being subject to an AMR. The air sparger is used for mixing the boron solution in the tank. Similarly, the pipe line downstream of the valve (V4) is used for addition of demineralized water to the storage tank which may be used for adjusting of the sodium pentaborate solution concentration. Therefore, these pipe lines support the intended function of the SLC system. Please justify the exclusion of these pipelines from the scope of license renewal and being subject to an AMR

Response

The drawing is incorrect. Both of the subject valves, 2SLS-V2 and 2SLS-V4, are correctly shown as in-scope for LR and subject to AMR; however, the boundary flag at 2SLS-V3 is shown on the wrong side of the valve, and the piping downstream of 2SLS-V4 to the sparger in the mixing tank, inclusive of the piping on the downstream side of 2SLS-V2, is also in-scope for LR and subject to AMR. All of the piping located upstream of the safety-related valve 2SLS*V5 (location E-2), and the safety-related orifice 2SLS*RO106 (also at location E-2), back to and inclusive of valves 2SLS-V3, 2SLS-V2, and the sparger in the tank, including valve 2SLS-V4, are non-safety-related components that support ATWS. These components, therefore, meet criterion 10 CFR 50.54.4(a)(3). The drawing should, therefore, appear as follows:

- The boundary flag at 2SLS-V2 should be on the upstream side of that valve.
- There should be no boundary flag at 2SLS-V4.
- The flag on the upstream side of 2SLS-V2 is correct. The flag on the downstream side should not be there.
- The piping from 2SLS-V4 down to the piping in the mixing tank, including the sparger and the line to 2SLS-V2, should be shown in red.

RAI 2.3.3.B.31-4

LR drawing LR-36A-0 shows the pneumatic signals from the FIC103, LT-103 and LIX103 to the storage tank TK1 as being subject to an AMR. However, the flow indicator controller FIC103 is shown as being excluded from requiring an AMR. This instrument, as shown as on LR-36A-0, is installed as an in-line instrument for isolation of the air supply to the level instruments. Therefore, FIC103 serves a pressure boundary intended function. Please explain why FIC103 is excluded from the scope of license renewal and requiring an AMR

Furthermore, LR drawing LR-36A-0 does not show how this pneumatic signal (line) extends inside the storage tank. Please clarify if the portions of this pneumatic line inside the storage tank is considered as within the scope of license renewal and being subject to an AMR. If not, justify its exclusion in accordance with the requirements of 10 CFR 54.4(a) and 10 CFR 54.21(a)(1).

Response

The pneumatic lines are incorrectly shown on drawing LR-36A-0 as in-scope for LR and subject to AMR. These lines are non-safety-related and should be shown in black. Additionally, the instruments are non-safety-related and, as such, are not in-scope for LR. Since they are active devices, if they were within scope, they would not be subject to AMR.

RAI.2.3.3.B.31-5

This refers to LR drawing LR-36A-0 shows pipeline 2-MWS-001-68-4, at location B-1, to 2-SLC-001-28-4, at location C-1.

- a. *The acronym MWS, which apparently is makeup water system that provides demineralized water, is not defined in the LR boundary drawing LR-000-2F-0. Define MWS acronym.*
- b. *The function of check valve V3 at location C1 function is to isolate the in-scope portion of the pipeline 2-SLC-001-28-4 from the out of scope pipeline 2-MWS-001-68-4. Check valves are passive and long lived components. Please justify the exclusion of V3 from the scope of license renewal and being subject to an AMR.*

Response

- a. MWS does stand for Make-up Water System. This acronym was inadvertently omitted from drawing LR-000-2F-0.
- b. See the response to RAI 2.3.3.B.31-3. The described correction in that RAI includes the incorrect depiction of valve 2SLS-V3 on LR drawing LR-36A-0.

LRA Section 2.3.4.A.1, NMP1 Condensate and Condensate Transfer System

RAI 2.3.4.A.1-1

LR drawing 18003 (location C-5), shows an inter-condenser and after-condenser within the scope of license renewal and subject to AMR. At locations A-5 and B-5, two re-combiner condensers are also shown within scope and subject to AMR. However, LRA Table 2.3.4.A.1-1 does not include these heat exchangers individually among the list of components subject to an AMR, nor is the generic component type "heat exchanger" included in the table. Please justify exclusion of the heat exchangers from LRA Table 2.3.4.A.1-1.

Response

LRA Section 2.3.4.A.1 states that the AMR includes the main flow path from the main condenser to the boundary with the Feedwater System. This includes the tube side of the recombiner condensers and the inter-condenser (the after-condenser is retired in place and isolated from the Condensate System). The tube sides of these condensers are included in the

“Piping and Fittings” component type listed in LRA Table 2.3.4.A.1-1. The recombiner condensers and inter-condenser are evaluated in the Condensate Air Removal and Off-Gas System (LRA Section 2.3.4.A.2) and are not in-scope for LR for criteria 10 CFR 54.4(a)(1) or (a)(3). LR drawing LR-18003-C incorrectly shows the shell sides of the recombiner condensers and inter-condenser, as well as the entire after-condenser, as in-scope for LR and subject to AMR.

For clarification, consistent with the description in LRA Section 2.3.4.A.1, all of the liquid-filled components on the referenced drawing that are shown in black are in-scope for LR and subject to AMR to meet criterion 10 CFR 54.4(a)(2), since they are in the Turbine Building and in the vicinity of safety-related components. Per the LR drawing convention, components in-scope for LR and subject to AMR for criterion (a)(2) only are not shown in red on the LR drawings.

RAI 2.3.4.A.1-2

LR drawing 18008, Sheet 1 (location D-5) shows that a valve labeled CT-38, on line 57-3/4 -B, is outside the scope of license renewal and excluded from requiring AMR. To ensure that the valve has the capability of isolating this line, the staff believes that it should be within scope of license renewal and subject to AMR. Please justify exclusion of valve CT-38 from the scope of license renewal and from being subject to AMR.

Response

LR drawing LR-18008, Sheet 1 (location D5), identifies an isolation valve, CT-38/57-166, as not safety-related, not in-scope for LR, and not subject to AMR. This 3/4” globe isolation valve from Condensate Transfer to the Body Feed Pump is actually in-scope for LR and subject to AMR. The drawing should show the valve in red and should show the boundary flag on the pump side of the valve.

It should be noted that LR drawing LR-18048 (location D5) correctly shows this valve as in-scope for LR and subject to AMR.

RAI 2.3.4.A.1-3

LRA Table 2.3.4.A.1-1 includes the main condenser as a component subject to an AMR. However, LRA boundary drawing 18003 (locations D-2, E-2) shows that the main condenser is outside the scope of license renewal (i.e. not highlighted). Please clarify that the main condenser is within the scope of license renewal and highlighting was inadvertently omitted.

Response

LR drawing LR-18003 is incorrect. The Main Condenser (49-01), shown at locations D2 and D3, is in-scope for LR and subject to AMR. This component should be shown highlighted in red on LR drawing LR-18003.

RAI 2.3.4.A.1-4

LR drawing 18048, at location F-4, shows line 57-4 -B within the scope of license renewal and ending in a continuation flag labeled "relief to condensate surge and storage tank." This flag shows a continuation to drawing 18003, location G-1. However, at this location on drawing 18003, the continuation of line 57-4-B is shown outside the scope of license renewal. There is no LR boundary flag on either of these drawings marking this change in classification, nor any valve present that could isolate the in-scope portion from the out-of-scope portion of the line. Please explain the absence of a boundary flag and an isolation valve separating the in-scope and out-of-scope portions of the abovementioned line.

Response

Drawing LR-18048-C (location F4) identifies valve PSV-57-57, which is a Condensate Transfer System safety valve dump to the Condensate Surge and Storage Tanks, as in-scope for LR and subject to AMR. This valve should be the LR boundary at that point. The drawing incorrectly shows line 57-4-B beyond the valve as in-scope for LR. There should be a boundary flag on the discharge side of the relief valve showing solid blue pointing away from the valve and "LR-CS" pointing toward the valve. Line 57-4-B beyond the relief valve should be shown in black.

For clarification, consistent with the description in LRA Section 2.3.4.A.1, all of the liquid-filled components on the referenced drawing that are shown in black are in-scope for LR and subject to AMR to meet criterion 10 CFR 54.4(a)(2), since they are in the Turbine Building and in the vicinity of safety-related components. Per the LR drawing convention, components in-scope for LR and subject to AMR for criterion (a)(2) only are not shown in red on the LR drawings.

RAI 2.3.4.A.1-5

The two condensate surge and storage tanks are shown within the scope of license renewal on LRA boundary drawing 18003 at locations G-2 and H-2. LRA Table 2.3.4.A.1-1 lists "tanks" as a component type subject to an AMR. Please confirm that the condensate surge and storage tanks are included in the component type "tanks" and identify other tanks (if any) belonging to the condensate and condensate transfer system that are within the scope of license renewal and included in the component type "tanks."

Response

Drawing LR-18003-C (locations G2 and H2) identifies Condensate Surge and Storage Tank 11 (57-01) and Condensate Surge and Storage Tank 12 (57-02), respectively. Both tanks are in-scope for LR, subject to AMR, and included in the component type "Tanks" in LRA Table 2.3.4.A.1-1. There are no other tanks within the NMP1 Condensate and Condensate Transfer System that are safety-related and subject to AMR. There are, however, other tanks in the system that are in-scope for LR and subject to AMR to meet criterion 10 CFR 54.4(a)(2). These are among the other liquid-filled NSR equipment identified in LRA Section 2.3.4.A.1 that are located in the Reactor Building, Radwaste Solidification and Storage Building, Screen and Pump House Building, Turbine Building, or Waste Disposal Building as being in the vicinity of safety-

related components. Per the LR drawing convention, components in-scope for LR and subject to AMR for criterion (a)(2) only are not shown in red on the LR drawings.

RAI 2.3.4.A.1-6

LRA Table 2.3.4.A.1-1 includes flow elements, flow gauges, flow indicators, flow orifices, and tanks as component types subject to an AMR. The intended function listed for flow elements is "NSR Functional Support" while the remainder of these component types have the intended function "pressure boundary." The balance of component types listed in the table have the intended function of either "NSR Functional Support", or a combination of "NSR Functional Support" and "pressure boundary." Please clarify why flow gauges, flow indicators, flow orifices, and tanks have the intended function of "pressure boundary" only.

Response

The identified flow gages, flow indicators, flow orifices, and tanks, having only a "Pressure Boundary" intended function, are safety-related components associated with the Condensate Transfer System. The component types that are identified as having only a "NSR Functional Support" intended function are liquid-filled non-safety-related components associated with the Condensate System that are in-scope for LR and subject to AMR because they are in the vicinity of safety-related components located in the Reactor Building, Radwaste Solidification and Storage Building, Screen and Pump House Building, Turbine Building, or Waste Disposal Building. Component types in LRA Table 2.3.4.A.1-1 that are identified as having both "Pressure Boundary" and "NSR Functional Support" intended functions include safety-related components from the Condensate Transfer System, and non-safety-related components from the Condensate System that are in-scope for LR and subject to AMR.

RAI 2.3.4.A.1-7

LRA boundary drawing 18009, Sheet 1 (location G-5) shows that the only component located between valve CT-53 and valves BV 57-103/104 is flow indicator FI 57-168. However, LR drawing 18048 shows that flow gauge FG 57-175 is the only component located between these same valves. Please explain this apparent discrepancy.

Response

LR drawing LR-18009-C, Sheet 1 (location G5), identifies FI-57-168, a flow indicator for the Clean-up Demineralizer, as in-scope for LR and subject to AMR.

LR drawing LR-18048-C (location A6), identifies FG-57-175, a flow gauge for the Clean-up Demineralizer, as also being in-scope for LR and subject to AMR.

A review of NMP1 plant drawings C-18009-C, Sheet 1, and C-18048-C, revealed the same discrepancy between these drawings as identified in the RAI. The discrepancy is corrected by replacing FG-57-175 on drawing LR-18048-C with FI-57-168, consistent with drawing LR-18009-C, Sheet 1, and with the as-built configuration of the plant.

LRA Section 2.3.4.A.2, NMP1 Condenser Air Removal and Off-Gas System

RAI 2.3.4.A.2-1

NMP1 FSAR section XI, Steam-to-Power Conversion System, B.3.0 (Condenser Air Removal and Offgas System) describes the operation and components of this system. Major components for the system are listed including many which appear to be passive and long-lived. Those components that are described as performing the process include: preheater, recombiner, condenser, drain tank, vent cooler, and 30-min holdup pipe. LRA Section 2.3.4.A.2 states that the condenser air removal and off-gas system removes and processes non-condensable radioactive gases that accumulate in the main condenser during startup and normal operation. The processing of the radioactive gases includes recombining the hydrogen and oxygen to form water. The LRA further states that this system is in scope for performing safety-related functions per 10 CFR 54.4(a)(1) and that because components within this system are either active or subject to replacement based on qualified life or specified time period no AMR is required. Please confirm that the aforementioned components are not passive or long-lived or otherwise do not perform an intended function identified in LRA Section 2.3.4.A.2. If they are found to require AMR, then identify them on drawing(s) and include them in LRA Table 2.3.4.A.2.

Response

The LR intended function for the NMP1 Condenser Air Removal and Offgas System is to "Provide fault protection and isolation for the safety-related RPS distribution system." This system intended function is performed by electrical components in-scope for LR that are active and not subject to AMR. The functions performed by system passive components, such as removing and processing non-condensable gases that accumulate in the main condenser during startup and normal operation, are not in-scope for LR since these functions do not meet any of the 10 CFR 54.4(a) criteria.

LRA Section 2.3.4.A.3, NMP1 Feedwater/High Pressure Coolant Injection System

RAI 2.3.4.A.3-1

LRA Table 2.3.4.A.3-1 includes "oil coolers" as a component type subject to an AMR. However, the staff has been unable to locate oil coolers on the LR drawings referenced in LRA Section 2.3.4.A.3. Drain coolers, on the other hand, are shown within the scope of LR on these drawings and are subject to an AMR, yet have not been included in the table. Please confirm that "oil coolers" were mistakenly entered in place of "drain coolers" in the table and, if so, make the appropriate corrections. Otherwise, add the component type "drain coolers" to the table and provide drawings showing the subject oil coolers as well as the components they serve.

Response

The table is correct as detailed in the following explanation.

LR drawing LR-18004-C identifies three drain coolers. They are Drain Cooler 11 (51-04) at location G1; Drain Cooler 12 (51-05) at location G3; and Drain Cooler 13 (51-06) at location G5. These drain coolers are actually the first stage of the feedwater heaters. The shells for these coolers are not safety-related and not subject to AMR; however, the tube sides of these coolers are in-scope for LR and subject to AMR for a feedwater pressure boundary function. Per LRA Section 2.3.4.A.3, as liquid-filled components in the Turbine Building, the shell sides of these coolers are in-scope for LR and subject to AMR for criterion 10 CFR 54.4(a)(2). Consistent with LR drawing convention, the components in-scope for LR and subject to AMR for criterion (a)(2) only are not shown in red on the LR drawings.

LR drawing LR-18023-C, Sheet 2, which is listed in LRA Section 2.3.4.A.3, identifies two oil coolers, 29-02 and 29-03. HTX-29-02 is the oil cooler for motor-driven Reactor Feedwater Pump 11 and HTX-29-03 is the oil cooler for motor-driven Reactor Feedwater Pump 12. As for the drain coolers above, the shells for these coolers are not safety-related and not subject to AMR for criteria 10 CFR 54.4(a)(1) or (a)(3); however, the tube sides are in-scope for LR and subject to AMR for a lube oil pressure boundary function. As with the drain coolers/feedwater heaters above, since they are liquid-filled components in the Turbine Building, they are in-scope for LR and subject to AMR for criterion 10 CFR 54.4(a)(2).

As noted in the RAI, LRA Table 2.3.4.A.3-1 includes "Oil Coolers." Since the drain coolers are actually the first stage feedwater heaters, they are included in Table 2.3.4.A.3-1 under the component type "Feedwater Heaters."

RAI 2.3.4.A.3-2

LRA Table 2.3.4.A.3-1 includes the following component types as being subject to an AMR: filters/strainers, flow elements, flow indicators, and flow orifices. However, the intended function assigned to these components is "NSR Functional Support." LRA Table 2.0-1 identifies intended functions that are applicable to these components that are not identified in LRA Table 2.3.4.A.3-1. Aging management to ensure that the component level intended functions can be performed is necessary to ensure that the system level intended functions can be maintained. The intended functions include "filtration" and "flow restriction." Please describe how the intended functions for these components are assigned and evaluated.

Response

A component function would only be considered an intended function if failure of that component would cause the failure of a system intended function. Failure of the "Filtration" or "Flow Restriction" functions for the above mentioned components would not prevent the NMP1 Feedwater / High Pressure Coolant Injection System from performing its intended functions. Therefore, the only intended function credited for these components is "NSR Functional Support" as identified in LRA Table 2.3.4.A.3-1.

RAI 2.3.4.A.3-3

LRA Table 2.3.4.A.3-1 includes the following component types as being subject to an AMR: flow elements, flow indicators, and flow orifices. However, the drawing legend (drawing 18000) does not clearly define or distinguish between these components. For example, under "Flow Devices" in the legend (location G5), one of the symbols shown is denoted "FE" and defined as "flow element orifice" while another is denoted "FI" and defined as "in-line flow device." The distinction between these three component types and where each appears on the boundary drawings is not clear to the staff. By referring to the boundary drawings, provide examples that clarify the distinction between the abovementioned three component types.

Response

Drawing LR-18005-C, Sheet 1 (location F5), identifies FE-29-113, a flow element in the Feedwater Pump 13 discharge piping. The component identification is consistent with the drawing legend for flow devices as shown on Drawing LR-18000-C, Sheet 1. This component is in-scope for LR and subject to AMR.

Drawing LR-18005-C, Sheet 1 (location G3), identifies FI-51-106, a 1-inch flow indicator for Feedwater Pump 12 seal water. The component identification is consistent with the drawing legend for flow devices as shown on Drawing LR-18000-C, Sheet 1. This component is in-scope for LR and subject to AMR.

Drawing LR-18005-C, Sheet 1 (location F4), identifies FO_R-29-45, a restricting flow orifice for Feedwater Pump 12 recirculation. The component identification is consistent with the drawing legend for flow devices as shown on Drawing LR-18000-C, Sheet 1. This component is in-scope for LR and subject to AMR.

Note: Drawing LR-18000-C, Sheet 1 (location A1 to E3 inclusive), provides a comprehensive matrix that lists numerous component ID prefixes. In that table for these instrument component types, "Flow" is the Measured Variable and the Instrument Functions are "primary element" (FE), "indicating" (FI), and "orifice restricting" (FO_R), respectively. The drawing legend (location G5) is informational only and not meant to be all inclusive.

RAI 2.3.4.A.3-4

LR drawing 18003 (locations B1, B3, B4) shows the symbol "boxed letter B" on the suction side of each of the three feedwater booster pumps. This symbol is not defined in the legend (drawing 18000) nor is the staff able to determine what it represents. To assist the staff in its review, define the above described symbol.

Response

The symbol "boxed letter B" represents the start-up strainer shell for feedwater booster pumps 11, 12, and 13. The details can be found on Drawing LR-18003-C (location H4). The element has been removed from the strainer.

LRA Section 2.3.4.A.5, NMP1 Main Steam System

RAI 2.3.4.A.5-1

LR Note # 1 on drawing LR-18000-C, License Renewal Boundary Drawing Symbols, Notes, and Acronyms, states that portions of the system subject to AMR are highlighted in red with boundaries indicated by blue flags. The blue flags are described on drawing LR-18000-C as "AMR Boundary Flags." Portions of a license renewal system indicated with solid blue flags may perform intended functions (WSLR) but are not subject to AMR. However, when a LR drawing is composed of a P&ID that has a continuation on another P&ID that is not provided by the applicant, the staff is unable to complete its review of whether the license renewal system incorporates all portions necessary to satisfy its plant level system intended functions. For example: Drawing LR-18002-C for the NMP1 main steam system is composed of P&ID C-18002 Sheet 1. A portion of the main steam system is depicted on C-18002 Sheet 2 which has not been provided. Please confirm that no portion of the main steam system on C-18002 Sheet 2 has safety-related components or otherwise meets criterion of 10 CFR 54.4 (a)(1), (a)(2), or (a)(3). If such components exist, identify them and ensure that their component types and intended functions are represented in Table 2.3.4.A.5-1.

Response

There are no Main Steam (MS) System components subject to AMR, as defined by 10 CFR 54.21(a)(1), on drawing C-18002-C, Sheet 2. This drawing does include MS components that are in-scope for LR and subject to AMR for criterion 10 CFR 54.4(a)(2); however, consistent with NMP LR drawing convention, MS components in-scope for LR and subject to AMR for 10 CFR 54.4(a)(2) only are not redlined on LR drawings. For this reason, a LR version of this drawing was not required.

RAI 2.3.4.A.5-2

LRA Section 2.3.4.A.5 identifies license renewal drawings on which are depicted components requiring AMR for the NMP1 main steam system. During the review of the LRA however, the staff found other license renewal drawings that have main steam components shown to require AMR not identified in LRA Section 2.3.4.A.5. These include LR-18006-C, Drywell and Torus Isolation Valves. Please identify other drawings where main steam components requiring AMR are depicted.

Response

LR drawing LR-18002-C, Sheet 1, identifies the Main Steam (MS) System components that are in-scope for LR and subject to AMR for 10 CFR 54.4(a)(1) and (a)(3). LR drawing LR-18006-C, Sheet 1, also shows MS System components that are in-scope for LR and subject to AMR. As such, drawing LR-18006-C should have been referenced in LRA Section 2.3.4.A.5 (however, note that there are no components on this drawing that are not also included on LR drawing LR-

18002-C, Sheet 1). LR drawing LR-18006-C, Sheet 1, should also have been referenced for the Containment Spray, Liquid Poison, Emergency Cooling, and Feedwater systems since components from those systems also appear on this drawing. Consistent with LR drawing convention, MS components subject to AMR for 10 CFR 54.4(a)(2) only are not shown in red on LR drawings. Therefore, there are no additional LR drawings that show MS components subject to AMR.

RAI 2.3.4.A.5-3

LRA boundary drawing 18002, Sheet 1 (location D2) shows the branch line connecting the discharge line of safety relief valve MSER V-2 to temperature element 01-17 excluded from requiring AMR. This branch line forms part of the reactor coolant pressure boundary, is passive, and long-lived. Therefore, it should require AMR. (Note that the corresponding branch lines for the remaining five safety relief valves are correctly shown as requiring AMR.) Please justify exclusion of the above mentioned branch line from requiring AMR.

Response

Drawing LR-18002-C, Sheet 1, is incorrect in depicting the line from the safety relief valve MSER V-2 discharge line to temperature element TE 01-17 as not subject to AMR. This line should be highlighted in red as being in-scope for LR and subject to AMR.

RAI 2.3.4.A.5-4

LRA boundary drawing 18002, Sheet 1 (locations A-2, A-3, D-2, D-3), shows the discharge line from each of the six safety-relief valves (MSER V-1, 2, 3, 4, 5, and 6) ending at a continuation flag labeled "To Torus", with no continuation drawing specified. At that point, there is also a boundary flag showing an interface between the main steam system and the "PCS" (primary containment system). In order for the staff to determine if all components in this safety-related system that are within the scope of license renewal and subject to an AMR have been identified, a review must be made of the abovementioned continuation drawing. Please provide a drawing which shows the continuation of the safety-relief valve discharge lines to the torus or, if already provided in the LRA as a boundary drawing, identify the drawing number.

Response

The safety-relief valve (SRV) discharge lines are routed through the drywell-to-torus vent lines and terminate in the torus below the water line. The continuation of the SRV discharge lines is as shown on the referenced LR drawing for the purpose of signifying that the SRV discharge line piping continues to the torus; however, there are no other components in those lines.

RAI 2.3.4.A.5-5

In LRA Table 2.3.4.A.5-1, "NSR piping, fittings, and equipment" is listed as a component type subject to AMR for meeting 10 CFR 54.4(a)(2). Since (a)(2) components are not identified on the LR boundary drawings, and some drawings that contain (a)(2) components are not provided

in the LRA, the staff cannot determine which components are included in the category "equipment." As a result, it cannot be determined whether all components subject to AMR have been identified. Please provide a list which identifies the components which comprise "equipment."

Response

Consistent with LR drawing convention, marked-up LR drawings were not provided for systems where the only system intended function was to meet the 10 CFR 54.4(a)(2) criterion. LRA Section 2.3.4.A.5, under the "System Description" heading, identifies that the components subject to an AMR for the NMP1 Main Steam system include the NSR piping, fittings, and equipment (valves and filters) containing liquid or steam physically located in the Drywell and Turbine Building. Thus, all of the Main Steam system passive piping components located in the Turbine Building are in-scope for LR and subject to AMR. Also, see LRA Table 2.3.4.A.5-1.

RAI 2.3.4.A.5-6

License renewal boundary drawing LR-18002-C indicates that bellows expansion joints 66-01R, -02R, -03R, -04R, -05R, and -06R are subject to AMR in the main steam system. LRA Table 2.3.4.A.5-1 does not include bellows expansion joints as a "component type" with an intended function. Please explain the omission of bellows expansion joints from LRA Table 2.3.4.A.5-1 or revise the Table to include this component type.

Response

These expansion joints are included with the component type "Piping and Fittings" in LRA Table 2.3.4.A.5-1.

LRA Section 2.3.4.B.2, NMP2 Condensate System

RAI 2.3.4.B.2-1

*LR drawing LR-004B-0 (location E8) shows that check valve *V298 is subject to AMR. However, the line in which this valve is located is shown not requiring AMR, on both the upstream (line 2-CNS-006-44-4) and downstream (line 2-CNS-006-298-4) sides of the valve. The staff believes that a failure in these lines could affect structural support of the valve, will cause a discontinuity in pressure boundary across the valve, and possibly prevent the valve from performing its intended function. Please describe the intended function of check valve *V298 and justify why the abovementioned line does not require AMR.*

Response

The intended function for valve 2CNS*V298 is "Pressure Boundary" to provide secondary containment integrity. The main supply line into the secondary containment contains check valve 2CNS*V298 at the low point which, in case of a pipe break outside the containment, is sealed by a 70-ft column of water. Any line break within the reactor building would provide a

preferential flow path, for containment atmosphere leakage, into the reactor building atmosphere. Under this condition, gaseous leakage would be collected by the Standby Gas Treatment System (SGTS) and, thus, would not be classified as bypass leakage.

The associated piping upstream and downstream of 2CNS*V298 is not, therefore, required to be in-scope for LR for the "Pressure Boundary" intended function. Consistent with LRA Section 2.3.4.B.2; however, the piping on either side of the valve that is contained within the Reactor Building and the Pipe Tunnel is in-scope for LR and subject to AMR for the 10 CFR 54.4(a)(2) criterion. Consistent with LR drawing convention, components within scope and subject to AMR for this criterion only are not highlighted in red on the LR Drawings.

RAI 2.3.4.B.2-2

NMP U2 FSAR page 9.2-43 states that the "condensate storage facility CNS system", which contains both condensate storage tanks (CSTs), "is not required to effect or support safe shutdown of the reactor or to support the operation of any nuclear safety system." However, NMP U2 FSAR page 8.3-64 states that the CST inventory is monitored daily to assure the "availability, adequacy, and capability to achieve and maintain a safe plant shutdown and to recover from a SBO for the 4-hour coping duration." Further, LRA Section 2.3.4.B.2 that the CSTs are within the scope of license renewal and subject to an AMR; please explain the apparent discrepancy described above.

Response

The NMP2 USAR, in Section 9.2.6.1.1 (page 9.2-41) and Section 9.2.6.3 (page 9.2-43), correctly states the safety design basis for the Condensate System as not being safety-related or required to prevent or mitigate design basis events; however, as discussed in USAR Section 8.3.1.5 (page 8.3-64), the portion of the system that maintains the inventory in the condensate storage tanks is credited in the Station Blackout (SBO) coping analysis and is, therefore, in-scope for LR and subject to AMR for criterion 10 CFR 54.4(a)(3). USAR Section 9.2.6.3 (page 9.2-43, bottom paragraph) also notes the condensate storage requirements related to SBO. Thus, the condensate storage tanks and other components identified in LRA Section 2.3.4.B.2 are correctly included as in-scope for LR and subject to AMR.

RAI 2.3.4.B.2-3

LR drawing LR-004A-0 (locations E5 and E10) shows lines on each of the two CSTs terminating in level transmitters 1A and 8A for CST 1A, and 1B and 8B for CST 1B. On CST 1A, the entire line to the level transmitter (1A and 8A) is shown as requiring AMR. For CST 1B, however, the segment of line to level transmitters (1B and 8B) from valve V154 is shown not requiring AMR. Please explain the difference in screening results for the two apparently identical lines.

Response

Drawing LR-004A-0, as shown, is incorrect. The lines to level transmitters LT-1B and LT-8B are in-scope for LR and subject to AMR. Drawing LR-004A-0 should not include the boundary flag at valve V154 and should have shown in red the lines to LT-1B and LT-8B.

RAI 2.3.4.B.2-4

LR drawing LR-003A-0 (locations B2, F2) shows lines from connections labeled 39 on condenser 1A and 1C to pressure transmitters 46A,B and 46C,D, respectively. These instruments transmit condenser vacuum pressure. Upon loss of condenser vacuum, the signal from these transmitters will effect a reactor scram and main turbine trip. However, only a segment of these lines, from valves V2A and V2B to their respective transmitters, are shown within the scope of license renewal. The segment from the condenser connection up to and including these valves is shown outside of scope. Since these transmitters perform a safety function, the staff believes the entire line should be within scope. Further, the drawing does not show corresponding lines and transmitters for condenser 1B. Please justify exclusion of the abovementioned line segments and valves from the scope of license renewal. Also, explain the absence of the corresponding lines and transmitters for condenser 1B.

Response

As stated in the RAI, safety-related pressure transmitters 2CNM*PT46A/B and 2CNM*PT46C/D monitor main condenser vacuum, and upon loss of vacuum, will effect main steam line isolation and reactor trip. The main condenser itself is non-safety-related and is not required for the safe shutdown of the reactor. The line segment from the main condenser up to and including valves 2CNM-V2A and 2CNM-V2B form part of the non-safety-related main condenser boundary. The safety-related pressure transmitters and connecting tubing function to monitor loss of main condenser vacuum due to air in-leakage caused by failure of the non-safety-related main condenser boundary.

Condenser 1B was not provided with the safety-related pressure transmitters per the original design. The three condenser shells, 1A, 1B, and 1C, are connected by equalizing ducts in the condenser necks and by condensate pipes between the hotwells.

RAI 2.3.4.B.2-5

LR drawings LR-004A-0, LR-033B-0, and LR-035D-0 show that the vent on each condensate tank does not require AMR while the tank itself is within scope and subject to an AMR. The staff believes that failure of this vent could prevent the tank from performing its intended function, via debris falling into the tank and causing blockage of the supply lines to the RCIC and HPCS systems or tank collapse due to inadequate venting. Please justify exclusion of the condensate tank vents from requiring AMR.

Response

The NSR condensate storage tank vent line is not in-scope for LR because its venting function does not meet any of the 10 CFR 54.4(a) criteria. Condensate piping connects to the side of the tank. Potential minor debris due to general corrosion from the vent line would settle to the bottom of the tank, making the possibility of condensate piping blockage not credible. Sudden catastrophic failure of the vent line to the point that the vent path is blocked is not credible. Elimination of the vent piping would result in a hole in the tank which would act as a vent path.

RAI 2.3.4.B.2-6

On LR drawing LR-033B-0, the acronyms "F1" and "GEX1" are shown encircled at various locations. However, they are not defined in the LRA, the USAR, the drawing legend, or on the drawing itself. Please identify the acronyms F1 and GEX1.

Response

The "F1" and "GEX1" notations relate to the ASME inservice pressure test program. The notations may be ignored for the purpose of the LRA reviews.

LRA Section 2.3.4.B.3, NMP2 Feedwater System

RAI 2.3.4.B.3-1

LR drawing LR-037B (locations F-9, and F-10) shows that the segments of piping labeled 2-WCS-008-89-1 and 2-WCS-008-250-1 are within the scope of license renewal and subject to AMR, while the branch lines that connect these segments to temperature elements TE79A and TE79B are not subject to AMR. In the drawing, it appears that these branch lines are exposed to the same fluid and are not isolated from the lines they connect to. Therefore, the staff believes they should be subject to AMR. Please justify exclusion of the abovementioned branch lines from requiring AMR.

Response

The instrument sensing lines for temperature elements 2WCS-TE79A and 2WCS-TE79B form part of the Feedwater System pressure boundary and are, therefore, in-scope for LR and subject to AMR. Drawing LR-037B should, therefore, show these lines in red.

RAI 2.3.4.B.3-2

On LR drawing LR-006A, the only components shown within the scope of license renewal are eight valves located on the discharge side of the three reactor feed pumps (LV10A,B,C; FV2A,B,C and LV55A,B). However, the piping on both the upstream and downstream sides of these valves is shown outside of scope and not subject to AMR. Further, on LRA page 2.3-203, the paragraph which describes the portions of the system containing components subject to an AMR does not reference these valves. Please describe the intended function of the abovementioned valves as related to 10 CFR 50.54(a)(1) or (a)(3). In addition, discuss the effect of a pressure boundary breach in the lines housing these valves on the ability of the valves to perform their intended function.

Response

Valves 2FWS-LV10A, B, and C and 2FWS-LV55A and B must close to prevent feedwater flow to the Reactor Vessel to mitigate the consequences of an anticipated transient without scram (ATWS) event. Valves FWS-FV2A, B, and C direct feedwater flow to the Main Condenser rather than to the Reactor Vessel in response to an ATWS event. The aforementioned valves are all non-safety-related components credited to mitigate the consequences of a regulated event and are within the scope of LR in accordance with criterion 10 CFR 54.4(a)(3). A pressure boundary breach in the lines housing these valves will not affect the ability of the valves to perform their intended function of preventing feedwater flow to the reactor.

LRA Section 2.3.4.B.4, NMP2 Main Steam System

RAI 2.3.4.B.4-1

LRA Section 2.3.4.B.4 states that, for license renewal purposes, the main steam system includes the auxiliary steam system. However, this system is not shown on the LR drawings referenced in Section 2.3.4.B.4. Further, it specifies those portions of the main steam system which are subject to an AMR; the auxiliary steam system is not specifically mentioned. Please provide a drawing depicting the auxiliary steam system, specify if this system is within the scope of license renewal and, if so, state the basis for being within scope. Also, identify the components of the auxiliary steam system that are subject to an AMR.

Response

All of the Auxiliary Steam System components were transferred to the Main Steam System and thus evaluated as part of this system in the LRA; however, none of the Auxiliary Steam System components are in-scope for criteria 10 CFR 54.4(a)(1) or (a)(3). They are not, therefore, included on any LR drawings. Consistent with the System Description in LRA Section 2.3.4.B.4, any of the fluid-filled Main Steam or Auxiliary Steam System components that are located in the Main Steam Tunnel, the Reactor Building, or the Turbine Building are in-scope for LR and subject to AMR for criterion 10 CFR 54.4(a)(2). Consistent with LR drawing convention, components in-scope for LR and subject to AMR for criterion (a)(2) only are not shown in red.

RAI 2.3.4.B.4-2

LR drawings LR-1E-0 and LR-1F-0 show the inboard and outboard MSIVs, respectively, for each of the four main steam lines. These valves perform a safety-related function (system isolation) and are shown as requiring AMR on the drawings. However, the pneumatic actuators for these valves are not shown to require AMR. Since the actuators are required to effect operation of the MSIVs, the staff believes they should likewise be subject to AMR. Please justify exclusion of the MSIV actuators from requiring AMR.

Response

NMPNS agrees that the MSIV double-acting, pneumatic actuators are in-scope for LR and subject to AMR for a "Pressure Boundary" intended function. An AMR of these actuators will be performed. LRA revisions to incorporate the AMR results, and any other associated LRA changes, will be submitted to the NRC by February 28, 2005.

ATTACHMENT 2

Nine Mile Point Nuclear Station

Nine Mile Point Unit 1 Updated Final Safety Analysis Report Figures

Figure III-19, Circulating Water Channels Under Screen and Pump House - Normal Operation

Figure III-20, Circulating Water Channels Under Screen and Pump House - Special Operations

Figure III-21, Intake and Discharge Tunnels Plan and Profile

Figure XI-4, Circulating Water System

(RAI 2.3.3.A.2-2)

**CIRCULATING WATER CHANNELS UNDER
SCREEN AND PUMP HOUSE
NORMAL OPERATION**

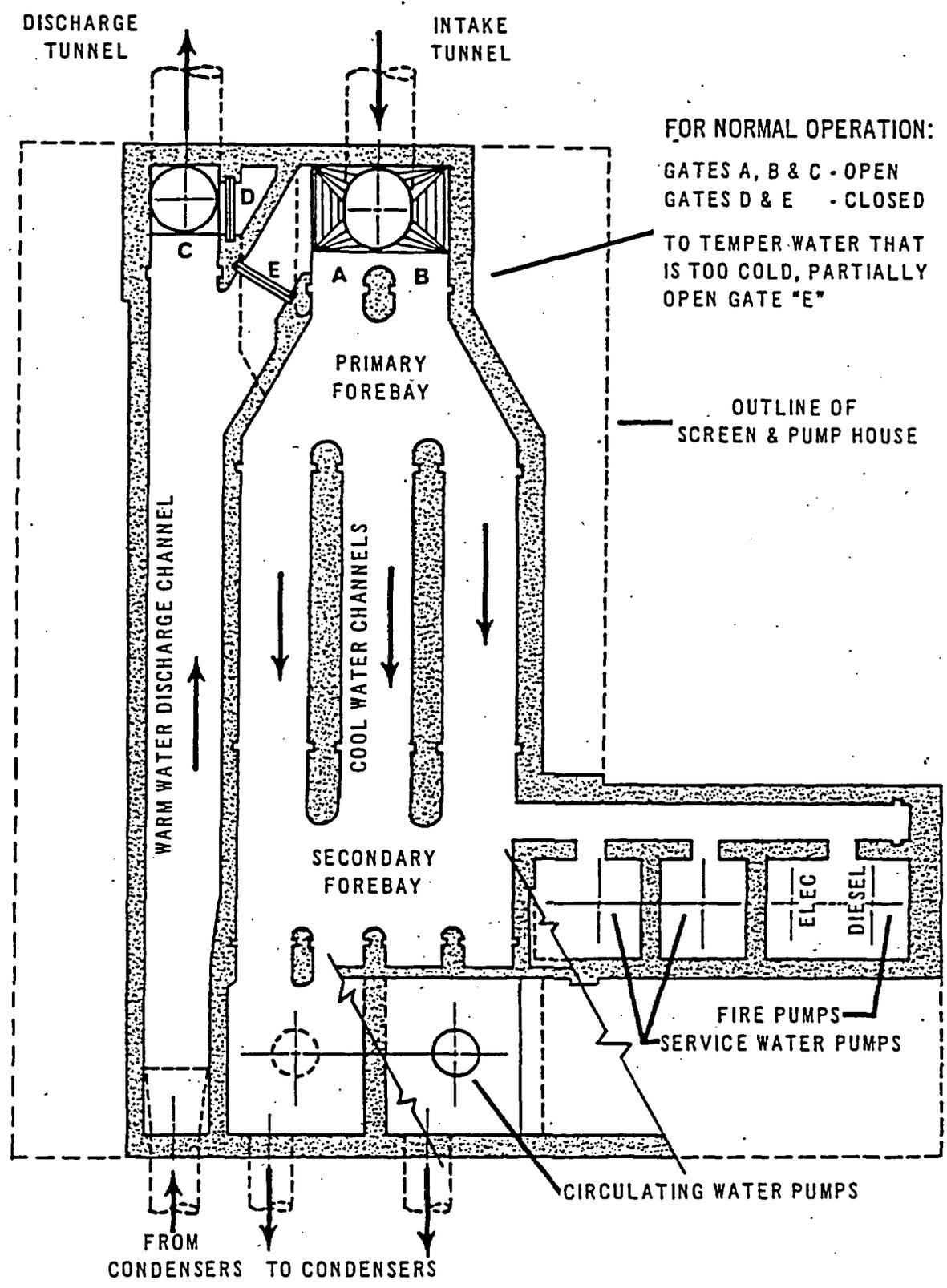


FIGURE III-19
UFSAR Rev. 14 (June 1996)

**CIRCULATING WATER CHANNELS UNDER
SCREEN AND PUMP HOUSE
SPECIAL OPERATIONS**

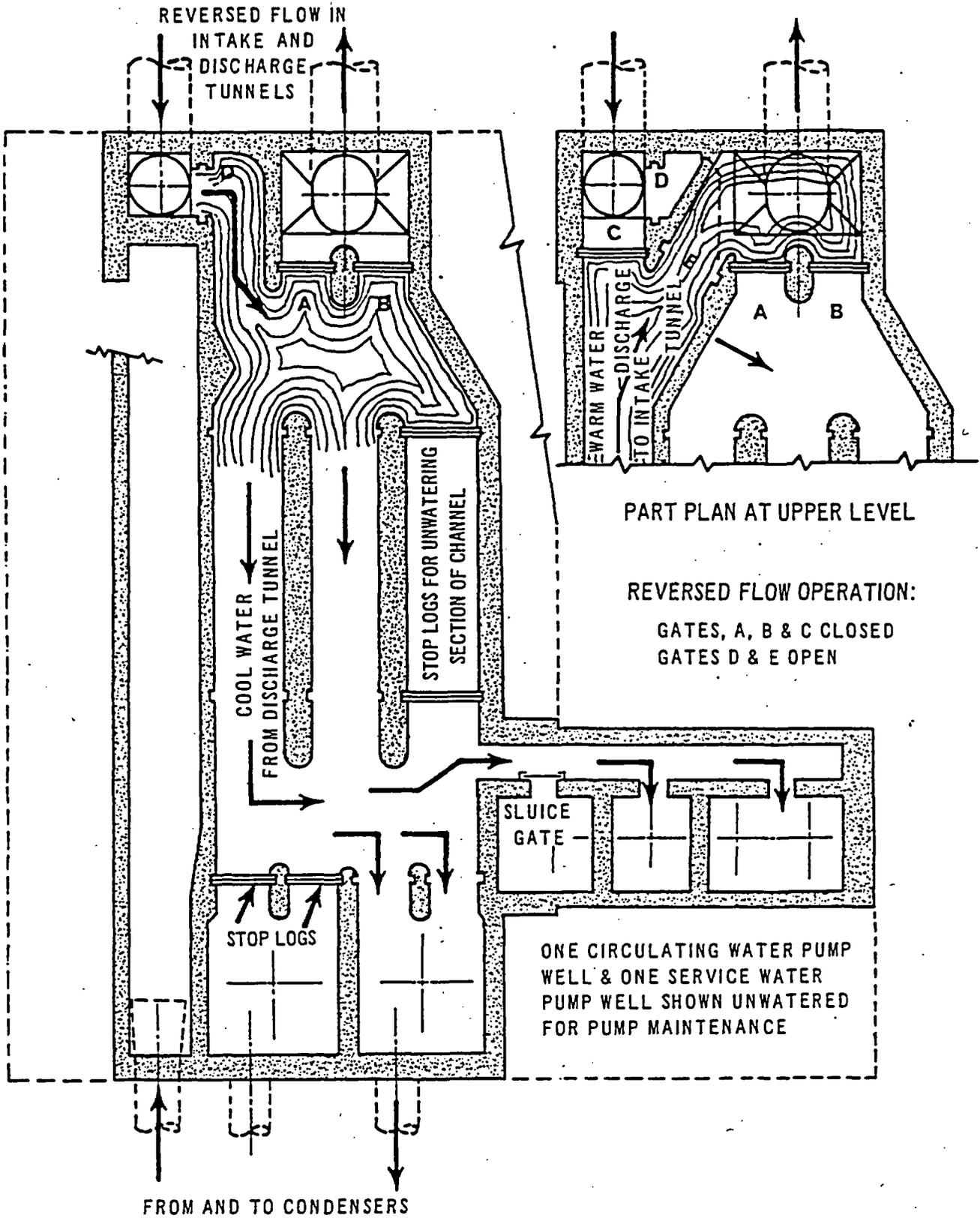


FIGURE III-20
UFSAR Rev. 14 (June 1996)

INTAKE AND DISCHARGE TUNNELS PLAN AND PROFILE

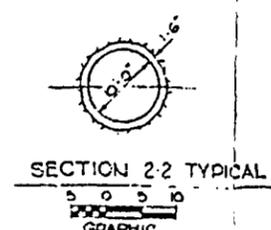
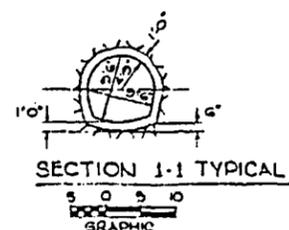
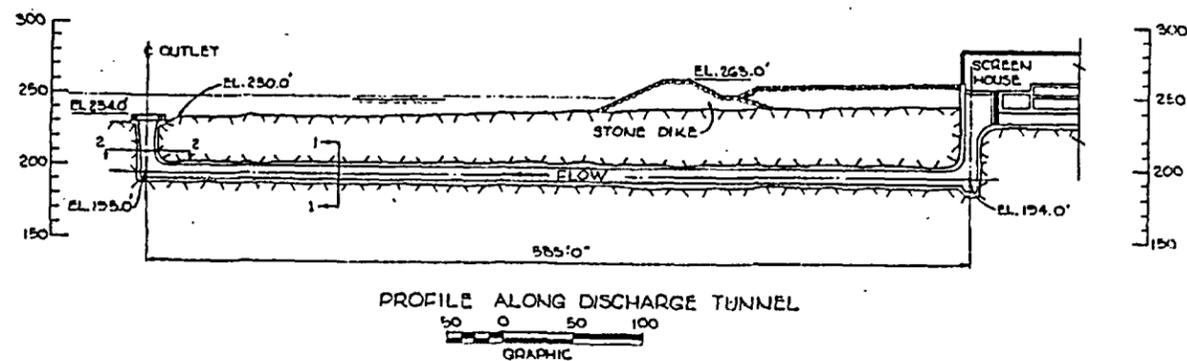
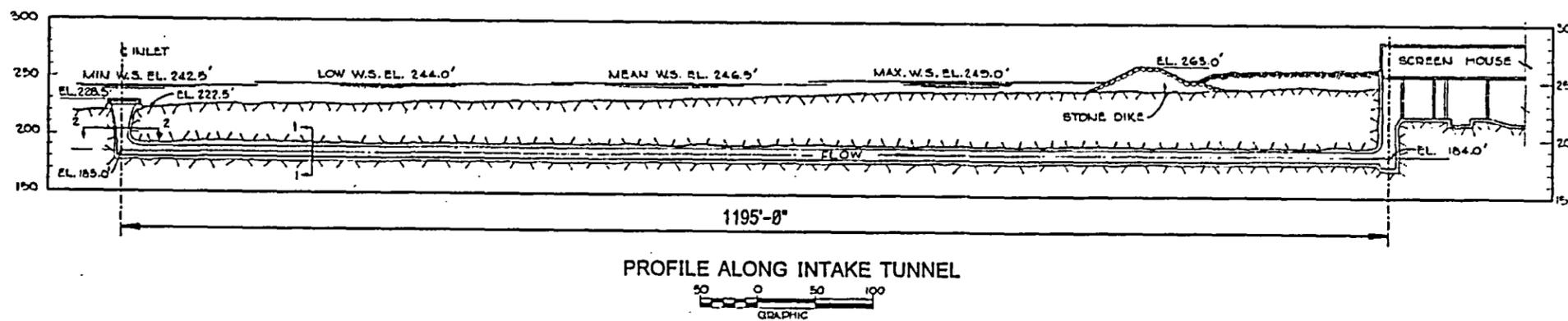
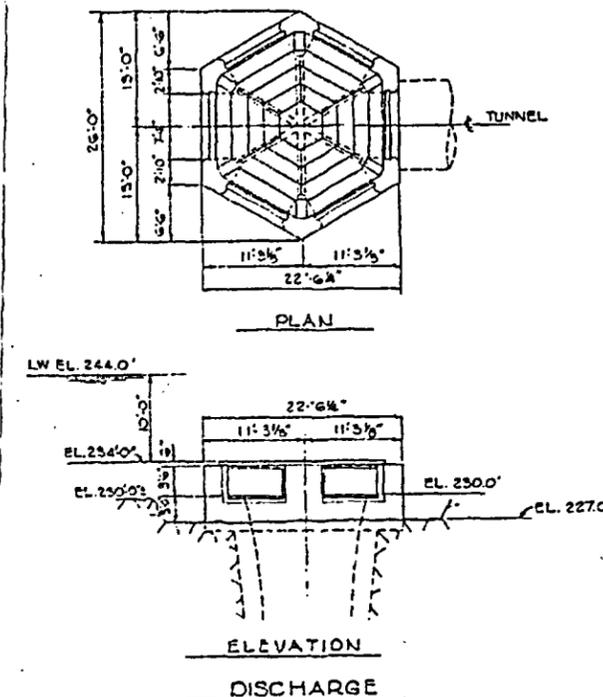
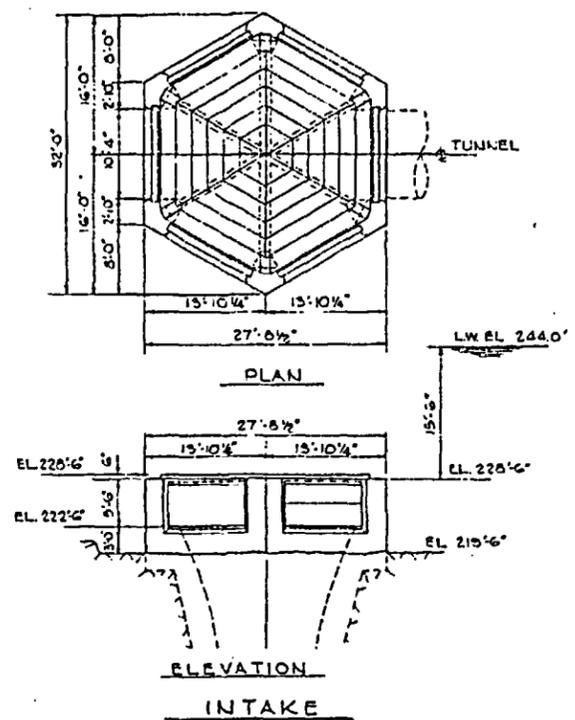
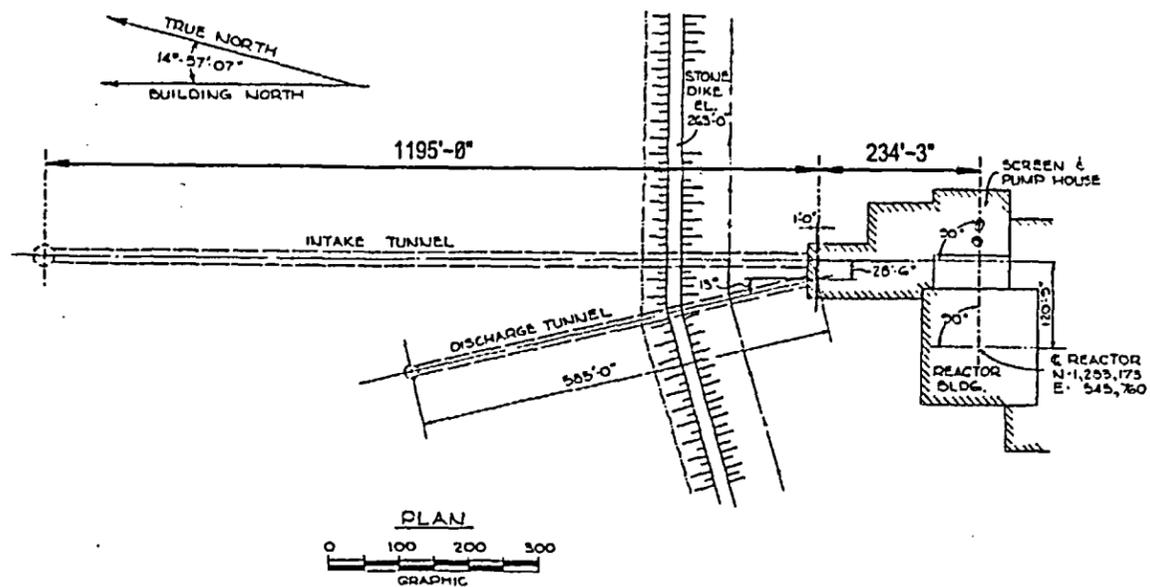


FIGURE III-21
UFSAR Rev. 17 (October 2001)

Source Documents:

C-15448-C

C-15449-C

C-15450-C

CIRCULATING WATER SYSTEM

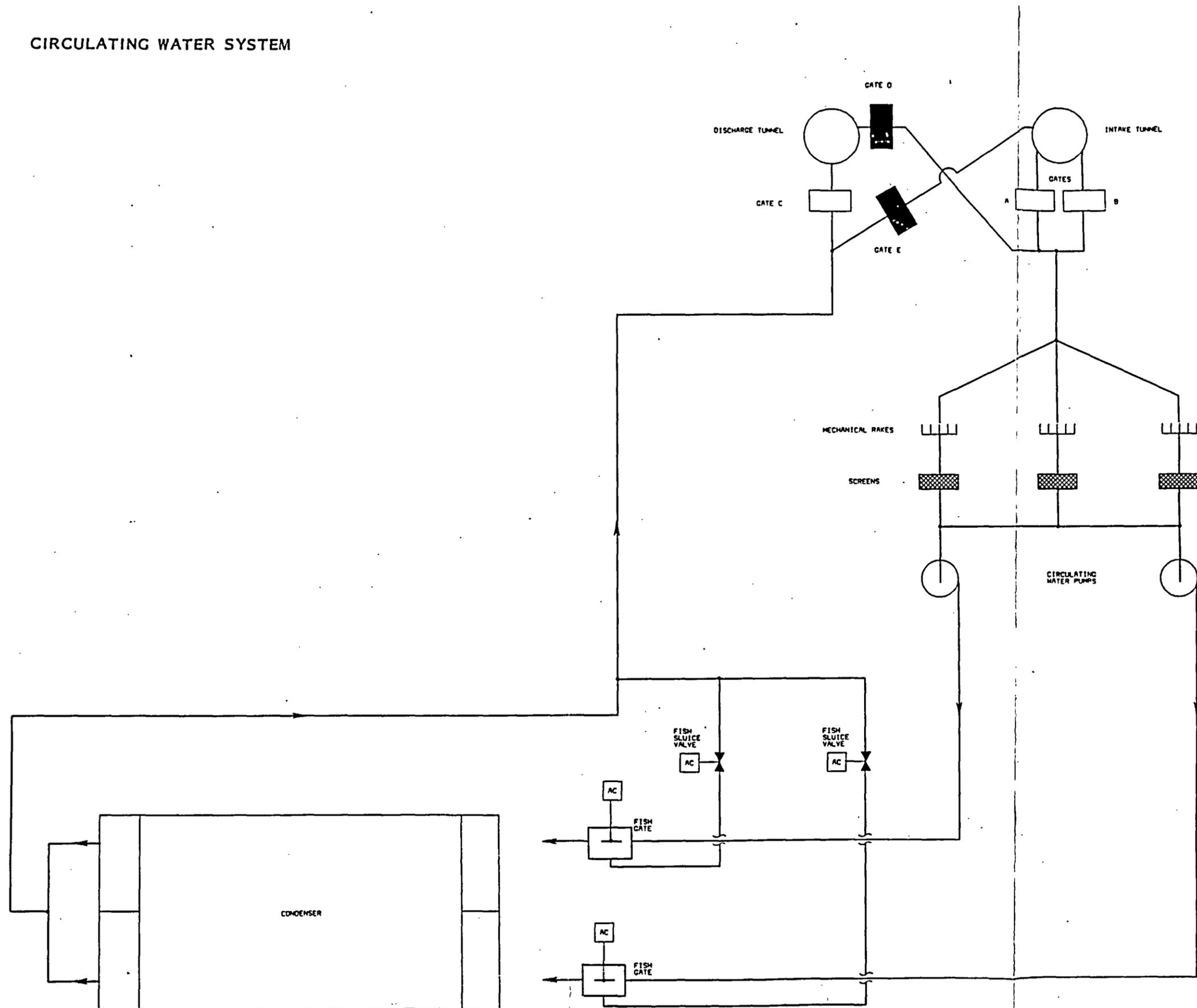


FIGURE XI-4
UFSAR Rev. 14 (June 1996)

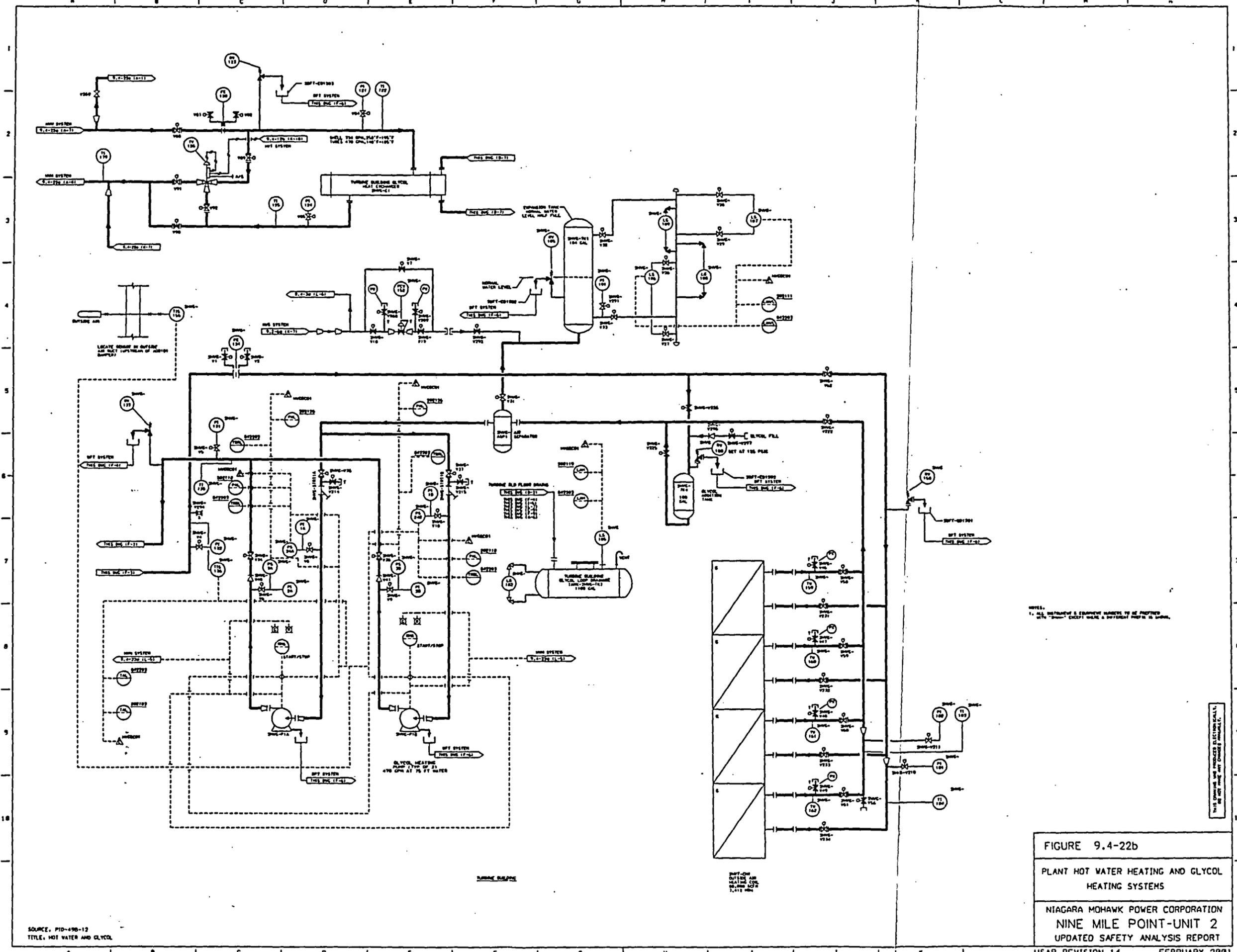
ATTACHMENT 3

Nine Mile Point Nuclear Station

Nine Mile Point Unit 2 Updated Safety Analysis Report

Figures 9.4-22b through 9.4-22d, Plant Hot Water Heating and Glycol Heating Systems Piping and Instrumentation Diagram

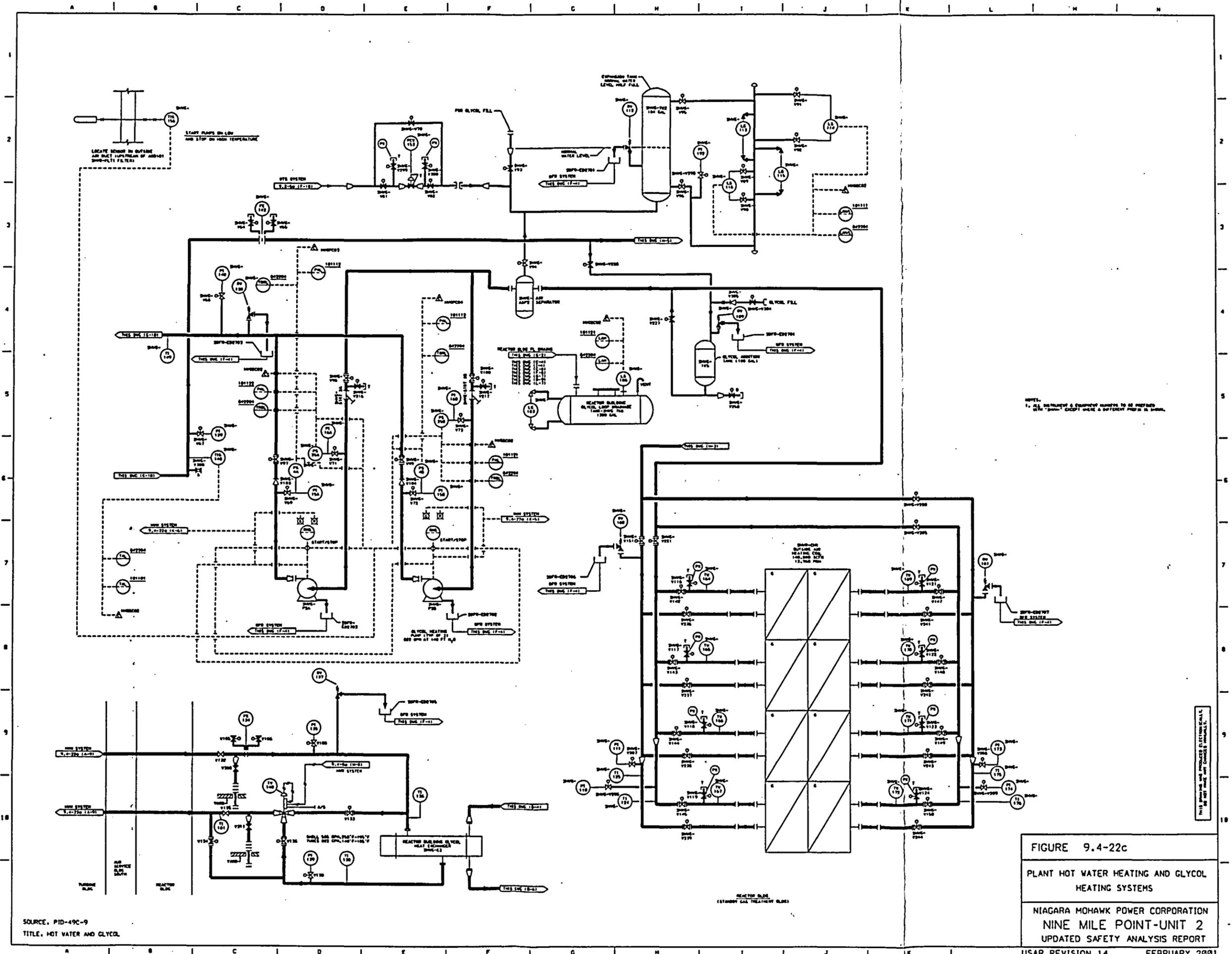
(RAI 2.3.3.B.16-1)



SOURCE: PID-498-12
TITLE: HOT WATER AND GLYCOL

NOTE:
1. ALL INSTRUMENT & EQUIPMENT NUMBERS TO BE PROVIDED WITH "DRAWN" CHECK AND A REVISION TAG TO BE ADDED.

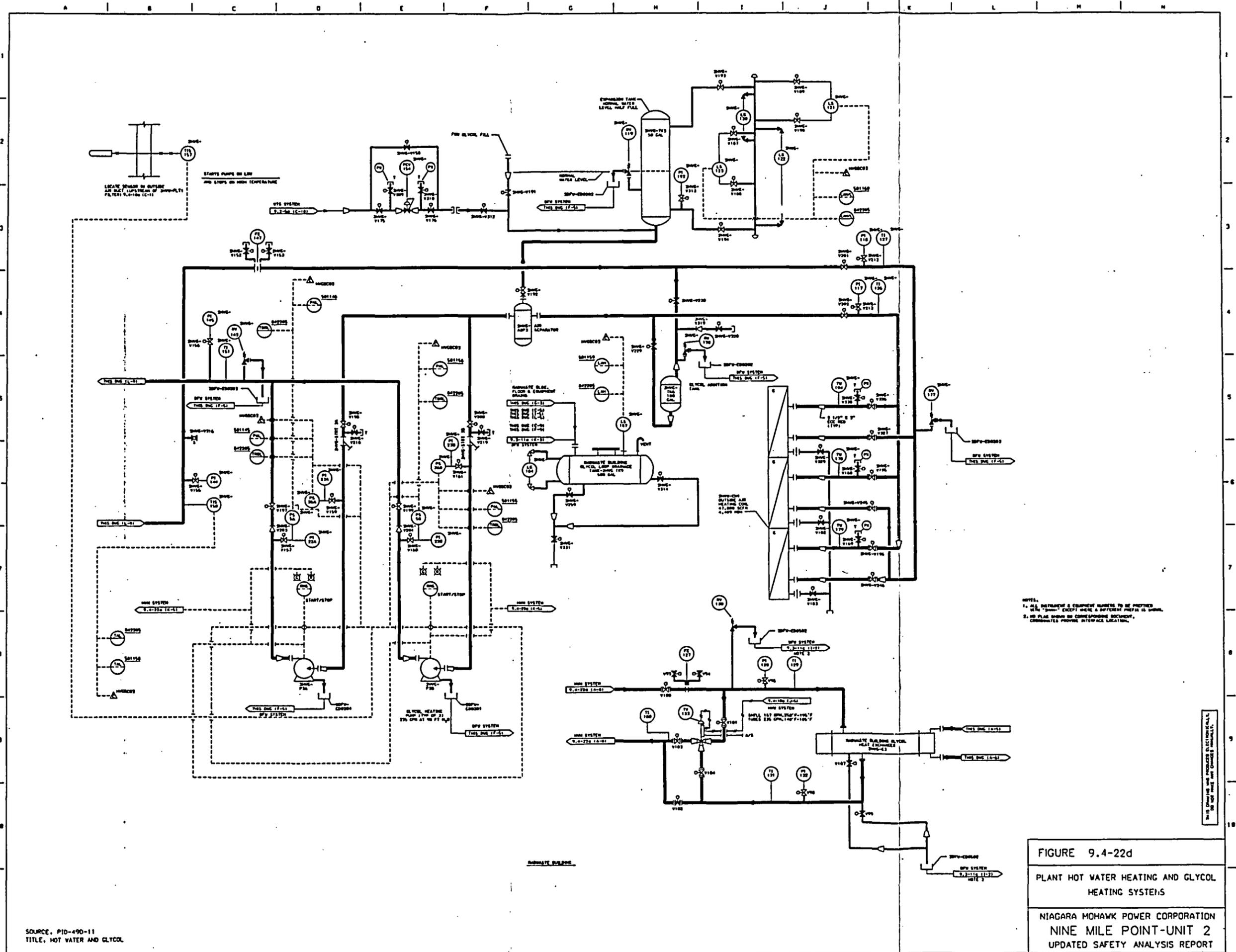
FIGURE 9.4-22b
PLANT HOT WATER HEATING AND GLYCOL HEATING SYSTEMS
NIAGARA MOHAWK POWER CORPORATION
NINE MILE POINT-UNIT 2
UPDATED SAFETY ANALYSIS REPORT
USAR REVISION 14 FEBRUARY 2001



NOTES:
 1. ALL INSTRUMENT & EQUIPMENT NUMBERS TO BE PRECEDED BY THE "SHEET" EXCEPT WHERE A DIFFERENT PREFIX IS SHOWN.

SOURCE: PID-49C-9
 TITLE: HOT WATER AND GLYCOL

FIGURE 9.4-22c
 PLANT HOT WATER HEATING AND GLYCOL HEATING SYSTEMS
 NIAGARA MOHAWK POWER CORPORATION
 NINE MILE POINT-UNIT 2
 UPDATED SAFETY ANALYSIS REPORT



SOURCE: PID-490-11
TITLE: HOT WATER AND GLYCOL

NOTES:
1. ALL INSTRUMENT & EQUIPMENT NUMBERS TO BE PROVIDED WITH "DASH" EXCEPT WHERE A DIFFERENT PREFIX IS SHOWN.
2. NO P&ID SHOULD BE CONSIDERED EXCEPT AS COMMENTED PROVIDED INTERFACED LOCATION.

IN THIS DRAWING THE INSTRUMENT ELECTRICAL SYMBOLS ARE NOT SHOWN AND SHOULD BE ADDED.

FIGURE 9.4-22d
PLANT HOT WATER HEATING AND GLYCOL HEATING SYSTEMS
NIAGARA MOHAWK POWER CORPORATION
NINE MILE POINT-UNIT 2
UPDATED SAFETY ANALYSIS REPORT

ATTACHMENT 4

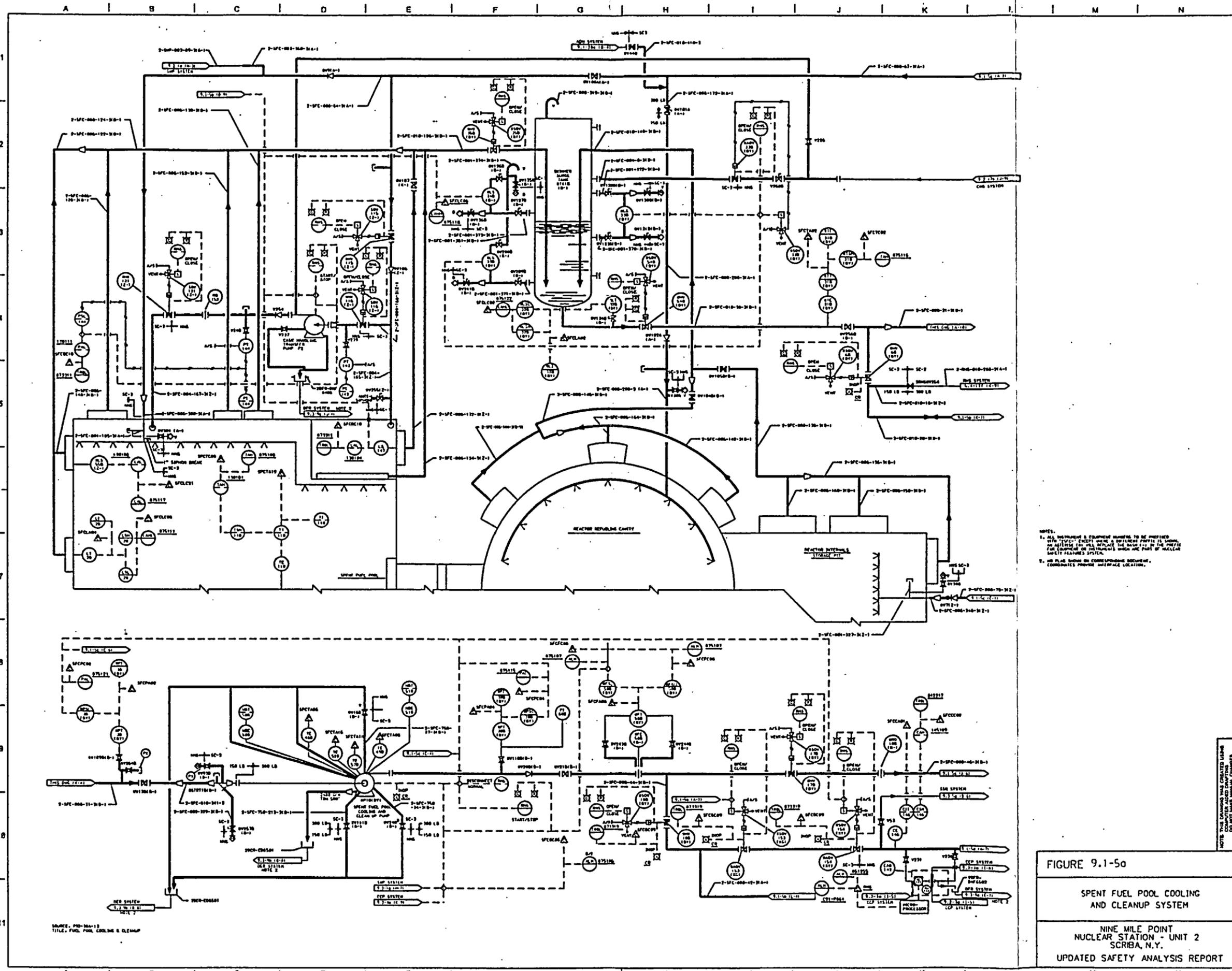
Nine Mile Point Nuclear Station

Nine Mile Point Unit 2 Updated Safety Analysis Report

Figures 9.1-5a through 9.1-5d, Spent Fuel Pool Cooling and Cleanup System

Piping and Instrumentation Diagram

(RAI 2.3.3.B.28-1)

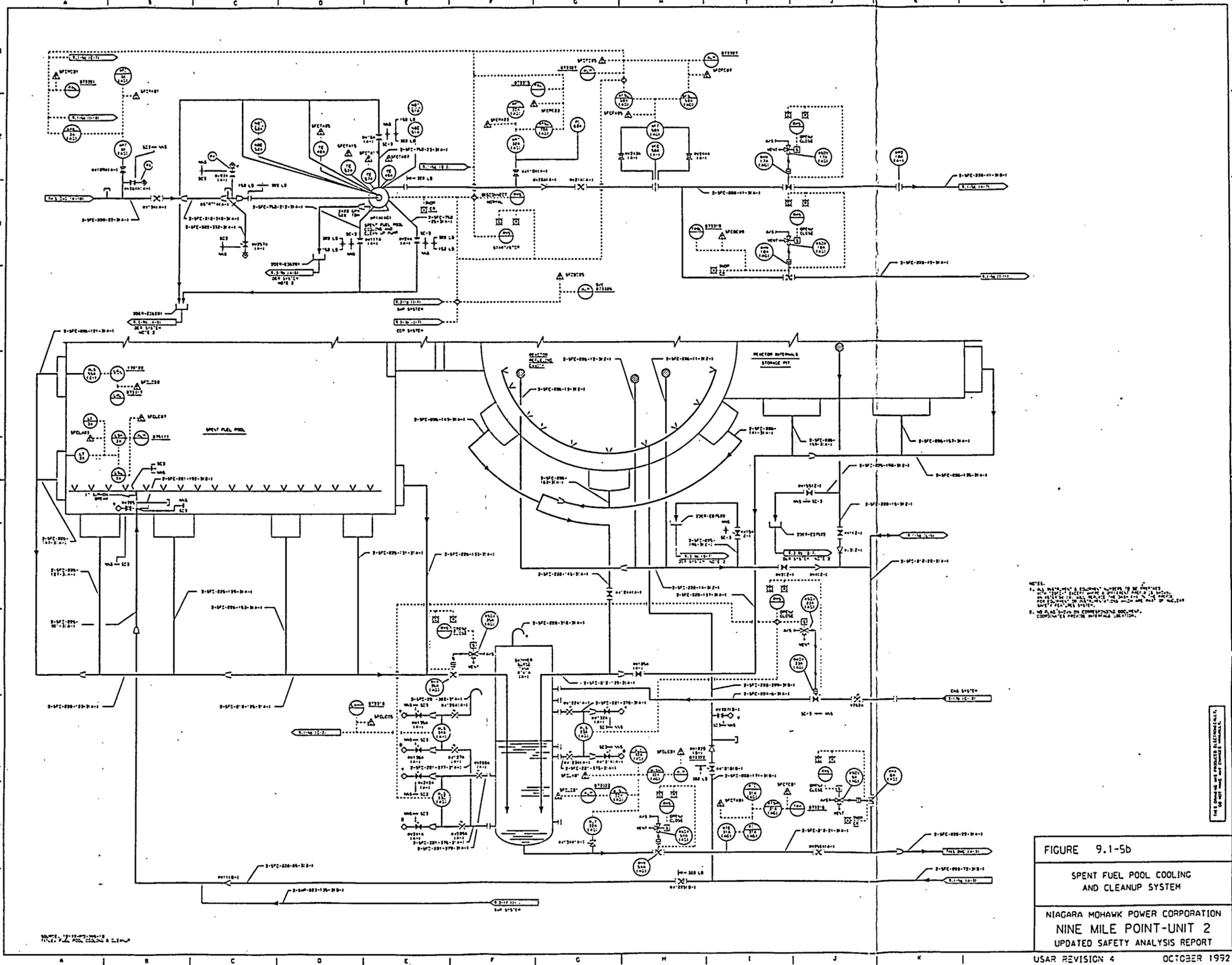


NOTES:
 1. ALL INSTRUMENT & EQUIPMENT NUMBERS TO BE PROVIDED WITH THIS DRAWING EXCEPT WHERE A EQUIPMENT NUMBER IS SHOWN. INSTRUMENT & EQUIPMENT NUMBERS SHOWN ARE PART OF NUCLEAR SAFETY FEATURES SYSTEM.
 2. SEE PLANS SECTION FOR CORRESPONDING DOCUMENT. COORDINATES PROVIDE SURFACE LOCATION.

NOTE: THIS DRAWING WAS GENERATED USING CAD. IT MAY BE SUBJECT TO CHANGE WITHOUT NOTICE.

SOURCE: PD-200-13
 TITLE: SPENT FUEL POOL COOLING & CLEANUP

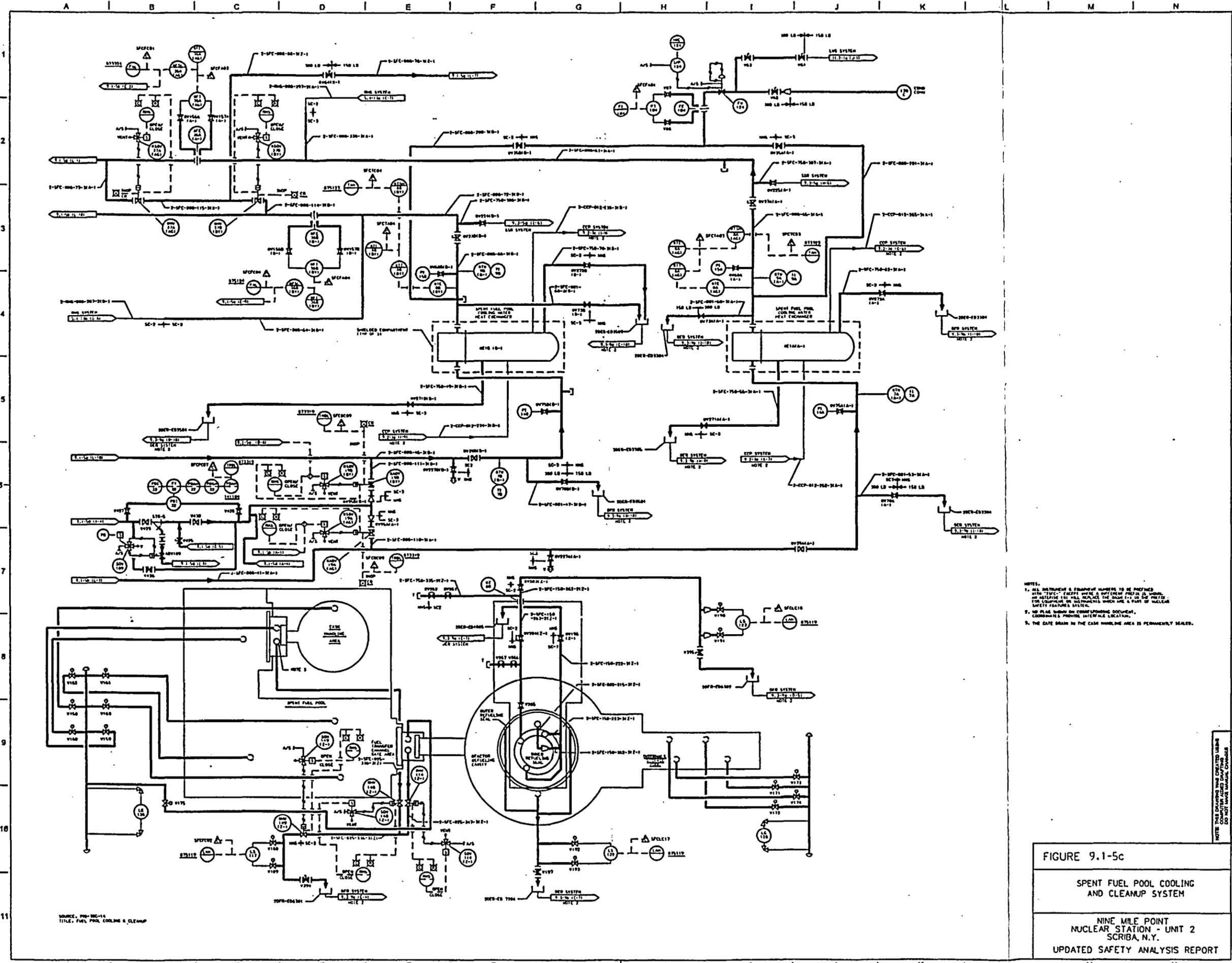
FIGURE 9.1-50
 SPENT FUEL POOL COOLING AND CLEANUP SYSTEM
 NINE MILE POINT NUCLEAR STATION - UNIT 2
 SCRIBA, N.Y.
 UPDATED SAFETY ANALYSIS REPORT



NOTES:
 1. ALL INSTRUMENTS & EQUIPMENT NUMBERS TO BE PROVIDED
 ON THE DRAWING. INSTRUMENT NUMBERS TO BE PROVIDED
 FOR INSTRUMENTS ON THIS DRAWING WHICH ARE PART OF THE
 SAME SYSTEM.
 2. NO PLAS TYPED ON CORRESPONDING DOCUMENT.
 COMPLETE THE INSTRUMENT LOCATION.

THIS DRAWING IS UNCONTROLLED DOCUMENT.

FIGURE 9.1-5b
 SPENT FUEL POOL COOLING
 AND CLEANUP SYSTEM
 NIAGARA MOHAWK POWER CORPORATION
 NINE MILE POINT-UNIT 2
 UPDATED SAFETY ANALYSIS REPORT



SOURCE: PFD-SEC-11
 TITLE: FUEL POOL COOLING & CLEANUP

- NOTES:
1. ALL INSTRUMENT & EQUIPMENT NUMBERS TO BE PREFIXED WITH "TSCC" EXCEPT WHERE A DIFFERENT PREFIX IS SHOWN. AN ALTERNATE #31 WILL REPLACE THE #31 ON THE PLOTTER FOR EQUIPMENT OR INSTRUMENTS WHICH ARE A PART OF WALLER SAFETY FEATURES SYSTEM.
 2. NO PUMP NUMBER ON CORRESPONDING DOCUMENT, COMBINED WITH INTERNAL LOCATION.
 3. THE GATE BRASS IN THE CASE HANDLING AREA IS PERMANENTLY SEALED.

NOTE: THIS DRAWING WAS CREATED USING
 COMPUTER AIDED DRAFTING
 ON 10/13/04 BY: [unreadable]

FIGURE 9.1-5c
 SPENT FUEL POOL COOLING
 AND CLEANUP SYSTEM
 NINE MILE POINT
 NUCLEAR STATION - UNIT 2
 SCRIBA, N.Y.
 UPDATED SAFETY ANALYSIS REPORT

ATTACHMENT 5

List of Regulatory Commitments

The following table identifies those actions committed to by Nine Mile Point Nuclear Station, LLC (NMPNS) in this submittal. Any other statements in this submittal are provided for information purposes and are not considered to be regulatory commitments.

REGULATORY COMMITMENT	DUE DATE
<p>Perform an AMR, and submit LRA revisions to incorporate the AMR results and any other associated LRA changes, for the following:</p> <ul style="list-style-type: none">• NMP1 safety-related, double acting valve actuators that are in-scope for LR and subject to AMR for a "Pressure Boundary" intended function. (RAI 2.3.3.A.4-2)• NMP2 safety-related, double acting valve actuators that are in-scope for LR and subject to AMR for a "Pressure Boundary" intended function. (RAI 2.3.3.B.5-4)• NMP2 safety-related radiation monitors and their inclusive mechanical components that are in-scope for LR and subject to AMR for a "Pressure Boundary" intended function. (RAI 2.3.3.B.22-1)• NMP2 MSIV double-acting, pneumatic actuators that are in-scope for LR and subject to AMR for a "Pressure Boundary" intended function. (RAI 2.3.4.B.4-2)	February 28, 2005