

NINE MILE POINT NUCLEAR STATION UNITS 1 AND 2
Open Items For Balance of Plant Section

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Reference: Responses to NRC RAIs, NMP1L1905, date December 22, 2004

1. Open Item 2.3.3.A.2-2

RAI 2.3.3.A.2-2

10 CFR 54, Section 54.4(b) states that the intended functions that these systems, structures and components must be shown to fulfill in 10 CFR 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.

The LRA table associated with the circulating water system includes the component type "circulating water gates" and assigns the intended function "NSR Functional Support." In order to complete its review, the staff needed more information about this intended function for components in circulating water system components. The staff requested that the applicant provide further explanation of the intended function "NSR Functional Support" in order to verify that the SSCs with this intended function meet the requirements of paragraphs (a)(1), (a)(2) or (a)(3) of Section 54.4 of 10 CFR 54.

Applicant's Response and Staff's Evaluation

In its response, dated December 22, 2004, the applicant stated that per LRA Table 2.0-1, NSR functional support (NSF) is defined as "provide non-safety related (NSR) functional support to satisfy License Renewal Criterion 2 or 3 (applies only to NSR equipment, including pressure boundaries)." As applied to the circulating water gates, they are non-safety-related components that support a circulating water system intended function to maintain greenhouse forebay level and temperature.

Based on its review, staff is not able to find the applicant's response to RAI 2.3.3.A.2-2 acceptable because it did not describe what systems the circulating water gates functionally support in addition to maintaining screenhouse forebay level and temperature. Therefore, the staff's concern described in RAI 2.3.3.A.2-2 remains an open issue. (Open Item 2.3.3.A.2-2)

2. Open Item 2.3.3.A.4-2

RAI 2.3.3.A.4-2

The license renewal drawings for the compressed air system do not show air cylinders that are the actuators for valves, as being subject to an 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. The staff asked the applicant to provide the basis for excluding the double acting cylinders from being subject to an AMR.

Applicant's Response and Staff's Evaluation

In its response, dated December 22, 2004, the applicant stated that NMPNS agrees that safety-related, double acting actuators are in-scope for license renewal 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.

Based on its review, the staff is not able to find the applicant's response to RAI 2.3.3.A.4-2 acceptable. Although the applicant concurred that safety-related, double acting actuators are in-scope for license renewal and subject to an AMR for a "Pressure Boundary" intended function, the staff will not be able to complete its review prior to the applicant's February 28, 2005 intended submittal. Therefore, the staff's concern described in RAI 2.3.3.A.4-2 remains an open issue. (Open Item 2.3.3.A.4-2)

3. Open Item 2.3.3.A.16-1

RAI 2.3.3.A.16-1

The LRA 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, two drywell equipment drain tanks are shown on one license renewal drawing for the radioactive waste system as being subject to an AMR. However, these tanks are shown on another license renewal drawing as not being subject to an AMR. The staff requested that the applicant clarify this inconsistency. The staff also asked the applicant to 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. The staff asked the applicant to justify the exclusion of others from the scope of license renewal and from being subject to an AMR in accordance with the requirements of 10 CFR 54.4(a) and 10 CFR 54.21(a)(1), respectively.

Applicant's Response and Staff's Evaluation

In its response dated, December 22, 2004, the applicant stated that both drywell equipment drain tanks (DWEDT) and the reactor building equipment drain tank (RBEDT) are subject to AMR. License renewal 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 license renewal and subject to AMR for criterion 10 CFR 50.54.4(a)(2) only. For this reason, per license renewal drawing convention, these components would not be shown in red on the license renewal drawing.

The applicant in its respond further clarified that, 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). None of the other RBEDT inputs have intended functions associated with their respective systems that would bring those drain lines into scope for license renewal. In addition, the applicant in its response stated that drawing LR-18045-C, sheet 7A provides no additional information to that shown on sheet 7; therefore, it should be disregarded.

The applicant also stated that 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 license renewal and subject to AMR to meet criterion 10 CFR 54.4(a)(2), since these liquid containing components are in the vicinity of safety-related components. However, these components are highlighted in red on the license renewal drawings, because they are within scope and subject to AMR for the 10 CFR 54.4(a)(2) criterion only.

The applicant also identified 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 license renewal and subject to AMR.

Based on its review, the staff is not able to find the applicant's response to RAI 2.3.3.A.16-1 acceptable. Although, it clarified that the both drywell equipment drain tanks (DWEDT) and the reactor building equipment drain tank (RBEDT) are subject to AMR, it did not adequately justify the exclusion of the piping and associated isolation valves inputs to the RBEDT and DWEDTs from being in scope and subject to an AMR. In addition, the applicant stated that license renewal drawing LR-18045-C, sheet 7A does not add any information to LR-18045-C, sheet 7 and should be disregarded. However, the applicant did not explain the inconsistency between these two sheets. Therefore, this RAI remains an open issue. (Open Item 2.3.3.A.16-1)

4. Open Item 2.3.3.A.16-6

RAI 2.3.3.A.16-6

License renewal drawings show the pressure and level instruments' drain lines and their associated components (fittings and valves) tie in to the pipeline which runs to RBEDT. That pipeline is shown on these drawings as being within the scope of license renewal and being subject to an AMR. Also, another license renewal drawing shows a pipeline which connects fuel pool cooling system drains to the reactor building drain tanks, as being subject to an AMR. However, one of the previous license renewal drawings shows that pipeline as being excluded from being subject to an AMR. Also, this pipeline is not highlighted in red on that license renewal drawing, 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 from the fuel pool cooling drains on a license renewal drawing is within the scope of the compressed air system (CAS).

In order to complete its review, the staff requested that the applicant

- a. Provide drawings or descriptive information that shows how the instrumentation drains header connects to the fuel pool cooling system drains pipeline.
- 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.

Applicant's Response and Staff's Evaluation

- a. In its response dated, December 22, 2004, the applicant stated that the instrument drain headers identified in the RAI do not connect to the fuel pool cooling system drains pipeline. The applicant further explained that for NMP Unit 1, the line identification is not a unique piping component number. Using the line identification legend shown on license renewal drawing LR-18000-C,

sheet 1, 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.

Based on its review, the staff finds the applicant's response to RAI 2.3.3.A.16-6a acceptable because the applicant adequately explained why there is no connection between the pipelines in question. Therefore, the staff's concern described in RAI 2.3.3.A.16-6a is resolved.

- b. In its response dated, December 22, 2004, the applicant stated that 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.

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

Based on its review, the staff is not able to find the applicant's response to RAI 2.3.3.A.16-6b acceptable because although it stated that the depiction of the input lines to the RBEDT on drawing LR-18045-C, Sheets 7 and 7A, are contrary to the above-referenced description due to drafting errors, it did not adequately identify which of the license renewal drawings are correct. In addition, the applicant stated that license renewal drawing LR-18045-C, sheet 7A does not add any information to LR-18045-C, sheet 7 and should be disregarded. Therefore, this RAI remains an open issue. (Open Item 2.3.3.A.16-6b)

5. Open Item 2.3.3.A.19-1

RAI 2.3.3.A.19-1

A license renewal drawing shows oil coolers for the clean-up pumps to be within the "CU" system boundary and requiring an AMR. The LRA table associated with the reactor water cleanup system lists heat exchangers as a component type. However, the AMR table associated with this system does not include heat exchangers with a lubricating oil environment and the AMR section of the LRA for this system does not list lubricating oil as an environment to which the reactor water cleanup system is exposed. The staff requested that the applicant confirm that the clean-up pump oil coolers have been properly evaluated within the LRA or justify their exclusion from being subject to an AMR.

Applicant's Response and Staff's Evaluation

In its response dated December 22, 2004, the applicant stated that the license renewal drawing in question, 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 system. The shell side of the heat exchanger is not safety-related so it is not shown as in-scope for license renewal (depicted in black on the drawing), and the heat exchanger itself does not have an license renewal intended function of heat transfer. Therefore, the drawing boundary flags are incorrect and the "LR-CU" side of each of those flags should be solid blue. The applicant further explained that consistent with LRA Section 2.3.3.A.19, the pump oil coolers are in-scope for license renewal 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, therefore, they are not identified in red. The applicant added that 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.

Based on its review, the staff is not able to find the applicant's response to RAI 2.3.3.A.19-1 acceptable because 1) the applicant in its response stated that the pump oil cooler is in-scope and subject to an AMR to meet criterion 10 CFR 54.4(a)(2), however, the LRA Tables 2.3.3.A.19 and 3.3.3.A-17 do not include heat exchangers with the intended function of PFSARE in a lubricating oil environment, 2) the applicant also stated that the drawing boundary flags are incorrect and the "LR-CU" side of each of those flags should be solid blue. This does not appear to be correct, since the oil cooler tubes are in-scope of license renewal with the pressure boundary intended function for the reactor building closed loop cooling system. Therefore, this RAI remains an open issue. (Open Item 2.3.3.A.19-1)

6. Open Item 2.3.3.B.5-4

RAI 2.3.3.B.5-4

The license renewal 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. The staff requested that the applicant provide the basis for excluding the double acting cylinders from being subject to an AMR.

Applicant's Response and Staff's Evaluation

In its response dated December 22, 2004, the applicant stated that NMP Nuclear Station agrees that safety-related, double acting actuators are in-scope for license renewal 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.

Based on its review, the staff is not able to find the applicant's response to RAI 2.3.3.B.5-4 acceptable. Although the applicant concurred that safety-related, double acting actuators are in-scope for license renewal and subject to an AMR for a "Pressure Boundary" intended function, the staff will not be able to complete its review prior to the applicant's February 28, 2005 intended submittal. Therefore, the staff's concern described in RAI 2.3.3.B.5-4 remains an open issue. (Open Item 2.3.3.B.5-4)

7. Open Item 2.3.3.B.17-2

RAI 2.3.3.B.17-2

The system description section of the LRA section associated with the hot water heating system states that components subject to an AMR include the non-safety-related 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. No license renewal drawings were provided for this system. In order to complete its review, the staff requested that the applicant provide information that describes the boundaries of this system and confirms that there are no other components subject to an AMR.

Applicant's Response and Staff's Evaluation

In its response, dated December 22, 2004, the applicant stated consistent with license renewal drawing convention, marked-up license renewal drawings were not provided for systems where the only system intended function was to meet the 10 CFR 54.4(a)(2) criterion. The applicant further stated that the components subject to an AMR for this system include the non-safety-related 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 and turbine building. The applicant also referred to the diagram that was provided with the response to RAI 2.3.3.B.16-1, and stated that the system description from LRA Section 2.3.3.B.17, in conjunction with the diagram, provides an adequate description of the components that are subject to AMR.

Based on its review, the staff is not able to find the applicant's response to RAI 2.3.3.B.17-2 acceptable because the applicant did not describe the safety-related components in the radwaste building with which hot water heating system components can interact. Therefore, the staff's concern described in RAI 2.3.3.B.17-2 remains an open issue. (Open Item 2.3.3.B.17-2)

8. Open Item 2.3.3.B.22-1

RAI 2.3.3.B.22-1

The LRA section associated with the radiation monitoring system states that:

The NMP Unit 2 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 main steam line radiation monitors.

LRA Section 2.3.3.B.22 regarding the NMP Unit 2 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 instruments." 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 license renewal drawing for the NMP Unit 2 radiation monitoring system was not provided to show the portions of this system containing components within the scope of license renewal. The staff asked the applicant to 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).

Applicant's Response and Staff's Evaluation

In its response, dated December 22, 2004, the applicant concurred that safety-related radiation monitors and their inclusive mechanical components are in-scope for license renewal and subject to AMR for a "Pressure Boundary" intended function. The applicant stated the subject components that perform the license renewal intended function would be identified, an AMR of those components will be performed and LRA revisions to incorporate the AMR results, and any other associated LRA changes, would be submitted to the NRC by February 28, 2005.

Based on its review, the staff is not able to find the applicant's response to RAI 2.3.3.B.22-1 acceptable. Although the applicant concurred that safety-related radiation monitors and their mechanical components with a pressure boundary intended function are in-scope, the staff will not be able to complete its review prior to the applicant's February 28, 2005 intended submittal. Therefore, the staff's concern described in RAI 2.3.3.B.22-1 remains an open issue. (Open Item 2.3.3.B.22-1)

9. Open Item 2.3.3.B.25-2

RAI 2.3.3.B.25-2

The introduction to NMP Unit 2 UFSAR 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 on a license renewal drawing as being within the scope of license renewal and subject to an AMR. Also the LRA table associated with the reactor water cleanup system does not include the component type pumps or heat exchangers. The staff believes that these components meet criterion 10 CFR 54.4(a)(1) and should require an AMR according to 10 CFR 54.21(a)(1). The applicant was requested to justify the exclusion of these components from the scope of license renewal and from requiring an AMR.

Applicant's Response and Staff's Evaluation

In its response, dated December 22, 2004, the applicant stated that NMP Unit 2 UFSAR 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 license renewal 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 NMP Unit 2 UFSAR Table 3.2-1 or the NMP Unit 2 master equipment list, and are not required for safe shutdown of the reactor. The applicant concluded that 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).

The applicant further clarified that the non-safety-related liquid filled piping and components shown in black on license renewal drawing LR-37B-0 are in-scope for license renewal and subject to AMR for criterion 10 CFR 54.4(a)(2), since all of these components are located in the reactor building in the vicinity of safety-related components. However, these components are not highlighted on the license renewal drawing because they are in-scope for license renewal and subject to AMR for criterion (a)(2) only.

Based on its review, the staff is not able to find the applicant's response to RAI 2.3.3.B.25-2 acceptable because 1) it does not explain why reactor water cleanup heat exchangers and pumps are listed in NMP Unit 2 UFSAR Table 3.9B-2 as the major safety-related component in the plant, if they are not safety-related, 2) in accordance with NMP UFSAR Table 3.2-1, reactor water cleanup heat exchangers and pumps are classified as ASME Safety Class 3, which differs from the applicant's response. Therefore, the staff's concern described in RAI 2.3.3.B.25-2 remains an open issue. (Open Item 2.3.3.B.25-2)

10. Open Item 2.3.4.A3-2

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." The applicant was asked to describe how the intended functions for these components are assigned and evaluated.

Applicant's Response and Staff's Evaluation

In its response dated December 22, 2004, the applicant stated that because a component performs a particular function, such as filtration for a filter or flow restriction for a flow orifice, it does not mean that the function is an intended function for license renewal. A component function would only be considered an Intended Function (IF) if failure of that component would cause the failure of a system IF. Failure of the "filtration" or "flow restriction" functions for the above mentioned components would not prevent the NMP Unit 1 feedwater/high pressure coolant injection system from performing its' IF. Therefore, the only IF credited for these components is "NSR Functional Support" as identified in LRA Table 2.3.4.A.3-1.

Based on its review, the staff is not able to find the applicant's response to RAI 2.3.4.A.3-2 acceptable because it does not adequately explain what intended functions, "NSR Functional Support" represent and how it is applied to all the component types in the feedwater/high pressure coolant injection system including filters/strainers, flow elements, flow indicators, and flow orifices. Therefore, the staff's concern described in RAI 2.3.4.A.3-2 remains an open issue. (Open Item 2.3.4.A.3-2)

11. Open Item 2.3.4.B.4-2

RAI 2.3.4.B.4-2

License renewal 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 an AMR on the drawings. However, the pneumatic actuators for these valves are not shown to require an AMR. Since the actuators are required to effect operation of the MSIVs, the staff believes they should likewise be subject to an AMR. The applicant was asked to justify exclusion of the MSIV actuators from requiring an AMR.

Applicant's Response and Staff's Evaluation

In its response, dated December 22, 2004, the applicant stated that the MSIV pneumatic actuators are within the scope of license renewal and subject to AMR for a pressure boundary intended function. The applicant further stated that AMR of these actuators will be performed and LRA revisions to incorporate the AMR results and any other associated LRA changes will be submitted by February 28, 2005.

Based on its review, the staff is not able to find the applicant's response to RAI 2.3.4.B.4-2 acceptable because although it adequately explains that the MSIV pneumatic actuators in question are within the scope of license renewal in accordance with 10 CFR 54.4(a), and subject to an AMR in accordance with 10 CFR 54.21(a), LRA revisions to incorporate the AMR results and any other associated LRA changes have not been provided. Therefore, this RAI remains an open issue. (Open Item 2.3.4.B.4-2)

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