3.4 Aging Management of Steam and Power Conversion Systems

This section of the SER documents the staff's review of the applicant's AMR results for the steam and power conversion systems components and component groups associated with the following systems:

- main steam system
- main feedwater system
- emergency feedwater system

3.4.1 Summary of Technical Information in the Application

In Section 3.4 of the LRA, the applicant provided the results of the aging management review of the main steam, main feedwater, and emergency feedwater system components and component types listed in Tables 2.3.4-1 through 2.3.4-3 of the LRA. The applicant also listed the materials, environments, aging effects requiring management, and aging management programs associated with each system.

In Table 3.4.1, "Summary of the Aging Management Programs for the Steam and Power Conversion System Evaluated in Chapter VIII of NUREG-1801," of the LRA, the applicant provided a summary comparison of its AMRs with the AMRs evaluated in the GALL Report for the main steam, main feedwater, and emergency feedwater system components and component types. In Section 3.4.2.2 of the LRA, the applicant provided information concerning Table 3.4.1 components for which further evaluation is recommended by the GALL Report.

3.4.2 Staff Evaluation

The staff reviewed Section 3.4 of the LRA to understand the applicant's review process and to determine whether the applicant provided sufficient information to demonstrate that the effects of aging for the main steam, main feedwater, and emergency feedwater system components that are within the scope of license renewal and subject to an AMR will be adequately managed so that the intended functions will be maintained consistent with the CLB for the period of extended operation, as required by 10 CFR 54.21(a)(3).

The staff performed an audit and review to confirm the applicant's claim that certain identified AMRs are consistent with the staff-approved AMRs in the GALL Report. The staff did not repeat its review of the matters described in the GALL Report. However, the staff did verify that the material presented in the LRA was applicable and that the applicant had identified the appropriate GALL AMRs. The staff's audit and review findings are summarized in Section 3.4.2.1 of this SER.

The staff also audited those AMRs that were consistent with the GALL Report and for which further evaluation is recommended. The staff verified that the applicant's further evaluations were consistent with the acceptance criteria in Section 3.4.3.2 of NUREG-1800, "Standard Review Plan for Review of License Renewal Applications for Nuclear Power Plants," (SRP-LR). The staff's audit and review findings are summarized in Section 3.4.2.2 of this SER.

The staff conducted a technical review of the remaining AMRs that are not consistent with the

GALL Report. The review included evaluating whether all plausible aging effects were identified and whether the aging effects listed were appropriate for the combination of materials and environments specified. The staff's audit and review findings are summarized in Section 3.4.2.3 of this SER.

Finally, the staff reviewed the AMP summary descriptions in the UFSAR Supplement to ensure that they provide an adequate description of the programs credited with managing or monitoring aging for the steam and power conversion systems.

The staff's review of the steam and power conversion system and associated components followed one of several approaches. One approach, documented in Section 3.4.2.1 of this SER, involves the staff's review of the AMR results for components in the steam and power conversion system that the applicant indicated are consistent with the GALL Report and do not require further evaluation. Another approach, documented in Section 3.4.2.2, involves the staff's review of the AMR results for components in the steam and power conversion system that the applicant indicated are consistent with the GALL Report and for which further evaluation is recommended. A third approach, documented in Section 3.4.2.3, involves the staff's review of the AMR results for components in the steam and power conversion system that the applicant indicated are not consistent with the GALL Report or are not addressed in the GALL Report. The staff's review of AMPs that are credited to manage or monitor aging effects of the steam and power conversion system components is documented in Section 3.0.3 of this SER.

3.4.2.1 Aging Management Evaluations that are Consistent with the GALL Report, for Which No Further Evaluation is Required

Summary of Technical Information in the Application

In Section 3.4.2.1 of the LRA, the applicant identified the materials, environments, and aging effects requiring management. The applicant identified the following programs that manage the aging effects related to the main steam, main feedwater, and emergency feedwater system components:

- Bolting and Torquing Activities Program
- Flow-accelerated Corrosion Program
- System Walkdown Program
- Water Chemistry Control Program
- Oil Analysis Program
- Periodic Surveillance and Preventive Maintenance Program

Staff Evaluation

In Tables 3.4.2-1 through 3.4.2-3 of the LRA, the applicant provided a summary of AMRs for the main steam, main feedwater, and emergency feedwater system components and identified which AMRs it considered to be consistent with the GALL Report.

For component groups evaluated in the GALL Report for which the applicant has claimed consistency with the GALL Report, and for which the GALL Report does not recommend further

evaluation, the staff performed an audit and review to determine whether the plant-specific components contained in these GALL Report component groups were bounded by the GALL Report evaluation.

The applicant provided a note for each AMR line item. The notes described how the information in the tables aligns with the information in the GALL Report. The staff audited those AMRs with Notes A through E, which indicated the AMR was consistent with the GALL Report.

Note A indicated that the AMR line item is consistent with the GALL Report for component, material, environment, and aging effect. In addition, the AMP is consistent with the AMP identified in the GALL Report. The staff audited these line items to verify consistency with the GALL Report and the validity of the AMR for the site-specific conditions.

Note B indicated that the AMR line item is consistent with the GALL Report for component, material, environment, and aging effect. In addition, the AMP takes some exceptions to the AMP identified in the GALL Report. The staff audited these line items to verify consistency with the GALL Report. The staff verified that the identified exceptions to the GALL AMPs had been reviewed and accepted by the staff. The staff also determined whether the AMP identified by the applicant was consistent with the AMP identified in the GALL Report and whether the AMR was valid for the site-specific conditions.

Note C indicated that the component for the AMR line item is different, but consistent with the GALL Report for material, environment, and aging effect. In addition, the AMP is consistent with the AMP identified by the GALL Report. This note indicates that the applicant was unable to find a listing of some system components in the GALL Report. However, the applicant identified a different component in the GALL Report that had the same material, environment, aging effect, and AMP as the component that was under review. The staff audited these line items to verify consistency with the GALL Report. The staff also determined whether the AMR line item of the different component was applicable to the component under review and whether the AMR was valid for the site-specific conditions.

Note D indicated that the component for the AMR line item is different, but consistent with the GALL Report for material, environment, and aging effect. In addition, the AMP takes some exceptions to the AMP identified in the GALL Report. The staff audited these line items to verify consistency with the GALL Report. The staff verified whether the AMR line item of the different component was applicable to the component under review. The staff verified whether the identified exceptions to the GALL AMPs had been reviewed and accepted by the staff. The staff also determined whether the AMP identified by the applicant was consistent with the AMP identified in the GALL Report and whether the AMR was valid for the site-specific conditions.

Note E indicated that the AMR line item is consistent with the GALL Report for material, environment, and aging effect, but a different aging management program is credited. The staff audited these line items to verify consistency with the GALL Report. The staff also determined whether the identified AMP would manage the aging effect consistent with the AMP identified by the GALL Report and whether the AMR was valid for the site-specific conditions.

The staff conducted an audit and review of the information provided in the LRA and program bases documents, which are available at the applicant's engineering office. On the basis of its

audit and review, the staff finds that the AMR results, which the applicant claimed to be consistent with the GALL Report, are consistent with the AMRs in the GALL Report. Therefore, the staff finds that the applicable aging effects were identified and are appropriate for the combination of materials and environments listed.

On the basis of its audit and review, the staff concludes that the applicant has demonstrated that the effects of aging will be adequately managed so that the intended function(s) will be maintained consistent with the CLB for the period of extended operation, as required by 10 CFR 54.21(a)(3).

Staff RAIs Pertaining to Recent Operating Experience and Emerging Issues

Because the GALL Report and SRP-LR were issued in July 2001, these documents do not reflect the most current recommendations for managing certain aging effects that have been the subject of recent operating experience or the topic of an emerging issue. As a result, the staff issued RAIs to determine how the applicant proposed to address these items for license renewal. The applicant's responses to these RAIs, and the staff's evaluations of the responses, are documented as follows.

< Evaluation To Be Provided by DE/EMEB >

Conclusion

The staff has verified the applicant's claim of consistency with GALL Report. The staff also has reviewed information pertaining to the applicant's consideration of recent operating experience and proposals for managing associated aging effects. On the basis of its review, the staff finds that the AMR results, which the applicant claimed to be consistent with the GALL Report, are consistent with the AMRs in the GALL Report. Therefore, the staff finds that the applicant has demonstrated that the effects of aging for these components will be adequately managed so that their intended function(s) will be maintained consistent with the CLB for the period of extended operation, as required by 10 CFR 54.21(a)(3).

3.4.2.2 Aging Management Evaluations that are Consistent with the GALL Report, for Which Further Evaluation is Recommended

Summary of Technical Information in the Application

In Section 3.4.2.2 of the LRA, the applicant provided further evaluation of aging management as recommended by the GALL Report for steam and power conversion systems. The applicant provided information concerning how it will manage the following aging effects:

- cumulative fatigue damage
- loss of material due to general, pitting, and crevice corrosion
- loss of material due to general, pitting, and crevice corrosion, microbiologically influenced corrosion, and biofouling
- general corrosion
- loss of material due to general, pitting, crevice, and microbiologically influenced corrosion

- quality assurance for aging management of non-safety-related components

Staff Evaluation

For component groups evaluated in the GALL Report for which the applicant has claimed consistency with the GALL Report, and for which the GALL Report recommends further evaluation, the staff reviewed the applicant's evaluation to determine whether it adequately addressed the issues that were further evaluated. In addition, the staff reviewed the applicant's further evaluations against the criteria contained in Section 3.4.2.2 of the SRP-LR. Details of the staff's audit and review are documented in the staff's audit and review report.

The GALL Report indicates that further evaluation should be performed for the aging effects described in the following sections of this SER.

3.4.2.2.1 Cumulative Fatigue Damage

As stated in the SRP-LR, fatigue is a time-limited aging analysis (TLAA) as defined in 10 CFR 54.3. TLAAs are required to be evaluated in accordance with 10 CFR 54.21(c)(1). The staff's review of the applicant's evaluation of this TLAA is documented in Section 4.3 of this SER. In performing this review, the staff followed the guidance in Section 4.3 of the SRP-LR.

< DE to verify >

3.4.2.2.2 Loss of Material Due to General, Pitting, and Crevice Corrosion

In Section 3.4.2.2.2 of the LRA, the applicant addressed the GALL Report recommendation for further evaluation to verify the effectiveness of the water chemistry control program in managing loss of material due to general, pitting, and crevice corrosion.

Section 3.4.2.2.2 of the SRP-LR states that the management of loss of material due to general, pitting, and crevice corrosion should be evaluated further for carbon steel piping and fittings, valve bodies and bonnets, pump casings, pump suction and discharge lines, tanks, tubesheets, channel heads, and shells except for main steam system components and for loss of material due to pitting and crevice corrosion for stainless steel tanks and heat exchanger/cooler tubes. The water chemistry program relies on monitoring and control of water chemistry based on the guidelines in EPRI guidelines of TR-102134 for secondary water chemistry to manage the effects of loss of material due to general, pitting, or crevice corrosion. However, corrosion may occur at locations of stagnant flow conditions. Therefore, the effectiveness of the chemistry control program should be verified to ensure that corrosion is not occurring. The GALL Report recommends further evaluation of programs to manage loss of material due to general, pitting, and crevice corrosion to verify the effectiveness of the water chemistry program. A one-time inspection of select components and susceptible locations is an acceptable method to ensure that corrosion is not occurring and that the component's intended function will be maintained during the period of extended operation.

For the components for which this evaluation is required, the applicant credited the primary and secondary water chemistry control (AMP B.1.30.3) to manage loss of material. The water chemistry control program minimizes loss of material and provides for the inspection of systems

when they are opened for maintenance, which addresses the verification program recommendation in the GALL Report. The applicant credited the periodic surveillance and preventive maintenance program (AMP B.1.18) to supplement water chemistry control for portions of the emergency feedwater system. The water chemistry control program provides for the inspection of systems when they are opened for maintenance, which addresses the one-time inspection recommendation in the GALL Report. The applicant's existing secondary water chemistry control program relies on the EPRI guidelines of TR-102134 for secondary water chemistry to manage the effects of loss of material due to general, pitting, or crevice corrosion. The applicant does not have a one-time inspection program of selected components and susceptible locations, which is suggested in the GALL AMP XI.M32 as a means to verify the effectiveness. Rather, the applicant credited the periodic surveillance and preventive maintenance program with performing the verification of effectiveness for the secondary water chemistry control program.

The staff reviewed the effectiveness of the secondary water chemistry control program by reviews of routine component inspections that are performed by chemistry, maintenance and engineering staff. These inspections were performed when primary and secondary systems were opened for maintenance, when an adverse chemistry trend existed, or when requested by the chemistry or engineering departments. The components inspected have included areas that are susceptible to the aging effects identified in the LRA. The inspections that have been performed include inspections in systems such as emergency feedwater and EDGs which are normally in standby, condensate storage tanks, feedwater heaters, moisture separator reheaters, chillers, main steam safety valves, and blowdown heat exchangers which all have areas that are susceptible to the aging effects addressed in Section 3.4.2.2.2 of the LRA.

As additional confirmation of the effectiveness of the water chemistry programs, staff reviewed operating experience documented in the applicant's engineering report, which included an audit of condition reports (CR), CR trending data, and interviews with the applicant's technical staff regarding water chemistry program operating experience. The operating experience review did not identify component failures or significant adverse conditions such as aging effects in the systems that were the result of an ineffective water chemistry program. Also, the CR trending data did not identify recurrent component degradation occurring in the steam and power conversion systems. The audit of CRs, CR trending data, and personnel interviews provided additional confirmation of secondary water chemistry control program effectiveness.

The staff finds that the applicant has demonstrated that the effects of aging for loss of material will be adequately managed so that the intended functions will be maintained consistent with the CLB during the period of extended operation.

3.4.2.2.3 Loss of Material Due to General, Pitting, and Crevice Corrosion, Microbiologically Influenced Corrosion, and Biofouling

In Section 3.4.2.2.3 of the LRA, the applicant addressed loss of material in carbon steel piping and fittings for untreated water from the backup water supply in the emergency feedwater system.

Section 3.4.2.2.3 of the SRP-LR states that loss of material due to general corrosion, pitting and crevice corrosion, MIC, and biofouling could occur in carbon steel piping and fittings for

untreated water from the backup water supply in the auxiliary feedwater system. The GALL Report recommends further evaluation to ensure that these aging effects are adequately managed.

The applicant stated that the portion of the lines from the service water system to the emergency feedwater system that are exposed to untreated water are addressed as part of the service water system (LRA Item Number 3.3.1-17 of Table 3.3.1). With exceptions, the service water integrity program (AMP B.1.24) is the equivalent of the open cycle cooling system program described in the GALL AMP XI.M20, "Open-Cycle Cooling Water System." The service water integrity is evaluated in Section 3.0.3.2.7 of this SER.

The service water integrity program is supplemented by the primary and secondary water chemistry control program (AMP B.1.30.3) and the periodic surveillance and preventive maintenance program (AMP B.1.18) which manage loss of material and fouling. Although biofouling is not, in itself, an aging effect, these programs manage the effects which may result from biofouling in carbon steel piping and fittings for untreated water from the backup water supply in the emergency feedwater system. The staff reviewed the primary and secondary water chemistry control program and the periodic surveillance and preventive maintenance program. Its evaluation of these programs is documented in Section 3.0.3.1 and 3.0.3.3.7, of this SER, respectively. The staff finds the periodic surveillance and preventive maintenance program effectively manages the aging effects of loss of material.

3.4.2.2.4 General Corrosion

In Section 3.4.2.2.4 of the LRA, the applicant stated that loss of material due to general corrosion could occur on external surfaces of carbon steel SCs, including closure bolting. The applicant credited the system walkdown program (AMP B.1.28) to manage loss of material for the external surfaces of carbon steel SCs, including bolting indoors and outdoors.

Section 3.4.2.2.4 of the SRP-LR states that loss of material due to general corrosion could occur on the external surfaces of all carbon steel SCs, including closure boltings, exposed to operating temperature less that 212°F. The GALL Report recommends further evaluation to ensure that this aging effect is adequately managed.

The staff reviewed the applicant's proposed program to ensure that an adequate program will be in place for the management of this aging effect. Based on the staff's review of the system walkdown program, the staff concludes that the program will adequately manage these aging effects. The evaluation of this program is documented in Section 3.0.3.3.9 of this SER.

3.4.2.2.5 Loss of Material Due to General, Pitting, Crevice, and Microbiologically Influenced Corrosion

In Section 3.4.2.2.5 of the LRA, the applicant addressed (1) loss of material due to general corrosion (carbon steel only), pitting and crevice corrosion, and microbiologically influenced corrosion in stainless steel and carbon steel components exposed to lubricating oil in the emergency feedwater system and (2) loss of material in underground piping and fittings and storage tanks for steam and power conversion systems.

Section 3.4.2.2.5 of the SRP-LR addresses loss of material due to general corrosion (carbon steel only), pitting and crevice corrosion, and microbiologically influenced corrosion which could occur in stainless steel and carbon steel shells, tubes, and tubesheets within the bearing oil coolers (for steam turbine pumps) in the auxiliary feedwater system. The GALL Report recommends further evaluation to ensure that these aging effects are adequately managed.

Section 3.4.2.2.5 of the SRP-LR also addresses loss of material due to general corrosion, pitting and crevice corrosion, and MIC, which could occur in underground piping and fittings and the emergency condensate storage tank in the auxiliary feedwater system and the underground condensate storage tank in the condensate system. The buried piping and tanks inspection program relies on industry practice, frequency of pipe excavation, and operating experience to manage the effects of loss of material from general corrosion, pitting and crevice corrosion, and MIC. The effectiveness of the buried piping and tanks inspection program should be verified to evaluate an applicant's inspection frequency and operating experience with buried components, ensuring that loss of material is not occurring.

The applicant stated that the oil analysis program (AMP B.1.17) manages the loss of material aging effect for stainless steel and carbon steel components exposed to lubricating oil in the emergency feedwater system. The staff reviewed and finds that the oil analysis program adequately manages the effects of aging of loss of material for stainless and carbon steel components exposed to lubricating oil. The staff's evaluation of this AMP is documented in Section 3.0.3.3.6 of this SER.

The staff confirmed that there are no buried components in steam and power conversion systems at ANO-2.

Conclusion

On the basis of its review, for component groups evaluated in the GALL Report for which the applicant has claimed consistency with the GALL Report, and for which the GALL Report recommends further evaluation, the staff determines that the applicant adequately addressed the issues that were further evaluated. In addition, the staff reviewed the applicant's further evaluations against the criteria contained in the SRP-LR. Since the applicant's AMR results are otherwise consistent with the GALL Report, the staff finds that the applicant has demonstrated that the effects of aging will be adequately managed so that the intended functions will be maintained consistent with the CLB for the period of extended operation, as required by 10 CFR 54.21(a)(3).

3.4.2.3 AMR Results that are Not Consistent with the GALL Report or Not Addressed in the GALL Report

Summary of Technical Information in the Application

In Tables 3.4.2-1 through 3.4.2-3 of the LRA, the staff reviewed additional details of the results of the AMRs for material, environment, aging effect requiring management, and AMP combinations that are not evaluated in the GALL Report.

In Tables 3.4.2-1 through 3.4.2-3, the applicant indicated, via Notes F through J, that neither

the identified component nor the material and environment combination is evaluated in the GALL Report and provided information concerning how the aging effect will be managed.

Note F indicated that the material is not in the GALL Report for the identified component.

Note G indicated that the environment is not in the GALL Report for the identified component and material.

Note H indicated that the aging effect is not in the GALL Report for component, material, and environment combination.

Note I indicated that the aging effect in the GALL Report for the identified component, material, and environment combination is not applicable

Note J indicated that neither the identified component nor the material and environment combination is evaluated in the GALL Report.

Staff Evaluation

For component type, material and environment combination that are not evaluated in the GALL Report, the staff reviewed the applicant's evaluation to determine whether the applicant had demonstrated that the effects of aging will be adequately managed so that the intended function will be maintained consistent with the CLB during the period of extended operation.

The staff evaluation is discussed below.

3.4.2.3.1 Main Steam System Summary of Aging Management - Table 3.4.2-1

The staff reviewed Table 3.4.2-1 of the LRA, which summarized the results of AMR evaluations in the SRP-LR for the main steam system component groups.

The applicant has identified no aging effects for stainless steel components exposed to air, including expansion joint, piping, thermowell, tubing, and valve component types. Air is not identified in the GALL Report as an environment for these components and materials.

On the basis of current industry research and operating experience, dry air on metal will not result in aging that will be of concern during the period of extended operation. The external environments being referred to are typical of ambient air, e.g., under a shelter, indoor, or air-conditioned enclosure or room. Therefore, the staff concludes that there are no aging effects requiring management for stainless steels in an air environment.

<Additional Evaluation To Be Provided by DE/EMCB >

3.4.2.3.2 Main Feedwater System Summary of Aging Management - Table 3.4.2-2

The staff reviewed Table 3.4.2-2 of the LRA, which summarized the results of AMR evaluations in the SRP-LR for the main feedwater system component groups.

The applicant has identified no aging effects for stainless steel components exposed to air, including bolting, tubing, and valve component types. Air is not identified in the GALL Report as an environment for these components and materials.

On the basis of current industry research and operating experience, dry air on metal will not result in aging that will be of concern during the period of extended operation. The external environments being referred to are typical of ambient air, e.g., under a shelter, indoor, or air-conditioned enclosure or room. Therefore, the staff concludes that there are no aging effects requiring management for stainless steel in a dry air environment.

<Additional Evaluation To Be Provided by DE/EMCB >

3.4.2.3.3 Emergency Feedwater System Summary of Aging Management - Table 3.4.2-3

The staff reviewed Table 3.4.2-3 of the LRA, which summarized the results of AMR evaluations in the SRP-LR for the emergency feedwater system component groups.

The applicant has identified no aging effects for stainless steel components exposed to air, including bolting, orifice, piping, tank, thermowell, tubing, and valve component types. Air is not identified in the GALL Report as an environment for these components and materials.

On the basis of current industry research and operating experience, dry air on metal will not result in aging that will be of concern during the period of extended operation. The external environments being referred to are typical of ambient air, e.g., under a shelter, indoor, or air-conditioned enclosure or room. Therefore, the staff concludes that there are no aging effects requiring management for stainless steel in a dry air environment.

In the case of a copper-alloy heat exchanger tube sheet exposed to lube oil, the applicant proposed to manage loss of material using the oil analysis program (AMP B.1.17). The staff reviewed and accepted the oil analysis program. Its evaluation of this program is documented in Section 3.0.3.3.6 of this SER.

The staff notes that loss of material due to pitting corrosion is an applicable aging effect for brass, bronze, and copper materials in a lubricating oil environment at locations containing oxygenated water with contaminants such as halide ions, particularly chloride ions. In addition, loss of material due to galvanic corrosion in a lubricating oil environment can occur only when materials with different electrochemical potentials are in contact in the presence of water.

The staff also notes that loss of material due to crevice corrosion can also occur in brass, bronze, and copper materials in a lubricating oil environment at locations containing oxygenated water. Oxygen is required for the initiation of crevice corrosion. Lube oil that is not contaminated with water does not contain oxygen in sufficient quantities for crevice corrosion to occur. Water contamination of lubricating oil can occur, and is required for the introduction of oxygen. Although only high-quality (water and contaminant free) lubricating oil is received, and periodic sampling is performed to ensure the quality is maintained, the potential contamination of lubrication oil makes the loss of material due to general corrosion, pitting, galvanic corrosion and crevice corrosion an applicable aging effect for brass, bronze, and copper materials exposed to lubricating oil in the emergency feedwater system.

The staff further notes loss of material due to microbiologically influenced corrosion is an applicable aging effect for brass and copper materials exposed to lubricating oil. The applicant treated the lubricating oil with biocides to limit the presence of microbiological organisms and, therefore, microbiologically influenced corrosion has not been a concern for those portions of the steam and power conversion systems that are within the scope of license renewal, and the associated materials exposed to lubricating oil. However, the potential for the presence of microbiological organisms to be found in lubricating oil makes microbiologically influenced corrosion an applicable aging effect for brass and copper materials exposed to lubricating oil in the steam and power conversion systems.

On the basis that the oil analysis program maintains oil systems free of contaminants (primarily water and particles), the staff finds that this program adequately manages loss of material for components exposed to lubricating oil.

<Additional Evaluation To Be Provided by DE/EMCB >

Conclusion

On the basis of its review, the staff finds that the applicant appropriately evaluated AMR results involving material, environment, aging effect requiring management, and AMP combinations that are not evaluated in the GALL Report. The staff finds that the applicant has demonstrated that the effects of aging will be adequately managed so that the intended functions will be maintained consistent with the CLB for the period of extended operation, as required by 10 CFR 54.21(a)(3).

3.4.3 Conclusion

The staff concluded that the applicant provided sufficient information to demonstrate that the effects of aging for the main steam, main feedwater, and emergency feedwater system components that are within the scope of license renewal and subject to an AMR will be adequately managed so that the intended functions will be maintained consistent with the current license CLB for the period of extended operation, as required by 10 CFR 54.21(a)(3).