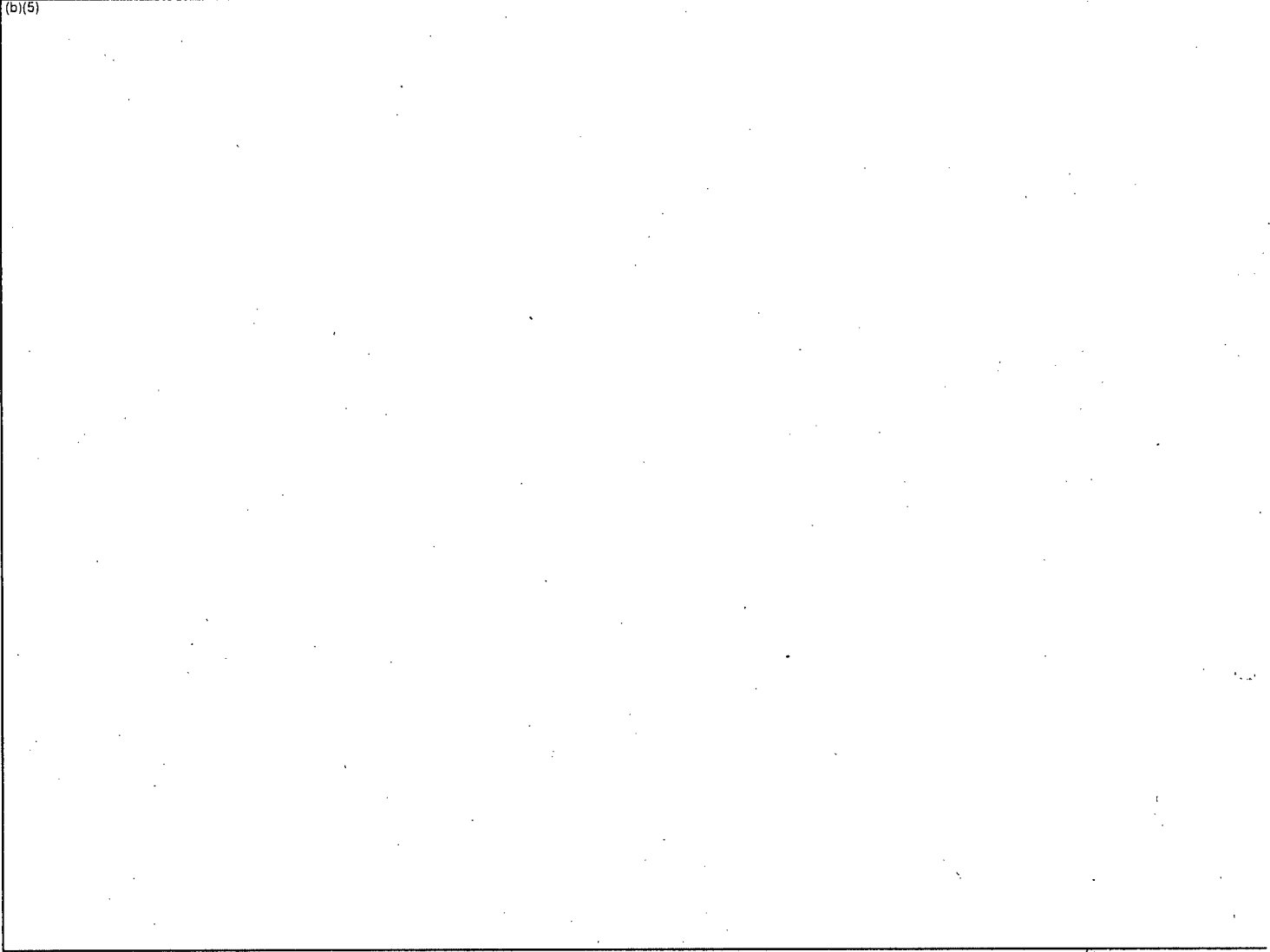


From: David Terao
To: Kimberly Gruss; Michael Mayfield
Date: Wed, Oct 31, 2007 4:30 PM
Subject: Re: Fwd: Strategy on Reactor Vessel Surveillance

(b)(5)



Mark

>>> "Gibson, Gregory T" <gtgibson@STPEGS.COM> 10/30/2007 4:24 PM >>>

THIS

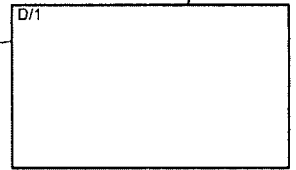
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As we discussed, one option I'm looking at is to go a COL route with the reactor vessel surveillance. I have attached a draft file with draft markup page for the Section 5.3. I have also shown where the reference to the GEH Topical would be deleted from other tables. If we proceed, we would send a letter Monday or Tuesday asking for 4 electronic files to be replaced, which would revise COLA 2 Section 5.3, and fix tables in COLA 2 Section 1.6 and COLA 7 Sections 3 and 5. When you get some time, would like to talk with you. Thanks.

<<FSAR 5.3 supp pkg.pdf>>

Greg Gibson

This file must be released to [unclear] unless it was properly [unclear]



Manager, Regulatory Affairs
South Texas Project, Units 3 & 4
Tel: 361-972-4626
Cell: 979-665-2400
BlackBerry: 361-403-4143

CC: Allison Black; Nihar Ray

5.3 Reactor Vessel

The information in this section of the reference ABWR DCD, including all subsections and figures, is incorporated by reference with the following supplements.

5.3.4 COL License Information

5.3.4.1 Fracture Toughness Data

The following site-specific supplement addresses COL License Information Item 5.4.

Fracture toughness data based on the limiting reactor vessel actual materials will be provided in an amendment to the FSAR in accordance with 10CFR 50.71(e) prior to receipt of fuel on site. The data will be based on test results from the actual materials used in the RPV. (COM 5.3-1)

The evaluation methods will be in accordance with Appendix G of the ASME Boiler and Pressure Vessel Code, Section III, Division 1, 1989 Edition, excluding addenda, 10CFR50 Appendices G and H, and USNRC Regulatory Guide 1.99 Rev. 2.

5.3.4.2 Materials and Surveillance Capsule

The following site-specific supplement addresses COL License Information Item 5.5.

The Final Safety Analysis Report will be updated prior to receipt of fuel on site to identify (1) the specific materials in each surveillance capsule; (2) the capsule lead factors; (3) the withdrawal schedule for each surveillance capsule; (4) the neutron fluence to be received by each capsule at the time of its withdrawal; and (5) the vessel end-of-life peak neutron fluence. The data will be based on test results from the actual materials used in the RPV and on the final fuel selection. (COM 5.3-2)

5.3.4.3 Plant-Specific Pressure-Temperature Information

The following site-specific supplement addresses COL License Information Item 5.6.

Plant-specific calculations of RT_{NDT} , stress intensity factors, and pressure-temperature curves similar to those in Regulatory Guide 1.99 and SRP Section 5.3.2 will be provided in an amendment to the FSAR in accordance with 10CFR 50.71(e) prior to receipt of fuel on site. The data will be based on test results from the actual materials used in the RPV. (COM 5.3-3)

The evaluation methods will be in accordance with Appendix G of the ASME Boiler and Pressure Vessel Code, Section III, Division 1, 1989 Edition, excluding addenda, 10CFR50 Appendices G and H, and USNRC Regulatory Guide 1.99 Rev. 2.

Table 1.6-2 Additional Topical Reports Incorporated by Reference

Report No.	Title	Referenced in FSAR Section
NEDO-32686-A	Utility Resolution Guidance for ECCS Suction Strainer Blockage, October 1998.	App 6C
NEDC-32721P-A Rev. 2	Application Methodology for the General Electric Stacked Disk ECCS Suction Strainer, March 2003	App 6C
NEDO-33297	Advanced Boiling Water Reactor (ABWR) Procedures Development Plan, January 2007	App 1A, 8.1, 8.3, 13.5, App 19A
NEDE-33299P	Advanced Boiling Water Reactor (ABWR) With Alternate RCIC Turbine-Pump Design, December 2006	3.9, App 3MA, 5.4, 6.3
NEDO-33305	Advanced Boiling Water Reactor (ABWR) Startup Administrative Manual, February 2007	14.2
NEDO-33310	Advanced Boiling Water Reactor (ABWR) Startup Test Specification, April 2007	14.2, App 19A
NEDO-33315P	Advanced Boiling Water Reactor (ABWR) Reactor Pressure Vessel (RPV) Material Surveillance Program, April 2007	5.3
NEDO-33316	Advanced Boiling Water Reactor (ABWR) Vibration Assessment Program, April 2007	14.2
NEDO-33321	Advanced Boiling Water Reactor (ABWR) Life Cycle Management, May 2007	1.2, App 1D
NEDO-33325	Advanced Boiling Water Reactor (ABWR) Common Equipment and Structures, April 2007	3.1, 8.1, 8.3, 9.2, 9.5
NEDO-33328	Advanced Boiling Water Reactor (ABWR) APRM Oscillation Monitoring Logic, April 2007	7.6

DRAFT

Rev. 0
15 Sept 2007

STP 3 & 4

Departures Report

peripheral fuel supports, which are not tubular products, and to address the fact that the CRD housings are reactor coolant pressure boundary components (ASME Code, Section III, Class 1) as well as core support structures (Class CS).

For components that are or contain ASME Code, Section III, Class 1 or Class CS components, the materials listed are permitted for use by the ASME Code, and are supplied meeting all applicable requirements of Subsection NB or NG. None of the changes of materials adversely affects the safety function of the component. Where equivalent materials are now listed for CRD components, the equivalent has demonstrated successful application and operation with no impact on design or safety function. Therefore, this departure does not adversely impact 1) any design function, 2) method of performing or controlling a design function, or 3) an evaluation for demonstrating that the intended design function will be accomplished.

This departure has been evaluated and determined to comply with the requirements in 10 CFR 52, Appendix A, Section VIII.B.5, as described previously. The change does not affect any safety or design function.

STD DEP 5.2-2, PSI/ISI NDE of the Reactor Coolant Pressure Boundary

A departure from DCD Subsections 5.2.4.2.2 and 5.2.4.3.1 is provided for PSI and ISI of welds in Reactor Coolant System piping to meet the requirements of ASME Section XI, Appendix VIII as mandated by 10 CFR 50.55a, rather than meeting the requirements of Regulatory Guide 1.150, Rev. 1.

This departure has been evaluated and determined to comply with the requirements in 10 CFR 52, Appendix A, Section VIII.B.5, as described previously. The change has no adverse impact.

~~**STD DEP 5.3-1, Reactor Pressure Vessel Material Surveillance Program**~~

~~Licensing Topical Report (LTR) NEDO-33315P, "Advanced Boiling Water Reactor (ABWR) Reactor Pressure Vessel (RPV) Material Surveillance Program," was submitted to the NRC by General Electric Company in April 2007 proposing a generic revision to the reference ABWR DCD. The LTR describes the program for monitoring RPV Material Surveillance Program test specimens as well as type and number of prepared surveillance test specimens. The LTR also addresses the specific materials in each surveillance capsule, the capsule lead factors, the withdrawal schedule for each surveillance capsule, the neutron fluence to be received by each capsule at the time of its withdrawal, and the vessel end-of-life peak neutron fluence. Section 5.3 incorporates the LTR by reference.~~

~~This departure has been evaluated and determined to comply with the requirements in 10 CFR 52, Appendix A, Section VIII.B.5, as described previously. The change has no adverse impact.~~

DRAFT

Table 5.0-1 Tier 2 Departures and All Affected Sections

Departure Numbers	Sections
STD DEP 3I-2	Tier 2 Appendix 3I
STD DEP 4.4-1	Tier 2 Section 4.4
STD DEP 4.4-1	Tier 2 Section 16.3.3.1.1
STD DEP 4.4-1	Tier 2 Section 16B.3.3.1.1
STD DEP 4.5-1	Tier 2 Section 4.5
STD DEP 4.5-1	Tier 2 Section 5.2
STD DEP 5.2-2	Tier 2 Section 5.2
STD DEP 5.3-1	Tier 2 Section 5.3
STD DEP 5.4-1	Tier 2 Section 5.4
STD DEP 5.4-1	Tier 2 Section 7.7
STD DEP 5.4-1	Tier 2 Section 12.2
STD DEP 5.4-1	Tier 2 Appendix 19L
STD DEP 5.4-1	Tier 2 Appendix 19Q
STD DEP 5.4-1	Tier 2 Appendix 19QB
STD DEP 5A-1	Tier 2 Section 5.2
STD DEP 5A-1	Tier 2 Appendix 5A
STD DEP 5B-1	Tier 2 Section 5.4
STD DEP 5B-1	Tier 2 Appendix 5B
STD DEP 6.2-1	Tier 2 Section 6.2
STD DEP 6.2-1	Tier 2 Section 16.3.6.1.3
STD DEP 6.2-1	Tier 2 Section 16B.3.6.1.3
STD DEP 6.2-1	Tier 2 Appendix 1A
STD DEP 6.2-2	Tier 2 Section 6.2
STD DEP 6.2-2	Tier 2 Section 7.5
STD DEP 6.2-2	Tier 2 Section 16.3.6.1.6
STD DEP 6.2-2	Tier 2 Section 16.3.6.2.4
STD DEP 6.2-2	Tier 2 Section 16B.3.6.1.1
STD DEP 6.2-2	Tier 2 Section 16B.3.6.1.2
STD DEP 6.2-2	Tier 2 Section 16B.3.6.1.4
STD DEP 6.2-2	Tier 2 Section 16B.3.6.1.5
STD DEP 6.2-2	Tier 2 Section 16B.3.6.1.6
STD DEP 6.2-2	Tier 2 Section 16B.3.6.2.4
STD DEP 6.2-2	Tier 2 Appendix 3B
STD DEP 6.2-3	Tier 2 Section 6.2
STD DEP 6.6-1	Tier 2 Section 6.6
STD DEP 6C-1	Tier 2 Section 1.8

X

David Terao - Re: Fwd: Strategy on Reactor Vessel Surveillance

From: Kimberly Gruss
To: David Terao; Michael Mayfield
Date: 10/31/2007 5:32 PM
Subject: Re: Fwd: Strategy on Reactor Vessel Surveillance
CC: Allison Black; Nihar Ray

Exemption 5.

>>> "Gibson, Gregory T" <gtgibson@STPEGS.COM> 10/30/2007 4:24 PM >>>

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Major Issues

1. Overall, engineering work is not complete. Engineering analyses are being inappropriately deferred to ITAAC. So much is being deferred that it will be difficult, at best, for staff to make a reasonable assurance determination.
2. Many Tier 1 departures are not properly documented or justified.
3. Staff will be "fixing" application with RAIs. There may be a schedule risk since in several instances there may be a requirement for 2 rounds of RAIs. The first round would get the information missing in the application and, if needed, the second round would be for questions normally asked in the first round if the application had been complete.

Generic Concerns

1. Applicant is changing many COL applicant items to COL holder items that will be available after license is issued but prior to fuel load. No process in place to allow technical staff to review COL holder items.

Specific Issues

1. EMB
 - a. Incomplete analysis of potential adverse effects on reactor internals and steam dryer due flow induced vibration (SRP Chapters 3.9.2 and 3.9.5). Applicant relying on incomplete technical reports. Due to business issues, GE may not support the response to RAIs on the technical reports.
 - b. Component design not complete until mid-2010
 - c. COL action items deferred to ITAAC with insufficient description in application.
 - d. Evaluations of the issues identified in GSI-190, "Fatigue Evaluation of Metal Components For 60-Year Plant Life," are deferred.
2. EEB
 - a. Electrical environment qualification deferred until prior to fuel load.
3. SEB
 - a. Some Tier 1 changes not identified
 - b. Seismic loading cut in half with no justification
 - c. Applicant is making Tier 2 changes under 50.59 but does not provide sufficient information on implications of these changes.
 - d. Seismic analysis for ultimate heat sink not completed. UHS structural analyses to be provided in late-2008.
 - e. Numerous unexplained deviations. Some, like changes in site parameters, are Tier 1 departures.
 - f. Flood loading changed without sufficient explanation or discussion of implications.

4. CIB

- a. Reactor Vessel Material Surveillance Program references a technical report that has been withdrawn.
- b. Some Tier 2 departures in a non-conservative direction without adequate justification. Example is the change in turbine orientation which has a resulting increase in missile hazards.
- c. Operation programs (e.g. IST, MOV, etc) not fully described.

5. ICE

- a. Tier 1 departures with no information provided.