

### DSER Section 3

Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
Page 3-1, Section 3.0, Para. 1	The GALL Report contains the staff's generic evaluation of the existing plant programs ...	The GALL Report contains the staff's generic evaluation of existing plant programs ...	Clarification	3
Page 3-4, Section 3.0.2, Para. 1 numbering	Numbering runs from (10) to (12)	Use bullets	Typo	3
Pages 3-5 & 3-6, Section 3.0.2.1, Para. 2 numbering	Numbering runs from (13) to (22)	Use (1) to (10)	Typo	3
Page 3-5, Section 3.0.2.1, Para. 2 number (20)	The confirmation process should be ensure that preventive actions are adequate ...	The confirmation process should ensure that preventive actions are adequate ...	Clarification	3
Page 3-7, Table 3.0.3-1, Item (B2.1.5) (Boraflex Monitoring Program)	Consistent with <del>exceptions and</del> enhancements	Consistent with enhancements	This program was modified by NRC 2005-0038 to be consistent with GALL	1
Page 3-8, Table 3.0.3-1, Item (B2.1.9) (Closed-Cycle Cooling)	Closed-Cycle Cooling Water Surveillance Program	Closed-Cycle Cooling Water <b>System</b> Surveillance Program	Clarification	2
Page 3-8, Table 3.0.3-1, Item (B2.1.11) (Flow-Accelerated Program)	Consistent with enhancements	Consistent with <b>exceptions and</b> enhancements	See NRC 2005-0037 and 0044.	1
Page 3-9, Table 3.0.3-1, Item	<del>XLM1</del>	<b>XI.M23</b>	See LRA Page B-8, Section B2.0.	2

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(B2.1.20) (Structures Monitoring Program)				
Page 3-10, Section 3.0.3.2, Para. 1	Fatigue Monitoring Program ( <del>B2.3</del> )	Fatigue Monitoring Program ( <b>B3.2</b> )	Typo	3
Page 3-15, Section 3.0.3.2.1, full Para. 4	FSAR Supplement. In LRA Section <del>A15.2.3</del> , the applicant provided the FSAR supplement for the ASME Code Section XI, <del>Subsection IWF</del> Inservice Inspection Program.	FSAR Supplement. In LRA Section <b>A15.2.1</b> , the applicant provided the FSAR supplement for the ASME Code Section XI, <b>Subsections IWB, IWC and IWD</b> Inservice Inspection Program.	Section 3.0.3.2.1 addresses ASME Section XI, Subsections IWB, IWC, and IWD Inservice Inspection Program, not Subsection IWF.	2
Page 3-19, Section 3.0.3.2.2, full Para. 3	The staff, for ASME Code 98A00, found that the GALL Report remains valid and authorized use of the 98A00 as an alternative to the 95A96 without the need for the applicant to submit to the NRC its plant-specific associated with license renewal.	The staff, for ASME Code 98A00, found that the GALL Report remains valid and authorized use of the 98A00 as an alternative to the 95A96 without the need for the applicant to submit to the NRC its plant-specific <b>basis</b> associated with license renewal.	Clarification	2
Page 3-20, Section 3.0.3.2.3, full Para. 1	High-strength (>150 ksi yield) component support bolting is used in pinned connections ... are not located in an aggressive environment.	Modify to address additional information on high-strength bolting	See letters NRC 2005-0024 (RAI B2.1.4-3) and 2005-0043 (RAI 3.5-14).	2
Page 3-22, Section 3.0.3.2.4, full Para. 1 numbering	(5) Scope of the Program	(1) Scope of the Program	Typo (generic numbering issue)	3

<b>Page, Section, and Paragraph</b>	<b>DSER Text</b>	<b>Suggested Revision</b>	<b>Justification</b>	<b>Category</b>
Page 3-22, Section 3.0.3.2.4, full Para. 4 numbering	(6) Preventive Actions	(2) Preventive Actions	Typo (generic numbering issue)	3
Page 3-23, Section 3.0.3.2.4, Para. 2	In its response, dated March 7, 2005...  Note that the vast majority of bolted joints at PBNP are designed to ensure the uniformity of gasket ...	In its response, dated March 4, 2005...  Note that the majority of bolted joints at PBNP are designed to ensure the uniformity of gasket ...	Clarification, letter NRC 2005-0024.	2
Page 3-23, Section 3.0.3.2.4, last Para. numbering	(7) Parameters Monitored or Inspected	(3) Parameters Monitored or Inspected	Typo (generic numbering issue)	3
Page 3-23, Section 3.0.3.2.4, last Para.	Parameters Monitored or Inspected - The applicant stated that the inspection program for high strength (-150 ksi yield strength) bolting in NSSS component supports ...	Parameters Monitored or Inspected - The applicant stated that the inspection program for high strength (>150 ksi yield strength) bolting in NSSS component supports ...	Missing > symbol.	3
Page 3-26, Section 3.0.3.2.4, Para. 1 numbering	(8) Detection of Aging Effects	(4) Detection of Aging Effects	Typo (generic numbering issue)	3
Page 3-27, Section 3.0.3.2.4, full Para. 3 numbering	➡ Monitoring and Trending	(5) Monitoring and Trending	Typo (generic numbering issue)	3
Page 3-28, Section 3.0.3.2.4, full Para. 1	The staff agreed that the frequency of ... or the corrective maintenance process because this is program has proven	The staff agreed that the frequency of ... or the corrective maintenance process because this program has proven	Clarification	3

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	successful.	successful.		
Page 3-28, Section 3.0.3.2.4, full Para. 3 numbering	<del>6</del> Acceptance Criteria	<b>(6)</b> Acceptance Criteria	Typo (generic numbering issue)	3
Page 3-29, Section 3.0.3.2.4, Para. 4 numbering	<del>(7)</del> Operating Experience	<b>(10)</b> Operating Experience	Typo (generic numbering issue)	3
Page 3-30, Section 3.0.3.2.5, Para. 1	The applicant stated that this program is consistent, with <del>exceptions and</del> enhancements, with GALL AMP XI.M22, "Boraflex Monitoring."	The applicant stated that this program is consistent, with enhancements, with GALL AMP XI.M22, "Boraflex Monitoring."	This AMP was modified to be consistent with GALL in NRC 2005-0038.	1
Page 3-30, Section 3.0.3.2.5, Para. 2	Monitoring <del>and</del> analysis of criticality will also be performed to assure that the required 5 percent subcriticality margin is maintained.	Monitoring <b>by</b> analysis of criticality will also be performed to assure that the required 5 percent subcriticality margin is maintained.	See NRC 2004-0071 and NRC 2005-0020.	2
Page 3-31, Section 3.0.3.2.5, last Para.	...the applicant committed to perform <del>blackness tests</del> prior to and during the period of extended operation <del>once every 2 years.</del>	"...the applicant committed to perform <b>areal density and blackness tests on certain accelerated Boraflex panels once every 2 years during the period of extended operation. The first Boraflex areal density testing of the Boraflex panels will be performed prior to the period of</b>	See comments for pages 4-63 thru 4-66 and NRC 2005-0038.	1

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		<b>extended operation.</b>		
Page 3-33, Section 3.0.3.2.6, Para. 6	The applicant stated that procedures will be revised and/or developed to <del>indicate</del> susceptible components upon ...	The applicant stated that procedures will be revised and/or developed to <b>identify</b> susceptible components upon ...	Clarification	3
Pages 3-33 thru 3-35, Section 3.0.3.2.6, numbered paragraphs	See comment for Page 3-22 above	(1) thru (6) and (10)	Typo (generic numbering issue) – 7 places	3
Page 3-37, Section 3.0.3.2.6, Para. 4	The staff reviewed the FSAR supplement and concluded that it provides <del>an</del> adequate summary of the program activities, as required by 10 CFR 54.21(d).	The staff reviewed the FSAR supplement and concluded that it provides <b>an</b> adequate summary of the program activities, as required by 10 CFR 54.21(d).	Typo	3
Pages 3-38 thru 3-41, Section 3.0.3.2.7, numbered paragraphs	See comment for Page 3-22 above	(1) thru (6) and (10)	Typo (generic numbering issue) – 7 places	3
Page 3-39, Section 3.0.3.2.7, Para. 4	The applicant supplied only one example of operating experience related to an inspection of opportunity for PIV in the LRA.	The applicant supplied only one example of operating experience related to an inspection of opportunity for <b>a post-indicating valve (PIV)</b> in the LRA.	First use of PIV?	3
Page 3-39, Section 3.0.3.2.7, last Para.	The staff believes that the lack of a pipe coating or pipe wrap to prevent corrosion should be		This is not considered an exception to the GALL at Point Beach. See NRC 2005-0006.	2

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	identified as an exception to the GALL Report.		DSER Table 3.0.3-1 Item (B2.1.7), p 3-8.	
Page 3-40, Section 3.0.3.2.7, full Para. 2	The applicant will perform a <del>one-time</del> inspection of a section of buried fire pipe prior to the period of extended operation.	The applicant will perform <b>an</b> inspection of a section of buried fire pipe prior to the period of extended operation.	Clarification. NRC 2005-0026.	1
Page 3-40, Section 3.0.3.2.7, full Para. 2	<del>However, an inspection of opportunity on buried fire protection piping may be substituted for this scheduled inspection.</del> The applicant also committed to performing an inspection at least every ten years during the period of extended operation.	The applicant also committed to performing an inspection at least every ten years during the period of extended operation. <b>However, an inspection of opportunity on buried fire protection piping may be substituted for these scheduled inspections.</b>	Clarification. NRC 2005-0026.	2
Page 3-41, Section 3.0.3.2.7, partial Para. 1	The effects of corrosion are detectable by visual inspections, while the effects of selective leaching are detectable by visual inspections and/or hardness measurements.	The effects of corrosion are detectable by visual inspections, while the effects of selective leaching are detectable by visual inspections and/or hardness measurements. <b>If there are any indications of selective leaching or if the condition is indeterminate, then a hardness test will be</b>	See commitment in NRC 2004-0071 related to hardness measurements.	2

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		<b>performed.</b>		
Page 3-41, Section 3.0.3.2.7, full Para. 2	The periodicity of these inspections will be based on plant operating experience and opportunities for inspection such as scheduled maintenance work.	See discussion in the 2 <sup>nd</sup> full paragraph on page 3-40 concerning buried fire system piping inspections at 10 year intervals during the period of extended operation.	2 <sup>nd</sup> full paragraph on DSER page 3-40	2
Page 3-42, Section 3.0.3.2.7, full Para. 3	The applicant stated that a condition <del>monitoring</del> report was written during the course of the excavation to repair damaged coating. The condition <del>monitoring</del> report indicated that no corrosion of the piping existed and that the coating was repaired.	The applicant stated that a condition report was written during the course of the excavation to repair damaged coating. The condition report indicated that no corrosion of the piping existed and that the coating was repaired.	Clarification	3
Page 3-43, Section 3.0.3.2.7, full Para. 1	In its response to RAI B2.1.7-1, the applicant submitted ... at least every 10 years during the period of extended operation. The staff found that the clarification response to RAI B2.1.7-1 addresses the staff's concerns described in RAI B2.1.7-3.	In its response to RAI B2.1.7-1, the applicant submitted ... at least every 10 years during the period of extended operation. <b>However, an inspection of opportunity on buried fire protection piping may be substituted for these scheduled inspections.</b> The staff found that the clarification response to RAI B2.1.7-1 addresses the	See the second entry for Page 3-40, Section 3.0.3.2.7, full Para. 2 above.  NRC 2005-0026	1

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		staff's concerns described in RAI B2.1.7-3.		
Page 3-44, Section 3.0.3.2.8, last Para.	The staff verified that all electrical cables associated with radiation monitoring and nuclear instrumentation within the scope ...	The staff verified that all electrical cables associated with radiation monitoring and <b>EQ</b> nuclear instrumentation within the scope ...	Clarification	2
Page 3-45, Section 3.0.3.2.8, full Para. 2	For the “parameters monitored or inspected”, “detection of aging effects”, and “acceptance criteria” program elements associated with the exception taken by the applicant, the GALL AMP XI.E2 states, first, the parameters monitored are determined from the plant technical specifications and are specific to the instrumentation loop being calibrated, as documented in the surveillance test procedure; second, calibration provides sufficient indication of the need for corrective actions by monitoring key parameters and providing trending data based on acceptance criteria related to instrumentation loop performance. <del>The normal calibration frequency specified in the plant technical specifications provides reasonable assurance that severe aging degradation will be detected prior to loss of the cable intended function.</del> The	For the “parameters monitored or inspected”, “detection of aging effects”, and “acceptance criteria” program elements associated with the exception taken by the applicant, the GALL AMP XI.E2 states, first, the parameters monitored are determined from the plant technical specifications and are specific to the instrumentation loop being calibrated, as documented in the surveillance test procedure; second, calibration provides sufficient indication of the need for corrective actions by monitoring key parameters and providing trending data based on	Clarification	2



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	<p>first tests for license renewal are to be completed prior to entering the period of extended operation. <del>Third, calibration readings are to be within the loop-specific acceptance criteria, as set out in the plant technical specifications surveillance test procedures.</del></p>	<p>acceptance criteria related to instrumentation loop performance. The first tests for license renewal are to be completed prior to entering the period of extended operation.</p>		
<p>Page 3-45, Section 3.0.3.2.8, full Para. 3</p>	<p>The staff reviewed the applicant's Cable Condition Monitoring ... for the IR testing of nuclear instrumentation is comprehensive and conservative in that it tests all nuclear instrumentation circuits ...</p>	<p>The staff reviewed the applicant's Cable Condition Monitoring ... for the IR testing of <b>non-EQ</b> nuclear instrumentation is comprehensive and conservative in that it tests all <b>non-EQ</b> nuclear instrumentation circuits ...</p>	<p>Clarification</p>	<p>2</p>
<p>Page 3-45, Section 3.0.3.2.8, full Para. 6</p>	<p>In its response, dated <del>January 21, 2005</del>, the applicant deleted this exception and agreed to perform the cable testing, as described in the GALL AMP XI.E3.</p>	<p>In its response, dated <b>March 15, 2005</b>, the applicant deleted this exception and agreed to perform the cable testing, as described in the GALL AMP XI.E3 <b>with exceptions.</b></p>	<p>The January 21, 2005 letter (NRC 2005-0009) provided information to support the PBNP definition of significant moisture. Deletion of the exception was done in NRC 2005-0026 (dated March 15, 2005). Neither letter provided agreement to perform cable testing as described in GALL AMP XI.E3. See also the second entry below for</p>	<p>1</p>

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			Page 3-46, last full paragraph.	
Page 3-46, Section 3.0.3.2.8, full Para. 2	This testing was performed in <del>2002 and 2003</del> and no significant deterioration of the cables was found.	This testing was performed in <b>2003 and 2004</b> and no significant deterioration of the cables was found.	See NRC 2005-0009.	2
Page 3-46, Section 3.0.3.2.8, last full Para.	In response to RAI B2.1.8-1, the applicant also agreed to consider for testing all inaccessible non-EQ medium-voltage cables within the scope of license renewal not designed for submergence that are subject to significant moisture and significant voltage <del>are considered</del> .	In response to RAI B2.1.8-1, the applicant also agreed to consider for testing all inaccessible non-EQ medium-voltage cables within the scope of license renewal not designed for submergence that are subject to significant moisture and significant voltage.	Clarification	3
Page 3-47, Section 3.0.3.2.8, full Para. 4	... Plant-specific operating experience has shown that adverse localized ...	Plant-specific operating experience has shown that adverse localized ...	Typo	3
Page 3-48, Section 3.0.3.2.8, Para. 2	... An NRC Inspection Report identified a finding regarding inadequate ...	An NRC Inspection Report identified a finding regarding inadequate ...	Typo	3
Page 3-49, Section 3.0.3.2.9	3.0.3.2.9 Closed-Cycle Cooling Water Surveillance Program	3.0.3.2.9 Closed-Cycle Cooling Water <b>System</b> Surveillance Program	This is a generic change needed throughout this section and throughout the SER.	2
Page 3-51, Section 3.0.3.2.9, Para. 5	With these monitored parameters and operability tests performed ... performance with the	With these monitored parameters and operability tests performed ... performance with the	Clarification	3

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	affected <del>SCCs</del> . On the basis of the consideration ... the staff found the exception is acceptable.	affected <b>SSCs</b> . On the basis of the consideration ... the staff found the exception acceptable.		
Page 3-51, Section 3.0.3.2.9, Para. 6	The applicant stated that the system flows are monitored, as are pump suction and discharge pressure.	The applicant stated that the <b>CC</b> system flows are monitored, as are pump suction and discharge pressure.	Clarification	2
Page 3-52, Section 3.0.3.2.9, full Para.2	The system performance is periodically monitored by checking system pressures and temperatures.	The <b>ventilation chilled water</b> system performance is periodically monitored by checking system pressures and temperatures.	Clarification - See LRA Section B2.1.9, page B-103	2
Page 3-52, Section 3.0.3.2.9, full Para. 4	The smaller containment spray pumps, residual heat removal pumps, and the safety injection pumps <del>associated with the system heat exchangers</del> have flows that are set ...	The smaller <b>heat exchangers associated with</b> containment spray pumps, residual heat removal pumps, and the safety injection pumps have flows that are set ...	Clarification	3
Page 3-52, Section 3.0.3.2.9, full Para. 4	The applicant stated that system flow assessments will continue to provide an indicator that <del>the a</del> sub-system may not have ...	Revise sentence to clarify that system flows are only measured in portions of the CC system and that CC system flows are not used as indication of subsystem pump suction and discharge pressures.	See LRA B 2.1.9	2
Page 3-52, Section 3.0.3.2.9, full Para. 4	The applicant stated that the flows are monitored on a system basis, not on a	Delete this sentence.	Flows are only checked on portions of the CC system (see	2

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	sub-system basis.		LRA B2.1.9).	
Page 3-52, Section 3.0.3.2.9, last Para.	The Closed-Cycle Cooling Water Surveillance Program also takes exception to the "detection of aging effects" program element such that PBNP does not perform microbiological testing on the CC System, ventilation chilled water sub-systems, or the coolant sub-systems.	The Closed-Cycle Cooling Water Surveillance Program also takes exception to the "detection of aging effects" program element such that PBNP does not perform microbiological testing on the CC System, ventilation chilled water sub-systems, the coolant sub-systems <b>for the B train EDGs, or the coolant systems associated with the Gas Turbine.</b>	See LRA B2.1.9, page B-104	2
Page 3-53, Section 3.0.3.2.9, full Para. 2	The applicant does not perform this type of test on the CC system, ventilation chilled water subsystems, or the coolant subsystems for diesel generator G03 and G04.	The applicant does not perform this type of test on the CC system, ventilation chilled water subsystems, or the coolant subsystems for diesel generator G03 and G04, <b>and the coolant systems associated with G-05, G-500, and G-501.</b>	Need to include gas turbine related cooling systems. (See LRA B2.1.9, Page B-104)	2
Page 3-53, Section 3.0.3.2.9, full Para. 2	The glycol concentration in the ventilation chilled water subsystems—G03, G04, G05, G-500, and G-501—is maintained at a level where biological growth is	The glycol concentration in the ventilation chilled water subsystems, <b>G03, G04, G05, G-500, and G-501 is</b> maintained at a level where biological growth is	LRA, page B-104, G03, G04, G05, G-500, and G-501 are separate pieces of equipment. They are not ventilation chilled water subsystems.	3

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	inhibited.	inhibited.		
Page 3-54, Section 3.0.3.2.9, Para. 2	On this basis, the found this exception acceptable.	On this basis, the <b>staff</b> found this exception acceptable.	Clarification	3
Page 3-54, Section 3.0.3.2.9, Para. 2	Thermal balance testing of the component cooling <del>and</del> service water heat exchangers is performed on a frequency in accordance with plant procedures.	Thermal balance testing of the component <b>cooling/service</b> water heat exchangers is performed on a frequency in accordance with plant procedures.	Clarification. This refers to the Component Cooling Water HXs which have chromated CC water on the shell side and Service water on the tube side. This is not intended to refer to all service water HXs.	2
Page 3-54, Section 3.0.3.2.9, Para. 3	The applicant does not routinely perform heat removal capability tests on the EDG and gas turbine-related coolant subsystems. However, operability testing is periodically conducted. <del>The applicant stated that other heat exchangers are heat balance tested. These other tests combined with the operability test and system operability tests</del> provide an indication of the heat flow performance of the EDG and gas turbine-related coolant	The applicant does not routinely perform heat removal capability tests on the EDG and gas Turbine-related coolant subsystems. However, operability testing is periodically conducted. <b>The</b> operability tests provide an indication of the heat flow performance of the EDG and gas turbine-related coolant subsystems. Based on the operability tests and successful operation, the staff found this exception acceptable.	Clarification - The EDG and gas turbine-related coolant subsystems HXs are <b>not</b> heat balance tested (see LRA Section B2.1.9, page B-105).	1

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	subsystems. Based on the operability tests, <del>tests on other heat exchangers in the system</del> , and successful operation, the staff found this exception acceptable.			
Page 3-54, Section 3.0.3.2.9, Para. 4	The continuous operation <del>along with the sampling from other heat exchangers that are heat balanced-tested</del> is an indication that the ventilation chilled water subsystems heat exchangers are performing appropriately. Based on the continuous operation, <del>operability tests, tests on other heat exchangers in the system</del> , and past successful operation, the staff found this exception acceptable.	The continuous operation is an indication that the ventilation chilled water subsystems heat exchangers are performing appropriately. Based on the continuous operation and past successful operation, the staff found this exception acceptable.	None of the HXs in the ventilation chilled water system are heat balance tested (see LRA Section B2.1.9, page B-105).	1
Page 3-54, Section 3.0.3.2.9, Para. 5	The applicant stated that, for the “detection of aging effects” program element, enhancements to plant documents include revisions to ensure consideration of the applicable aging effects and to establish sampling	The applicant stated that, for the “detection of aging effects” program element, enhancements to plant documents include revisions to ensure consideration of the applicable aging effects and to establish sampling	Clarification	2

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	periodicity and criteria for the coolant associated with the gas turbine and related diesel engines, and applicable chilled water sub-systems.	periodicity and criteria for the coolant associated with the gas turbine and related diesel engines, and applicable <b>ventilation</b> chilled water sub-systems.		
Page 3-57, Section 3.0.3.2.10, Para. 1	The Fire Protection Program takes exception to the “preventive actions” program element for GALL AMP XI.M26 in that the fire protection evaluation report does not manage or prevent aging effects of components associated with fire prevention, fire detection, fire suppression, fire containment or alternative shutdown capability. <del>These components, so are</del> not addressed in the fire protection AMP.	The Fire Protection Program takes exception to the “preventive actions” program element for GALL AMP XI.M26 in that the fire protection evaluation report does not manage or prevent aging effects of components associated with fire prevention, fire detection, fire suppression, fire containment or alternative shutdown capability. <b>Therefore, the fire protection evaluation report is</b> not addressed in the fire protection AMP.	Clarification (See LRA Section B2.1.10)	2
Page 3-57, Section 3.0.3.2.10, Para. 2	With regard to the exception, noted above, the staff did not expect to find requirements to manage or to prevent aging effects in the requirements in the fire protection evaluation	With regard to the exception, noted above, the staff did not expect to find requirements to manage or to prevent aging effects in the requirements in the fire protection evaluation	Statement refers to the fire protection evaluation report not the fire protection program.	3

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	<del>program.</del>	<b>report.</b>		
Page 3-58, Section 3.0.3.2.10, full Para. 1	The staff noted the practical matter that those personnel who <del>had installed the</del> fire barrier components, ( <i>i.e.</i> , those who were the most familiar with them), were the principal inspectors who performed the required visual inspections.	The staff noted the practical matter that those personnel who <b>install</b> fire barrier components, ( <i>i.e.</i> , those who were the most familiar with them), were the principal inspectors who performed the required visual inspections.	Clarification. The inspections may not necessarily be performed by the same individuals that installed the original fire barriers.	3
Page 3-58, Section 3.0.3.2.10, Para. 3	The staff noted that PBNP treats fire hydrant hoses and gaskets as consumables, and that these components are <del>therefore not within the scope of license renewal.</del>	The staff noted that PBNP treats fire hydrant hoses and gaskets as consumables, and that these components are <b>within the scope of License Renewal, but do not require aging management.</b>	LRA, Section 2.1.3.1.3, page 2-47	2
Page 3-59, Section 3.0.3.2.10, Para. 1	The staff reviewed the information provided by the applicant, as documented in its audit and review report. <del>The staff found that where significant deviations between PBNP fire protection system testing requirements and NFPA codes and standards testing requirements exist, an engineering analysis</del>	The staff reviewed the information provided by the applicant, as documented in its audit and review report. <del>The staff found that where significant deviations between PBNP fire protection system testing requirements and NFPA codes and standards testing requirements exist, an engineering analysis</del>	Clarification - NMC has performed a review of NFPA 13 to verify code compliance.	1



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	<p><del>and justification has been developed to demonstrate that the PBNP fire protection system testing requirements are changed such that an equivalent level of protection is achieved. The staff determined that the applicable NFPA standard in effect at PBNP is NFPA 13, "Standard for the Installation of Sprinkler Systems."...</del></p>	<p><del>and justification has been developed to demonstrate that the PBNP fire protection system testing requirements are changed such that an equivalent level of protection is achieved. The staff determined that the applicable NFPA standard in effect at PBNP is NFPA 13, "Standard for the Installation of Sprinkler Systems." ...</del></p>		
<p>Page 3-59, Section 3.0.3.2.10, Para. 3</p>	<p>The staff verified that PBNP plans to inspect or replace <del>all</del> sprinkler heads in accordance with NFPA 25. The inspection of <del>some of</del> the sprinkler heads will identify any corrosion, which will then be addressed in accordance with the PBNP corrective action program and therefore accomplish the goal that no biofouling that could cause corrosion will exist. <del>The remaining sprinkler heads will be replaced. Prior to</del></p>	<p>The staff verified that PBNP plans to inspect or replace sprinkler heads in accordance with NFPA 25. The inspection <b>or replacement</b> of the sprinkler heads will identify any corrosion, which will then be addressed in accordance with the PBNP corrective action program and therefore accomplish the goal that no biofouling that could cause corrosion will exist. The disposition of any corrosion products that are detected will be in</p>	<p>Clarification LRA Section B2.1.10, Page B-113</p>	<p>1</p>

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	<p><del>replacement, the sprinkler lines will be flushed and drained, at which time, any loose corrosion products will be evident.</del> The disposition of any corrosion products that are detected will be in accordance with the applicant's corrective action program. On the basis of its review and for the reasons discussed above, the staff found this exception acceptable.</p>	<p>accordance with the applicant's corrective action program. On the basis of its review and for the reasons discussed above, the staff found this exception acceptable.</p>		
<p>Page 3-60, Section 3.0.3.2.11, Para. 1</p>	<p>The applicant stated that this is an existing PBNP program, that is consistent, with enhancements, with GALL XI.M17, "Flow-Accelerated Corrosion."</p>	<p>The applicant stated that this is an existing PBNP program, that is consistent, with <b>an exception and</b> enhancements, with GALL XI.M17, "Flow-Accelerated Corrosion."</p>	<p>This AMP was modified to take an exception to GALL in NRC 2005-0037 and 0044.</p>	<p>2</p>
<p>Page 3-69, Table 3.0.3.2-1, Row 6</p>	<p>Hardness test (per applicant response to RAI B.2.1.13-1)</p>	<p>Hardness test (per applicant response to RAI B.2.1.13-1), <b>and Visual (VT-3) and/or Volumetric (RT or UT)</b></p>	<p>Per NRC 2004-0071 and 0101.</p>	<p>2</p>
<p>Page 3-70, Section 3.0.3.2.13, Para. 1</p>	<p>The applicant also clarified that <del>although</del> the RI-ISI program addresses <del>Glass 1, 2, and 3,</del> only the Class 1 and 2 <del>portions of the risk-</del></p>	<p>The applicant also clarified that the RI-ISI program addresses only Class 1 and 2 <b>pipng welds.</b></p>	<p>Clarification – See LRA Section B2.1.13</p>	<p>2</p>

Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
	informed program are included in the LRA.			
Page 3-73, Section 3.0.3.2.14, full Para. 1	<del>In its letter, dated July 12, 2004,</del> the applicant stated that there is no lined/coated piping in the open-cycle cooling (service) water system.	<b>During the audit,</b> the applicant stated that there is no lined/coated piping in the open-cycle cooling (service) water system.	The July 12, 2004 letter does not state this.	2
Page 3-73, Section 3.0.3.2.14, full Para. 5	The applicant stated that, as an alternative, these small heat exchangers are periodically <del>inspected and cleaned</del> as part of regular maintenance.	The applicant stated that, as an alternative, these small heat exchangers are periodically <b>flushed or cleaned and inspected</b> as part of regular maintenance.	Clarification. LRA Section B2.1.14, page B-147.	2
Page 3-73 Last paragraph			Generic: Does an SER defined Periodicity change need to be reviewed by NRC?	Question
Page 3-76, Section 3.0.3.2.15, Para. 2	<del>The final industry report, "Alloy 82/182 Pipe Butt Weld Safety Assessment for U.S. PWR Plant Designs (MRP-113)," was issued in July 2004.</del>	Delete sentence.	EPRI indicates that this report has not yet been issued.	2
Page 3-77, Section 3.0.3.2.15, Para. 1	The Reactor Coolant System Alloy 600 Inspection System Program takes exceptions to the following program elements: (1) scope of the	The Reactor Coolant System Alloy 600 Inspection System Program takes exceptions to the following program elements: (1) scope of the	See the first entry for Page 3-22 above related to the generic numbering issue.	3

Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
	program, (4) detection of aging effects, (5) monitoring and trending, and (7) operating experience.	program, (4) detection of aging effects, (5) monitoring and trending, and (10) operating experience.		
Page 3-78, Section 3.0.3.2.15, last Para.	(4) Detection of Aging Effects - The applicant stated that it differed from the guidance in the GALL Report in that it was using the methodology <del>prescribe</del> by NRC Order EA-03-009 ...	(4) Detection of Aging Effects - The applicant stated that it differed from the guidance in the GALL Report in that it was using the methodology <b>prescribed</b> by NRC Order EA-03-009 ...	Clarification	3
Page 3-80, Section 3.0.3.2.15, full Para. 2	(7) Operating Experience – The ...	(10) Operating Experience – The ...	Clarification	3
Page 3-80, Section 3.0.3.2.15, full Para. 2	The applicant also performed a justification for continued operation, and revised existing guidance documents to provide more direction for responding to increasing RCS leakage, inspection of the Units 1 and 2 reactor vessel heads.	The applicant also performed a justification for continued operation, and revised existing guidance documents to provide more direction for responding to increasing RCS leakage, <b>and</b> inspection of the Units 1 and 2 reactor vessel heads.	Clarification	3
Page 3-82, Section 3.0.3.2.16, full Para. 2 – all bullets			These bullets inaccurately paraphrase what PBNP stated/ committed to. See Page 3-147, Para. 2 of the	1

Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
			SER for the correct wording.	
Page 3-82, Section 3.0.3.2.16, full Para. 4	The staff reviewed the Reactor Vessel Internals Program against the AMP elements found in the GALL Report, SRP-LR Section A.1.2.3 and SRP-LR Table A.1-1 and focused on how the program manages aging effects through the effective incorporation of 10 elements ...	The staff reviewed the Reactor Vessel Internals Program against the AMP elements found in the GALL Report, SRP-LR Section A.1.2.3 and SRP-LR Table A.1-1 and focused on how the program manages aging effects through the effective incorporation of <b>the</b> 10 elements ...	Clarification	3
Page 3-83, Section 3.0.3.2.16, Para. 3 - bullets	• baffle-former and <del>barrel former</del> bolts	• baffle-former and <b>barrel-former</b> bolts	Clarification	3
Page 3-83, Section 3.0.3.2.16, Para. 5	<del>Guide</del> tube split pins are fabricated from nickel-based alloy X-750.	<b>Unit 1 guide</b> tube split pins are fabricated from nickel-based alloy X-750. <b>Unit 2 split pins are fabricated from cold worked 316 stainless steel.</b>	Unit 2 spilt pins have been replaced during the U2R27 refueling outage.	1
Page 3-83, Section 3.0.3.2.16, last Para.	(E 0.1 MeV)	(E > 0.1 MeV)	> symbol is missing in 2 places	3
Page 3-84, Section 3.0.3.2.16, full Para. 3	In Unit 2, the pins on two guide tubes were replaced and the remaining pins were verified to have been solution heat treated above <del>1800</del> F, although it is	In Unit 2, the pins on two guide tubes were replaced and the remaining pins were verified to have been solution heat treated above <b>1800 °F</b> , although it	° symbol is missing. Also, this sentence should be modified to reflect that the Unit 2 split pins were replaced in 2005.	3

Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
	assumed that they are still susceptible to SCC because the initial installation torque was substantially higher than that used in the replacements.	is assumed that they are still susceptible to SCC because the initial installation torque was substantially higher than that used in the replacements.		
Page 3-85, Section 3.0.3.2.16, last Para.	The applicant currently uses the VT-3 examination pursuant to ASME Code Section XI, Subsection IWB, Category <del>B-3</del> once per 10-year interval on each accessible part of the RVIs.	The applicant currently uses the VT-3 examination pursuant to ASME Code Section XI, Subsection IWB, Category <b>B-N-3</b> once per 10-year interval on each accessible part of the RVIs.	Clarification	3
Page 3-86, Section 3.0.3.2.16, full Para. 3	The criteria of IWB-3500 will be used for CASS components with flaw tolerance evaluations in accordance with the ASME Code Section XI IWB-3640 procedure for submerged arc welds, with the modification <del>that</del> delta ferrite as required by IWB-3641.	The criteria of IWB-3500 will be used for CASS components with flaw tolerance evaluations in accordance with the ASME Code Section XI IWB-3640 procedure for submerged arc welds, with the modification <b>for</b> delta ferrite <b>content</b> as required by IWB-3641.	Clarification	2
Page 3-87, Section 3.0.3.2.16, full Para. 1, bullets 1 & 2	The applicant's LRA and the letter NRC-2004-0071, dated July 12, 2004, confirmed that: <ul style="list-style-type: none"> <li>• The applicant will use</li> </ul>		The information included in these 2 bullets does not exist in the July 12, 2004 letter or the RAI database for Audit	1

Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
	<p>industry-wide research studies and initiatives on age-related degradation of RVI components as the basis for determining the inspection methods, inspection method qualifications, inspection frequencies, inspection method acceptance criteria, and corrective actions for the Reactor Vessel Internals Program.</p> <ul style="list-style-type: none"> <li>The applicant will implement recommended inspection activities, acceptance criteria, and corrective actions that result from the industry's studies and initiatives on age-related degradation of RVI components as the recommendations apply to the design of the RVIs at the PBNP Units.</li> </ul>		<p>questions. See entry above for Page 3-82, Section 3.0.3.2.16, full Para. 2 – all bullets.</p>	
Page 3-87, Section 3.0.3.2.16, full Para. 4	(7) Operating Experience	(10) Operating Experience	Typo (generic numbering issue)	3
Page 3-87, Section 3.0.3.2.16, last Para.	Guide tube split pins were replaced at Units 1 and 2 in response to SCC failures of		Reword to reflect that all Unit 2 split pins were replaced in 2005. Prior	2

Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
	these pins in other Westinghouse units. A more SCC-resistant heat treatment was applied to the replacement pins.		to this, Unit 1's split pins were all replaced and Unit 2's were partially replaced.	
Page 3-88, Section 3.0.3.2.17, last Para.	The applicant stated that its Reactor Vessel Surveillance Program, as modified by its supplemental letter dated <del>September 10</del> , 2004, manages the aging effect of reduction of fracture toughness due to neutron embrittlement of the low alloy steel reactor vessels.	The applicant stated that its Reactor Vessel Surveillance Program, as modified by its supplemental letter dated <b>October 25</b> , 2004, manages the aging effect of reduction of fracture toughness due to neutron embrittlement of the low alloy steel reactor vessels.	Clarification	2
Page 3-89, Section 3.0.3.2.17, full Para. 6	LRA Section B2.1.18, as modified by a supplemental letter dated <del>September 10</del> , 2004, states that the Reactor Vessel Surveillance Program is consistent with GALL, with enhancements.	LRA Section B2.1.18, as modified by a supplemental letter dated <b>October 25</b> , 2004, states that the Reactor Vessel Surveillance Program is consistent with GALL, with enhancements.	Clarification	2
Page 3-89, Section 3.0.3.2.17, last Para.	<del>(3)</del> Scope of the Program	<b>(1)</b> Scope of the Program	Typo (generic numbering issue)	3
Page 3-90, Section 3.0.3.2.17, partial Para. 1	The mechanical test specimens were fabricated from material <del>representatives</del> of the PBNP RVs.	The mechanical test specimens were fabricated from material <b>representative</b> of the PBNP RVs.	Clarification	3



Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
Pages 3-91 and 3-92, Section 3.0.3.2.17, numbered paragraphs	See comment for Page 3-22 above	(2)	Typo (generic numbering issue) – 6 places	3
Page 3-92, Section 3.0.3.2.17, full Para. 3	The acceptance criteria of the ASME Code, Section XI, Appendix G may be modified through application of ASME Code Case N-641, which allows the use of the $K_{IC}$ curve, an alternate fracture toughness curve to the <del><math>K_{IC}</math></del> curve.	The acceptance criteria of the ASME Code, Section XI, Appendix G may be modified through application of ASME Code Case N-641, which allows the use of the $K_{IC}$ curve, an alternate fracture toughness curve to the <b><math>K_{IC}</math></b> curve.	Typo	3
Page 3-93, Section 3.0.3.2.17, full Para. 2	The staff confirmed in its review of the TLAAs on neutron irradiation embrittlement that the applicant applied <del>the</del> all relevant copper and nickel alloy chemistry data to the assessments.	The staff confirmed in its review of the TLAAAs on neutron irradiation embrittlement that the applicant applied all relevant copper and nickel alloy chemistry data to the assessments.	Clarification	3
Pages 3-95 thru 3-97, Section 3.0.3.2.18, numbered paragraphs	See comment for Page 3-22 above	(1)	Typo (generic numbering issue) – 7 places	3
Page 3-95, Section 3.0.3.2.18, full Para. 4	In a letter, dated January 6, 2005, the applicant stated that aging of the following components would be managed by this portion of	In a letter, dated January 6, 2005, the applicant stated that aging of the following components would be managed by this portion of	Clarification	2

Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
	the Steam Generator Integrity Program: anti-vibration bars, blowdown piping and secondary-side shell penetrations, feedwater nozzle, secondary closures, outlet nozzle, transition cone girth weld, tube bundle wrapper and wrapper support system, tube support plates, tubesheet and the upper and lower shell, elliptical head and transition cone.	the Steam Generator Integrity Program: anti-vibration bars, blowdown piping <b>nozzles</b> and secondary-side shell penetrations, feedwater nozzle, secondary closures, <b>steam</b> outlet nozzle, transition cone girth weld, tube bundle wrapper and wrapper support system, tube support plates, tubesheet and the upper and lower shell, elliptical head and transition cone.		
Page 3-97, Section 3.0.3.2.18, last Para.	The applicant has replacement SGs.	The applicant has <b>replaced</b> SGs.	Clarification	3
Page 3-99, Section 3.0.3.2.19, Para. 2	The applicant stated that the Structures Monitoring Program manages the aging effects associated with steel concrete (including masonry block and grout), earthen berms, and elastomers.	The applicant stated that the Structures Monitoring Program manages the aging effects associated with steel ( <b>including fasteners</b> ), concrete (including masonry block and grout), earthen berms, and elastomers.	Clarification, LRA Section B2.1.20	2
Page 3-100, Section 3.0.3.2.19, Para. 6	The staff reviewed the inspection methods applied by the applicant and determined that the inspections performed on	The staff reviewed the inspection methods applied by the applicant and determined that the inspections performed on	Clarification, LRA Section B2.1.20	2

Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
	the circulating water pumphouse are <del>in</del> consistent with RG 1.127.	the circulating water pumphouse are consistent with RG 1.127.		
Page 3-103, Section 3.0.3.2.20, full Para. 7	Additionally, industry experience indicates that ... of primary and secondary <del>SCCs</del> .	Additionally, industry experience indicates that ... of primary and secondary <b>SSCs</b> .	Typo	3
Page 3-105, Section 3.0.3.2.20, Para. 3	The applicant also performed a historical review of reactor coolant system data for sulfates, as an indicator of a resin intrusion event did not reveal any evidence of such an event.	The applicant also performed a historical review of reactor coolant system data for sulfates, as an indicator of a resin intrusion event, <b>and</b> did not reveal any evidence of such an event.	Clarification	3
Page 3-108, Section 3.0.3.2.22, full Para. 2	In LRA Section B3.1, the applicant stated that its <del>Buried Services</del> Monitoring Program is consistent with GALL AMP X.M1, with enhancements.	In LRA Section B3.1, the applicant stated that its <b>Fatigue</b> Monitoring Program is consistent with GALL AMP X.M1, with enhancements.	Typo	2
Page 3-109, last paragraph	...an FSAR supplement is not required.	...an FSAR supplement, <b>LRA Section A15.3.1</b> , is not required.	Clarification	3
Pages 3-111 and 3-112, Section 3.0.3.3.1, numbered paragraphs	See comment for Page 3-22 above	(1)	Typo (generic numbering issue) – 7 places	3
Page 3-111, Section 3.0.3.3.1, Para. 2	The applicant stated that the Periodic Surveillance and Preventive ...	The applicant stated that the Periodic Surveillance and Preventive ...	Typo	2

Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
	circulating water, Units 1 and 2 containment building, containment ventilation, emergency power, essential ventilation, main and auxiliary steam, non-Class 1 RCS components, plant air, pressurizer, primary auxiliary building structure, residual heat removal, service water, SG, <del>structure</del> , and waste disposal.	circulating water, Units 1 and 2 containment building <b>structure</b> , containment ventilation, emergency power, essential ventilation, main and auxiliary steam, non-Class 1 RCS components, plant air, pressurizer, primary auxiliary building structure, residual heat removal, service water, SG, and waste disposal.		
Page 3-111, Section 3.0.3.3.1, last Para.	The applicant also stated that (1) the parameters ... (3) the examination methods of this program are <del>adequately linked to either industry or plant operating experience;</del> (4) <del>sampling is used to inspect a group of SSCs, the basis and size of the sample inspection population and is based on similarity of construction materials, fabrication and construction details, design, installation, operating environment, and aging effects.</del>	The applicant also stated that (1) the parameters ... <b>and</b> (3) the examination methods of this program are <b>capable of detecting the aging effects of concern based on</b> industry or plant operating experience.	Wording did not agree with the 7/12/04 (NRC 2004-0071) letter. No sampling is done under PSPM.	1
Pages 3-114 thru 3-	See comment for Page 3-	(1)	Typo (generic numbering	3

Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
117, Section 3.0.3.3.2, numbered paragraphs	22 above		issue) – 7 places	
Page 3-114, Section 3.0.3.3.2, full Para. 5	GALL AMP XI.M29 recommends <del>that, for above ground carbon steel tanks</del> preventive measures to mitigate corrosion by protecting the external surfaces of carbon steel tanks <del>protected</del> with paint or coatings.	GALL AMP XI.M29 recommends preventive measures to mitigate corrosion by protecting the external surfaces of <b>above ground</b> carbon steel tanks with paint or coatings.	Clarification	3
Page 3-115, Section 3.0.3.3.2, Para. 4	The applicant stated that the internals of <del>these tanks</del> were inspected in 2000 and no significant rust deposits, corrosion, or other obvious defects were found.	The applicant stated that the internals of <b>above ground fuel oil storage tanks</b> were inspected in 2000 and no significant rust deposits, corrosion, or other obvious defects were found.	Clarification	2
Page 3-115, Section 3.0.3.3.2, Para. 4	The applicant considered that future thickness measurements ... in over 30 years of service.	The applicant considered that future thickness measurements ... in over 30 years of service. <b>This program credits the Tank Internal Inspection Program for thickness measurements of the inaccessible portions of the Condensate Storage Tanks external surfaces</b>	Clarification, LRA Section B2.1.21	2

Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
		<b>(i.e., tank bottoms).</b>		
Page 3-115, Section 3.0.3.3.2, Para. 5	The staff found that (1) surface corrosion would not occur without affecting the coating or paint and such surface degradation would be expected to be readily observable and (2) that the applicant added additional protection barriers to mitigate any future material loss.	<b>The staff found that (1) surface corrosion would not occur without affecting the coating or paint and such surface degradation would be expected to be readily observable, (2) that the applicant added additional protection barriers to mitigate any future material loss on the above ground fuel oil storage tanks, and 3) that this program credits the Tank Internal Inspection Program for thickness measurements of the inaccessible portions of the Condensate Storage Tanks external surfaces (i.e., tank bottoms).</b>	Clarification, LRA Section B2.1.21	2
Page 3-116, Section 3.0.3.3.2, full Para. 3	The staff found that the applicant provided additional protection barriers to mitigate any future material loss.	<b>The staff found that the applicant provided additional protection barriers to mitigate any future material loss on the above ground fuel oil storage tanks.</b>	Clarification, LRA Section B2.1.21	2
Page 3-116, Section 3.0.3.3.2, last Para.	The applicant stated that visual inspections are	The applicant stated that visual inspections are	See NRC 2005-0020	2

Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
	performed at least once per year for those systems and components that are accessible during normal plant operation. <del>Systems and components that are only accessible during plant outages, are inspected at least once per refueling interval.</del>	performed at least once per <b>operating cycle within the limits of accessibility.</b>		
Pages 3-119 thru 3-122, Section 3.0.3.3.3, numbered paragraphs	See comment for Page 3-22 above	(1)	Typo (generic numbering issue) – 7 places	3
Pages 3-119 thru 3-122, Section 3.0.3.3.3, Para. 5	The applicant stated that the Tank Internal Inspection Program ... in the auxiliary feedwater and emergency power.	The applicant stated that the Tank Internal Inspection Program ... in the auxiliary feedwater and emergency power <b>systems.</b>	Clarification, LRA Section B2.1.22	3
Page 3-120, Section 3.0.3.3.3, partial Para.	<p>---The applicant responded by indicating that visual inspection will consist of 100 percent of the internal tank surface.</p> <p>---The staff concluded that the program will adequately monitor for internal tank age-related degradation, a 100 percent internal visual inspection of the tank surface and UT thickness</p>	<p>The applicant responded by indicating that visual inspection <b>of the CST</b> will consist of 100 percent of the internal tank surface.</p> <p>The staff concluded that the program will adequately monitor for internal tank age-related degradation, a 100 percent internal visual <b>surface</b> inspection of the <b>CST</b> and UT thickness</p>	This statement only applies to the Condensate Storage Tanks. (NRC 2005-0006)	1

Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
	measurements of the <del>tank</del> bottom will be performed.	measurements of the tank bottom will be performed.		
Page 3-120, Section 3.0.3.3.3, full Para. 2	UT inspection will detect loss of wall thickness for tank bottoms and external portions of tanks when the <del>internals</del> are inaccessible for visual inspection.	UT inspection will detect loss of wall thickness for tank bottoms and external portions of tanks when the <b>external surfaces</b> are inaccessible for visual inspection.	Clarification	2
Page 3-122, Section 3.0.3.3.3, full Para. 5	In its response, dated January 6, 2005, the <del>staff</del> stated that the referenced inspections did not include UT of the tank bottoms.	In its response, dated January 6, 2005, the <b>applicant</b> stated that the referenced inspections did not include UT of the tank bottoms.	Clarification	2
Pages 3-124 thru 3-126, Section 3.0.3.3.4, numbered paragraphs	See comment for Page 3-22 above	(1)	Typo (generic numbering issue) – 7 places	3
Page 3-124, Section 3.0.3.3.4, full Para. 4	In RAI B2.1.23-1, dated November 17, 2004, the staff requested the applicant to explain the determination of <del>frequency</del> rates and the impacts of uncertainties.	In RAI B2.1.23-1, dated November 17, 2004, the staff requested the applicant to explain the determination of <b>wear</b> rates and the impacts of uncertainties.	Clarification	2
Page 3-125, Section 3.0.3.3.4, Para. 2	The applicant also confirmed, in response to RAI B2.1.23-2 above, that inspections will normally be ...	The applicant also confirmed, in response to RAI B2.1.23-1 above, that inspections will normally be ...	Typo	3



Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
Page 3-128, Section 3.0.4.1, Para. 1	In LRA Section <del>4.4</del> , the applicant stated that the QA program includes ...	In LRA Section <b>A15.1</b> , the applicant stated that the QA program includes ...	Typo	3
Page 3-131, Table 3.1-1 Item # 3.1.1-05	Column "AMP in LRA" is missing reference to TLAA section 4.4.	Add "and 4.4" Should read " (See section 4.2 and 4.4)"	Column is missing information. See LRA 3.1.2.2.3.2.	2
Page 3-132, Table 3.1-1, Item 3.1.1-12	Column "AMP in LRA"- Water Chemistry Control Program, Reactor Coolant System Alloy 600 Inspection Program	Water Chemistry Control Program, Reactor Coolant System Alloy 600 Inspection Program, <b>Inservice Inspection Program</b>	Clarification – Should include ISI IWB, C, & D See LRA 3.1.2.2.7.1.	2
Page 3-132, Table 3.1-1 Item # 3.1.1-14	Column "AMP in LRA" and "Staff Evaluation" should be "Not Applicable"	Change both column entries to "Not Applicable"	LRA Table 3.1.1, Item 3.1.1-14. This line item was not used for PBNP.	2
Page 3-133, Table 3.1-1 Item # 3.1.1-17	Last two columns say "Not Applicable", however RAI 3.1.1-2 has changed this answer.	"AMP in LRA" column should be "Water Chemistry Control Program, Steam Generator Integrity Program". "Staff Evaluation" column should be "Consistent with GALL which recommends further evaluation (See Section 3.1.2.2.10)"	Answer to RAI 3.1.1-2 in NRC 2005-0044.	2
Page 3-133, Table 3.1-1 Item # 3.1.1-24	"Staff Evaluation" column is missing reference to SER Section where addressed	Add "(See Section 3.1.2.1.1)"	To be consistent with other rows in this table of the SER	2
Page 3-134, Table 3.1-1, Item 3.1.1-25	Flow-Accelerated Corrosion Program, Steam Generator Program	Flow-Accelerated Corrosion Program, Steam Generator <b>Integrity</b> Program	Typo	2

Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
Page 3-135, Table 3.1-1, Item 3.1.1-40	Inservice Inspection Program, Thimble Tube Inspection Program	Inservice Inspection Program, Thimble Tube Inspection Program, <b>Reactor Vessel Internals Program</b>	See LRA Table 3.1.1, Item #3.1.1-40	2
Page 3-135, Table 3.1-1 Item # 3.1.1-43	"AMP in LRA" column has extra program credited.	Remove reference to Water Chemistry Control Program	LRA Table 3.1.1, Item 3.1.1-43.	2
Page 3-136, Table 3.1-1 Item # 3.1.1-48	"AMP in LRA" column has extra program credited.	Remove reference to Inservice Inspection Program	LRA Table 3.1.1, Item 3.1.1-48.	2
Page 3-138, Section 3.1.2.1.1, Para. 4	This is further supported by the GALL AMP XI.M12, "Thermal Aging Embrittlement of Cast Austenitic Stainless Steel (CASS)," which identifies acceptable aging management options as "enhanced volumetric examination to detect and size cracks of component-specific flaw tolerance evaluation."	This is further supported by the GALL AMP XI.M12, "Thermal Aging Embrittlement of Cast Austenitic Stainless Steel (CASS)," which identifies acceptable aging management options as "enhanced volumetric examination to detect and size cracks <b>or plant- or</b> component-specific flaw tolerance evaluation."	Clarification, NRC 2005-0044	2
Page 3-139, first paragraph, 2 <sup>nd</sup> line	"...for the engineered safety features system...."	Replace "engineered safety features system" with "RCS components"	Typo, this section deals with RCS not ESF	3
Page 3-140, Section 3.1.2.2.2, Para. 3	The existing program relied on control of water chemistry to mitigate corrosion and inservice inspections to detect	The existing program relied on control of water chemistry to mitigate corrosion and inservice inspections to detect loss of	Clarification	2

Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
	<del>cracking due to loss of material.</del>	material.		
Page 3-142, 2 <sup>nd</sup> paragraph	Whole paragraph	Recommend moving paragraph later on page to match contents of following paragraphs	Clarification	3
Page 3-142, 3 <sup>rd</sup> and 4 <sup>th</sup> paragraphs	Whole paragraphs	Consider deleting paragraphs as information in each paragraph is a repeat of previous paragraphs	Typo/Repeated information	3
Page 3-142, Section 3.1.2.2.3, last Para.	<del>However, in its letter dated July 12, 2004,</del> the applicant committed to continue to monitor and participate in industry initiatives (MRP activities) with regard to reactor pressure vessel (RPV) internals to support aging management for the baffle/former bolts.	<b>The</b> applicant committed to continue to monitor and participate in industry initiatives (MRP activities) with regard to reactor pressure vessel (RPV) internals to support aging management for the baffle/former bolts.	Clarification, Not in letter NRC 2004-0071. (not specific to baffle former bolts.)	2
Page 3-145, Section 3.1.2.2.4, Para. 1	Another socket-weld failure occurred in a 3/4-inch socket weld in a drain line connection in the safety-injection containment spray system full-flow test line following a system modification.	Another socket-weld failure occurred in a 3/4-inch socket weld in a drain line connection in the safety-injection/ containment spray system full-flow test line following a system modification.	Punctuation	3
Page 3-145, 5 <sup>th</sup> paragraph	Reference to "WCAP-15575-A"	Change to "WCAP-14575-A)	Typo	3

Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
Page 3-146, Section 3.1.2.2.4, full Para. 3	The applicant's inspection frequency is once every refueling outage, consistent with the inspection frequency listed in ASME Code Section XI.		This sentence is not consistent with NRC 2005-0002.	2
Page 3-148, last paragraph	Reference to "WCAP-15575-A"	Change to "WCAP-14575-A)	Typo	3
Page 3-149, Section 3.1.2.2.7, full Para. 2	The applicant also stated that Applicant Action Item (44) of the NRC Safety Evaluation for WCAP-14575-A ...	The applicant also stated that Applicant Action Item (10) of the NRC Safety Evaluation for WCAP-14575-A ...	Typo. NRC 2005-0002 (There is no AAI 11.)	3
Page 3-149, last two paragraphs and first paragraph of 3-150	Whole paragraphs	Information is out of place here. Move all three paragraphs to discussion of Section 3.1.2.2.7.1 on Page 3-148	Clarity and consistency.	2
Page 3-150, first paragraph	Reference to ASME Inservice Inspection Program only.	Change to "In addition, the applicant credited <u>either the ...Program or the RCS Alloy 600 Program</u> inspections... <b>These programs</b> include ....	Clarity. Both programs are credited for specific components. Need to clarify which programs are credited for which components. See LRA 3.1.2.2.7.1	2
Page 3-150, Section 3.1.2.2.8, Para. 5	In LRA Table 3.1.2-3, the applicant identified that cracking is an applicable aging effect for the baffle/barrel former bolts RPV internals that are	In LRA Table 3.1.2-3, the applicant identified that cracking is an applicable aging effect for the baffle/barrel former bolts that are exposed to the	Clarification	2

Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
	exposed to the borated water environment ...	borated water environment ...		
Page 3-151, 3 <sup>rd</sup> Paragraph	(2) it will allow the staff to review the applicant's <del>inspection plans for the</del> reactor vessel internals as based on the industry recommendations,	(2) it will allow the staff to review the applicant's reactor vessel internals <b>program</b> as based on the industry recommendations,	Clarification	2
Page 3-152, 2 <sup>nd</sup> paragraph	"...based on the programs identified above"	Change to "...based on the program identified above.."	Typo. Only one program is credited in previous paragraphs	3
Page 3-152, Section 3.1.2.2.10, 2 <sup>nd</sup> last paragraph	The staff found that, based on the programs identified above, the applicant has met the criteria of SRP-LR Section 3.1.2.2.9. For those line items that apply to LRA Section 3.1.2.2.9, the staff	The staff found that, based on the programs identified above, the applicant has met the criteria of SRP-LR Section 3.1.2.2.10. For those line items that apply to LRA Section 3.1.2.2.10, the staff	Clarification	3
Page 3-153, 2 <sup>nd</sup> paragraph	"...pitting corrosion or deformation due to corrosion that..."	Remove "or deformation due to corrosion".	LRA Section 3.1.2.2.11, we do not make this statement	2
Page 3-153, 4 <sup>th</sup> and 5 <sup>th</sup> paragraphs	Whole paragraphs	Delete both paragraphs, repeat of 2 <sup>nd</sup> and 3 <sup>rd</sup> paragraphs on this page	Typo	3
Page 3-153, 6 <sup>th</sup> paragraph	"...SGs which were installed in 1997."	Change to "...SGs which were installed in <u>1996</u> "	Generic Typo, see LRA Section 3.1.2.2.11	3
Page 3-153, 7 <sup>th</sup> paragraph	<del>"...(3) loss of mechanical closure integrity."</del>	Remove referenced text.	Section 3.1.2.2.11 does not address loss of mechanical closure integrity.	2

<b>Page, Section, and Paragraph</b>	<b>DSER Text</b>	<b>Suggested Revision</b>	<b>Justification</b>	<b>Category</b>
Page 3-154 2 <sup>nd</sup> full paragraph	Loss of material... <del>ASME Code Section XI Inservice Inspection Program, ...</del>	Remove text	Not credited for loss of material.	2
Page 3-154 3 <sup>rd</sup> paragraph	Whole paragraph	Recommend moving paragraph to DSER Section 3.1.2.3.6	This is not specific to Section 3.1.2.2.11	3
Page 3-154 4 <sup>th</sup> paragraph	Whole paragraph	Move paragraph to discussion of Section 3.1.2.2.12 on page 3-156	Clarity. This paragraph is not specific to Section 3.1.2.2.11. See LRA Table 3.1.2-5 and 3.1.2.2.12	2
Page 3-154 last two paragraphs and first two paragraphs of 3-155	Whole paragraphs	Move paragraphs to discussion of Section 3.1.2.2.12 on page 3-156	Clarity. This paragraph is not specific to Section 3.1.2.2.11. See LRA Table 3.1.2-5 and 3.1.2.2.12	2
Page 3-155, 3 <sup>rd</sup> , 4 <sup>th</sup> , 5 <sup>th</sup> , 6 <sup>th</sup> and 7 <sup>th</sup> paragraphs.	Whole paragraphs	Move paragraph to discussion of Section 3.1.2.1 on page 3-136	Clarity. This paragraph is not specific to Section 3.1.2.2.11. It is associated with LRA line item 3.1.1-44, which is in the “No Further Eval Required” Section (SER 3.1.2.1)	2
Page 3-155, last paragraph	“...Steam Generator <del>Control</del> Program.”	“...Steam Generator <u>Integrity</u> Program.”	Typo	3
Page 3-155, last paragraph	<del>...the Inservice Inspection Program and...</del>	Remove text	Not in LRA Table 3.1.2-5	2
Page 3-155, last paragraph and first 3 paragraphs of 3-156	Whole paragraphs	Move paragraphs to DSER Section 3.1.2.2.2 on page 3-140	Clarity. This paragraph is not specific to Section 3.1.2.2.11. See LRA	2

Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
			Table 3.1.2-5 line item. It should be associated with DSER 3.1.2.2.2	
Page 3-156, 2 <sup>nd</sup> last paragraph	<del>“..applicant addressed loss of section thickness due to .. (FAC) that could occur in tube support lattice bars made of carbon steel.”</del>	Change to “...applicant <b>stated that loss of section thickness due to FAC is not an aging effect for PBNP because tube support lattice bars are not made of carbon steel.</b> ”	Clarifying information. See LRA Section 3.1.2.2.12	2
Page 3-159, listing of components		<ul style="list-style-type: none"> <li><b>reactor coolant pump (casing and main flange) (cast stainless steel)</b></li> </ul> Add bullet	LRA Table 3.1.2-1	2
Page 3-160, 4th Paragraph	... Furthermore, published literature indicates that the <del>used</del> of hydrogen water...	... Furthermore, published literature indicates that the <b>use</b> of hydrogen water...	Typo	3
Page 3-161, 1 <sup>st</sup> paragraph	“...carbon, stainless steel, copper alloy, or stainless steel clad material were exposed to air or to an inert gas (e.g., nitrogen)....”	“...carbon <b>steel, low alloy steel, alloy 600</b> , stainless steel, copper alloy, or stainless steel clad material were exposed to air or to an inert gas (e.g., nitrogen)....”	Missing Information, LRA Table 3.1.2-1 thru 3.1.2-6	2
Page 3-161, 1 <sup>st</sup> and 2 <sup>nd</sup> paragraphs. Last sentence in both paragraphs	management for carbon steel, stainless steel or stainless steel clad components exposed to air,	management for carbon steel, stainless steel <b>low alloy steel, alloy 600, copper ally</b> or stainless	Missing Information, LRA LRA Table 3.1.2-1 thru 3.1.2-6	2

Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
	or to an inert gas environment.	steel clad components exposed to air, or to an inert gas environment.		
Page 3-161, 4 <sup>th</sup> paragraph	<del>... reactor coolant pump lugs, reactor coolant pumps, thermal barrier heat exchanger tubing,</del> thermowells, and valves in the reactor coolant pressure boundary exposed to treated, borated water using the Water Chemistry Control Program.	... reactor coolant pumps, <b>thermal barrier flange</b> , thermowells, and valves in the reactor coolant pressure boundary exposed to treated, borated water using the Water Chemistry Control Program.	LRA Table 3.1.2-1	2
Page 3-161, 6 <sup>th</sup> and 7 <sup>th</sup> paragraph	last sentence in both paragraphs... <del>One-Time Inspection Program</del>	Delete text	OTI is not included in LRA Table 3.1.2-1	2
Page 3-162, 4th Paragraph	In LRA Table 3.1.2-1, <del>for this component</del> the applicant listed as Note F the following components which correlate to material not in GALL:	In LRA Table 3.1.2-1, the applicant listed Note F <b>for</b> the following components, which correlate to material not in GALL:	Clarification	3
Page 3-163, 4 <sup>th</sup> paragraph	<del>“... including bottom-mounted instrumentation guides, control element drive mechanism housing and flanges, seal table fittings, instrumentation tubes, safe ends and vent pipes</del> exposed to treated	Remove specific component types. Change to “...exposed to treated borated water...”	LRA Table 3.1.2-2 provides one line item covering loss of material for “RV components in contact with primary water”	2



Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
	borated water...”			
Page 3-163, 2 <sup>nd</sup> , 3 <sup>rd</sup> and 4 <sup>th</sup> paragraphs of Section 3.1.2.3.3	References to “ASME Code Section XI, IWB, IWC, and IWD Inservice Inspection Program” in each of these three paragraphs	Completely remove references to ASME Inservice Inspection Program in these 3 paragraphs	LRA Table 3.1.2-2. Loss of material is managed with Water Chemistry Program only. These paragraphs should be essentially the same as those in SER Section 3.1.2.3.4	1
Page 3-164, Section 3.1.2.3.5, Para 2	The applicant proposed to manage the loss of material of stainless <del>steel</del> , low-alloy carbon steel with stainless steel cladding and <del>nickel-alloy</del> for pressurizer components including: ...	The applicant proposed to manage the loss of material of stainless <b>steel and</b> low-alloy carbon steel with stainless steel cladding for pressurizer components including: ...	No nickel alloy in the PBNP PZR. See LRA 3.1.2.2.7.3	2
Page 3-164, Section 3.1.2.3.5, Para 2	The applicant proposed to manage the loss of material of stainless steel, low-alloy carbon steel with stainless steel cladding and nickel-alloy for pressurizer components including: instrument nozzles, manway cover, relief nozzle, relief nozzle safe end, safety nozzle, nozzle safe end shell, spray nozzle, nozzle thermal sleeve, surge nozzle, surge nozzle thermal sleeve and	The applicant proposed to manage the loss of material of stainless steel, low-alloy carbon steel with stainless steel cladding and nickel-alloy for pressurizer components including: <b>heater well and heater sheath</b> , instrument nozzles, manway cover, relief nozzle, relief nozzle safe end, safety nozzle, nozzle safe end shell, spray nozzle, nozzle thermal sleeve, surge nozzle, surge	LRA Table 3.1.2-4	2

Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
	upper head exposed to treated borated water, using the Water Chemistry Control Program.	nozzle thermal sleeve, <b>surge nozzle safe end</b> , and upper <b>and lower</b> head exposed to treated borated water, using the Water Chemistry Control Program.		
Page 3-164, Section 3.1.2.3.5, Para 2 and 3	During the audit the applicant clarified that the use of only the Water Chemistry Control Program was considered sufficient to manage these components because <del>during previous work on the pressurizers these components were visually observed and no records of material loss were recorded. The applicant considered these operating observations equivalent to the purpose of the One-time Inspection Program. Furthermore, the applicant stated that</del> industry operating experience has not identified material loss on these components.	Delete text	This text should be removed	1
Page 3-165, 1 <sup>st</sup>	... <del>divider plate</del> ...	Remove text	LRA Table 3.1.2-5	2

Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
paragraph				
Page 3-165, 1 <sup>st</sup> paragraph	"...SG flow limiter and tube plate exposed to treated, <del>borated</del> water..."	Remove "borated" from that statement	Flow limiter and tube plates are on secondary side of SG, not exposed to borated water. See LRA Table 3.1.2-5	2
Page 3-165, 1 <sup>st</sup> paragraph	ASME Code Section XI, Subsections IWB, IWC, and IWD Inservice Inspection Program to confirm the effectiveness of the Water Chemistry Control Program.	ASME Code Section XI, Subsections IWB, IWC, and IWD Inservice Inspection Program <b>or Steam Generator Integrity Program</b> to confirm the effectiveness of the Water Chemistry Control Program.	LRA Table 3.1.2-5	2
Page 3-165, Section 3.1.2.3.7, 2 <sup>nd</sup> paragraph	The applicant proposed to manage loss of material of stainless steel material for non-Class 1 RCS components types, including flow indicators, <del>flywheels, heat exchangers,</del> instrument...	The applicant proposed to manage loss of material of stainless steel material for non-Class 1 RCS components types, including flow indicators, instrument...	Flywheels and heat exchangers are not stainless. See LRA Table 3.1.2-6	2
Page 3-167, Table 3.2-1, Item # 3.2.1-03	"AMP in LRA" column	Delete references to any programs in this column, change to "Not Applicable"	LRA Table 3.2.1 Item 3.2.1-03. This line item was not used at PBNP.	2
Page 3-167, Table 3.2-1, Item # 3.2.1-03	"Aging Effect/Mechanism column	Delete pitting and crevice and replace with general.	LRA Table 3.2.1 Item 3.2.1-03	2
Page 3-168, Table 3.2-1, Item # 3.2.1-06	"AMP in LRA" column	Delete references to any programs in this column, change to "Not Applicable"	LRA Table 3.2.1 Item 3.2.1-06. This line item was not used at PBNP.	2

Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
Page 3-168, Table 3.2-1, Item # 3.2.1-08	“AMP in LRA” column and “Staff Evaluation” column	Change AMP column to “One Time Inspection” and change Staff Eval column to “Consistent with GALL, which recommends further evaluation (See Section 3.2.2.2.6)”	See letter NRC 2004-0071, Audit Item 147, where we committed to perform a One Time Inspection on RHR miniflow orifices	2
Page 3-168, Table 3.2-1, Item # 3.2.1-11	“Staff Evaluation” column	Change to “Not Applicable”	LRA Table 3.2.1 Item 3.2.1-11. This line item was not used at PBNP.	2
Page 3-172, Section 3.2.2.2.2, Paragraph 4	In LRA Section 3.2.2.2.2, the applicant stated that the loss of material due to general corrosion item was not used,	In LRA Section 3.2.2.2.2, the applicant stated that the loss of material due to general corrosion <b>line</b> item was not used,	Clarification	3
Page 3-172, 2 <sup>nd</sup> last and 3 <sup>rd</sup> last paragraphs	Whole paragraphs	Delete these two paragraphs or move to applicable sections (3.2.1-05 or 3.2.1-10).	Discussion is not necessary since this line item is not used (as stated in 4 <sup>th</sup> last paragraph	2
Page 3-172, last paragraph	“For those line items that apply to LRA Section 3.2.2.2.2,....”	Reword. No line items apply as this line item was not used, as stated in a previous paragraph.	Line item was not used. See LRA Table 3.2.1 item 3.2.1-03	2
Page 3-174 2nd paragraph	... be performed to confirm the effectiveness of the Water Chemistry Program....	... be performed to confirm the effectiveness of the Water Chemistry <b>Control</b> Program....	Clarification	3
Page 3-174 last paragraph	“...Water Chemistry Control Program <del>of</del> the One-Time Inspection Program.”	“...Water Chemistry Control Program <b>and</b> the One-Time Inspection Program.”	See LRA Table 3.2.1 item 3.2.1-05, and letter NRC 2005-0037	2

Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
Page 3-175, 1 <sup>st</sup> and 2 <sup>nd</sup> paragraphs	Whole paragraphs.	Move to discussion under Section 3.2.2.2.3.2. This line item was not used but aging effects were covered under 3.2.2.2.3.2 as stated in DSER p.3-173 top.	Line item was not used. See LRA Table 3.2.1 item 3.2.1-06	2
Page 3-175, 3rd paragraph	“For those line items that apply to LRA Section 3.2.2.2.4,....”	Reword. No line items apply as this line item was not used, as stated in a previous paragraph.	Line item was not used. See LRA Table 3.2.1 item 3.2.1-06	2
Page 3-177, 5 <sup>th</sup> paragraph. Section 3.2.2.3.1	“...and (3) <del>carbon steel, low alloy steel, stainless steel,</del> ...external surfaces exposed to a containment air environment.”	Delete “carbon steel, low alloy steel, “ from this line.	Carbon/low alloy steel does have aging effects in a containment air environment. See LRA Tables 3.2.2-1 thru 3.2.2-4	2
Page 3-178, 2 <sup>nd</sup> Paragraph	“ <del>These ESF components are exposed to high-temperature internal flow, which creates a dry air environment.</del> ”	Delete this sentence. These components are not subject to high temperature internal flow.	This is not in the LRA anywhere.	2
Page 3-178, Section 3.2.2.3.2, Paragraph 2	The safety injection system experiences loss of material of carbon and low-alloy steel, stainless steel, and cast austenitic steel for the following component types:  Delete the following text: • <del>thermowells</del>	The safety injection system experiences loss of material of carbon and low-alloy steel, <b>cast iron</b> , stainless steel, and cast austenitic steel for the following component types:  Add the following text: • <b>Flow elements</b>	Thermowells not in LRA Table 3.2.2-1	2

Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
Page 3-178, Section 3.2.2.3.2, Paragraph	<ul style="list-style-type: none"> <li>• Air and gas (<math>T &lt; 140^{\circ}\text{F}</math>)</li> <li>• <del>oil and fuel oil (internal)</del></li> </ul>	Remove text	Not in LRA Table 3.2.2-1	2
Page 3-180, 1 <sup>st</sup> paragraph	"...steel, and cast austenitic steel materials..."	Add " <b>cast iron</b> ," to this material list.	See LRA Tables 3.2.2-1 thru 3.2.2-4	2
Page 3-180, 1 <sup>st</sup> paragraph	Listing of programs.	After listing of programs, add "The staff's evaluations of these programs are documented in SER Sections 3.0.3.2.9, etc."	Consistency, this type of statement is made after each listing of programs	3
Page 3-180, 1 <sup>st</sup> paragraph	steel, and cast austenitic steel materials for component types in the safety injection system <del>components</del> are effectively managed using the Closed-cycle Cooling Water System Surveillance Program,...	steel, and cast austenitic steel materials for component types in the safety injection system are effectively managed using the Closed-cycle Cooling Water System Surveillance Program,...	Clarification	3
Page 3-180, 4 <sup>th</sup> paragraph	... injection system <del>components</del> are effectively managed using the Closed-Cycle Cooling Water	... injection system are effectively managed using the Closed-Cycle Cooling Water	Clarification	3
Page 3-180, Section 3.2.2.3.3 Paragraph 2	The containment spray system experiences loss of material of carbon and low-alloy steel, stainless steel, cast iron and cast austenitic steel materials for <del>component type of flow elements, heat exchangers,</del>	The containment spray system experiences loss of material of carbon and low-alloy steel, stainless steel, cast iron and cast austenitic steel materials for the following component types:	Clarification. Component types are listed below.	3

Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
	<del>instrument valve assemblies, piping and fittings, pump casings, restricting orifices, tanks, and valve bodies</del> for the following component types:			
Page 3-180, last paragraph	Bulleted list for environments	Add “Containment” and “Borated Water Leaks”	Missing info. See LRA Table 3.2.2-2	2
Page 3-181, Section 3.2.2.3.4, Paragraph 2		Add text to the list of component types: • valve operator	LRA Table 3.2.2-3	2
Page 3-182, bulleted list for environments	<del>“treated containment...”</del> and “air and gas (T<140)...” "borated water leaks ( <del>internal</del> )"	Change to “containment...” and “air and gas – <b>wetted</b> (T<140)...” "borated water leaks ( <b>external</b> )"	See LRA Table 3.2.2-3	2
Page 3-182, 3 <sup>rd</sup> and 4 <sup>th</sup> paragraphs	Listing of programs	Add “Closed-Cycle Cooling Water Program” to both paragraphs, and applicable SER Section # to 3 <sup>rd</sup> para	See LRA Table 3.2.2-3	2
Page 3-182 Paragraph 4	...austenitic steel for component types in the residual heat removal system <del>components</del> are...	...austenitic steel for component types in the residual heat removal system are...	Clarification	3
Page 3-183, paragraph after environment list	Listing of programs	Delete reference to “Closed-Cycle Cooling Water System Surveillance Program,...” and “3.0.3.2.9”	See LRA Table 3.2.2-4	2
Page 3-186, Table 3.3-1, Item # 3.3.1-09	“AMP in LRA” column	Delete duplicate “Surveillance Program”	Typo	3
Page 3-190,	....recombiner system,	Remove text	Clarification	3

Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
paragraph below program listing	<del>components system and...</del>			
Page 3-193, 2 <sup>nd</sup> paragraph	“For those line items that apply to LRA Section 3.3.2.2.1,....”	Reword. No line items apply as this line item was not used, as stated in a previous paragraph.	Line item was not used. See LRA Table 3.3.1 item 3.3.1-01	2
Page 3-194, 4 <sup>th</sup> paragraph	“...based on the programs identified above”	Change to “...based on the program identified above..”	Typo. Only one program is credited in previous paragraphs	3
Page 3-196, 1 <sup>st</sup> , 4 <sup>th</sup> and last paragraphs	References to “Bolting Integrity Program” in all of these paragraphs	Remove “Bolting Integrity Program” and associated references from these paragraphs	This section is specific to 3.3.2.2.5. Bolting is covered in Table 3.3-1 Item 3.3.1-24 as stated in 1 <sup>st</sup> paragraph on this page, and therefore should not be included in further discussions in these paragraphs	2
Page 3-196, 4 <sup>th</sup> paragraph	Reference to and discussion about One-Time Inspection for managing exterior aging effects	Remove references of and discussion about the One-Time Inspection program.	OTI was not used for managing external aging effects. 2 instances in LRA where this is listed (CCW, CS Valves) which was a typo in our LRA.	1*  Need change to LRA also.
Page 3-197 Section 3.3.2.2.6 Paragraph 1	...material in the reactor coolant pump oil collection system <del>to confirm the effectiveness of the</del> One-Time Inspection Program.	...material in the reactor coolant pump oil collection system <b>by crediting the</b> One-Time Inspection Program.	Clarification	2
Page 3-197, last paragraph	“...based on the programs identified above”	Change to “...based on the program identified above..”	Typo. Only one program is credited in previous	3



Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
			paragraphs	
Page 3-198, 3 <sup>rd</sup> paragraph of Section 3.3.2.2.7	...in the diesel fuel oil system and <del>due to general, pitting and crevice corrosion and MIC in the tanks of the diesel fuel oil system</del> in the emergency...	Remove text	Clarification, repeated text	2
Page 3-199 Section 3.3.2.2.8	3.3.2.2.8 Quality Assurance for Aging Management of Non-Safety-Related Components  SER Section 3.0.4 provides the staff's evaluation of the applicant's quality assurance program.	A new section 3.3.2.2.8 should be added on loss of material due to general, pitting and crevice corrosion, which is only applicable to BWRs. (See page 3-192.)	The QA section is usually just before the conclusion on page 3-202.	2
Page 3-200 1 <sup>st</sup> Paragraph	...temperatures less than 140 F differs from that of the GALL Report's Water Chemistry Control Program, which is credited for managing the aging effects for all temperatures, it will preclude...	...temperatures less than <b>140 °F</b> differs from that of the GALL Report Water Chemistry Control Program, which is credited for managing the aging effects for all temperatures, will preclude...	Clarification	3
Page 3-200 2 <sup>nd</sup> Paragraph	... Surveillance Program to <del>supplement the Water Chemistry Control Program</del> , which includes...	... Surveillance Program, which includes...	Clarification. LRA Section B2.1.9	2
Page 3-201, Last paragraph	"...in the service water system and in the diesel	... in the service water system, <b>in the fire</b>	See LRA Tables 3.3.2-5, 3.3.2-6. 3.3.2-7	2

Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
	fuel oil system.”	<b>protection system</b> , and in the diesel fuel oil system “		
Page 3-202, first paragraph	“...based on the programs identified above”	Change to “...based on the program identified above..”	Typo. Only one program is credited in previous paragraphs	3
Page 3-206, first paragraph of Section 3.3.2.3.1	“...result of the <del>its</del> aging...”	Delete “its”	Typo	3
Page 3-206, both paragraphs of Section 3.3.2.3.1	Materials listings in both paragraphs.	Material lists are not accurate. Sometimes missing carbon steel but including copper alloy, other times missing copper alloy but including carbon steel. Include CASS & Glass, also	Consistency. See LRA Tables 3.3.2-1 thru 3.3.2-16.	2
Page 3-206, last paragraph of Section 3.3.2.3.1	<del>“These auxiliary systems components are exposed to high temperature internal flow, which creates a dry air environment.”</del>	Delete this sentence. These components are not subject to high temperature internal flow.	This is not in the LRA.	2
Page 3-207, environment listing	“treated water – borated, primary, and other”	Expand this to list each environment separately, similar to environment listing on page 3-208.	Consistency	3
Page 3-210, Section 3.3.2.3.4, Paragraph 7	<del>... treated borated water, temperature less than 140°F and raw water</del>	Remove text	Clarification	2
Page 3-210, Section 3.3.2.3.4, Paragraph 7	... Surveillance Program, The applicant stated that One-Time Inspection	... Surveillance Program. The applicant stated that One-Time Inspection	Clarification	2

Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
	Program, and Water Chemistry Control Program, are used for components exposed to treated borated water environment.	Program and Water Chemistry Control Program are used for components exposed to treated borated water, <b>temperature less than 140°F</b> environment..		
Page 3-211, Section 3.3.2.3.5, Paragraph 2	The materials waste disposal system...	The waste disposal system...	Clarification	3
Page 3-211, Section 3.3.2.3.5, Paragraph 2	<del>"pump casings"</del> <del>"flow elements"</del> <del>"instrument valve assemblies"</del>	Add "flow indicators" Add "instrumentation" Add "radiation monitors"	LRA Table 3.3.2-4	2
Page 3-212, environment listing	"treated water – other (velocity)"	Delete this environment	See LRA Table 3.3.2-5	2
Page 3-212, last paragraph	Listing of programs	Add "Bolting Integrity Program" and its associated SER Section #	See LRA Table 3.3.2-5	2
Page 3-213, Para. 1	However, the GALL Report reference does not include copper alloys. The applicant was asked to <del>provide</del> clarification.	However, the GALL Report reference does not include copper alloys. The applicant was asked to <b>provide</b> clarification.	Clarification	3
Page 3-213, Para. 2	The applicant stated that the...will be revised...By letter dated July 12, 2004, the applicant committed to revise the .....	Revise these statements. These statements are not accurate, we did not commit to this.	See July 12 letter pages 12 and 13 of 21 for actual provisions, and LRA Section B2.1.14, p-B-149.	1
Page 3-213, Para. 3	The applicant stated that selective leaching was identified as a potential	The applicant stated that selective leaching was identified as a potential	Revise these statements. These statements are not accurate, we did not	1

Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
	aging effect, <del>and that the Open-Cycle Cooling (Service) Water System Surveillance Program will be revised to include a visual inspection to identify selective leaching to these components. In its letter dated July 12, 2004, the applicant committed to revise the Open-Cycle (Service) Water System Surveillance Program, to include a visual inspection to identify selective leaching of cast iron components.</del>	aging effect. The Open-Cycle Cooling (Service) Water System Surveillance Program will be revised to <b>credit the One-Time Inspection Program</b> to identify selective leaching for these components. <b>The One-Time Inspection Program includes a visual inspection and hardness measurements to identify selective leaching of susceptible components.</b>	commit to this in the July 12, 2004 letter.  Also see NRC 2004-0101, dated Oct. 15, 2004 for commitment regarding selective leaching.	
Page 3-213, last two paragraphs	Listing of programs	Add "Bolting Integrity Program" and its associated SER Section #	See LRA Table 3.3.2-5	2
Page 3-214, 5 <sup>th</sup> paragraph	"...applicant <del>performed studies of plant locations...</del> "	Change to "...applicant <b>evaluated</b> plant locations..."	Clarification.	2
Page 3-215, environment listing	"filtration", "flame suppression", "flow control", "mechanical closures exposed to air and gas"	Delete all of these, as they are not environments.	See LRA Table 3.3.2-6	2
Page 3-215, environment listing	"buried, oil and fuel oil – pooling"	Split into two bullets. Two separate environments.	See LRA Table 3.3.2-6	2
Page 3-216, 4 <sup>th</sup> paragraph	Whole paragraph	Delete paragraph. This was not the resolution to	See letter NRC 2005-0026, p. 4 of 21.	1

Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
		<p>the issue being discussed.</p> <p>Replace with discussion pertinent to RAI 3.3.2.1.6-1.</p>	<p>This issue was reviewed during the Regional inspection, where the Fire Protection Program was reviewed and found to be acceptable for managing these aging effects, as documented in NRC IR 2005-005, dated May 2, 2005.</p>	
Page 3-216, 5 <sup>th</sup> Para.	The staff reviewed LRA Section B2.1.10 and found that the AMP is consistent with GALL Chapter XI.M26, "Fire Protection," Chapter XI.M27 "Fire <del>Renewal</del> ," with certain enhancements and exceptions.	The staff reviewed LRA Section B2.1.10 and found that the AMP is consistent with GALL Chapter XI.M26, "Fire Protection," Chapter XI.M27 "Fire <b>Water</b> ," with certain enhancements and exceptions.	Clarification	3
Page 3-217, 2 <sup>nd</sup> , 3 <sup>rd</sup> , and 4 <sup>th</sup> paragraphs	Whole paragraphs	Delete paragraphs of discussion on managing of neoprene.	Not needed. On SER page 3-215, it refers to Section 3.3.2.3 for aging effects of neoprene.	3
Page 3-217, 6 <sup>th</sup> para.	...On the basis of its review of the applicant's plant-specific and industry operating experience, the staff found that loss of heat transfer due to fouling component types in the fire	...On the basis of its review of the applicant's plant-specific and industry operating experience, the staff found that loss of heat transfer due to fouling <b>for</b> component types in the fire	clarification	3

Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
	protection system are effectively managed using the Fire Protection Program. ...	protection system are effectively managed using the Fire Protection Program. ...		
Page 3-218, indented paragraph	As part of LRA Section B2.1.13, <del>one</del> Time Inspection Program, .....	As part of LRA Section B2.1.13, <b>One</b> -Time Inspection Program, .....	clarification	3
Page 3-218, 2 <sup>nd</sup> last paragraph	<del>In its response, the applicant stated that its Fire Protection Program and Systems Monitoring Program will be revised to include an inspection of these types of components to identify selective leaching, a slowly progressing aging mechanism.</del>	The Fire Protection Program and Systems Monitoring Program will be revised to <b>credit the One-Time Inspection Program to identify selective leaching for these components. The One-Time Inspection Program includes a visual inspection and hardness measurements to identify selective leaching of susceptible components.</b>	See NRC 2004-0101, dated Oct. 15, 2004 for commitment regarding selective leaching.	1
Page 3-218, last paragraph and continuation on next page	Whole paragraph.	Delete paragraph of discussion on managing loss of heat transfer due to fouling.	Not needed. On SER page 3-215, it refers to Section 3.3.2.3 for aging effect of loss of heat transfer due to fouling.	3
Page 3-219, component type listing	<ul style="list-style-type: none"> <li>• heaters</li> <li>• coolers</li> <li>• <del>hose reel</del></li> </ul>	<ul style="list-style-type: none"> <li>• heaters</li> <li>• coolers</li> <li>• restricting</li> </ul>	Clarification	2

Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
	• restricting			
Page 3-219, environment listing	“oil and fuel oil <del>with water pooling</del> ”	“oil and fuel oil	See LRA Table 3.3.2-7	2
Page 3-220, indented paragraph	...and are part of the diesel building structure, <del>see arrangement below.</del> —The concrete filled vault is not expected to see any ground water infiltration. The ground and lake water has been analyzed for pH, chlorides, and sulfates and has been determined to be non-aggressive ( <del>no chloride contamination</del> ). ...	...and are part of the diesel building structure. The concrete filled vault is not expected to see any ground water infiltration. The ground and lake water has been analyzed for pH, chlorides, and sulfates and has been determined to be non-aggressive ...	Clarification	3
Page 3-221, 2 <sup>nd</sup> to last paragraph	....managed using the Closed-Cycle Cooling Water System Surveillance Program, Open-Cycle Cooling (Service) Water System Surveillance Program, and	....managed using the Closed-Cycle Cooling Water System Surveillance Program, Open-Cycle Cooling (Service) Water System Surveillance Program, <b>One-Time Inspection Program</b> and	LRA Table 3.3.2-7	2
Page 3-221 last paragraph, and 1 <sup>st</sup> and 2 <sup>nd</sup> paragraphs on page 3-222	Whole paragraphs	Delete paragraphs of discussion on managing of neoprene.  Also typo in 1 <sup>st</sup> sentence of	Not needed. On SER page 3-219, it refers to Section 3.3.2.3 for aging effects of neoprene.	3

Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
		last paragraph on p. 3-221.		
Page 3-223, 3 <sup>rd</sup> para.	The applicant proposed to manage loss of heat transfer due to fouling of HX copper alloy (Zn less than 15 %) <del>and copper alloy (Zn less than 15 %)</del> materials for component....	The applicant proposed to manage loss of heat transfer due to fouling of HX copper alloy (Zn less than 15 %) materials for component....	Clarification/typo	3
Page 3-223, 2 <sup>nd</sup> to last Paragraph	<del>As stated in LRA Note 16, the applicant verified through specific studies of plant locations that the components are indoors and not subject to UV or ozone, nor are they in locations that are subject to radiation exposure. The plant specific studies also verified that the locations identified in the AMR line items are not subject to temperatures where change in material properties or cracking could occur (greater than 95°F).</del>	<b>As stated in Note 18, elastomer (neoprene, rubber, etc.) components are indoors and not subject to UV or ozone, nor are they in locations that are subject to radiation exposure. These locations are subject to temperatures where change in material properties or cracking could occur (&gt;95 degrees F).</b>	LRA Table 3.3.2-8	2
Page 3-224, environment listing	<del>containment borated water leaks indoor wetted</del>	Add: <b>Air/Gas-wetted, T&lt;140 °F, Treated Water- Other, Raw Water</b>	See LRA Table 3.3.2-9	2



Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
		<b>(Velocity),</b>		
Page 3-225, 4 <sup>th</sup> and 5 <sup>th</sup> paragraphs	“...applicant’s <del>Periodic</del> Closed-Cycle Cooling...”	Delete “Periodic” from this listing	Typo	3
Page 3-225, 2 <sup>nd</sup> paragraph of Section 3.3.2.3.11	“... <del>safety injection system</del> ...”	Change to “...residual heat removal system...” and change the corresponding SER Section #	See LRA Table 3.3.2-10	2
Page 3-226 component listing	<del>Filters and strainers</del> <del>Flow indicators</del>	Delete text	LRA Table 3.3.2-11, no loss of material on these components	2
Page 3-226, environments list	• air and gas - wetted	• air and gas – wetted <b>T &lt; 140°F</b>	Clarification	3
Page 3-227 1st Paragraph	...changed to Note F, <del>6</del> for material not in NUREG-1801 for this component.	...changed to <b>delete</b> Note F, for material not in NUREG-1801 for this component.	NRC 2005-0020	2
Page 3-228, listing of Component types	“expansion joints”	Delete. Expansion joints are neoprene and no aging effects. This section is discussing loss of material.	See LRA Table 3.3.2-13	2
Page 3-228, listing of environments	• <del>borated water leaks</del>	Add “ <b>raw water</b> ”.	See LRA Table 3.3.2-13	2
Page 3-229, 7 <sup>th</sup> paragraph	“On the basis of its review...”	Remove this summary paragraph. Repeated after discussion of RAIs.	Clarification	3
Page 3-229 last paragraph	The <del>few</del> components in question are drainage and sump pump discharge piping and valves that are all shown on drawing LR—223 Sheet 3, location G-8.	The components in question are drainage and sump pump discharge piping and valves that are all shown on drawing LR- <b>M</b> -223 Sheet 3, location G-	Clarification	3

Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
		8.		
Page 3-230, Section 3.3.2.3.16, Para. 2, bullet 2	• treated water - secondary	• treated water – secondary, <b>T&gt;120°F</b>	Clarification	3
Page 3-231, 2 <sup>nd</sup> last paragraph	“...pending resolution of <del>CI 3.3-6</del> ...”	Delete reference to “CI 3.3-6”	This CI is not listed in the text for this section nor is it in Section 1.0 of the DSER identifying all CIs.	2
Page 3-233, Table 3.4-1, Item # 3.4.1-03	“Staff Evaluation” column	Change to “Not applicable (See Section 3.4.2.2.3)”	Consistency. See LRA Table 3.4.1, 3.4.1-03	2
Page 3-234, Table 3.4-1, Item # 3.4.1-06	“AMP in LRA” column	Add “Water Chemistry Control Program”	See LRA Table 3.4.1, 3.4.1-06	2
Page 3-234, Table 3.4-1, Item # 3.4.1-07	“AMP in LRA” column	Delete “Tank Internal Inspection Program”	See LRA Table 3.4.1, 3.4.1-07	2
Page 3-238, 2 <sup>nd</sup> last paragraph	Majority of paragraph	Delete portion of paragraph that is repeated in previous paragraph.	Typo	3
Page 3-239, Section 3.4.2.2.3, Para. 3	These components are evaluated in LRA Section <del>2.3.3.5</del> , which is addressed in NUREG-1801, Chapter VII (Auxiliary Systems), Section C1.	These components are evaluated <b>in the service water system</b> in LRA Section <b>3.3.2.1.5</b> , which is addressed in NUREG-1801, Chapter VII (Auxiliary Systems), Section C1.	Clarification. See LRA Table 3.4.1, item 3.4.1-03	3
Page 3-239, Section 3.4.2.2.3, Para. 5 and 6	<del>...Systems Monitoring Program and One Time Inspection Program.</del>	<b>...Open Cycle Cooling Water System Surveillance Program.</b>  Or delete paragraphs entirely, as this line item is not used.	Clarification	2

Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
Page 3-239, last paragraph	“For those line items that apply to LRA Section 3.4.2.2.3,....”	Reword. No line items apply as this line item was not used, as stated in a previous paragraph.	Line item was not used. See LRA Table 3.4.1 item 3.4.1-03	3
Page 3-240, last paragraph	“...for managing these aging effects/mechanisms.”	Change to “...for managing <b>the</b> aging effects/mechanisms <b>of part (1) of this line item.</b> ”	Clarity. Two parts to this section managed differently.	3
Page 3-241, first paragraph	“...and therefore this line item is not applicable”	“...and therefore <b>part (2) of</b> this line item is not applicable”	Clarity. Two parts to this section managed differently.	3
Page 3-242, Section 3.4.2.3.1, Para. 1	Specifically, the applicant identified that no aging effects occurred when components fabricated from carbon/alloy steel, stainless steel, aluminum, copper alloy, or stainless steel <del>clad material</del> were exposed to air or to an inert gas (e.g., nitrogen).	Specifically, the applicant identified that no aging effects occurred when components fabricated from carbon/alloy steel, stainless steel, aluminum, copper alloy, or <b>cast austenitic</b> stainless steel ( <b>CASS</b> ) were exposed to air or to an inert gas (e.g., nitrogen).	Clarification. See LRA Tables 3.4.2-1 through 3.4.2-3.	2
Page 3-242, Section 3.4.2.3.1, Para. 2	Therefore, the staff concluded that there are no applicable aging effects requiring management for carbon/alloy steel, stainless steel, aluminum, copper alloy, or <del>stainless steel clad material</del> exposed to air, or to an inert gas	Therefore, the staff concluded that there are no applicable aging effects requiring management for carbon/alloy steel, stainless steel, aluminum, copper alloy, or <b>CASS</b> exposed to air, or to an inert gas environment.	Clarification. See LRA Tables 3.4.2-1 through 3.4.2-3.	2

Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
	environment.			
Page 3-242, Section 3.4.2.3.1, Para. 3, bullets		• <b>outdoor (external)</b>	Missing info. See LRA Table 3.4.2-1.	2
Page 3-243, Section 3.4.2.3.1, partial Para. 1	<del>The applicant proposed to manage the main and auxiliary steam system aging effects by using the Bolting Integrity Program and the Boric Acid Corrosion Program.</del>		Delete this sentence. Repeat of information from previous page.	3
Page 3-243, Section 3.4.2.3.2, full Para. 1	The applicant proposed to manage loss of material and cracking due to SCC of stainless steel material for component types of valves, instrument valve assemblies, piping/fittings, and tubing exposed to treated water above 270°F environment using the Water Chemistry Control Program and One-Time Inspection Program, to provide confirmation of effectiveness.	The applicant proposed to manage loss of material and cracking due to SCC of stainless steel material for component types of <b>valve bodies, flow elements</b> , instrument valve assemblies, piping/fittings, and <b>restricting orifices</b> exposed to treated water above <b>120°F</b> environment using the Water Chemistry Control Program and One-Time Inspection Program, to provide confirmation of effectiveness.	See LRA Table 3.4.2-1	2
Page 3-243, Section 3.4.2.3.2, full Para. 3, 4, & 5	Whole paragraphs	Rewrite paragraphs to deal with only loss of material due to FAC, which is managed with FAC	Clarity. Repeating information previously written, and not fully covering FAC.	1

Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
		Program and Water Chemistry. Other loss of material effects are addressed in previous paragraphs on page 3-242.		
Page 3-243, Section 3.4.2.3.2, full Para. 3	The applicant proposed to manage loss of material and loss of material due to FAC/erosion - corrosion of carbon and low-alloy steels materials for component type of drain traps, flow elements <del>instrument valve assemblies</del> , piping and fittings, <del>restricting orifices</del> , stream traps, and valve bodies exposed to indoor with no <del>external</del> air conditioning, treated water – secondary (T<120°F) (internal), treated water - secondary (T>120°F) (internal), containment (external), and air/gas wetted- (T>140°F)(internal) by using the Periodic Surveillance and Preventive Maintenance Program, One-Time Inspection Program, Systems Monitoring	The applicant proposed to manage loss of material and loss of material due to FAC/erosion - corrosion of carbon and low-alloy steels materials for component type of drain traps, flow elements, piping and fittings, stream traps, and valve bodies exposed to indoor with no air conditioning, treated water – secondary (T<120°F) (internal), treated water - secondary (T>120°F) (internal), containment (external), <b>outdoor (external)</b> , and air/gas wetted- ( <b>T&lt;140°F</b> )(internal) by using the Periodic Surveillance and Preventive Maintenance Program, One-Time Inspection Program, Systems Monitoring Program, <b>Flow-</b>	Clarification.	2

Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
	Program, and Water Chemistry Control Program.	<b>Accelerated Corrosion Program</b> , and Water Chemistry Control Program.		
Page 3-243, Section 3.4.2.3.2, full Para. 4	The staff reviewed the applicant's Periodic Surveillance and Preventive Maintenance Program, One-Time Inspection Program, Systems Monitoring Program and Water Chemistry Control Program.	The staff reviewed the applicant's Periodic Surveillance and Preventive Maintenance Program, One-Time Inspection Program, Systems Monitoring Program, <b>Flow-Accelerated Corrosion Program</b> , and Water Chemistry Control Program.	Clarification	2
Page 3-243, Section 3.4.2.3.2, full Para. 5	On the basis of its review of the applicant's programs, plant-specific and industry operating experience, the staff found ... managed using the Periodic Surveillance and Preventive Maintenance Program, One-Time Inspection Program, Systems Monitoring Program, and Water Chemistry Control Program.	On the basis of its review of the applicant's programs, plant-specific and industry operating experience, the staff found ... managed using the Periodic Surveillance and Preventive Maintenance Program, One-Time Inspection Program, Systems Monitoring Program, <b>Flow-Accelerated Corrosion Program</b> , and Water Chemistry Control	Clarification	1

Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
		Program.		
Page 3-244, Section 3.4.2.3.3, Para. 1	The feedwater and condensate system experiences loss of material of carbon and low-alloy steel, stainless steel, for the following component types:	The feedwater and condensate system experiences loss of material of carbon and low-alloy steel, stainless steel <b>and CASS</b> , for the following component types:	Missing information. See LRA Table 3.4.2-2.	2
Page 3-244, Section 3.4.2.3.3, Para. 3	The applicant proposed to manage the feedwater and condensate system aging effects by using the Bolting Integrity Program, Boric Acid Corrosion Program, Water Chemistry Control Program, One-Time Inspection Program, <del>Fire Protection Program</del> .	The applicant proposed to manage the feedwater and condensate system aging effects by using the Bolting Integrity Program, Boric Acid Corrosion Program, Water Chemistry Control Program, One-Time Inspection Program, <b>and System Monitoring Program</b> .	See LRA Table 3.4.2-2. Also, in the second sentence, correct the SER Section references accordingly.	2
Page 3-244, Section 3.4.2.3.3, Para. 4 & 5	Whole paragraphs	Rewrite paragraphs to deal with only loss of material due to FAC, which is managed with FAC Program and Water Chemistry. Other loss of material effects are addressed in previous paragraphs on page 3-244.	Clarity. Repeating information previously written, and not fully covering FAC.	1
Page 3-245, Section 3.4.2.3.4, Para. 2	The auxiliary feedwater system experiences loss of material of carbon and low-	The auxiliary feedwater system experiences loss of material of carbon and low-	See LRA Table 3.4.2-3.	2

Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
	alloy steel, cast iron, CASS, copper alloy (Zn<15%), <del>copper alloy (Zn&gt;15%)</del> , and stainless steel for the following component types:	alloy steel, cast iron, CASS, copper alloy (Zn<15%), <b>aluminum</b> , and stainless steel for the following component types		
Page 3-245, Section 3.4.2.3.4, Para. 3	• containment (external)	• containment (external) • <b>raw water (stagnant) (internal)</b> • <b>oil and fuel oil (internal)</b>	See LRA Table 3.4.2-3.	2
Page 3-245, Section 3.4.2.3.4, Para. 4	The applicant proposed to manage the feedwater and <del>condensate</del> system aging effects by using the Bolting Integrity Program, Boric Acid Corrosion Program, Water Chemistry Control Program, One-Time Inspection Program, <del>Flow Accelerated Program</del> , Tank Internal Inspection Program, and Periodic Surveillance and Preventive Maintenance Program.	The applicant proposed to manage the <b>auxiliary</b> feedwater system aging effects by using the Bolting Integrity Program, Boric Acid Corrosion Program, Water Chemistry Control Program, One-Time Inspection Program, <b>System Monitoring Program, Open Cycle Cooling Water System Surveillance Program</b> , Tank Internal Inspection Program, and Periodic Surveillance and Preventive Maintenance Program.	See LRA Table 3.4.2-3. Also, in the second sentence, correct the SER Section references accordingly.	2
Page 3-250, Table 3.5-1, row for 3.5.1-10	Inservice Inspection Program	Inservice Inspection Program, <b>Structures Monitoring Program</b>	Clarification	2
Page 3-252, Table	Inservice Inspection	Inservice Inspection	Clarification	2



Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
3.5-1, row for 3.5.1-27	Program	Program, <b>Structures Monitoring Program</b>		
Page 3-253, Table 3.5-1, row for 3.5.1-32	Inservice Inspection Program	Inservice Inspection Program, <b>Structures Monitoring Program</b>	Clarification	2
Page 3-254, Section 3.5.2.1, partial Para. 1, bullets	<ul style="list-style-type: none"> <li>• ASME Section XI, Subsections IWE &amp; IWL Inservice Inspection Program</li> <li>• Boraflex Monitoring Program</li> </ul>	<ul style="list-style-type: none"> <li>• ASME Section XI, Subsections IWE &amp; IWL Inservice Inspection Program</li> <li>• <b>ASME Section XI, Subsection IWF Inservice Inspection Program</b></li> <li>• Boraflex Monitoring Program</li> </ul>	See LRA Section 3.5.2.1.	2
Page 3-254, Section 3.5.2.1, full Para. 1	In LRA Tables 3.5.2-1 through 3.5.2-14, the applicant ... and gas turbine building structure components <del>system</del> and identified which AMRs it considered to be consistent with the GALL Report.	In LRA Tables 3.5.2-1 through 3.5.2-14, the applicant ... and gas turbine building structure components and identified which AMRs it considered to be consistent with the GALL Report.	Clarification	3
Page 3-257, Section 3.5.2.2.1, Para. 3	In GALL Report, Volume 2, Chapter II, Table A1, ... further evaluation is recommended for manage the aging effects for containment concrete components located in inaccessible areas for the aging mechanisms of (1)	In GALL Report, Volume 2, Chapter II, Table A1, ... further evaluation is recommended for <b>managing</b> the aging effects for containment concrete components located in inaccessible areas for the aging mechanisms of (1)	Clarification	3

Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
	freeze-thaw, (2) leaching of calcium hydroxide, (3) aggressive chemical attack, (4) reaction with aggregates, or (5) corrosion of embedded steel are significant.	freeze-thaw, (2) leaching of calcium hydroxide, (3) aggressive chemical attack, (4) reaction with aggregates, or (5) corrosion of embedded steel.		
Page 3-257, Section 3.5.2.2.1, Para. 4	(1) Freeze-thaw. SRP-LR Section 3.5.2.2.1.1 does not address freeze-thaw as an aging ...	(1) Freeze-thaw. SRP-LR Section 3.5.2.2.1.1 does not address freeze-thaw as an aging ...	Clarification	3
Page 3-257, Section 3.5.2.2.1, Para. 5	However, the applicant stated that the inspections performed in accordance with the requirements of the ASME Code Section XI, Subsections <del>IWF</del> Inservice Inspection Program would detect ...	However, the applicant stated that the inspections performed in accordance with the requirements of the ASME Section XI, Subsections <b>IWE &amp; IWL</b> Inservice Inspection Program would detect ...	Clarification	2
Page 3-257, Section 3.5.2.2.1, last Para.	The staff agreed that the concrete specification applied at PBNP would be expected to protect against the freeze-thaw aging affect.	The staff agreed that the concrete specification applied at PBNP would be expected to protect against the freeze-thaw aging <b>effects</b> .	Clarification	3
Page 3-259, Section 3.5.2.2.1, partial Para. 1	Examination of representative samples of below-grade concrete, when excavated for any reason, is to be included as part a plant-specific	Examination of representative samples of below-grade concrete, when excavated for any reason, is to be included as part <b>of</b> a plant-specific	Clarification	2

Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
	program.	program.		
Page 3-262, Section 3.5.2.2.1, full Para. 1	As documented in the audit and review report ... however, the applicant stated that four Unit 2 containment penetrations associated with the main steam and feedwater systems concrete <del>are</del> exposed to temperatures above the specified limits. This Unit 2 nonconforming condition is captured and addressed by the corrective action program. Currently, the status of <del>these</del> penetrations is operable but degraded. The applicant further stated that, as part of the plant's existing corrective action process, the <del>affected</del> penetrations will be inspected and restored to original design conditions during the next Unit 2 refueling outage which is planned for Spring 2005.	As documented in the audit and review report ... however, the applicant stated that four Unit 2 containment penetrations associated with the main steam and feedwater systems concrete <b>may be</b> exposed to temperatures above the specified limits. This Unit 2 nonconforming condition is captured and addressed by the corrective action program. Currently, the status of <b>the main steam</b> penetrations is operable but degraded. The applicant further stated that, as part of the plant's existing corrective action process, the <b>main steam</b> penetrations will be inspected and restored to original design conditions during the next Unit 2 refueling outage which is planned for Spring 2005.	See RAIs 3.5-3 and 2.4-3. See NRC 2004-0086 and NRC 2005-0019 Note: There is no evidence of high temperatures at the Main Feedwater penetrations.	2
Page 3-262, Section 3.5.2.2.1, last Para.	However, the applicant's report (PB OPR 000096) indicated that the concrete	However, the applicant's report (PB OPR 000096) indicated that the concrete	See RAIs 3.5-3 and 2.4-3. See NRC 2004-0086 and NRC 2005-0019	2

Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
	temperatures around the main steam and feedwater lines were found to be about 380°F for an unknown period of time.	temperatures around the main steam lines were found to be about 380°F for an unknown period of time.	Note: There is no evidence of high temperatures at the Main Feedwater penetrations.	
Page 3-263, Section 3.5.2.2.1, full Para. 2	The applicant noted that the tendon's exposure to the slightly higher temperature, has occurred over a relatively short length of time and it was determined to present a negligible effect.	The applicant noted that the tendon's exposure to the slightly higher temperature, has occurred over a relatively short length of <b>the tendon</b> and it was determined to present a negligible effect.	Clarification	2
Page 3-263, Section 3.5.2.2.1, full Para. 3	The staff found that <del>continuation of the additional inspection</del> measures would provide the assurance of the containment integrity during the period of extended operation.	The staff found that <b>the ASME Section XI, Subsections IWE &amp; IWL Inservice Inspection Program</b> would provide the assurance of the containment integrity during the period of extended operation.	Clarification See RAIs 3.5-3 and 2.4-3. See NRC 2004-0086 and NRC 2005-0019 Note: There is no evidence of high temperatures at the Main Feedwater penetrations.	1
Page 3-264, Section 3.5.2.2.1, Para. 4	The applicant further stated that enhancements are required <del>by</del> the Structural Monitoring Program to address the containment non-pressure boundary internal structure inspections.	The applicant further stated that enhancements are required <b>to</b> the Structural Monitoring Program to address the containment non-pressure boundary internal structure inspections.	Clarification	3
Page 3-265, Section	In the discussion, the	In the discussion, the	Clarification	3

Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
3.5.2.2.1, Para. 8	applicant noted that the liner corrosion was identified in both units due to borated water leakage, and that ASME Code Subsection IWE augmented inspections would be performed in these areas.	applicant noted that liner corrosion was identified in both units due to borated water leakage, and that ASME Code Subsection IWE augmented inspections would be performed in these areas.		
Page 3-266, 2 <sup>nd</sup> to last Para.	In LRA Section 3.5.2.2.1.5, the applicant stated that fatigue is a TLAA, as defined in 10 CFR 54.3.	In LRA Section 3.5.2.2.1.5, the applicant stated that <b>loss of prestress</b> is a TLAA, as defined in 10 CFR 54.3.	Clarification	2
Page 3-267, Section 3.5.2.2.1, Para. 7	The applicant also stated that the liner penetrations have had a fatigue review and are bounded by line Item 3.5.1-01/II.A3.1-b. ...	The applicant also stated that the liner penetrations have had a fatigue review and are bounded by <b>GALL</b> line Item 3.5.1-01/II.A3.1-b.	Clarification	3
Page 3-269, Section 3.5.2.2.2, Para. 6	In LRA Section 3.5.2.2.2 and Tables 3.5.1 and <del>3.5.2</del> , the applicant indicated that the Structures Monitoring Program ...	In LRA Section 3.5.2.2.2 and Tables 3.5.1 and <b>3.5.2-1, 3.5.2-6 and 3.5.2-10</b> , the applicant indicated that the Structures Monitoring Program ...	Clarification	2
Page 3-269, Section 3.5.2.2.2, Para. 6, bullets	<ul style="list-style-type: none"> <li>• <del>ASME pipe supports and restraints</del></li> <li>• <del>structural framings</del></li> </ul>	<ul style="list-style-type: none"> <li>• <b>containment liner plate</b></li> <li>• <b>containment penetrations</b></li> </ul>	Delete redundant entries. Add per LRA Tables 3.5.2-1, 6, and 10	2
Page 3-270, Section 3.5.2.2.2, full Para. 3	In LRA Table 3.5.2-2, the applicant indicated that aging effects (changing	In LRA Table 3.5.2-2, the applicant indicated that aging effects (changing	Clarification	2

Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
	<p>material properties and loss of material of all wood/<del>door</del> with the intended function of missile barrier) are to be managed by the Structures Monitoring Program. However, the staff's review of <del>Item</del> B2.1.20 found ...</p>	<p>material properties and loss of material of all wood/<b>outdoor</b> with the intended function of missile barrier) are to be managed by the Structures Monitoring Program. However, the staff's review of <b>LRA Section</b> B2.1.20 found ...</p>		
<p>Page 3-271, Section 3.5.2.2.2, full Para. 6</p>	<p>The applicant used concrete per ACI 318-63 to construct these components. The differences between the ACI 318 concrete and ACI 201 standard are concrete rated at 3500 psi, some concrete cured to a time that was <del>slightly</del> shorter, use of type 1 versus type 2 <del>concrete</del> and tested its aggregate per alternate ASTM C 295 and C 227. The lower strength and shorter cure time were consistent with the plant design criteria and affect abrasion resistance primarily. Type 1 <del>concrete</del> is a higher quality <del>concrete</del></p>	<p>The applicant used concrete per ACI 318-63 to construct these components. The differences between the ACI 318 concrete and ACI 201 standard are concrete rated at 3500 psi, some concrete cured to a time that was <b>slightly</b> shorter, use of type 1 versus type 2 <b>cement</b> and tested its aggregate per alternate ASTM C 295 and C 227. The lower strength and shorter cure time were consistent with the plant design criteria and affect abrasion resistance primarily. Type 1 <b>cement</b> is a higher quality <b>cement</b></p>	<p>Clarification</p>	<p>2</p>

Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
	that type 2.	than type 2.		
Page 3-272, Section 3.5.2.2.2, Last full Para.	The applicant further indicated that groundwater level measurements <del>and chemical analyses</del> are performed at an initial frequency once every quarter. The applicant <del>committed to perform</del> groundwater chemistry (pH, chlorides, and sulfates) monitoring at a frequency of once every nine months.	The applicant further indicated that groundwater level measurements are performed at an initial frequency once every quarter. The applicant <b>will initially</b> perform groundwater chemistry (pH, chlorides, and sulfates) monitoring at a frequency of once every nine months.	NRC 2004-0086 and 2005-0044.	2
Page 3-274, Section 3.5.2.2.2, Para. 1	In addition, in its response to RAI 3.5-10, the applicant committed to... of groundwater are within the GALL limits. The staff considers the applicant's response acceptable because the applicant's commitment ensures aging management.	In addition, in its response to RAI 3.5-10, the applicant committed to <b>initially</b> ... of groundwater are within the GALL limits. <b>Based on an analysis and trend of the data, a determination will be made as to the appropriate frequency for continued monitoring.</b> The staff considers the applicant's response acceptable because the applicant's commitment ensures aging management.	See RAI 3.5-10 response. NRC 2004-0086 and NRC 2005-0044	2
Page 3-275, Section 3.5.2.2.2, last Para..	In LRA Section 3.5.2.2.2 and Tables 3.5.1 and 3.5.2,	Delete or relocate this paragraph to an		2

Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
	the applicant indicated that the Structures Monitoring Program will not be used to cover concrete structural elements ...	appropriate location		
Page 3-276, Section 3.5.2.2.2, last Para.	However, in response to RAI 3.5-3, the applicant stated that the concrete temperatures in Unit 2 around the main steam and feedwater lines were found to be about 380 °F for an unknown period of time.	However, in response to RAI 3.5-3, the applicant stated that the concrete temperatures in Unit 2 around the main steam lines were found to be about 380 °F for an unknown period of time.	See RAIs 3.5-3 and 2.4-3. See NRC 2004-0086 and NRC 2005-0019 Note: There is no evidence of high temperatures at the Main Feedwater penetrations.	2
Page 3-276, Section 3.5.2.2.2, last Para.	This inspection will confirm <del>weather</del> or not there are any adverse conditions.	This inspection will confirm <b>whether</b> or not there are any adverse conditions.	Clarification	3
Page 3-279, Section 3.5.2.2.3 - all	<p>3.5.2.2.3 Component Supports</p> <p>The staff reviewed LRA Section 3.5.2.2.3 against the criteria in SRP-LR Section 3.5.2.2.3, which addresses several areas discussed below.</p> <p><u>Aging of Supports Not Covered by the Structures Monitoring Program.</u> The staff reviewed LRA Section 3.5.2.2.3.1 against the criteria in SRP-LR Section 3.5.2.2.3.1.</p> <p>In LRA Section 3.5.2.2.3.1 and <b>Table 3.5.1-29</b>, the applicant addressed aging of component supports that are not managed by the Structures Monitoring Program.</p> <p>SRP-LR Section 3.5.2.2.3.1 states that the GALL Report recommends further evaluation of certain component support/aging effect combinations if they</p>	<p>3.5.2.2.3 Component Supports</p> <p>The staff reviewed LRA Section 3.5.2.2.3 against the criteria in SRP-LR Section 3.5.2.2.3, which addresses several areas discussed below.</p> <p><u>Aging of Supports Not Covered by the Structures Monitoring Program.</u> The staff reviewed LRA Section 3.5.2.2.3.1 against the criteria in SRP-LR Section 3.5.2.2.3.1.</p> <p>In LRA Section 3.5.2.2.3.1 and <b>Table 3.5.1-29</b>, the applicant addressed aging of component supports that are not managed by the Structures Monitoring Program.</p> <p>SRP-LR Section 3.5.2.2.3.1 states that the GALL Report recommends further evaluation of certain component support/aging effect combinations if they</p>	Clarification LRA Section 3.5.2.2.3 and Table 3.5.1-29.	2



Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
	<p>are not covered by the Structures Monitoring Program. This includes (1) reduction in concrete anchor capacity due to degradation of the surrounding concrete, for Groups B1-B5 supports; (2) loss of material due to environmental corrosion, for Groups B2-B5 supports; and (3) reduction/loss of isolation function due to degradation of vibration isolation elements, for Group B4 supports. Further evaluation is necessary only for structure/aging effect combinations not covered by the Structures Monitoring Program.</p> <p>The applicant stated in <b>Table 3.5.1-29</b> that for Groups B1-B5, these component supports are included in the Structures Monitoring Program. <b>The applicant stated in Table 3.5.2-10 that loss of material due to corrosion of steel support components is an aging effect requiring management. The applicant stated that this aging effect is managed by the Structures Monitoring Program.</b></p> <p><b>As stated in Table 3.5.1-32</b>, component supports in Group B1 are managed using the ASME Code Section XI, Subsection IWF Inservice Inspection Program. The applicant further stated that its Structures Monitoring Program includes baseplates, grout, and expansion anchors for Group B1 supports <b>and</b> are inspected at the same time as the ASME Code Section XI IWF Inservice Inspections:</p> <p><b>Component supports have been evaluated for the following specific aging mechanisms:</b></p> <p>(1) Reduction in concrete anchor capacity due to surrounding concrete for Groups B1-B5 supports.</p> <p>The applicant stated that its concrete</p>	<p>are not covered by the Structures Monitoring Program. This includes (1) reduction in concrete anchor capacity due to degradation of the surrounding concrete, for Groups B1-B5 supports; (2) loss of material due to environmental corrosion, for Groups B2-B5 supports; and (3) reduction/loss of isolation function due to degradation of vibration isolation elements, for Group B4 supports. Further evaluation is necessary only for structure/aging effect combinations not covered by the Structures Monitoring Program.</p> <p>The applicant stated in <b>Table 3.5.1-29</b> that for Groups B1-B5, these component supports are included in the Structures Monitoring Program. <b>The applicant stated in Table 3.5.2-10 that loss of material due to corrosion of steel support components is an aging effect requiring management. The applicant stated that this aging effect is managed by the Structures Monitoring Program.</b></p> <p><b>As stated in Table 3.5.1-32</b>, component supports in Group B1 are managed using the ASME Code Section XI, Subsection IWF Inservice Inspection Program. The applicant further stated that its Structures Monitoring Program includes baseplates, grout, and expansion anchors for Group B1 supports <b>and</b> are inspected at the same time as the ASME Code Section XI IWF Inservice Inspections:</p> <p><b>Component supports have been evaluated for the following specific aging mechanisms:</b></p> <p>(1) Reduction in concrete anchor capacity due to surrounding concrete for Groups B1-B5 supports.</p> <p>The applicant stated that its concrete</p>		

Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
	<p>anchors and surrounding concrete are included in the Structures Monitoring Program.</p> <p><del>(2) Loss of material due to environmental corrosion, for Groups B2-B5 supports.</del></p> <p><del>The applicant stated that loss of material due to corrosion of steel support components is an aging effect requiring management. The applicant stated that this aging effect is managed by the Structures Monitoring Program.</del></p> <p><del>(3) Reduction/loss of isolation function due to degradation of vibration isolation elements for Group B4 supports</del></p> <p>The applicant stated that Structures Monitoring Program identifies and evaluates the degradation of vibration isolation elements.</p> <p>The staff reviewed the applicant's Structures Monitoring Program and ASME Code Section XI, Subsection IWF Inservice Inspection Program, and its evaluations are documented in SER Sections 3.0.3.2.19 and 3.0.3.3.2, respectively.</p>	<p>anchors and surrounding concrete are included in the Structures Monitoring Program.</p> <p><b>(2)</b> Reduction/loss of isolation function due to degradation of vibration isolation elements for Group B4 supports</p> <p>The applicant stated that Structures Monitoring Program identifies and evaluates the degradation of vibration isolation elements.</p> <p>The staff reviewed the applicant's Structures Monitoring Program and ASME Code Section XI, Subsection IWF Inservice Inspection Program, and its evaluations are documented in SER Sections 3.0.3.2.19 and 3.0.3.3.2, respectively.</p>		
Page 3-280, Section 3.5.2.2.3, Para. 2	In LRA Table 3.5.1, Item 3.5.1-33, the applicant stated ... strength low-alloy steel bolts used in <b>NSS</b> component supports.	In LRA Table 3.5.1, Item 3.5.1-33, the applicant stated ... strength low-alloy steel bolts used in <b>NSSS</b> component supports.	Typo	3
Page 3-280, Section 3.5.2.2.3, Para. 3	In LRA Section B2.1.4, the applicant indicated that ... pinned connections associated with steam, reactor coolant pumps and reactor vessel supports and	In LRA Section B2.1.4, the applicant indicated that ... pinned connections associated with steam <b>generator</b> , reactor coolant pumps and reactor vessel	Typo	3

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	is loaded only in shear with no preload stress.	supports and is loaded only in shear with no preload stress.		
Page 3-280, Section 3.5.2.2.3, Para. 4	The applicant will supplement its <del>application in its next LRA annual update</del> to reflect this statement.	The applicant will supplement its <b>response</b> to reflect this statement.	See CI 3.5-14. See also NRC 2005-0043 dated April 29, 2005.	2
Page 3-280, Section 3.5.2.2.3, Para. 6	In LRA Section <del>3.5.2.2.3</del> , the applicant stated that fatigue is a TLAA, as defined in 10 CFR 54.3.	In LRA Section <b>3.5.2.2.3.2</b> , the applicant stated that fatigue is a TLAA, as defined in 10 CFR 54.3.	Clarification	3
Page 3-281, Section 3.5.2.3.1, Para. 1	Specifically, instances in which the applicant stated that no aging effects were identified occurred when components fabricated from structural stainless steel, carbon steel, glass, grout or fiber-reinforced cement that were exposed to air, or were buried concrete (reinforced). Neither air nor buried ... to buried reinforced concrete or structural stainless steel, carbon steel, glass, grout or fiber reinforced cement that were exposed to air environments.	Specifically, instances in which the applicant stated that no aging effects were identified occurred when components fabricated from structural stainless steel, carbon steel <b>foundation piles</b> , glass, grout, <b>concrete (reinforced)</b> , or fiber-reinforced cement that were exposed to air, or were buried concrete (reinforced). Neither air nor buried ... to buried reinforced concrete or structural stainless steel, carbon steel <b>foundation piles</b> , glass, grout,	Clarifications LRA Tables 3.5.2.-1 thru 3.5.2-14	2

Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
		<p><b>concrete (reinforced)</b>, or fiber reinforced cement that were exposed to air environments.</p>		
Page 3-281 Section 3.5.2.3.1, Para. 2	There is not an aging effect/mechanism on structural stainless steel, carbon steel, glass, grout or fiber-reinforced cement in air environment. Therefore, the staff concluded there are no applicable aging effects requiring management for structural stainless steel, carbon steel, glass, grout or fiber reinforced cement in air environment.	There is not an aging effect/mechanism on structural stainless steel, carbon <b>steel foundation piles</b> , glass, grout, <b>concrete (reinforced)</b> or fiber-reinforced cement in air environment. Therefore, the staff concluded there are no applicable aging effects requiring management for structural stainless steel, carbon steel <b>foundation piles</b> , glass, grout, or fiber reinforced cement <b>concrete (reinforced)</b> in air environment.	Clarifications LRA Tables 3.5.2.-1 thru 3.5.2-14	2
Page 3-281 Section 3.5.2.3.2, last Para.	The applicant proposed to manage loss of material due to boric acid wastage of structural steel carbon material for component types of structural carbon steel/indoor including the	See LRA page 3-437 for additional component types.	See LRA Table 3.5.2-1	2

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	containment liner, keyway channels, electrical and mechanical penetrations and bolting exposed to indoor with no external air conditioning environment, by using the Boric Acid Corrosion Program.			
Page 3-282, Section 3.5.2.3.2, full Para. 4	The applicant also proposed to manage loss of material due to MIC and <del>due to</del> pitting corrosion of structural steel, including the refueling cavity liner, sandbox ... the Water Chemistry Control Program.	The applicant also proposed to manage loss of material due to <b>crevice corrosion</b> , MIC and pitting corrosion of structural <b>stainless</b> steel, including the refueling cavity liner, sandbox ... the Water Chemistry Control Program <b>and ASME Section XI, Subsections IWE/ IWL program.</b>	Clarifications See LRA Table 3.5.2-1	2
Page 3-282, Section 3.5.2.3.2, full Para. 5	On the basis of its review of the applicant's plant-specific and industry operating experience, the staff found that loss of material due to MIC and pitting corrosion for components in the Units 1 and 2 containment ... of loss of material due to MIC and pitting corrosion in the	On the basis of its review of the applicant's plant-specific and industry operating experience, the staff found that loss of material due to <b>crevice corrosion</b> , MIC and pitting corrosion for components in the Units 1 and 2 containment ... of loss of material due to <b>crevice</b>	Clarifications See LRA Table 3.5.2-1	2

Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
	Units 1 and 2 containment building structure using this program is acceptable.	<b>corrosion</b> , MIC and pitting corrosion in the Units 1 and 2 containment building structure using this program is acceptable.		
Page 3-283, Section 3.5.2.3.3, Para. 2	The applicant proposed to manage change in material properties ... with no external air conditioning environment, by using the Fire Protection Program.	The applicant proposed to manage change in material properties ... with no external air conditioning environment, by using the Fire Protection Program <b>and Structures Monitoring Program.</b>	Clarification LRA Table 3.5.2-2	2
Page 3-283, Section 3.5.2.3.3, Para. 4	The applicant proposed to manage change ... including missile shield <del>and the integral part of the diesel generator air intake</del> exposed to the outdoor, by using the Structures Monitoring Program.	The applicant proposed to manage change ... including missile shield <b>(integral part of the diesel generator air intake)</b> exposed to the outdoor, by using the Structures Monitoring Program.	Clarification	3
Page 3-284, Section 3.5.2.3.4, Para. 4	The applicant proposed to manage loss of material due to general corrosion of structural steel carbon material for component type of indoor doors, including all doors throughout the building exposed to indoor with no external air conditioning	The applicant proposed to manage loss of material due to general corrosion <b>and loss of material due to wear</b> of structural steel carbon material for component type of indoor doors, including all doors throughout the building exposed to indoor with no	Clarification LRA Table 3.5.2-3	2

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	environment, by using the Fire Protection Program.	external air conditioning environment, by using the Fire Protection Program.		
Page 3-284, Section 3.5.2.3.4, Para. 5	Therefore, the staff found that management of loss of material due to general corrosion in the circulating water pumphouse structure using this program is acceptable.	Therefore, the staff found that management of loss of material due to general corrosion <b>and loss of material due to wear</b> in the circulating water pumphouse structure using this program is acceptable.	Clarification LRA Table 3.5.2-3	2
Page 3-285, Section 3.5.2.3.5 General		Add other MEAPs in LRA Table 3.5.2-4 that are not listed in this section.	See LRA pages 3-449 and 3-450.	2
Page 3-285, Section 3.5.2.3.5, Para. 2	The applicant proposed to manage loss of material due to general corrosion of structural steel carbon material for component type...	The applicant proposed to manage loss of material due to general corrosion <b>and loss of material due to wear</b> of structural steel carbon material for component type...	Clarification LRA Table 3.5.2-4	2
Page 3-285, Section 3.5.2.3.5, Para. 3	Therefore, the staff found that management of loss of material due to general corrosion in the diesel generator building structure using this program is acceptable.	Therefore, the staff found that management of loss of material due to general corrosion <b>and loss of material due to wear</b> in the diesel generator building structure using this program is acceptable.	Clarification LRA Table 3.5.2-4	2
Page 3-285, Section 3.5.2.3.6 General			This section lacks a staff conclusion.	2

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Page 3-285, Section 3.5.2.3.7, last Para.	The applicant proposed to manage change in material properties due to elevated temperature, cracking due to elevated temperature, and due to ultraviolet radiation and ozone of elastomer materials for component type of indoor elastomers, including rubber sill, sweep and flood doors exposed to indoor with no external air conditioning environment, by using the Fire Protection Program.	The applicant proposed to manage change in material properties due to elevated temperature, cracking due to elevated temperature, and due to ultraviolet radiation and ozone of elastomer materials for component type of indoor elastomers, including rubber sill, sweep and flood doors exposed to indoor with no external air conditioning environment, by using the Fire Protection Program, <b>and Structures Monitoring Program.</b>	Clarification. See LRA Table 3.5.2-6.	2
Page 3-286, Section 3.5.2.3.7, Para. 1		Add Structures Monitoring Program to this paragraph as well.	Clarification. See LRA Table 3.5.2-6.	2
Page 3-286, Section 3.5.2.3.7, Para. 4	The applicant proposed to manage loss of material due to crevice corrosion, MIC, and pitting corrosion of structural steel exposed to borated water, including spent fuel pool (SFP), ...	The applicant proposed to manage loss of material due to crevice corrosion, MIC, and pitting corrosion of structural <b>stainless</b> steel exposed to borated water, including spent fuel pool (SFP), ...	Clarification See LRA Table 3.5.2-6.	2
Page 3-286, Section 3.5.2.3.7, Para. 5	On the basis of its review of the ... are effectively managed using the <del>Boric</del>	On the basis of its review of the ... are effectively managed using the <b>Water</b>	Clarification See LRA Table 3.5.2-6 for structural stainless steel	2



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	<p><del>Acid Corrosion</del> Program. Therefore, the staff found that management of loss of material due to <del>boric acid wastage</del> in the primary auxiliary building structure using this program is acceptable.</p>	<p><b>Chemistry Control</b> Program. Therefore, the staff found that management of loss of material due to <b>crevice corrosion, MIC, and pitting corrosion</b> in the primary auxiliary building structure using this program is acceptable.</p>	<p>exposed to borated water.</p>	
<p>Page 3-287, Section 3.5.2.3.9, Para. 3</p>	<p>The staff reviewed the applicant's Structures Monitoring Program and its evaluation is documented in SER Section <del>3.0.3.2.1</del>. On the basis of its review of the ... loss of material due to <del>boric acid wastage</del> in the yard structures using this program is acceptable.</p>	<p>The staff reviewed the applicant's Structures Monitoring Program and its evaluation is documented in SER Section <b>3.0.3.2.19</b>. On the basis of its review of the ... loss of material due to <b>surface runoff and erosion of earth material</b> in the yard structures using this program is acceptable.</p>	<p>Clarification See LRA Table 3.5.2-8</p>	<p>2</p>
<p>Page 3-287, Section 3.5.2.3.9, Para. 5</p>	<p>In LRA Section <del>3.5.2.1.8</del>, the ...  ...For the management of <del>this</del> aging effect, the applicant proposed to use the Structures Monitoring Program, <del>under which periodic inspections will be performed</del> to ensure that</p>	<p>In LRA <b>Table 3.5.2-8</b>, the...  ...For the management of <b>these</b> aging effects, the applicant proposed to use the Structures Monitoring Program to ensure that these aging effects are properly managed. <b>The</b></p>	<p>Clarification See LRA Table 3.5.2-8.  See NRC 2004-0101, dated Oct. 15, 2004 for commitment regarding selective leaching.</p>	<p>1</p>

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	these aging effects are properly managed...	<b>Structures Monitoring Program will be revised to credit the One-Time Inspection Program to identify selective leaching for these components. The One-Time Inspection Program includes a visual inspection and hardness measurements to identify selective leaching of susceptible components....</b>		
Page 3-288, Section 3.5.2.3.10, Para. 2	The applicant proposed to manage loss of material due to general corrosion of structural steel carbon for component type of indoor structural carbon steel, including the bridge and trolley framing, crane rails, monorails, and lifting rigs exposed to an indoor with no external air conditioning environment, by using the Structures Monitoring Program.	The applicant proposed to manage loss of material due to general corrosion <b>and loss of material due to wear</b> of structural steel carbon for component type of indoor structural carbon steel, including the bridge and trolley framing, crane rails, monorails, and lifting rigs exposed to an indoor with no external air conditioning environment, by using the Structures Monitoring Program.	Clarification See LRA Table 3.5.2-9	2
Page 3-288, Section 3.5.2.3.10, Para. 3	The staff found that loss of material due to general	The staff found that loss of material due to general	Clarification See LRA Table 3.5.2-9	2

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	<p>corrosion is minimal in indoor environments....</p> <p>Therefore, the staff found that management of loss of material due to general corrosion in the cranes,...</p>	<p>corrosion <b>and loss of material due to wear</b> is minimal in indoor environments....</p> <p>Therefore, the staff found that management of loss of material due to general corrosion <b>and loss of material due to wear</b> in the cranes, ...</p>		
Page 3-288, Section 3.5.2.3.10, Para. 4	The applicant proposed to manage loss of material due to crevice corrosion, MIC, and pitting corrosion of structural steel exposed to borated water, including RV internals lifting rig exposed to treated or borated water with a temperature less than 140°F, by using the Structures Monitoring Program.	The applicant proposed to manage loss of material due to crevice corrosion, MIC, and pitting corrosion of structural <b>stainless</b> steel exposed to borated water, including RV internals lifting rig exposed to treated borated water with a temperature less than 140°F, by using the Structures Monitoring Program.	Clarification See LRA Table 3.5.2-9	2
Page 3-289, Section 3.5.2.3.12, Para. 2	The applicant proposed to manage ... based materials <del>material</del> for component...	<p>The applicant proposed to manage ... based materials for component ...</p> <p>Also not all component types are listed.</p>	Clarification See LRA Table 3.5.2-11.	2

Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
Page 3-290, Section 3.5.2.3.13, Para. 2	In LRA Table 3.5.2-12, the applicant stated that the AMRs for the 13.8 KV switchgear building structure components do not have aging effects that require management.	In LRA Table 3.5.2-12, the applicant stated that the AMRs for the 13.8 KV switchgear building structure components do not have aging effects that require management. <b>LRA Table 3.5.2-12 states that concrete and grout is periodically monitored for potential degradation by using the Structures Monitoring Program.</b>	Clarification See LRA Table 3.5.2-12	2
Page 3-290, Section 3.5.2.3.14, para 2	In LRA Table 3.5.2-13, the applicant stated that the AMRs for the fuel oil pumphouse structure components do not have aging effects that require management.	In LRA Table 3.5.2-13, the applicant stated that the AMRs for the fuel oil pumphouse structure components do not have aging effects that require management. <b>LRA Table 3.5.2-13 states that concrete and grout is periodically monitored for potential degradation by using the Structures Monitoring Program.</b>	Clarification See LRA Table 3.5.2-13	2
Page 3-290, Section 3.5.2.3.15, Para. 2	In LRA Table 3.5.2-14, the applicant stated that the AMRs for the gas turbine building structure components do not have	In LRA Table 3.5.2-14, the applicant stated that the AMRs for the gas turbine building structure components do not have	Clarification See LRA Table 3.5.2-14	2

Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
	aging effects that require management.	aging effects that require management. <b>LRA Table 3.5.2-14 states that concrete and grout is periodically monitored for potential degradation by using the Structures Monitoring Program.</b>		
Page 3-291, Section 3.5.3, Para. 1	The staff also reviewed the applicable FSAR supplement program summaries and concluded that they adequately describe the AMPs credited for managing aging of <del>the steam and power conversion systems</del> as required by 10 CFR 54.21(d).	The staff also reviewed the applicable FSAR supplement program summaries and concluded that they adequately describe the AMPs credited for managing aging of <b>Containments, Structures, and Component Supports</b> as required by 10 CFR 54.21(d).	Clarification	2
Page 3-296, Section 3.6.2.3., Para. 2,	In LRA Table 3.6.2-1, the applicant indicated, via <del>Notes F through J,</del>	In LRA Table 3.6.2-1, the applicant indicated, via Note J,	LRA table 3.6.2-1	2
Page 3-297, Section 3.6.2.3.1, Para. 1, bullet 4	<ul style="list-style-type: none"> <li>electrical connections not subject to 10 CFR 50.49 EQ requirements that are exposed to borated water leakage outside containment in an indoor with no air-conditioning</li> </ul>	<ul style="list-style-type: none"> <li>electrical connections not subject to 10 CFR 50.49 EQ requirements that are exposed to borated water leakage outside containment <b>and</b> in an indoor <b>environment</b> with no air-conditioning</li> </ul>	Clarification	2

Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
Page 3-297, Table 3.6-2, Row 4	Containment (External), Indoor – No Air-conditioning	Containment (External), Indoor – No Air-conditioning <b>(External)</b>	Clarification	2
Page 3-298, Section 3.6.2.3.1, Para. 1	In its response, dated January 25, 2005, the applicant agreed to delete Note J in LRA Table 3.6.2-1.	In <b>a teleconference discussion of its</b> response, dated January 25, 2005, the applicant agreed to delete Note J in LRA Table 3.6.2-1.	Clarification – The agreement to delete Note J is <u>not</u> in the RAI response (NRC 2005-0003).	2
Page 3-299, Section 3.6.2.3.1, full Para. 1	After more than 33 years in these service environments, minimal or no signs of corrosion <del>and</del> loss of material have been observed and no functional loss has been observed. Therefore, loss of material for steel hardware, oxidation, and loosening of connecting hardware are not applicable aging effects that would lead to a loss of intended function for the phase bus for the period of extended operation.	After more than 33 years in these service environments, minimal or no signs of corrosion <b>or</b> loss of material have been observed and no functional loss has been observed. Therefore, loss of material for steel <b>hardware due to corrosion or oxidation</b> , and loosening of connecting hardware are not applicable aging effects that would lead to a loss of intended function for the phase bus for the period of extended operation.	Clarification See NRC 2005-0003	2
Page 3-299, Section 3.6.2.3.1, partial Para. 1	... station auxiliary transformers for each unit, and inspected and maintained as part of those active components, which	... station auxiliary transformers for each unit, and inspected and maintained as part of those active components, which	Clarification See NRC 2005-0003	2

Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
	includes periodic inspections and cleaning.	includes periodic inspections and cleaning <b>Where appropriate, heaters are installed to prevent condensation internal to the bus enclosure. Therefore, exposure to moisture due to water ingress or condensation is mitigated.</b>		
Page 3-299, Section 3.6.2.3.1, full Para. 3	Phase bus is connected to static equipment that does not normally vibrate such as switchgear, transformers and disconnect switches;...  ... <del>Therefore</del> , vibration is not an applicable stressor even for phase bus that is connected to equipment that may move, and aging effects due to vibration are not applicable.	Phase bus is connected to static equipment that does not normally vibrate such as switchgear, transformers and disconnect switches; <b>therefore, loosening of bolted connections is not an aging effect requiring management.</b>  ... <b>In addition</b> , vibration is not an applicable stressor even for phase bus that is connected to equipment that may move, and aging effects due to vibration are not applicable.	Clarification See NRC 2005-0003	2
Page 3-300, Section 3.6.2.3.1 partial Para.	IN 98-36 was examined and excluded from the	IN 98-36 was examined and excluded from the	See NRC 2005-0003	2

Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
1	AMR since it addresses faults caused by <del>inadequate maintenance activities</del> , including an event at PBNP.	AMR since it addresses <b>event driven</b> faults caused by <b>impact of an external foreign object (roofing materials), direct water leakage or moisture intrusion, inadequate design or assembly, or mis-operation</b> , including an event at PBNP.		
Page 3-300, Section 3.6.2.3.1, full Para. 1	Therefore, there are no applicable aging effects for the copper bus, solid and flexible connectors, insulators, connecting hardware, and ground straps when exposed to their service conditions for the extended period of operation.	Therefore, there are no applicable aging effects for the <b>phase bus</b> , [copper bus, solid and flexible connectors, insulators, connecting hardware, and ground straps] <b>that are in-scope for license renewal at PBNP</b> when exposed to their service conditions for the extended period of operation.	See RAI 3.6.2.1-3 response in NRC 2005-0003.	2
Page 3-300, Section 3.6.2.3.1, full Para. 3 and all bullets	The staff <del>found that the applicant needs to have an AMP for bus (phase) duct with at least the following essential components:</del> <ul style="list-style-type: none"> <li><del>• Parameters Monitored/ Inspected: ...</del></li> <li><del>• Detection of Aging Effects: ...</del></li> </ul>	The staff <b>discussed</b> the applicant's needs <b>regarding</b> an AMP for bus (phase) duct.	Clarification	2



Page, Section, and Paragraph	DSER Text	Suggested Revision	Justification	Category
	• Acceptance Criteria: ...			
Page 3-301, Section 3.6.2.3.1, Para. 4	In its response, dated January 25, 2005, the applicant agreed to delete Note J against transmission conductors in LRA Table 3.6.2-1 to resolve this discrepancy.	In <b>a teleconference discussion</b> of its response, dated January 25, 2005, the applicant agreed to delete Note J in LRA Table 3.6.2-1 to resolve this discrepancy.	Clarification - The agreement to delete Note J is <u>not</u> in the RAI response (NRC 2005-0003).	2
Page 3-302, RAI 3..6.2.1-6	In its response, dated January 25, 2005, the applicant stated that:	In <b>the email dated December 9, 2004, preceding</b> its response, dated January 25, 2005, the applicant stated that:	Clarification	2