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Designated
ORIGINAL

October 29, 2009
U7-C-STP-NRC-090187

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
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11555 Rockville Pike
Rockville MD 20852-2738

South Texas Project
Units 3 and 4
Docket Nos. 52-012 and 52-013
Response to Request for Additional Information

Attached are the responses to the NRC staff questions included in Request for Additional Information (RAI) letter numbers 278 and 225 related to Combined License Application (COLA) Part 2, Tier 2, Sections 9.5 and 17.5, respectively. This submittal completes the responses to these RAI letters.

The four (4) attachments to this letter address the RAI questions listed below:

09.05.01-8
09.05.01-9
09.05.01-10
01-14

When a change to the COLA is indicated, it will be incorporated in the next routine revision of the COLA following the NRC acceptance of the RAI response.

There are no new commitments in this letter. Commitments 9.5-10 and 9.5-17 were revised in the response to RAI 09.05.01-10. See Attachments 5 and 6 for the commitment summaries.

If you have any questions, please contact me at (361) 972-7136, or Bill Mookhoek at (361) 972-7274.

STI 32563434

DO91
NRD

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

Executed on 10/29/09



Scott Head
Manager, Regulatory Affairs
South Texas Project Units 3 & 4

jaa

Attachments:

1. RAI 09.05.01-8
2. RAI 09.05.01-9
3. RAI 09.05.01-10
4. RAI 01-14
5. Commitment Summary, 9.5-10
6. Commitment Summary, 9.5-17

cc: w/o attachment except*
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RAI 09.05.01-8**QUESTION:**

The final Safe Shutdown Analysis is to include a detailed post-fire safe-shutdown circuit analysis performed and documented using a methodology similar to that described in NEI guidance document, NEI 00-01, "Guidance for Post-Fire Safe-Shutdown Circuit Analysis". The applicant should describe how this as-built analysis will be performed and documented. In addition, the applicant is to commit to having a milestone to have this safe shutdown analysis completed prior to fuel load.

RESPONSE:

Based on the ABWR plant layout and design in which redundant portions of safety related systems are located in different fire areas, an exclusionary approach was taken in the DCD fire hazard analysis. Each fire area is characterized by the inclusion of safety related equipment and, if safety related equipment is included, to which safety division the equipment is assigned. This approach assumes that all equipment within a given area is damaged by fire. Additionally, where equipment assigned to one safety division is located within an area assigned to a different safety division, the failure of that equipment is also considered and deemed acceptable as described in DCD Section 9A.2.5 and Table 9A.5-2. As this presents a more conservative approach relative to circuit failures than the detailed circuit analysis methodology discussed in NEI-00-01, the NEI-00-01 methodology will not be applied.

With regards to the spurious operation concerns identified in NEI-00-01, due to the degree of divisional separation within the ABWR, susceptibility to multiple spurious operations is minimized. COLA Rev. 3, FSAR Subsection 9.5.1.1.7 discusses the resistance of the ABWR design to spurious control actions generated from the ESF Logic and Control System (ELCS). Additional discussion relative to spurious control actions is contained in DCD Section 9A.2.5. As discussed in the response to RAI 09.05.01-1, STPNOC concludes that the issue of spurious actuations has been adequately addressed by the certified ABWR design and has finality.

The as-built analysis will be performed and documented as discussed in FSAR Tier 2, Subsection 9.5.1.4, as stated below:

A compliance review will be conducted of the as-built design against the assumptions and requirements stated in the Fire Hazard Analysis as documented in Appendix 9B. This as-built reconciliation will include a comparison with Table 9A.6-1 (database) and Table 9A.5-2 (special cases). In addition, it will demonstrated that multiple high impedance faults of those circuits described in Table 9A.5-2 resulting from a fire within any one fire area will not negatively impact other equipment fed from the same power source. Any non-compliance shall be documented in a Fire Hazards Report as being required and acceptable on

the basis of the Fire Hazard Analysis (Appendix 9A) and the Fire Protection Probabilistic Risk Assessment (Appendix 19M). The Fire Hazards Analyses (Appendix 9A) will be updated to include the as-built information. Any noncompliance must be documented as being required and acceptable.

As discussed in COLA, Revision 3, Subsection 9E.8.6, the elements of the Fire Protection Program that are necessary to protect new fuel from the adverse affects of a fire in the new fuel storage area or adjacent areas will be implemented prior to the receipt of new fuel. Other required elements of the Fire Protection Program will be implemented prior to initial fuel load.

No COLA Change is required as a result of this RAI.

RAI 09.05.01-9

QUESTION:

Change Process License Condition:

STP FSAR Appendix 9E.1.8 states that STP will provide a "License Condition" to address "Fire Protection Program Changes/Code Deviations." However, the staff was not able to find any license condition. The applicant should describe the approach to self-approving plant changes that impact the fire protection program, if not in accordance with 10 CFR 52.98.

RESPONSE:

The reference to a Fire Protection License Condition in Appendix 9E will be deleted.

As a result of this RAI response, COLA Part 2, Tier 2, Appendix 9E, Section 9E.1.8 will be revised as follows:

9E.1.8 Fire Protection Program Changes/Code Deviations

~~This topic will be addressed in a License Condition to the STP 3 & 4 COL. N/A~~

RAI 09.05.01-10**QUESTION (1 of 4):**

STP FSAR Subsection 9.5.13.10 (COL License Information Item 9.27) and ABWR DCD Subsections 9.5.1.1.5 and 9.5.1.1.6 discuss the HVAC system including the Smoke Removal mode.

ABWR DCD Subsection 9.5.1.1.6 states under COL License Information Item 9.27 that the COL applicant shall provide "pressure calculations" for each smoke control HVAC system and that preoperational testing of the smoke removal mode be performed to confirm capability. However, STP FSAR Subsection 9.5.13.10 only commits to developing a procedure for the pre-operational test prior to fuel load. The applicant should update the FSAR to include a description on how these pressure values will be calculated and a description of the initial tests to be conducted to confirm capability. The methodology for establishing design pressure levels should provide reasonable assurance that operators and fire brigade members can still open doors along egress and access routes when the system is operating.

RESPONSE (1 of 4):

DCD Subsection 9.5.1.1.6 states:

"The magnitude of the differential pressure which must be maintained across a fire barrier to provide adequate smoke control varies with the intensity of the fire and the room height."

This is consistent with the method described in NFPA standard 92A Appendix A. ABWR DCD Subsection 9.5.1.1.6 references NFPA 92A "Recommended Practice for Smoke Control System." The method described in Appendix A of 92A will be used to determine the required differential pressure value during the detailed design phase.

A pre-operational test procedure and acceptance criteria, as recommended in NFPA 92A Chapter 4, will be developed. Preoperational testing and balancing of HVAC systems, that include verification of performance and confirmation of the required pressure differential in the smoke removal mode, will be performed based on the as-built configuration of the building and HVAC systems which will account for all cracks, penetrations, doors etc. This test will be performed prior to fuel load.

COLA Part 2, Tier 2, Subsection 9.5.13.10 and associated commitments 9.5-10 and 9.5-17, will be revised as follows with changes indicated by gray shading.

9.5.13.10 HVAC Pressure Calculations

The following standard supplement addresses COL License Information Item 9.27.

HVAC systems described in ABWR DCD Subsection 9.5.1.1.6 are designed with features for the dual purpose of HVAC and smoke control. The building HVAC system, when operating in smoke removal mode, is designed and calculated to achieve directional flows into the smoke removal path in order to preclude migration of products of combustion into clean areas external to the fire-affected area.

HVAC pressure calculations that establish ambient pressure distribution within the building spaces exist following HVAC equipment procurement and as-built ductwork routing. The pressure calculations incorporate HVAC ducted and non-ducted inter-compartment HVAC airflows and the resulting ambient pressurization. In-filtrations or ex-filtrations through cracks and openings are addressed in calculations. The method described in Appendix A of NFPA 92A will be used to determine the required differential pressure value during the detailed design phase. (COM 9.5-10)

A pre-operational test procedure and acceptance criteria, as recommended in NFPA 92A Chapter 4 to confirm the capability of the smoke control mode of the HVAC systems as designed and calculated, will be developed. Pre-operational testing of HVAC systems, that includes verification of performance and confirmation of the required differential pressure in smoke removal mode, will be performed prior to fuel load. (COM 9.5-17)

QUESTION (2 of 4):

SECY-93-087 and SECY-90-016 include criteria that the design should ensure that smoke, hot gases, or fire suppressant will not migrate into other fire areas to the extent that safe shutdown could be adversely affected. The FSAR should describe what initial testing will be provided, if any, to demonstrate compliance to meet the smoke/hot gases/fire suppression migration SECY criteria.

In addition, the applicant should provide a description on how the applicant will evaluate the potential effects of smoke and hot gases on safe-shutdown equipment.

RESPONSE (2 of 4):

ABWR DCD section 9.5.1, Appendix 9A, and Appendix 19K describe a fire protection program intended to achieve safe-shutdown capability. NUREG 1503 Section 9.5.1.2.1 states that the design for protection of safe-shutdown equipment from smoke, hot gases, or fire suppressant is acceptable. ABWR DCD sections 3.13.4.2 and 9.5.1.1.12 describe the fire suppression techniques which are confined to the affected zones without damaging the two remaining operating divisions. Pre-operational testing of HVAC

systems, that includes verification of performance and confirmation of the required differential pressure in the smoke removal mode, will be performed prior to fuel load (see the revision to COL License Item 9.27 in the previous question/response).

See the response to RAI 09.05.01-1 regarding the potential affects of smoke and hot gases on safe-shutdown equipment.

No COLA change is required as a result of this response.

QUESTION (3 of 4):

ABWR DCD Subsection 9.5.1.1.6 references the use of ASHRAE's " design of Smoke Control systems for Buildings" which includes references to, but does not require the use of, UL 555 and UL 555S for fire and smoke dampers. Please advise if STP plans to utilize UL-listed fire-dampers and smoke-dampers listed under UL 555 and UL 555S, respectively.

RESPONSE (3 of 4):

STP will utilize UL-listed fire-dampers and smoke-dampers listed under UL 555 and UL 555S, respectively. ABWR DCD subsection 9.5.1.1.6 references NFPA 92A "Recommended Practice for Smoke Control System". Both UL 555 and UL 555S are referenced in the NFPA 92A standard.

No COLA change is required as a result of this response.

QUESTION (4 of 4):

The following RG 1.189 positions were not discussed in the DCD nor in the applicant's FSAR. Please advise if STP is complying with the following positions in RG 1.189:

— RG 1.189 Position 4.1.4 (BTP CMEB c.5f): "... Special protection for ventilation power and control cables may be necessary. " (especially for dual purpose HVAC system on the protection of the smoke control/removal system cables and control cables.)

— RG 1.189 Position 4.1.4 (BTP CMEB C.5.f): "... HVAC and smoke removal systems are to include provisions to contain and/or monitor these releases for radiological materials for those vents/outlets from all potential radiological areas as described in RG 1.101. "

— RG 1.189 Position 4.1.4: " ...HVAC and smoke removal systems be designed such that air-intakes to important areas are located away from exhaust and smoke outlets."

RESPONSE (4 of 4):

Consideration of the special protection indicated above for ventilation system power and control cables is consistent with the requirement from BTP CMEB which is followed as stated in DCD section 9.5.1. CMEB C.5.f(3) indicates:

"Special protection for ventilation power and control cables may be required. The power supply and controls for mechanical ventilation systems should be run outside the fire area served by the system where practical."

Additionally, ABWR DCD Section 9.4 includes provisions for radiation monitoring of HVAC exhaust systems (where potential for release of radiological material exists) prior to discharging to the plant vent stack.

Also, consideration of air-intake locations indicated above is consistent with the requirement from BTP CMEB which is followed as stated in DCD section 9.5.1. CMEB C.5.f(5) indicates:

"The fresh air supply intakes to areas containing safety-related equipment or systems should be located remote from the exhaust air outlets and smoke vents of other fire areas to minimize the possibility of contaminating the intake air with the products of combustion."

Therefore, the RG 1.189 design requirements identified above are addressed by the DCD and will continue to be observed during detailed design.

No COLA change is required as a result of this response.

01-14**Question:**

As provided in Reg Guide 1.206, COL applicants should provide an evaluation of conformance with the guidance in NRC regulatory guides in effect 6 months before the submittal date of the COL application. That evaluation should also include an identification and description of deviations from the guidance in the NRC regulatory guides as well as suitable justifications for any alternative approaches proposed by the COL applicant.

Tables 1 and 2 of FSAR Chapter 1.9S, "Conformance with Regulatory Criteria," identifies conformances and exceptions to NRC regulatory guides applicable to and provides a list of conformances/ exceptions with NRC regulatory guides. The FSAR does not address regulatory guides related to quality assurance.

Please provide a list of conformances/exceptions of regulatory guides related to quality assurance for the Operating Quality Assurance Program (OQAP), which will be used until the STP Quality Assurance Program Description (QAPD) is implemented, and the QAPD, which will be implemented in September 2009. If exceptions are taken, provide the bases for such exceptions.

Response:

As described in the revised response to RAI 09.01.05-2 issued in April 2009 (ML090960321), STPNOC initially implemented the requirements of the Quality Assurance Program Description (QAPD) in parallel with the applicable requirements of the Operating Quality Assurance Program (OQAP), and where similar requirements were present, the more stringent were adopted. Also the response indicated STPNOC would transition to using only the QAPD by September 30, 2009.

Revision 2 of the STPNOC Units 3 & 4 QAPD was issued at the end of September (and forwarded to NRC via Letter U7-C-STP-NRC-090167 dated 9/30/2009, ML 092780250) as part of the QA program transition and contains information in Part IV, Regulatory Commitments, which explains commitments and exceptions to Quality Related Regulatory Guides within the QAPD (based on the content of Nuclear Energy Institute (NEI) 06-14A, Revision 7).

Included below is a matrix comparing the OQAP and QAPD with respect to quality related Regulatory Guides, followed by an excerpt from Part IV of the QAPD Rev. 2. Because STPNOC has implemented these Regulatory Guides in parallel with the requirements of the OQAP, any commitments which may have been implemented solely as a result of the OQAP would have been in addition to those committed to by the QAPD.

No revision to the COLA is required by this RAI response.

Quality Related Regulatory Guide Comparison of OQAP vs. QAPD			
Regulatory Guide	OQAP Commitments/Exceptions/ Alternatives	QAPD Commitments/Exceptions/ Alternatives	Notes
1.8	<u>Revision 1, September 1978</u> - No Exceptions	<u>Revision 3, May 2000</u> - C.2.11 alternatives in Part II, Section 2.8 - C.2.12 alternatives in Part II, Section 2.8 - C.2.14-15 alternatives in Part II, Section 2.7	Positions: C.1.1-C.1.4, C.2.2-C.2.10, and C.2.13 are addressed outside of the QAPD (Chapter 13 of the FSAR)
1.26	Not addressed	<u>Revision 3, February 1976</u> - No Exceptions	Information located in Section 3.2 of the FSAR
1.28	<u>Revision 0, June 1972</u> - Not Applicable to Operations Phase	<u>Revision 3, August 1985</u> - C.1 alternatives in Part II Section 2.8	
1.29	Not Addressed	<u>Revision 3, September 1978</u> - No Exceptions	Positions C.1-3 are covered in the FSAR Section 3.2
1.33	<u>Revision 2, February 1978</u> - C.2: the specific revisions of the listed standards to which STP is committed are in this table and are not necessarily the "latest" revision. C.4 - Chapter 15.0 of the STP OQAP describes the audit program at STP that meets the intent of R.G. 1.33, rev. 2, position C.4 regarding	<u>Revision 2, February 1978</u> - C.2, 4, and 5 alternative: use of NQA-1-1994 requirements - C.3 alternatives identified in Part II Section 2.7	

Quality Related Regulatory Guide Comparison of OQAP vs. QAPD			
Regulatory Guide	OQAP Commitments/Exceptions/ Alternatives	QAPD Commitments/Exceptions/ Alternatives	Notes
	frequency of audits C.4.a.b.c - STP performs these audits in accordance with a nominal biennial frequency.		
1.37	Not Addressed	<u>Revision 1, March 2007</u> - No Exceptions	STPNOC has not performed activities associated with this Reg Guide yet.

Excerpt, QAPD Revision 2, Part IV:

PART IV REGULATORY COMMITMENTS

NRC Regulatory Guides and Quality Assurance Standards

This section identifies the NRC Regulatory Guides (RG) and the other quality assurance standards which have been selected to supplement and support the STPNOC QAPD. STPNOC complies with these standards to the extent described or referenced. Commitment to a particular Regulatory Guide or other QA standard does not constitute a commitment to the Regulatory Guides or QA standards that may be referenced therein.

Regulatory Guides:

Regulatory Guide 1.8, Rev. 3, May 2000, Qualification and Training of Personnel for Nuclear Power Plants

Regulatory Guide 1.8 provides guidance that is acceptable to the NRC staff regarding qualifications and training for nuclear power plant personnel.

STPNOC identifies conformance and exceptions for the applicable regulatory position guidance provided in this regulatory guide in the text below:

- Regulatory positions C.1.1 through C.1.4 are addressed in Chapter 13 of the FSAR.
- Regulatory position C.2.1 addresses alternatives and substitutions for education and experience for quality assurance personnel. Those alternatives and substitutions are reflected in Part II, Section 2.6 of the QAPD.

- Regulatory Positions C.2.2 through C.2.10 are addressed in Chapter 13 of the FSAR.
- Regulatory Position C.2.11 addresses ANSI/ANS-3.1-1993 Section 4.5.5, Quality Control. The QAPD identifies an alternative for this regulatory position in Part II, Section 2.8. As documented in SER ML070510300, the qualification criteria in the QAPD is acceptable and consistent with SRP Section 17.5, paragraph II.T.
- Regulatory Position C.2.12 addresses ANSI/ANS-3.1-1993 Section 4.5.6, Quality Assurance. The QAPD identifies an alternative for this regulatory position in Part II, Section 2.8. As documented in SER ML070510300, the qualification criteria in the QAPD is acceptable and consistent with SRP Section 17.5, paragraph II.S.
- Regulatory Position C.2.13 is addressed in Chapter 13 of the FSAR.
- Regulatory Positions C.2.14 and C.2.15 address ANSI/ANS-3.1-1993 Sections 4.7.1 and 4.7.2 relative to Independent Review qualifications. The QAPD identifies an alternative for this regulatory position in Part II, Section 2.7. As documented in SER ML070510300, the QAPD follows SRP Section 17.5, paragraph II.W for establishing an independent review program for activities occurring during the operational phase.

Regulatory Guide 1.26, Revision 3, February 1976 – Quality Group Classifications and Standards for Water-, Steam-, and Radioactive-Waste-Containing Components of Nuclear Power Plants

Regulatory Guide 1.26 defines classification of systems and components.

STPNOC conforms with the applicable regulatory position guidance provided in this regulatory guide through FSAR (and associated DCD) Section 3.2. The application of specific standards are addressed in the FSAR/DCD sections that describe the identified components.

Regulatory Guide 1.28, Revision 3, August 1985, Quality Assurance Program Requirements (Design and Construction)

Regulatory Guide 1.28 describes a method acceptable to the NRC staff for complying with the provisions of Appendix B with regard to establishing and implementing the requisite quality assurance program for the design and construction of nuclear power plants.

STPNOC identifies conformance and exceptions for the applicable regulatory position guidance provided in this regulatory guide in the text below:

- This regulatory guide endorses the basic and supplementary requirements in ANSI/ASME NQA-1-1983, “Quality Assurance Program Requirements for Nuclear Power Plants” and the ANSI/ ASME NQA-1a-1983 Addenda along with the regulatory positions discussed below for the establishment and execution of quality assurance programs during the design and construction phases of nuclear power plants. The QAPD provides adequate guidance for establishing a quality assurance program that complies with Appendix B to 10 CFR Part 50 by using ASME NQA standard NQA-1-1994, as supplemented by additional regulatory guidance and industry guidance.

- Regulatory Position C.1 addresses the qualification of inspection and test personnel. The QAPD identifies an alternative for this regulatory position in Part II, Section 2.8. As documented in SER ML070510300, the qualification criteria in the QAPD is acceptable and consistent with SRP Section 17.5, paragraph II.T.
- Regulatory Position C.2 is addressed through Part II, Section 17.1 of the QAPD.
- Regulatory Position C.3 addresses scheduling of audits. In establishing the independent audit program, the STPNOC commits to comply with the quality standards described in NQA-1-1994, Basic Requirement 18 and Supplement 18S-1 which follows SRP Section 17.5, paragraph II.R. The scheduling of Internal Audits is addressed in QAPD Part II Section 18.2 and is consistent with position C.3.1 for the phase prior to placing the facility into operation. External Audits are addressed in QAPD Part II Section 7.1. The requirements are consistent with SRP paragraph II.R.11 and II.R.12. These requirements address regulatory position C.3.2.

Regulatory Guide 1.29, Revision 3, September 1978 – Seismic Design Classification

Regulatory Guide 1.29 defines systems required to withstand a safe shutdown earthquake (SSE).

This Regulatory Guide describes an acceptable method for identifying and classifying the features of nuclear power plants that must be designed to withstand the effects of the Safe Shutdown Earthquake (SSE).

STPNOC identifies conformance and exceptions for the applicable regulatory position guidance provided in this regulatory guide in the text below:

- Regulatory Positions C.1 through C.3 provide guidance in establishing the SSCs, or portions thereof, classified as needing to meet seismic design requirements. The seismic design classification of SSCs is addressed through the FSAR (and associated DCD) Section 3.2.
- Regulatory Position C.4 addresses the application of the QA requirements of Appendix B to 10 CFR Part 50 to all activities affecting the safety-related functions of those portions of the SSCs that are covered by Regulatory Positions 2 and 3. Those in Regulatory Position 1 are considered safety-related. The QAPD described in Section 17.5 of the FSAR addresses the QA program requirements applied to safety-related activities.

Regulatory Guide 1.33, Revision 2, February 1978, Quality Assurance Program Requirements (Operations)

Regulatory Guide 1.33 describes a method acceptable to the NRC staff for complying with the Commission's regulations with regard to overall quality assurance program requirements for the operation phase of nuclear power plants.

STPNOC identifies conformance and exceptions for the applicable regulatory position guidance provided in this regulatory guide in the text below:

- This Regulatory Guide endorses ANSI N18.7-1976/ANS-3.2 for complying with the quality assurance program requirements for the operation phase of nuclear power plants, subject to

five regulatory positions. SER ML070510300 for NEI 06-14A concluded that the QAPD provides adequate guidance for establishing a quality assurance program that complies with Appendix B to 10 CFR Part 50 by using ASME NQA standard NQA-1-1994, as supplemented by additional regulatory guidance and industry guidance identified in SRP Section 17.5. This represents an approved alternative for Regulatory Positions C.2, C.3, C.4, and C.5

- Regulatory Positions C.1 is addressed in Chapter 13 of the FSAR.
- Regulatory Position C.2 identifies additional standards referenced by ANSI N18.7-1976/ANS-3.2 and provides a cross reference for a regulatory Guide that addressed each of those standards. The QAPD identifies commitments to ASME NQA-1-1994 instead of the listed ANSI N45.2 series standards listed.
- Regulatory Position C.3 identifies a position related to Independent Review. The QAPD provides an alternative for this position by addressing Independent Review requirements specifically in Part II, Section 2.7 consistent with SRP 17.5 Section II.W
- Regulatory Position C.4 relates to provisions of the audit program. In establishing the independent audit program, the QAPD provides an alternative for this position by committing the applicant to comply with the quality standards described in NQA-1-1994, Basic Requirement 18 and Supplement 18S-1.
- Regulatory Position C.5 identifies concerns of the NRC with the usage of the verbs “should” and “shall” in ANSI N18.7-1976. QAPD provides an alternative to this position by providing adequate guidance for establishing a quality assurance program that complies with Appendix B to 10 CFR Part 50 by using ASME NQA standard NQA-1-1994, as supplemented by additional regulatory guidance and industry guidance identified in SRP Section 17.5.

Regulatory Guide 1.37, Revision 1, March 2007 – Quality Assurance Requirements for Cleaning of Fluid Systems and Associated Components of Water-Cooled Nuclear Power Plants

Regulatory Guide 1.37 provides guidance on specifying water quality and precautions related to the use of alkaline cleaning solutions and chelating agents.

STPNOC identifies conformance and exceptions for the applicable regulatory position guidance provided in this regulatory guide in the text below:

- This Regulatory Guide finds that the provisions and recommendations included in ASME NQA-1-1994, Part II, Subpart 2.1 are generally acceptable for onsite cleaning of materials and components, cleanliness control, and preoperational cleaning and layup of water-cooled nuclear power plant fluid systems with three regulatory positions. QAPD Part II, Section 13.2 addresses the commitment to NQA-1-1994, Part II, Subpart 2.1
- Regulatory Position C.1 identifies that the applicability and acceptability of any of the codes, standards, and specifications referenced in the text are or will be addressed through other regulations or NRC guidance. Chapter 1 of the FSAR addresses the codes, standards, and

other documents that are used in the COL and any exceptions or alternatives to those documents.

- Regulatory Positions C.2 requires that “the water quality for final flushes of fluid systems and associated components should be at least equivalent to the quality of the operating system water”. QAPD Part II Section 13.2 addresses this commitment.
- Regulatory Position C.3 recommends following Sections 8.2.2 and 8.2.3 of ASME NQA-1-1994, Part II, Subpart 2.1 precautions related to the use of alkaline cleaning solutions and chelating agents, respectively, by the use of the guidance in nonmandatory Appendix 2.1 to ASME NQA-1-1994, Part III, Subpart 3.2. In addition, this position recommends that a suitable chloride stress-cracking inhibitor be added to the fresh water used to flush systems containing austenitic stainless steels. QAPD Part II, Section 13.2 addresses the commitment to NQA-1-1994, Part II, Subpart 3.2.

Commitment Number	Commitment Statement	Due Date
07-13926-1	NRC COMMITMENT - HVAC pressure differentials for smoke removal will be determined. The method described in Appendix A of NFPA 92A will be used to determine the required differential pressure value during the detailed design phase. COL ITEM 9.27, Commitment number COM 9.5-10	Prior to preoperational testing 6/1/2013

Commitment Number	Commitment Statement	Due Date
07-13934-1	NRC COMMITMENT - A pre-operational test procedure and acceptance criteria, as recommended in NFPA 92A Chapter 4 to confirm the capability of the smoke control mode of the HVAC systems as designed and calculated, will be developed. Pre-operational testing of HVAC systems, that includes verification of performance and confirmation of the required differential pressure in the smoke removal mode, will be performed prior to fuel load. COL ITEM 9.27, Commitment number COM 9.5-17	Prior to fuel load 6/1/2014