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COMMITTEE CORRESPONDENCE

COMMITTEE: ASME SECTION XI WORKING GROUP ON OPERATING PLANT CRITERIA

ADDRESS WRITER CARE OF:

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DATE: **January 16, 2013**

SUBJECT: Agenda for February 12, 2013 Meeting and Minutes from November 6, 2012 Meeting

COPY TO: W. Bamford
D. Mathews

TO: Working Group Members and visitors

Enclosed are the agenda for the February 12, 2013 meeting of the Working Group on Operating Plant Criteria in Los Angeles, CA, and the minutes from the November 6, 2012 meeting in Phoenix, AZ. I look forward to seeing you in Los Angeles.

Sincerely,

Tim Griesbach

T. J. Griesbach, Chairman
Working Group on Operating Plant Criteria
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E/99

AGENDA

ASME SECTION XI
WORKING GROUP ON OPERATING PLANT CRITERIA
February 12, 2013
Westin Bonaventure Hotel
Los Angeles, CA
8:30 a.m. - 2:30 p.m.

I.	Review of Minutes	Sommerville
II.	Report on Open Actions	Action Owners
III.	P-T Limit Bases and Improvements to App. G.	Mehta
IV.	Status of App. G Nozzle Code Action	Griesbach
V.	Change in Minimum Specified Yield Strength for which K_{IC} Curve is Applicable	Sommerville
VI.	Update on NRC Activities related to 10 CFR 50 App G and H and RG 1.99 Rev. 3	Poehler
VII.	Status of Master Curve Code Case	Server
VIII.	Update on Operational Leakage from ASME Class 1, 2, and 3 Heat Exchanger Tubes	Griesbach
	(Joint session with the WG on Pressure Testing)	
IX.	Japan Report	Hayashi
X.	HSST Report Summary	Dickson
XI.	Archive Basis Documents	Sommerville
XII.	Old Business	
XIII.	New Business	
XIV.	Future Meetings	
XV.	Adjourn	

Meeting Minutes

ASME Section XI
Working Group on Operating Plant Criteria

November 6, 2012
Phoenix, AZ

- The Working Group on Operating Plant Criteria (WGOPC) met at the Pointe Hilton Squaw Peak Resort, on November 6, 2012 at 8:30 a.m.

- The next meeting of the Working Group will be on February 12, 2013 at:

Westin Bonaventure Hotel and Suites
404 South Figueroa Street
Los Angeles, CA 90071
Ph: 800-937-8461
Group Name: ASME Boiler Code Week
See **Attachment 1** for Confirmation Notice

- Future meetings of the WGOPC are:

May 14, 2013
Miami, FL

August 13, 2013
Montreal, QC

October 29, 2013
Atlanta, GA

February 11, 2014
San Diego, CA

- A summary of the WGOPC meeting follows.

WGOPC Meeting Summary

Tim Griesbach (SI), WGOPC Chairman, opened the meeting at 8:38 a.m. Sixteen (16) interested industry/utility representatives and vendor personnel were represented, with ten (10) Working Group members in attendance (see **Attachment 2**). Daniel Sommerville (SI) recorded the minutes for the meeting.

The following is a summary of the agenda items discussed at the meeting:

1. Review of WG OPC Meeting Minutes:

Daniel Sommerville (SI) reviewed the minutes from the August 2012 Working Group meeting in Washington, D.C. The minutes from the August 2012 Working Group meeting were approved without correction.

The agenda for the November meeting is included with these minutes as **Attachment 3**.

2. Report on Action Items:

A. Open Action Items:

#	Action	Owner	Status	Opened
1	Check with AREVA France to see the report documenting material testing of AREVA RPV material with specified minimum yield strength equal to 65 ksi can be released. Obtain any publicly available references identified by Bill (previously action 2 from May 2012 WG OPC minutes) Send Daniel Sommerville an updated list of references which support applicability of the Appendix G K_{IC} curve for a LAS with a minimum specified yield strength equal to 65 ksi. (previously action 7 from May 2012 WG OPC minutes) Identify to Nathan Palm (W) the Westinghouse reports	B. Behnke (AREVA)	**IN PROGRESS.** Bill was not present.	**08/2011**

	which are believed to contain data supporting applicability of the Appendix G K_{IC} curve for a LAS with a minimum specified yield strength equal to 65 ksi. (previously action 8 from May 2012 WG OPC minutes)			
2	Build index of basis documents and work with Ryan Crane to load the documents.	D. Sommerville (SI)	**IN PROCESS.** This is an on-going action.	**11/2011**
3	Present summary of what has historically been done in the context of ASME XI, Appendix G evaluations regarding stresses in excess of yield	H. Mehta (GE-H)	**IN PROCESS.** Har did not present on this item.	**02/2012**
4	Prepare a DRAFT document summarizing the philosophy and basis for ASME XI, Appendix G	M. Kirk (NRC)	**IN PROCESS.** Mark will present this when he has it complete.	**02/2012**
5	Take notes at the August NRC public meeting on cladding effects on LWR P-T Limit Curves and provide summary of meeting at November WG OPC meeting.	T. Hardin (EPRI)	**COMPLETE.** See notes in minutes below.	**8/2012**
6	Review personal files regarding work previously done to investigate the effects of cladding on P-T limit curves	T. Griesbach (SI)	**COMPLETE.** Tim provided list of references add to minutes (**See Attachment 4**). Tim will highlight the "key" ones before next meeting.	**8/2012**
7	Open Code Action for changing limit of applicability of the K_{IC} curve to a minimum specified yield strength of 65 ksi.	D. Sommerville (SI)	**IN PROCESS.** No action yet.	**8/2012**

B. Summary of New Actions:

#	Action	Owner
1	Confirm with Ryan Crane how to add list of documents on CS Connect for WG OPC	D. Sommerville (SI)
2	Provide Robin Dyle technical basis documents compiled to date.	D. Sommerville (SI)
3	Load WG OPC technical basis documents compiled to date onto a FTP site for access by the WG OPC membership then inform the WG OPC members how to access the FTP site.	R. Dyle (EPRI)
4	Identify the "key" references relevant to the significance of cladding effects on P-T limit curves.	T. Griesbach (SI)
5	Write a PVP paper to document the Master Curve Code Case basis.	Bill Server (ATI)

3. P-T Limit Bases and Suggested Improvements to Appendix G

Har Mehta (GE-H) did not have a presentation for this meeting. The group did discuss the topic of stresses in excess of yield and how that would be addressed in an Appendix G evaluation. Har has an action to articulate his thoughts on the matter which may include:

A. Introducing EPFM into P-T curve calculations using the estimation scheme for a 1:6 aspect ratio flaw in a cylinder,

B. Providing examples of where the previous WRC 175 correction has been used in previous P-T curve submittals.

The attendees discussed which components might benefit from incorporation of EPFM methods into the P-T curve calculation process. It was suggested that nozzle corners may be the only obvious component for which EPFM would be beneficial.

4. Status of Nozzle Code Action

Gary Stevens (NRC) reported that the action was approved at the August 2012 meeting of the SG ES. The item did not get included in the Standards committee agenda; however, it should be discussed as New Business.

5. Change to Upper Limit of Minimum Specified Yield Strength for Applicability of K_{IC} Curve

Daniel Sommerville (SI) had no report on this item.

6. Summary of NRC Public Meeting Regarding Effect of Cladding Stress

T. Hardin (EPRI) presented on this item. Notes from the NRC meeting are available on ADAMS filed under accession number **ML12290A153**; for convenience this document has been included with the WG OPC minutes as **Attachment 5**.

Tim reported that much of same material as presented in August 2012 WG OPC meeting was presented at the NRC meeting. For the NRC analysis, the staff reviewed the deterministic P-T curve methodology then assumed that a plant heats/cools on the P-T curve. This assumed transient was then input into FAVOR. Using this conservative approach the NRC found that the conditional probability of failure (CPOF), for some parts of the postulated transient, exceeds 10E-6. The Industry presented some independent results. The material presented by Industry was more than what was presented in the August 2012 WG OPC meeting.

Al Csontos (NRC) and Gary Stevens (NRC) are the NRC points of contact on this issue. Bob Carter (EPRI) and Tim Hardin (EPRI) are the Industry points of contact on this issue.

Actions were identified for Industry and the NRC. Bob Carter and Tim had actions to inform the NRC if Industry will do additional analysis or provide additional information to the NRC for the NRC to consider in their evaluations. EPRI informed the NRC that EPRI will perform additional work on this issue with a target date to have results by the end of February or March 2013. EPRI is currently in contracting action for the work.

Industry work will perform an independent FAVOR analysis. The fundamental difference between the NRC and the Industry approach is the NRC assumption that the plant operates on the P-T curve. Industry does not agree with this approach and argues that realistic operation, as influenced by items such as LTOP systems and procedural limits, should be considered.

Robin Dyle (EPRI) had the action to find the simulator startup and shutdown procedures for a BWR and a PWR; however, he was unable to find them.

Tim Hardin stated that the BWRVIP will take an action to investigate the BWR Leak Test issue identified by NRC

The NRC has an action to investigate if the preservice hydrotest pre-stresses a postulated flaw enough to make a difference on the CPOF results.

Tim Hardin will provide an update on this topic at the February WG OPC meeting.

7. Status of RG 1.99 Rev. 3

Jeff Poehler (NRC) provided a status report included with the minutes as **Attachment 6**.

The key point of the NRC update is that the publication of RG 1.99 Rev. 3 is on indefinite hold until the NRC resolves the current questions regarding high CPOF associated with normal heatup, cooldown, and leak test.

The NRC is also evaluating if a technical basis can be developed, using current state of knowledge, to leave 10 CFR 50 Appendix G as-is.

Jeff also provided NRC perspective on the NRC public meeting documented in item 6 above. The slide presented is included in the minutes as **Attachment 6**.

Key points from the slide are:

A. NRC to model the effect of the pre-service hydrotest on postulated flaws to determine if pre-stress effects are large enough reduce the impact of later transients on the CPOF.

B. NRC will model cooldown and heatup along the saturation curve and a leak test in accordance with plant technical specifications to gain additional insight into the significance of the postulated small flaws for BWRs.

C. NRC plans to fully document all work performed to date.

D. NRC is uncomfortable with a leak test performed near the RT_{NDT}.

Tim Hardin (EPRI) stated that the Industry is not pursuing any action at this time to dispute the "small flaw postulation" that is causing the unacceptable CPOF; rather, Industry is focused on showing the CPOF, considering the postulated small flaws, is acceptably low.

Ron Gamble (Sartrex) inquired why the NRC is uncomfortable with a leak test near the RT_{NDT}. His argument is that the Appendix G methods use fracture mechanics to show adequate margin against non-ductile failure; therefore, regardless of how close the leak test temperature is to the RT_{NDT}, the current methods ensure the required margins. He felt that the NRC concern might be more related to the CPOF being larger than 10E-6.

Jeff Poehler (NRC) stated that there are staff at the NRC that are not comfortable with a leak test near the RTNDT and that they would like to see the rationale why this is OK to be articulated.

8. Status of Master Curve Code Case

Bill Server (ATI) provided an update on the status of the Master Curve Code Case. Bill reported that the Code Case was approved by the WG FE to move forward to the SG ES. **Attachments 7 and 8** contain the current Code Case and technical basis.

Bill Server made a motion to approve the Code Case. Denny Weakland (Ironwood Consulting) seconded the motion. Nine (9) WG OPC members approved the Code Case with one (1) abstention.

Bill Server will write a PVP paper on this Code Case for the 2013 PVP Conference.

9. Operational Leakage from Class 1, 2, 3 Heat Exchanger Tubes

Tim Griesbach (SI) reported that the WG OPC is chartered to continue to update Appendix U as changes to N-513 are made. Once N-513-4 is approved then Appendix U will be updated.

10. Japanese Activities

Masaaki Hayashi (H-GE) reported on activities in Japan (see **Attachment 9**). Key points are:

A. A new nuclear regulatory authority has been formed in Japan. The name of the organization is Nuclear Regulation Authority.

B. 40 years is defined as the life limit in Japan. All plants must now show that they can meet current Code rules not just the requirements of the design code of construction.

C. The NRA has stated that the stress test results are not sufficient; rather, the NRA will provide its own guidelines by August 2013. All utilities will be required to satisfy the new guidelines.

D. Ohi 3 and 4 will be allowed to continue operating until their next scheduled refueling outage then must show that they satisfy the new NRA requirements.

E. Excerpts from TEPCO published information regarding the recovery efforts at Fukushima Daiichi were presented. The Mid and Long Term roadmap was provided. excerpts for Fukushima Daiichi; the roadmap covers actions for the next 30-40 years.

11. HSST Report

Terry Dickson (ORNL) was not present. Terry communicated over email that he intends to make a presentation on this topic at the next WG OPC meeting.

12. Archive Basis Documents

Tim Griesbach (SI) provided a list of references pertaining to the effects of cladding on P-T limit curves (See **Attachment 4**). Gary Stevens (NRC) provided additional references to Daniel Sommerville (SI) for inclusion in the compilation.

It was mentioned that each WG site within CS Connect can create a list of references and add documents. Daniel Sommerville (SI) has the action to coordinate with Ryan Crane to do this. Robin Dyle (EPRI) offered to post the existing basis documents on a FTP site to make them available to all WG OPC members. Daniel Sommerville (SI) has the action to provide the currently compiled documents to Robin Dyle. Robin Dyle has the action to post the documents and inform the WG OPC members how to access them.

13. Old Business

No items.

14. New Business

Bob Hardies (NRC) presented a verbal summary of his understanding of the Doel 3 reactor pressure vessel "indications" issue:

(b)(4),(b)(7)(D)

(b)(4),(b)(7)(D)

The NRC will engage stakeholders in a meeting with industry on March 5, 2013.

The NRC has a presence on the Belgian working group to investigate and review the issue.

Tim Hardin (EPRI) stated that the FANC website has information on this issue that can be publicly accessed (in English).

http://www.fanc.fgov.be/GED/00000000/3200/3271.pdf

15. Future Meetings

The location and date of the next meeting of the WG OPC was communicated to all attendees (see **Attachment 1**).

The meeting was adjourned at approximately 12:15.

ATTACHMENT 1

ATTACHMENT 2

ATTACHMENT 3

ATTACHMENT 4

ATTACHMENT 5

ATTACHMENT 6

ATTACHMENT 7

ATTACHMENT 8

ATTACHMENT 9