

## Appendix A: Commitment Listing

During the review of the FCS LRA by the NRC staff, the applicant made commitments to provide aging management programs to manage aging effects of structures and components prior to the period of extended operation, as well as other information. The following table lists these commitments, along with the implementation schedule and the source of the commitment.

ITEM NUMBER	COMMITMENT	IMPLEMENTATION SCHEDULE	SOURCE
	<b>Alloy 600 Program</b>		
1	The Alloy 600 Program is a new program at FCS. With this being the case, inspection methodologies for all of the components in the program have not yet been determined. Some of the components that are in the program are currently part of other programs like the reactor vessel internals inspection program. The activities that occur under the interfacing programs relative to these components will be utilized to help analyze and determine the methodologies to be incorporated within the Alloy 600 program for inspection of its included components. These analyses and determinations will be completed prior to entry into the period of extended operation.	Prior to the period of extended operation	Response to RAI 3.1.1-3
2	There is to be a plant-specific program, the Alloy 600 program, for the aging management of Inconel 182 welds. The details of this program are still in development but will be completed prior to the period of extended operation.	Prior to the period of extended operation	Response to RAI 3.1.2-4

3	<p>The flow skirt is one of those components currently included under the scope of the reactor vessel internals inspection program and the Alloy 600 program. Exactly how the flow skirt is to be managed under the Alloy 600 program is yet to be determined; however, that determination will be made before entry into the period of extended operation.</p>	Prior to the period of extended operation.	Response to RAI 3.1.2-3
4	<p>Develop the Alloy 600 program which reflects the program elements of GALL AMP XI.M11, and other commitments in response to the NRC staff's review.</p> <p>An assessment of Alloy 600 and Alloy 82/182 components has been performed and incorporated into the Alloy 600 program basis document. The assessment ... provided conclusions and recommendations to address the specified components...These recommendations will be evaluated as part of the Alloy 600 program and implemented as necessary to ensure the reliability of the Alloy 600 and Alloy 82/182 components.</p> <p>The applicant will incorporate appropriate information from its responses to GL 97-01 and NRC Bulletins 2001-01, 2002-01, and 2002-02.</p>	Prior to the period of extended operation.	LRA Section B.3.1 and responses to RAIs B.3.1-1(2) and B.3.1-1(3)

5	OPPD's response to RAI B.3.1-1 also states that the FCS Alloy 600 Program currently includes a requirement to monitor industry operating experience and implement program enhancements as necessary. By making this a requirement of the Alloy 600 Program, OPPD has committed to incorporating industry activity recommendations or mandates as applicable.	Prior to the period of extended operation	Response to POI-7(f)
	<b>Inservice Inspection Program</b>		

6	OPPD commits to applying recommended or mandated activities resulting from the CRD Material Reliability Management Plan with regard to management of CEDM housings. OPPD will submit the revised AMPs prior to the period of extended operation to ensure that the revised AMPs are adequate to manage the aging of the CEDM housings.	Prior to the period of extended operation	Responses to RAI 3.1.1-4 and POI-8(f)
	<b>One-time Inspection Program</b>		

7	Develop the one-time inspection program which reflects the program elements of GALL AMP XI.M32, and other commitments in response to the NRC staff's review, as documented in responses to staff RAIs and potential open items (POIs).	Prior to the period of extended operation.	LRA Section B.3.5, as reflected in RAI and POI responses
8	OPPD has conservatively included loss of material as an AERM for Alloy 600 in borated treated water...To validate the effectiveness of the chemistry program, OPPD will determine the worst-case location for the potential occurrence of this AERM and perform a one-time inspection of this location prior to the period of extended operation.	Prior to the period of extended operation	Response to RAI 3.1.2-5 and POI-8(d)
9	OPPD will continue to visually inspect and perform a dye-penetrant exam on the two remaining RCP thermal barriers when the rotating assemblies are refurbished. In addition, an air drop test will also be performed on the seal water coolers to ensure tube integrity. FCS will credit the One-Time Inspection Program for these RCP thermal barrier and seal water cooler tubes.	Prior to the period of extended operation	Response to RAI 3.1.2-1 and Open Item 3.0-1
10	OPPD commits to the requirements in GALL report Section XI.M32 relative to the inspection of small-bore RCS piping and to base inspections on those locations where small-bore piping is subject to thermal cycling stratification and turbulent penetration	Prior to the period of extended operation	Response to POI-8(e)
11	Worst-case locations will be evaluated and identified, taking into account severity of condition, time of service, and lowest design margin, as part of the implementation of the one-time inspection program (B.3.5) prior to the period of extended operation.	Prior to the period of extended operation	Response to RAI 3.4.1-11

	<b>Diesel Fuel Monitoring and Storage Program</b>		
12	<p>New fuel additions to the fire protection diesel fuel oil tank will be analyzed for water and sediment, and this water and sediment will be removed, to preclude water contamination, and the tank bottom will be monitored to ensure water or biological activity is not accumulating. UT and/or visual inspections will be performed in the other storage tanks which credit this program for aging management. The low point beyond the main tank is the bottom of the day tank, and a day tank sample will be drawn from the bottom of the tank and analyzed for water and sediment.</p> <p>OPPD commits to performance of a one-time inspection... to determine the condition of the fire protection fuel oil tank and verify that the tank is not in a degraded condition.</p>	Ongoing, beginning prior to the period of extended operation	LRA Section B.2.3 and responses to RAI B.2.3-1 and POI-7(c)
13	The fire protection day tank will be analyzed quarterly for water and sediment, semi-annually for microbiological activity, and will have a one-time boroscope inspection performed.	Tank analysis - ongoing, beginning prior to the period of extended operation. Boroscope inspection - prior to the period of extended operation	Response to RAI B.2.3-2
	<b>Fire Protection Program</b>		

14	<p>Additional guidance will be added to the diesel fire pump maintenance procedure to inspect the diesel fire pump fuel line and zinc plug for corrosion or mechanical damage.</p> <p>Specific guidance will be added to the halon and fire damper inspection procedures to inspect halon system components and fire dampers for corrosion, and mechanical and physical damage.</p> <p>Specific acceptance criteria will be added to the fire barrier inspection procedures for concrete walls, floors, and ceilings.</p> <p>Specific guidance will be added to the fire door inspection procedure to inspect for wear and missing parts.</p> <p>Specific guidance will be developed to replace or inspect in-scope sprinkler heads in accordance with NFPA-25.</p> <p>Additional guidance will be added to one of the system valve cycling tests to improve system flushing.</p> <p>Specific guidance will be developed for flow testing the in-scope sprinkler system.</p>	Prior to the period of extended operation	LRA Section B.2.5
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15	Enhancements will be made to the Fire Protection Program prior to the period of extended operation to implement the requirements of the interim staff guidance (on wall thinning of piping due to corrosion).	Prior to the period of extended operation	Response to RAI B.2.5-2
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	<b>Reactor Vessel Internals Inspection Program</b>		
16	<p>Visual inspections of the core shrouds at Palisades and FCS in 1995 and 1993, respectively, revealed no panel separation and no missing bolts. Ten-year in-service inspections were performed at FCS in 1992 and will be performed again in 2003 and prior to the period of extended operation. The results of these inspections, the Palisades in-service inspection results, and the results of industry programs will be monitored to determine if additional action, such as ultrasonic inspection, is necessary.</p> <p>The EPRI MRP is developing an action plan to address potential SCC of reactor vessel internals. OPPD is participating in this program and will take action, as necessary, in response to any recommendations and findings coming from the evaluation.</p>	10-year inspection of core shroud - ongoing beginning prior to the period of extended operation. Implementation of EPRI MRP recommendations - when recommendations are available	Response to RAI B.2.8-1
17	OPPD has incorporated an augmented inspection of the thermal shield bolting or pins within the Reactor Vessel Internals Inspection Program...OPPD continues to monitor thermal shield vibrations as a task within the Reactor Vessel Internals Inspection Program (B.2.8).	Ongoing	Response to RAI 3.1.3-1

18	<p>The following enhancements will be made to the Reactor Vessel Internals Inspection Program:  A fluence and stress analysis will be performed to identify critical locations. A fracture mechanics analysis for critical locations will be performed to determine flaw acceptance criteria and resolution required to detect flaws. Appropriate inspection techniques will be implemented based on analyses.</p> <p>(For the RVI flow skirt )The fracture mechanics analysis committed to in Section B.2.8 of the LRA will be performed.</p>	Prior to the period of extended operation.	LRA Section B.2.8 and response to RAI 3.1.2-3
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	<b>Buried Surfaces External Corrosion Program</b>		
19	<p>As identified in the FCS License Renewal Application, the Buried Surfaces External Corrosion Program is a new program that will be implemented at FCS prior to the period of extended operation. The new program will include the following items to make it consistent with GALL XI.M34, "Buried Piping and Tanks Inspection" criteria:</p> <ul style="list-style-type: none"> <li>• A revision has been completed to the FCS maintenance control procedure to require engineering evaluation of concrete, piping, and piping coatings whenever excavations are performed.</li> <li>• Current routine inspections of diesel fuel oil tanks within the scope of license renewal will be annotated as commitments required to meet license renewal requirements.</li> <li>• A program basis document will be developed which will define the program requirements and compile industry and FCS operating experience related to buried components.</li> </ul>	Prior to the period of extended operation.	Response to RAI B.3.2-1
	<b>General Corrosion of External Surfaces Program</b>		
20	<p>Procedures will be revised to include acceptance criteria that a visual indication of loss of material or cracking of elastomer ventilation components identified by the accountable Operator or Engineer will not necessarily lead to an unacceptable component.</p>	Prior to the period of extended operation.	Response to RAI B.3.3-5

	<b>Boric Acid Corrosion Prevention Program</b>		
21	<p>Specific guidance will be added to the program basis document and applicable procedures to inspect components, structures, and electrical components where boric acid may have leaked.</p> <p>Add Spent Fuel Pool Cooling and Waste Disposal Systems to the program. Two areas not routinely inspected will be added to inspection scope.</p> <p>Specific guidance will be implemented for maintenance personnel to report boric acid leakage to the BAC Program Engineer.</p>	Prior to the period of extended operation.	LRA Section B.2.1
	<b>Cooling Water Corrosion Program</b>		
22	<p>Inspections to various raw water and cooling water components will be added based on FCS' Cooling Water Corrosion Program susceptibility evaluation. These inspection activities will be commensurate with the GALL Program.</p>	Prior to the period of extended operation.	LRA Section B.2.2
	<b>Fatigue Monitoring Program</b>		

23	<p>Add the following to the scope of components subject to the FCS Fatigue Monitoring Program:</p> <p>Pressurizer Surge Line bounding locations, and elbow</p> <p>Class 2 and 3 components not included in the NUREG-1801 program which are subject to fatigue as an aging effect requiring management.</p> <p>The number of cycles assumed for the evaluation of the charging line nozzle will be included in the Fatigue Monitoring Program Basis Document, when it is generated, to assure that a CUF of 1.0 is not exceeded.</p>	Prior to the period of extended operation.	LRA Section B.2.4 and response to POI-13(e)
24	<p>Cycles which involve power changes, operating pressure and temperature variations, and feedwater additions with the plant in hot standby conditions will be conservatively estimated from a review of plant operating records to predict current cycles under the FMP. Once current number of cycles has been established, a review will be performed to determine if there is a potential for exceeding the allowable cycles and should be managed. If so, they'll be counted and managed by the FMP.</p>	Review to be completed prior to the period of extended operation	Response to RAI 4.3.1-1

25	<p>The limiting surge line welds will be inspected prior to the period of extended operation. The results of these inspections will be used to assess the appropriate approach for addressing environmentally-assisted fatigue of the surge lines. The approach would include one or more of the following options:</p> <ol style="list-style-type: none"> <li>1. further refinement of the fatigue analysis to lower the CUF(s) to below 1.0</li> <li>2. repair of the affected locations</li> <li>3. replacement of the affected locations</li> <li>4. management of the effects of fatigue by an inspection program that has been reviewed and approved by the NRC (e.g., periodic nondestructive examination of the affected locations at inspection intervals to be determined by a method accepted by the NRC)</li> </ol>	Prior to the period of extended operation	Response to POI-13(d) and RAI 4.3.2-3
26	As part of the FMP, the NSSS sampling piping will be analyzed and a stress calculation performed to determine the thermal stress range for the line.	Prior to the period of extended operation	Response to RAI 4.3.4-1
27	These CVCS cycle counts (loss of charging, intermittent manual charging makeup cycles, and maximum purification/emergency boration cycles) are gross estimates due to incomplete logs. ...A condition report (CR) is being generated to address this issue within the corrective action program so that a more accurate transient count/determination can be performed for the indicated transients prior to entry into the period of extended operation.	Prior to the period of extended operation	Response to POI-13(c)

	<b>Overhead Load Handling Systems Inspection Program</b>		
28	<p>Specific guidance will be added to applicable inspection procedures to inspect for degradation of expansion anchors and surrounding concrete.</p> <p>Specific guidance will be added to applicable inspection procedures to identify acceptance criteria for general corrosion and degradation of expansion anchors and surrounding concrete.</p> <p>Specific guidance will be added to applicable inspection procedures to initiate FCS corrective action documentation if excessive general corrosion or cracking of concrete around expansion anchors is identified.</p>	Prior to the period of extended operation.	LRA Section B.2.6
	<b>Containment ISI/Structures Monitoring Programs</b>		
29	For concrete at FCS, even though OPPD has concluded that the AERMs identified for concrete in the GALL Report are not applicable due to the plant's operating experience, OPPD has committed to be consistent with the GALL Report and monitor for the possibility of the AERMs with the programs identified in the GALL Report.	Ongoing, beginning prior to the period of extended operation	Response to RAI 3.5-1

30	A periodic task will be initiated as part of the structures monitoring program to take ground water samples on a five year frequency and compare the evaluation results to previous samples.	Prior to the period of extended operation and ongoing thereafter at the stated frequency	Response to RAI 3.5.1-8
31	OPPD will perform a one-time inspection of the circulating water discharge tunnel per the structures monitoring program (B.2.10). The circulating water discharge tunnel will be included within the scope of license renewal as part of the intake structure.	Prior to the period of extended operation	Response to POI-3(a)



32	<p>The following FCS-specific tasks will be added to the SMP:</p> <p>Performance of periodic sampling and evaluation of ground water.</p> <p>Guidance to inspect structural components when exposed by excavation.</p> <p>XI.S5 Specific guidance will be added to inspect masonry walls for cracking and condition of steel bracing.</p> <p>Specific acceptance criteria will be added to inspection procedures to be commensurate with industry codes, standards, and guidelines.</p> <p>XI.S6 Specific guidance will be added for inspection of component supports, new fuel storage rack, and the plant-specific components identified in the LRA Section 3 tables. Aging management activities related to these components will be commensurate with industry standards and practices as identified in the NUREG-1801 Structures Monitoring Program criteria.</p> <p>Additional guidance commensurate with industry codes, standards, and guidelines, will be added to inspection procedures.</p>	Prior to the period of extended operation.	LRA Section B.2.10
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32 (Con't)	<p>Specific acceptance criteria will be added to the inspection procedures to be commensurate with industry codes, standards, and guidelines.</p> <p>XI.S7 Additional guidance will be added to the inspection procedure to identify specific parameters to inspect.</p> <p>Additional guidance will be added to review maintenance activities since last inspection.</p> <p>Specific acceptance criteria will be added to the inspection procedures to be commensurate with industry codes, standards, and guidelines.</p>	Prior to the period of extended operation.	LRA Section B.2.10
	<b>Selective Leaching Program</b>		
33	Develop the selective leaching program which reflects the program elements of GALL AMP XI.M33, as clarified in LRA Section B.3.6, and other commitments in response to the NRC staff's review, as documented in the responses to staff RAIs and potential open items (POIs)	Prior to the period of extended operation.	LRA Section B.3.6, as reflected in the RAI responses, and POI responses
	<b>Thermal Aging Embrittlement of CASS Program</b>		
34	Develop the thermal aging embrittlement of CASS program which reflects the program elements of GALL AMP XI.M12, and other commitments in response to the NRC staff's review, as documented in the responses to staff RAIs and potential open items (POIs)	Prior to the period of extended operation.	LRA Section B.3.7, as reflected in the RAI responses and POI responses
	<b>Non-EQ Cable Aging Management Program</b>		

35	<p>For non-EQ cables and connections within the scope of license renewal and subject to an aging management review:</p> <p>OPPD will implement a program and inspection consistent with that described in XI.E1 of the GALL Report.</p> <p>OPPD will implement a program and inspection consistent with that described in XI.E2 of the GALL Report.</p> <p>OPPD will implement a program and inspection consistent with that described in XI.E3 of the GALL.</p>	Prior to the period of extended operation.	LRA Section B.3.4 and responses to RAI B.3.4-1
	<b>Periodic Surveillance and Preventative Maintenance Program</b>		
36	<p>The aging effects of hardening and loss of strength for elastomers are not included in the general corrosion of external surfaces program (B.3.3). Enhancements will be made to add these AERMs to preventive maintenance tasks under the PS/PMP (B.2.7) to specifically perform hands on type inspections of elastomer expansion joints, seals, and vibration isolators within the scope of license renewal for hardening and loss of strength. Applicable PMs are performed at least once per refueling cycle (approximately 18 months).</p>	Prior to the period of extended operation	Response to RAI 3.3.1-1

37	The portion of CCW that provides cooling to the SI leakage coolers is included within the scope of license renewal. The piping and components will be added to the license renewal database and the CCW AMR evaluation will be revised to include these components.	Prior to the period of extended operation	Response to POI-3(b)
38	For commitments listed in the Safety Evaluation Report, OPPD will include this list of commitments in an appropriate subsection of the FCS USAR Supplement for License Renewal	Prior to the period of extended operation	Response to POI-13(d)
39	OPPD will complete a plant-specific leak before break (LBB) analysis using the latest LBB criteria. OPPD will submit to the NRC a license amendment request containing the plant-specific LBB evaluation	No later than December, 2006	Response to Open Item 4.7.2.2-1
40	OPPD will submit to the NRC a license amendment request containing the fracture mechanics evaluation of the small-bore instrument nozzle J-weld region at the repaired instrument nozzle in the side of the pressurizer lower shell. This evaluation will include bounding of the flaw size by the size of the j-weld itself, and addressing the possibility of corrosion in the presence of a flaw	Prior to the period of extended operation	Response to Open Item 4.7.4-1
41	OPPD will manage the aging of fuse holders in accordance with ISG-5	Ongoing, beginning prior to the period of extended operation	Response to Open Item 3.6.2.4.5.2-1