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Committed to Nuclear Excellence

Monticello Nuclear Generating Plant
Operated by Nuclear Management Company, LLC

October 14, 2005

L-MT-05-108
10 CFR Part 54

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
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Monticello Nuclear Generating Plant
Docket 50-263
License No. DPR-22

Response to Two Requests for Additional Information Regarding the Monticello Nuclear Generating Plant License Renewal Application (TAC No. MC6440)

References: 1) NMC letter to NRC, "Application for Renewed Operating License," dated March 16, 2005 (ADAMS Accession No. ML050880241)

2) NRC letter to NMC, "Request for Additional Information for the Review of the Monticello Nuclear Generating Plant License Renewal Application (TAC No. MC6440)," September 15, 2005 (ADAMS Accession No. ML052620622)

3) NRC letter to NMC, "Request for Additional Information (RAI) for the Review of the Monticello Nuclear Generating Plant License Renewal Application (TAC No. MC6440)," September 16, 2005 (ADAMS Accession No. ML052620629)

Pursuant to 10 CFR Part 54, the Nuclear Management Company, (NMC) LLC submitted a License Renewal Application (LRA) (Reference 1) to renew the operating license for the Monticello Nuclear Generating Plant (MNGP).

On September 15, 2005 and September 16, 2005 the U.S. Nuclear Regulatory Commission (NRC) issued Requests for Additional Information (RAIs) regarding the LRA for the MNGP (References 2 and 3).

NMC responses to References 2 and 3 are provided in their entirety in Enclosures 1 and 2, respectively.

This letter contains no new commitments or changes to any existing commitments.

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I declare under penalty of perjury that the foregoing is true and correct.

Executed on October 14, 2005.

John T. Conway
Site Vice President, Monticello Nuclear Generating Plant
Nuclear Management Company, LLC

Enclosures (2)

cc: Administrator, Region III, USNRC
Project Manager, Monticello, USNRC
License Renewal Project Manager, Monticello, USNRC
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ENCLOSURE 1

RESPONSE TO NRC REQUEST FOR ADDITIONAL INFORMATION DATED SEPTEMBER 15, 2005

A. NRC RAI 2.3.1-1

Reactor Systems Scoping and Screening

Page 3-30 of the license renewal application (LRA) states the jet pump sensing lines internal to the reactor vessel are not in scope of license renewal at Monticello. However, it is unclear as to whether the portion of the jet pump sensing line that is external to the reactor vessel, which can provide a pressure boundary and structural support, is included in scope. Please indicate if the external jet pump sensing line piping has been included in scope and identify the LRA Table and subcomponent group that includes the subject component. If the component is not in scope, please justify the exclusion, or if the component is in scope, please submit an aging management review and program for the component.

NMC Response

Jet Pump Sensing Lines external to the vessel are in scope for license renewal. The sentence on page 3-30 of the LRA was intended to indicate that only internal lines are outside scope. The sensing lines are 1-inch stainless steel pipes in the Reactor Vessel Instrumentation (RVI) system. The aging management for the internal (Treated Water) environment is shown in LRA Table 3.1.2-5 Reactor Coolant System - Reactor Vessel Instrumentation, on Page 3-82. The applicable aging effects are cracking and loss of material which are managed by American Society of Mechanical Engineers (ASME) Section XI Subsections IWB, IWC, and IWD, the Plant Chemistry Program, and the One-Time Inspection Program. No aging management is required for the external surfaces of the stainless steel sensing lines exposed to primary containment and plant indoor air.

B. NRC RAI 2.3.1-2

In LRA Table 2.3.1-3, "Reactor Pressure Vessel Internals" (RPVI), core spray lines and spargers have been identified as a component type within the scope of license renewal. However, for these components, pressure boundary was identified as the only intended function requiring aging management, not their function of providing adequate flow in a properly distributed spray pattern. The staff requests the applicant to clarify why the spray pattern function, in addition to pressure boundary, was not also identified as one of the intended functions which needs to be maintained during the extended period of operation.

NMC Response

The Monticello Nuclear Generating Plant (MNGP) Updated Safety Analysis Report (USAR) in Section 3.6.2.10, 'Core Spray Spargers,' states, "The supply line pairs terminate at a common vessel nozzle. Each half has distribution nozzles pointed radially inward and downward at a slight angle to achieve a specified distribution pattern."

Therefore, an intended function of 'Spray Pattern' is assigned to the Core Spray Lines and Spargers by revision to License Renewal Application (LRA) Table 2.3.1-3, Reactor Pressure Vessel Internals, (Page 2-59) and Table 3.1.2-3, Reactor Coolant System-Reactor Pressure Vessel Internals, (Page 3-58). There are no changes to the aging effects or the aging management programs.

The Component Intended Function "Spray Pattern - To provide adequate flow in a specified distribution spray pattern" is added by revising Table 2.1-1, Intended Function Definitions, LRA Page 2-31.

C. **NRC RAI 2.3.1-3**

In LRA Table 2.3.1-4, "Reactor Recirculation System" (RRS), and for a few other systems (for example Core Spray and Control Rod Drive systems), heat exchangers have been identified as a component type within the scope of license renewal. However for these heat exchangers, pressure boundary was identified as the only intended function requiring aging management, not their heat transfer function. The staff requests the applicant to clarify why the heat transfer function, in addition to pressure boundary, was not also identified as one of the intended functions which needs to be maintained during the extended period of operation.

NMC Response

The heat exchangers in scope for the Reactor Recirculation (REC) system are:

- The No. 11 and No.12 REC Motor/Generator Set Oil Coolers - These heat exchangers are shown on License Renewal (LR) drawing LR-36041 and are in scope for non-safety related components that could adversely affect safety related systems, structures, and components (SSCs) and are only required to maintain a pressure boundary. Therefore, no heat transfer function is required for these components to meet their intended functions.

- The REC Pump Lower Seal Cooler and REC Pump Upper Seal Cooler - These heat exchangers are shown on drawing LR-36243-1. The heat exchanger tubes serve as a reactor coolant pressure boundary, whereas the shells are in scope for non-safety related components that could adversely affect safety related SSCs and are only required to maintain a

pressure boundary. Therefore, no heat transfer function is required for these components to meet their intended functions.

The heat exchangers in scope for the Core Spray (CSP) System are:

- The CSP Pump Motor Oil Coolers - The heat exchangers are shown on drawing LR-36664. An analysis concluded that the core spray motors are operable if motor cooling water is reduced to zero under worst case room temperatures. Therefore the heat exchanger does not have an intended function of providing heat transfer. The heat exchanger serves only a pressure boundary function.

The heat exchangers in scope for the Control Rod Drive (CRD) system are:

- The CRD Pump Thrust Bearing Cooler and the Lube Oil Cooler for the CRD Pump Speed Increaser Assemblies - These heat exchangers are shown on drawing LR-36244. The heat exchangers are in scope as non-safety related components that could adversely affect safety related SSCs. They are only required to maintain a pressure boundary. Therefore, no heat transfer function is required for these components to meet their intended safety functions.

D. NRC RAI 2.3.3.11-1

Containment Systems Scoping and Screening

Monticello Nuclear Generating Plant (MNGP), "Heating and Ventilation System" (HVS) as described in LRA Section 2.3.3.11 and in Table 2.3.3-11, HVS identifies the component group requiring aging management review (AMR) and their intended functions. However, LRA Table 2.3.3-11 does not list all the components of the "heating ventilation and air conditioning (HVAC) units" as highlighted on drawings LR-36263 (V-AH-2) and LR-36807 (V-AC-4, V-AC-5, V-AC-8A, and 8B). For example, while the LRA table lists "HVAC UNITS," it does not list the associated components such as ductwork (equipment frames and housing), filters (housing and supports), ventilation seals, cooling coils, instrumentation and controls, etc. Clarify whether these components and all other associated components of the system, are within the scope of license renewal in accordance with Part 54.4(a) of Title 10 of the *Code of Federal Regulations* (10 CFR 54.4(a)), and subject to an AMR in accordance with 10 CFR 54.21(a)(1). If these components are excluded from the scope of license renewal and not subject to an AMR, provide justification for the exclusion.

NMC Response

Certain components as indicated on the LR boundary drawings for the HTV System are in scope to license renewal in accordance with 10 CFR 54.4(a)(1). Certain air conditioners and many of the unit heaters with their associated steam

and/or hot water supply lines are in scope to license renewal in accordance with 10 CFR 54.4(a)(2). In addition, certain air handling units and exhaust fans are in scope to license renewal for the Fire Protection and Environmental Qualification regulated events in accordance with 10 CFR 54.4(a)(3). Other components within the HTV System are excluded from the scope of license renewal since they do not perform any license renewal intended function(s).

Component groups such as ductwork, filters, instrumentation, etc, that are listed in Table 2.3.3.11 include those associated with the HVAC units within scope for license renewal in accordance with the scoping criteria listed above.

ENCLOSURE 2

RESPONSE TO NRC REQUEST FOR ADDITIONAL INFORMATION DATED SEPTEMBER 16, 2005

A. NRC RAI 2.3.3.1-1

License renewal (LR) Drawing LR-36049-10 at location B-8 and C-8 shows the nitrogen supply bottles as being within the scope of license renewal. However, these nitrogen supply bottles are not listed in LRA Table 2.3.3-1 as a component type subject to an aging management review (AMR). These nitrogen supply bottles provide a pressure boundary intended function and are passive and long-lived. Clarify whether these nitrogen supply bottles are included with another component type (i.e. tanks). If not, justify why they are not listed in Table 2.3.3-1, or update the table to include these components.

NMC Response

The nitrogen supply bottles shown on License Renewal (LR) boundary drawing LR-36049-10 at location B-8 and C-8 are periodically replaced and therefore are not long-lived and not subject to aging management review per the requirements of 10 CFR 54.21(a). Consequently, these nitrogen supply bottles are not listed in LRA Table 2.3.3-1.

The text description of the Alternate Nitrogen (AN2) system components subject to AMR, in the last paragraph of LRA Section 2.3.3.1 (System Description), is therefore clarified to state that the bottles are not subject to AMR.

B. NRC RAI 2.3.3.6-1

The Diesel Generator System (DGN) includes a diesel oil (DOL) subsystem which stores and supplies diesel fuel oil for the operation of the plant diesel generators, diesel fire pump, and heating boiler. The DOL subsystem (with the exception of portions of the DOL subsystem, such as the heating boiler oil storage tank and its associated day tank) is safety-related and is within the scope of LR. However, LR Drawing LR-36051, sheet 1 shows the truck fill connection at location B-5 and the diesel oil receiving tank (T-83) system (including pump, piping, etc.) at location A-7 as not within the scope of LR. Clarify that these components are within the scope of LR and subject to an AMR in accordance with the applicable requirements of 10 CFR 54.4(a) and 10 CFR 54.21(a), respectively, or justify their exclusion.

NMC Response

The diesel oil receiving tank (T-83) and truck fill connection are utilized for receiving, storing, and sampling of diesel fuel oil prior to the fuel oil being transferred to the diesel oil storage tank (T-44). These components are not safety related. The components shown as in scope to license renewal on

LR drawing LR-36051-1 are located inside the diesel fuel oil transfer house (pump house) and are in-scope since they are non-safety related components that could impact the intended function(s) of safety-related structures and components (diesel fuel oil transfer pump and the pump house itself). The diesel oil receiving tank system (including pump, piping, etc.) and the truck fill connection are located outside of the pump house and could not impact the intended function of safety-related structures and components. The tank and fill connection do not perform a license renewal function as defined by 10 CFR 54.4(a) and, therefore, are not within the scope of license renewal.

C. **NRC RAI 2.3.3.10-1**

LR Drawing LR-36256 at location D-2 shows the adjustable weir and associated connecting surfaces to the south skimmer surge tank, T-48B, to be within the scope of LR. LR Drawing LR-36256 at location D-4 shows similar components, adjustable weir and connecting surfaces to the north skimmer surge tank, T-48A, as not within scope of LR. Justify why Drawing LR-36256 classifies similar components, adjustable weirs and connecting surfaces to the north and south skimmer surge tanks, T-48A and T-48B, differently with regard to the scope of license renewal.

NMC Response

Only the portions of skimmer surge tanks T-48A and T-48B which are not embedded in concrete are in scope for license renewal.

The adjustable weir for south skimmer surge tank T-48B on drawing LR-36256 at location D-2 was incorrectly shown in scope for license renewal.

In addition, the connecting portion of skimmer tank T-48A at location D-3 is in scope for license renewal from the skimmer tank up to the concrete wall.

The adjustable weir is a non-safety-related component and is located inside the concrete wall adjacent to the spent fuel pool. Its failure could not impact the intended function of safety-related systems, structures, and components (SSCs). Therefore, the adjustable weir for south skimmer surge tank T-48B is not within the scope of license renewal.

D. **NRC RAI 2.3.3.10-2**

As shown on LR Drawing LR-36256 at location D-4, diffusers A and B serve as a distribution point for returning cooling water for the fuel pool cooling (FPC) system to the fuel storage pool. Their failure could affect the capability of safety-related systems, structures and components (SSCs) to perform their safety function. Justify why these diffusers are not within the scope for LR.

NMC Response

LRA Section 2.3.3.10, Fuel Pool Cooling and Cleanup System, states, "Components in the Fuel Pool Cooling and Cleanup System are non-safety related and their failure could affect the capability of safety related SSCs to perform their safety function; therefore, they are in-scope in accordance with 10 CFR 54.4(a)(2)." The system is only in scope for the reason that it contains non-safety-related components which must maintain sufficient integrity to prevent spray, leakage, or spatial interaction such that the intended functions of the safety-related SSCs are not adversely affected. The diffusers are located underwater (Spent Fuel Pool) and, therefore, the failure of these non-safety related diffusers would not impact the intended functions of safety related SSCs.

The diffusers are not Fuel Pool Cooling and Cleanup System components that could affect the capability of safety related SSCs to perform their safety function and are therefore not in scope for license renewal.

E. **NRC RAI 2.3.3.10-3**

LR Drawing LR-36256 shows an unisolable pipe (FPW17B-3"-MR) between the fuel storage pool and the skimmer surge tank T-48B as not within the scope of LR. All other piping and components entering the skimmer tank within the same apparent area of the plant are shown as within the scope of LR. Failure of this unisolable section of pipe could have an effect on the intended LR pressure boundary function for the skimmer tank. Justify why this pipe is not within the scope of LR.

NMC Response

As discussed in RAI 2.3.3.10-1, the adjustable weir for the south skimmer surge tank, T-48B on drawing LR-36256 at location D-2, was incorrectly shown in scope for license renewal. Only the connecting portions of both of the skimmer surge tanks T- 48A and T-48B which are not embedded in concrete are in scope for license renewal. The skimmer surge tanks are in scope for the reason that they are non-safety-related components which must maintain sufficient integrity to prevent spray, leakage, or spatial interaction such that the intended function of the safety-related SSCs is not adversely affected.

Pipe FPW17B-3"-MR shown on LR drawing LR-36256 is a drain for the wave suppression scupper. The pipe is located along side the spent fuel pool and is embedded in concrete. It drains the wave suppression scupper into the portion of the skimmer surge tank which is embedded in concrete. This non-safety related component could not impact the intended function of safety-related SSCs and, therefore, is not within the scope of license renewal.

F. NRC RAI 2.3.3.13-1

The following cases represent unisolable piping that is defined as not within the scope of LR; however, the piping is attached or interfaces with components that are defined as within the scope of LR and provide a pressure boundary function. Failure of these out-of-scope components could adversely impact the intended pressure boundary function of the components within scope. Justify why the following unisolable components are not within the scope of LR:

- LR Drawing LR-36043 at location C-6 shows a 3 inch vent line on the top of machine shop drain tank T-103.
- LR Drawing LR-36043 at location C-6 shows a 4 inch vent line on the top of reactor building floor drain sump S-37.
- LR Drawing LR-36043 at location C-6 shows line RWN46-4"-MR entering the reactor building floor drain sump S-37 from the equipment drain sump S-42 overflow.
- LR Drawing LR-36043 at location C-3 shows a 4 inch vent line on the top of drywell floor drain sump S-38.
- LR Drawing LR-36044 at location C-2 shows a 4 inch vent line on the top of drywell equipment drain sump S-43.
- LR Drawing LR-36044 at location C-2 shows a 4 inch vent line on the top of drywell equipment drain sump S-43.
- LR Drawing LR-36044 at location A-3 shows a 4 inch vent line on the top of turbine building normal waste sump S-45.
- LR Drawing LR-36044 at location C-5 shows piping to an obsolete sensing line on the top of reactor building equipment drain tank T-56.
- LR Drawing LR-36044 at location A-5 shows a 4 inch vent line and piping to an obsolete sensing line on the top of the condensate drip tank T-22.
- LR Drawing LR-36044 at location A-7 shows a 4 inch vent line and RWN48-4"-MR exiting the turbine building equipment drain sump S-44.
- LR Drawing LR-36044 at location C-7 shows a 4 inch vent line and RWN46-4"-MR exiting the reactor building equipment drain sump S-42.

NMC Response

The vent lines for the drain tanks, floor drain sumps, equipment drain tanks, normal waste sumps, drip tanks, and equipment drain sumps are non-safety related, open to the atmosphere and not relied upon for a pressure boundary. Their failure would not adversely affect the intended function of safety-related SSCs. Therefore they are not in scope for license renewal.

Piping RWN46-4"-MR and RWN48-4"-MR are embedded in concrete and act as overflows between sumps. This piping is non-safety-related and their failure could not impact the intended function of safety-related SSCs.

The sensing lines located on top of the tanks are for level indication and are filled with air. These sensing lines are non-safety-related and their failure could not impact the intended function of safety-related SSCs.

G. **NRC RAI 2.3.3.13-2**

LR Drawing LR-36044 at location D-7 identifies a 10 CFR 54.4(a)(2) boundary for the RAD system as the section of piping before a normally open isolation valve, CRW-1 (not within the scope of license renewal), from the condensate storage tank overflow tank T-67. Failure of the non-isolated piping can adversely impact the LR pressure boundary function for the radwaste solid and liquid system. Justify the location of the LR scope boundary at Valve CRW-1 with respect to the applicable requirements of 10 CFR 54.4(a).

NMC Response

Valve CRW-1 and the connecting piping to the condensate storage tank overflow tank T-67, as shown on LR drawing LR-36044 at location D 7, are non-safety related. Valve CRW-1 is located outside the Reactor Building near the CST Tanks.

The piping connecting to valve CRW-1, which is shown in scope for license renewal on drawing LR-36044, is located inside the HPCI Building. The HPCI Building houses safety-related components. Failure of this connecting piping could impact the intended function of safety-related SSCs. However, failure of valve CRW-1, located outside the building, could not impact the intended function of safety-related SSCs. Therefore, valve CRW-1 and the connecting piping to the condensate storage tank overflow tank T-67 are not in scope for license renewal per the requirements of 10 CFR 54.4(a).

H. NRC RAI 2.3.3.13-3

LR Drawings LR-36044 at locations A-7, C-7, C-3, and A-3 and LR-36043 at locations A-6, A-5, C-6, and C-3 show the turbine building equipment drain sump (S-44), reactor building equipment drain sump (S-42), drywell equipment drain sump (S-43), turbine building normal waste sump (S-45), condensate pump area sump (S-53), turbine building floor drain sump (S-40), reactor floor drain sump (S-37), and drywell floor drain sump (S-38) as not within the scope of LR. LRA Section 2.3.3.13, Radwaste Solid and Liquid System, page 2-147 states that all radwaste solid and liquid system components existing in either the turbine or reactor buildings, and constituting a liquid pressure boundary, are within the scope of LR. Failure of the liners for these sumps can negatively impact the intended liquid pressure boundary function of the components. Clarify that the sumps and their associated liners are within the scope of LR and subject to an AMR in accordance with the applicable requirements of 10 CFR 54.4(a) and 10 CFR 54.21(a), respectively, or justify their exclusion.

NMC Response

The sumps are non-safety related and embedded in concrete. The sumps are located at the lowest elevations of the Turbine and Reactor Buildings. Their failure could not impact the intended function of safety-related SSCs; therefore, they are not in the scope of license renewal per the requirements of 10 CFR 54.4(a). In addition, none of these sumps contain liners.

I. NRC RAI 2.3.3.15-1

LR Drawing LR-36254 at location C-8 contains two references (line REW3-4" EBD from reactor recirculation loop B, and line REW31-2"-ED from reactor vessel drain) to LR Drawing LR-36243 at location C-5. However, LR Drawing LR-36243 only shows one reference (line REW31-2"-ED which is also capped) to LR Drawing LR-36254. Clarify this discrepancy and confirm which portions of the piping are within the scope of LR and subject to an AMR in accordance with the requirements of 10 CFR 54.4(a) and 10 CFR 54.21(a), respectively, or justify their exclusion.

NMC Response

The convergence of the two lines REW3-4"-EBD and REW31-2"-ED are shown on both LR drawings LR-36254 (C8) and LR-36243 (C6). The line on LR drawing LR-36243 is shown as dashed, instructing the reviewer to look at LR drawing LR-36254 for the details on that pipe. The drawings are correct. Both lines are in scope for license renewal and subject to an AMR in accordance with the requirements of 10 CFR 54.4(a) and 10 CFR 54.21(a).

J. NRC RAI 2.3.4.1-1

The high pressure coolant injection pump is normally lined up to the condensate storage tanks and the suction is switched to the suppression pool when the level in either tank falls to the Technical Specification low level in either condensate storage tank (CST) or a high water level is sensed in the suppression pool. LRA Section 2.3.4.1 states that the in-scope portion of the condensate storage system consists of piping and valves, which supply the fuel storage pool, high pressure coolant injection, reactor core isolation cooling, residual heat removal, control rod drive, condensate, feedwater, core spray, main condenser, and radwaste systems. In addition, the instrumentation associated with the automatic transfer from the condensate storage tank to the suppression pool is safety-related, the components are within the scope of LR in accordance with 10 CFR 54.4(a)(1). LRA Table 2.3.4-1 shows that the intended function for all condensate storage system component groups is "pressure boundary."

The piping that is within scope of license renewal associated with the safety-related level instrumentation for the north and south condensate storage tanks, is shown on LR Drawing LR-36039 at locations B-3 and B-6. For each CST, the portion within scope includes the portion of the CST connection piping C22-4"-HJ and C23-4"-HJ between the reactor building and the CST level instruments. The remaining portion of these lines from the reactor building to the CST is not shown as being within the scope of license renewal. Since failure of this out-of-scope piping would have the same effect as a pressure boundary failure of the portion within the scope of license renewal, justify why the portion of lines C22-4"-HJ and C23-4"-HJ between the reactor building and the CST is not also within the scope of LR.

NMC Response

Line segments C22-4"-HJ and C23-4"-HJ, shown on LR boundary drawing LR-36039, include the level switches for the north and south condensate storage tanks (CSTs). The level instrumentation is safety-related because of the automatic transfer feature from the non-safety-related condensate storage tanks to the safety-related suppression pool.

Portions of the line segments connecting to lines C22-4"-HJ and C23-4"-HJ located between the Reactor Building wall and just prior to valves CST-1-1 and CST-1-2 on LR drawing LR-36039 are buried and are in scope for license renewal. The buried piping is in scope for the reason that it serves as an equivalent anchor for the attached safety related piping. For the purposes of clarification of LR drawing LR-36039, this in scope buried piping is now included in the highlighted segments for C22-4"-HJ/HK and C23-4"-HJ/HK.

The remaining line segments which include valves CST-1-1 and CST-1-2 and continue to the CSTs between the Reactor Building and the CSTs are above ground and outside the Reactor Building. This piping is considered non-safety related and its failure would only cause the level instrumentation to fail in a safe position by switching suction to the safety-related suppression pool. Therefore, this portion of the CST piping is not in the scope of license renewal.

K. NRC RAI 2.3.4.2-1

LRA Table 2.3.4-2 identifies "Pressure Boundary" as the intended function for all the heat exchangers in the condensate and feedwater (CFW) system within the scope of license renewal. LR Drawings LR-36034 and LR-36035 show that the shells for feedwater heaters E-11A, E-11B, E-12A and E-12B are non-safety-related and are included within the scope of license renewal in accordance with 10 CFR 54.4(a)(2) criteria. However, several turbine and extraction steam lines connected to the heat exchanger shell pressure boundary are not shown within the scope of LR. These lines include:

- Lines E9-26"-HCD, E10-26"-HCD, E11-26"-HCD, and E12-26"-HCD for L.P. Heater E-11A on LR-36034 (Quadrant B4)
- Lines E1-20"-HCD and E2-20"-HCD for L.I.P. Heater E-12A on LR-36034 (Quadrant B4)
- Lines E13-26"-HCD, E14-26"-HCD, E15-26"-HCD, and E16-26"-HCD for L.P. Heater E-11B on LR-36035 (Quadrant B-6)
- Lines E2-20"-HCD and E4-20"-HCD for L.I.P. Heater E-12B on LR-36035 (Quadrant C-6)

Justify why the turbine generator system piping connected to the CFW system heaters are not within the scope of LR relative to the components intended function defined in LRA Table 2.3.4-2 and the scoping criteria specified in 10 CFR 54.4(a)(2).

NMC Response

The shells for feedwater heaters E-11A, E-11B, E-12A and E-12B are non-safety related and are included within the scope of license renewal in accordance with 10 CFR 54.4(a)(2). These heaters are mounted in the "neck" of the condenser with only a portion of the heater protruding from the condenser. It is only the ends of the feedwater heater shells which protrude outside of the condenser and have the capability of impacting the intended function of safety-related SSCs due to potential leakage or spray that are of concern. The turbine extraction steam lines connected to these heat exchanger shells are located inside the condenser

and, therefore, do not pose a potential leak or spray hazard. The failure of these non-safety related components could not impact safety-related SSCs per the criteria specified in 10 CFR 54.4(a)(2) and, therefore, are not included in the scope of license renewal.

L. **NRC RAI 2.3.4.2-2**

LR Drawing LR-36036 at locations C-5, C-6, D-5, and D-6 identifies the shells for feedwater heaters E-11A, E-11B, E-12A and E-12B as non-safety-related and within the scope of LR in accordance with 10 CFR 54.4(a)(2) criteria. However, the drawing also shows a connecting steam line to each heater shell as not within scope with references to LR-36035 (C-5), LR-36035 (B-5), LR-36034 (B-4), and LR-36034 (C-4). The aforementioned references could not be found on the indicated LR drawings. Please identify the correct drawing reference and location for these references. In addition, justify the determination that the steam piping connected to the CFW system heaters are not within the scope of LR relative to the components intended function defined in LRA Table 2.3.4-2 and the scoping criteria specified in 10 CFR 54.4(a)(2).

NMC Response

LR drawings LR-36034 and LR-36035 show the extraction steam details for the feedwater heaters. LR drawing LR-36036 shows the condensate and feedwater details for the feedwater heaters. Consequently, the continuation between the drawings is not required and is only shown for information. The drawing and quadrant information refer to the general area where the extraction steam piping connects to the heaters.

The shells for feedwater heaters E-11A, E-11B, E-12A and E-12B are non-safety related and are included within the scope of license renewal in accordance with 10 CFR 54.4(a)(2). The heaters are mounted in the "neck" of the condenser with only a portion protruding outside the condenser. It is only the ends of the feedwater heater shells that protrude outside of the condenser and have the capability of impacting the intended function of safety-related SSCs due to the potential for leakage and spray. The turbine extraction steam lines connected to the heat exchanger shells are located inside of the condenser and do not pose a potential leak or spray hazard. The failure of these non-safety related components could not impact safety related SSCs per the criteria specified in 10 CFR 54.4(a)(2) and, therefore, are not included in the scope of license renewal.

M. **NRC RAI 2.3.4.3-1**

LR Drawing LR-36035-2 at location B-2 pipe section line number OG6-8"-HC at separator T-72 and downstream piping is not within the scope of LR. All other piping and components within the apparent plant area are within the scope of LR. Failure of this unisolable section of pipe could have an effect on the LR intended pressure boundary function for the main condenser (CDR) system. Justify why these sections of unisolable piping and components were left out of scope.

NMC Response

Line number OG6-8"-HC at separator T-72 and the downstream piping lead to the Off Gas and Recombiner System and have an internal environment of air. The failure of these non-safety related components could not impact the intended function of safety related SSCs per the criteria specified in 10 CFR 54.4(a)(2) and, therefore, are not included in the scope of license renewal. All other associated piping and components within the plant area are in scope for license renewal for the reason that they contain water and have the ability to impact the intended function of safety-related SSCs due to the potential for leakage and spray.

N. **NRC RAI 2.3.4.3-2**

LR Drawing LR-54817-4 at location A-7 is not listed in LRA Section 2.3.4.3 as a LR drawing for the CDR system. Clarify why LR-54817-4 is not included in LRA Section 2.3.4.3 as a LR drawing for the CDR system.

NMC Response

LR drawing LR-54817-4 shows the flow diagram for the Recombiner Building. There are no CDR components in scope for License Renewal inside the Recombiner Building. The piping outside of the Recombiner Building that is in scope of license renewal and in the CDR System is shown on LR drawings LR-36035 (A-8) and LR-36036 (B-3). Consequently, LR 54817-4 is not included in LRA section 2.3.4.3 as a LR drawing for the CDR system.

O. **NRC RAI 2.3.4.4-1**

LR Drawing LR-36035-2 at locations D-7 and B-7 indicate pipe line numbers D109-1"-EF and D108-1"-EF (steam supply lines to Air Ejectors E-2B and E-2A) are not within the scope of LR. The Monticello LRA Table 2.3.4-4 states that piping, fittings and valves are in scope with intended function of pressure boundary. Failure of this section of pipe could have an effect on the LR intended function of pressure boundary for the main steam system piping. Please justify why these sections of unisolable piping and components are not within the scope of LR.

NMC Response

On LR boundary drawing LR 36035-2, all components downstream of line PS9-3"-ED after the wall and up to the "MST/CDR" boundary flags are inside the steam jet air ejector room and are in scope for the reason that this piping is listed as high energy (per the USAR) with the exception of lines D109-1"-EF and D108-1"-EF.

Lines D109-1"-EF and D108-1"-EF are also located inside the steam jet air ejector room. These 1-inch pipes are not considered high-energy lines. There are no safety-related components inside the steam jet air ejector room whose intended function could be impacted by this non-safety-related piping. Therefore, line numbers D109-1"-EF and D108-1"-EF are not in the scope of license renewal.

P. **NRC RAI 2.3.4.5-1**

LR Drawing LR-36034 at location B-4 shows a portion of the sensing line to PT-1217 attached to pipe E2-20"-HCD as within the scope of LR; however, the remaining portion of the sensing line and pressure transmitter is shown as not within scope. In addition, LR Drawing LR-36035 at location D-7 shows pressure transmitters PT-1222 and PT-1223 and portions of the sensing lines to these transmitters as within the scope of LR; however, the remaining portions of the sensing line to pipes E3-20"-HCD and E16-26"-HCD are shown as not within scope. LRA Section 2.3.4.5, Turbine Generator System, page 2-188 states that the LR function for turbine generator piping and gauges is maintaining a pressure boundary and LRA, page 2-187, states that non-safety-related structures and/or components of the turbine generator system that could affect safety-related SSCs must maintain sufficient integrity such that the intended function of the safety-related SSCs is not adversely affected. Failure of the sensing lines noted above could affect the LR intended function for this turbine generator piping and possibly have a negative impact on the safety-related SSCs. Justify why portions of the sensing lines and associated pressure transmitters are not within the scope of LR.

NMC Response

The portion of the sensing line to PT-1217 attached to pipe E2-20"-HCD shown on LR drawing LR-36034 at location B-4 should not have been shown as in the scope of license renewal on this drawing. The sensing line is located inside of the condenser. The failure of this non-safety related line could not impact the intended function of safety-related SSCs and therefore is not included in the scope of license renewal.

PT-1222 and PT-1223 and portions of the sensing lines to these transmitters are within the scope of license renewal since they are located on the exterior of the condenser. However, the remaining portions of the sensing line to pipes E3-20"-HCD and E16-26"-HCD are not within scope. These sensing lines are located inside of the condenser. The failure of these non-safety related lines could not impact the intended function of safety-related SSCs and therefore are not included in the scope of license renewal.

Upon investigation it was also noted that the portions of the sensing lines from condenser penetration No. 60 to PT-1216 and PT-1217 should have been shown in scope for license renewal on drawing LR-36034 (C,4). The portions of these sensing lines are in scope since they are located on the exterior of the condenser. This does not result in a change to the LRA, only the drawing.

Q. NRC RAI 2.3.4.5-2

LRA Section 2.3.4.5, Turbine Generator System, page 2-188 states that the LR function for turbine generator piping is maintaining a pressure boundary and LRA, page 2-187, states that non-safety-related structures and/or components of the turbine generator system that could affect safety-related SSCs must maintain sufficient integrity such that the intended function of the safety-related SSCs is not adversely affected.

LR Drawings LR-36034 at location B-4 and LR-36035 at location B-6, B-7 and C-7 show piping to LIP Heater 12-A&B and LP Heater 11-A&B (E9-26"-HCD, E10-26"-HCD, E11-26"-HCD, E12-26"-HCD, E1-20"-HCD, E2-20"-HCD, E14-26"-HCD, E13-26"-HCD, E15-26"-HCD, E16-26"-HCD, E4-20"-HCD, E3-20"-HCD) as not within the scope of LR. However, the sensing lines to pressure transmitters attached to these pipes are shown as within the scope of LR. Failure of the above cited pipes could affect the LR intended function of pressure boundary for the turbine generator piping and possibly have a negative impact on the safety-related SSCs. Justify why the above cited pipes are not within the scope of LR.

NMC Response

Portions of the sensing lines to these transmitters are within the scope of license renewal since they are located on the exterior of the condenser and could impact the intended function of safety-related SSCs. However, the remaining portions of the sensing lines to the heater pipes are not within scope of license renewal. These sensing lines and the heater piping they are attached to are located inside of the condenser. The failure of this non-safety related piping could not impact the intended function of safety-related SSCs and therefore are not included in the scope of license renewal.

Upon investigation it was also noted that the portions of the sensing lines from condenser penetration No. 25 to piping E4-20"- HCD and E3-20"-HCD on drawing LR-36035 (C,7) and condenser penetration No. 31 to piping E1-20"-HCD and E2-20"-HCD on drawing LR-36034 (B,4) should not have been shown in scope for license renewal. The portions of these sensing lines are not in scope since they are located on the interior of the condenser. This does not result in a change to the LRA.