

**Neurauter, James**

---

**From:** Hills, David  
**Sent:** Monday, August 27, 2012 4:19 PM  
**To:** Billik, Tom; Bozga, John; Holmberg, Mel; Jones, Donald; Meghanl, Vijay; Neurauter, James; Sanchez Santiago, Elba; Shaikh, Atif  
**Subject:** FW: ASME Code Meeting Report -- Subgroup on Evaluation Standards

*Release*

**From:** Stevens, Gary  
**Sent:** Monday, August 27, 2012 3:33 PM  
**To:** Tregoning, Robert; RES\_DE\_CIB; RES\_DE\_CMB; ASME Code Participants  
**Subject:** ASME Code Meeting Report -- Subgroup on Evaluation Standards

For those that may be interested, here is a summary report from the August ASME Code meeting in Washington, DC for the Subgroup on Evaluation Standards.

**Group Name:** Subgroup on Evaluation Standards

**When:** Wednesday, 08/15/2012, 8:30 a.m. – 11:50 a.m.

**Where:** Capitol Hill Hyatt Regency, Washington, DC

**Group Charter:** This group is responsible for all Section XI Flaw Evaluation Rules and Acceptance Criteria

**My Capacity:** Member, Secretary

**SUMMARY**

**ADMINISTRATIVE ITEMS**

- Membership
  - Warren reported that there were four relevant membership items:
    - Reddy Ganta retired from Westinghouse and will therefore be dropped from WGPF, WGFE, and SGES.
    - [Redacted] (b)(6)
    - [Redacted]
    - Tim Hardin was approved as an Alternate for Robin Dyle.
- Executive Committee Report (Warren Bamford and Gary Stevens)
  - Met Tuesday afternoon from 3:00 to 7:50 pm.
  - Membership: SC XI currently does not have any SGES members interested in SC XI membership. Warren asked for interested SGES members to let him know and he would put their name on the waiting list for future consideration.
  - NuScale: NuScale and MPR made a high-level presentation describing their new reactor concept.
  - Charters: The charter for the Task Group on Degraded Buried Pipe was revised. The TG has requested full access to C&S Connect. All TG members that do not

*C/65*

already have access to C&S Connect and would like access must fill out the ASME PAF-1 form.

- Nonmandatory Appendices: Activity continues on revising the nonmandatory appendices as guidance, etc. SG NDE and SGES have the only remaining actions. Angah Miessi (SIA) is working on this item for SGES. The proposed changes to the Appendices have been requested soon so that all remaining changes may be sent to the Standards Committee for the November meeting.
- An issue at Doel Nuclear Power Station Unit 3 in Belgium was discussed. Inspections were performed for RPV under-clad cracks. As a part of these examinations, many (over 9,000) laminar defects were detected within the lower shell ring forging. There is a great deal of media sensitivity on this subject. The NRC is sending Bob Hardies of NRR to investigate. Based on current information, there appear to be no significant structural integrity issues.
- Gravelines Nuclear Power Station in France has experienced one bottom-mounted instrument (BMI) nozzle indication. The indication is longitudinal and 80% through-wall. The penetration has been plugged and removed from service. As a result, the French regulatory authority has required that all plants inspect BMI nozzles. Previously, the regulator decided that no inspections were required because the BMI penetrations operate at  $T_{\text{cold}}$ . To-date, no additional indications have been found. EPRI/MRP is meeting with EdF to discuss, and so is the NRC. Following those meetings, EPRI and the NRC will discuss what is needed in the U.S.
- ASME Certification marks (formerly known as "Code stamps"): Stamps for nuclear components have been replaced with a new common certification mark. However, for nuclear components, the NRC has not yet approved the Code Edition that incorporates the new certification mark, nor have they approved the Code Case that justifies use of the new certification mark in lieu of the old Code stamps. This is problematic in that some plants have already installed replacement parts that use the new certification mark, which vendors are required to use. The NRC and ASME management will be discussing this issue during this Friday's semi-annual ASME/NRC Management Meeting.
- Table IWA 1600-1 is under development. This table lists all other standards referenced in ASME Section XI, e.g., B31.1. Action is needed to review and update the reference to these standards. The Working Group on General Requirements has the primary responsibility for this item. A volunteer from SGES is needed to participate. Darrell Lee volunteered to take on this activity.
- The Executive Committee developed a "Top Ten" Action Items list (see Attachment 3). The list actually contains 14 items. Three items in the list are the responsibility of SGES and they are still on-going.
- It was noted that better up-front review and input from the NRC on ASME action items is needed. Whereas the input is good at the SC XI level, this is too late in the process to receive meaningful input -- such input is better to get at the Working Group level. Gary Stevens will discuss this internally at the NRC to see if the NRC review process can be improved.
- The SG on Industry Experience for New Plants discussed the need for a Code action in Section III to minimize weld residual stress (WRS). It was voted that this topic be pursued in Section III, and it was recommended that a joint Section III/XI Task Group be formed to develop consideration of WRS in Section III based on what has been learned in Section XI.

- There is an initiative to schedule all ASME Code meetings during the week, rather than having meetings begin on Sunday of Code week. One possibility is to shift all meetings one day later and have the meetings run through Friday. The Executive Committee has asked that all groups re-evaluate their meeting times and durations in an effort to consolidate the meetings. Doug Scarth mentioned that moving WGPFE from Monday to Tuesday (i.e., when all other WGs meet) would be very difficult.
- The NRC has a priority list of ASME Code Section III and XI related topics. New lists that separate Section III and Section XI items will be generated and prioritized. The most important items will be tracked to identify specific actions and to ensure that progress is being made.
- Code Inquiries received shortly before ASME Code week were discussed. These will be left up to the discretion of individual subgroups as to whether they're handled at the meeting or the subsequent meeting.
- Code Case Applicability: SGES needs to take action on Code Case N-513-3 to extend its applicability to later editions.
- Division 2 Rewrite: SWG RIM started writing appendices for reactor specific types, including LWR Small Modular Reactors, HTGRs, and the Japanese Liquid Metal Small Modular Reactors.
- Honors
  - None.

#### **ACTION ITEMS**

##### **02-3759: Cast Stainless Steel Inspection Issues (Griesbach)**

- Tim Griesbach reported.
- The TG on CASS met on Monday.
- The draft Code Case on methodology to evaluate flaws was discussed at the TG and the WGPFE. Both groups received the action favorably.
- The Code Case will probably be shared with SGES at the November meeting.
- SG NDE now feels that they can proceed with some CASS inspection requirements.

##### **05-248: Implementation of Code Case N-597 (Scarth)**

- Doug Scarth reported.
- Code Case N-597-3 was finalized at the May meeting after being sent out and discussed at WGPFE.
- A new NRC reviewer took some exceptions to the finalize Code Case during this week's meeting.
- Dave Rudland took the action to work with the NRC reviewer to figure out what's needed on this item.

#### **"TOP TEN" ITEM !!!**

##### **08-1595: Revision to Article A-3000 for K Calculation Methods for Surface and Subsurface Flaws (Cipolla/Miyazaki)**

- Russ Cipolla was absent. Guy DeBoo reported.
- The proposal was updated to include Action 10-783 below.
- The proposal was updated in support of xLPR and presented to the WGPFE.
- QA is needed.

- Additional discussion on this item will occur at the November WGFE meeting and will attempt to pass it.
  - A continuing item, progress is being made.
  - No action yet.
- 08-1642: Revision to Appendix G to Include Nozzle Discontinuity Solutions (Stevens)
- Gary Stevens reported.
  - This item was not discussed at WGFE so no action was taken.
- 09-170: Integral Attachments (Dyle)
- No report.
- 09-182: Code Case to Incorporate Full Master Curve Approach (Cipolla)
- Guy DeBoo reported.
  - Bill Server put forth a proposal to finalize this Code Case.
  - The WGFE may vote on this item at November meeting and potentially bring it to SGES.
- 12-841: Operational Leakage (Griesbach)
- Tim Griesbach reported.
  - Action 09-794 was completed and will be added to the list of completed recurring items.
  - WGPFE is revising Code Case N-513-4 to include elbows, reducers, tees, and heat exchangers with external tubing. In addition, the allowable pressure is being increased from 275 to 375 psig.
  - The WG is reviewing vessel and tanks (Code Case N-705) to see if similar changes are needed.
  - Consistency is needed between Code Cases N-513-4 and N-704.
- 10-783: Revise K Calculation Methods for Circumferential ID Flaws in Cylinders (Lee)
- Darrell Lee reported.
  - This item was merged with Action 08-1595 above to simplify these two items into one action.
  - Drop this item from the agenda.
- 10-915: Evaluation of Metal Loss in Class 2 and 3 Metallic Piping Buried in a Back-filled Trench (McGill/Scarth)
- Doug Scarth reported.
  - This item passed at SC XI. Drop this item from the agenda and add it to the list of completed recurring items.
- "TOP TEN" ITEM !!!**
- 11-4: Code Case N-809, "Reference Fatigue Crack Growth Rate Curves for Austenitic Stainless Steels in Pressurized Reactor Water Environments" (Cipolla)
- No report but this item was added to the minutes/agenda for future tracking as it is a "Top Ten" item.
- 11-1991: IOU from Wirtz's Withdrawn Inquiry 10-96 (Dyle/Wirtz)
- No report.

- 12-552: IWA-9000 Glossary definitions for "evaluation," "engineering evaluation," and "analytical evaluation" (Bamford)
  - Warren Bamford reported.
  - There was no activity on this action.
  - Gary Stevens will discuss this item with Wally Norris to get clarification.
- 12-795: Acceptance Standards for Austenitic Steel Heat Exchangers, IWC-3510 (T. Vo)
  - Truong Vo reported.
  - This item was approved at the WG and SGES at the May meeting, pending cleanup of several minor items.
  - On the SC XI agenda for tomorrow.
  - Attachment 4 incorporates mark-ups from the last meeting.
- 12-842: Code Case N-694 on Evaluation of Flaws in PWR Reactor Head Nozzles (G. DeBoo)
  - Guy DeBoo reported.
  - This item passed at the last meeting with a minor change to add a PVP paper as a reference.
  - We forgot to put this item on the SC XI agenda for this meeting.
  - Will get on SC XI agenda for the November meeting.
- 12-1411 Clarification of IWB-3514 Acceptance Standards for Flaws in SCC Susceptible Materials (S. Xu)
  - Stephen Xu reported.
  - An action number was obtained for this item but it was too late to get on the SC XI agenda for this meeting.
  - This item will be placed on the SC XI agenda for the November meeting.
- 12-zzzz: Effects of Residual Stress on Flaw Evaluation (Bamford)
  - Warren Bamford reported.
  - Guy DeBoo's Task Group on Reference Crack Growth Curves is addressing this item by developing a Nonmandatory Appendix for WRS analysis guidance.
  - Continuing effort -- it's too early to obtain an action number until things get more defined.

#### **INQUIRIES**

- Four inquiries were discussed:
  - 12-1014 -- IWA-3300 and IWA-3360, Flaw Proximity Characterizations (L. White, OPG)
    1. See Attachment 5.
    2. The inquiry was modified for clarification into two separate inquiries and was been approved by WGFE.
    3. After discussion, some minor changes were made to the inquiries and the accompanying Code Change. These changes are reflected in the attachment.
    4. The item was motioned and seconded. The vote was 14-0-1.
  - 12-1275 -- IWA-1400(b) and Table IWB-2500-1, Examination Category B-P, All Pressure Retaining Components (T. Lupold, NRC)
    1. See Attachment 6.
    2. The original inquiry was revised by both WG GR and WG PT. The changes are reflected in the attachment.

3. The item was discussed but it was noted that this item was not under SGES's jurisdiction.
4. There was no disagreement on this item. No vote was taken.
- 12-1353 -- ASME BPVC, Section XI, 2004 Edition - Subsection IWB (J. Stevenson, Constellation)
  1. See Attachment 7.
  2. This item was briefly discussed as it was originally placed on the agenda. However, SGES does not have jurisdiction for the subject matter, so it was subsequently referred to SGWCS.
- 12-1240 -- Three separate inquiries (R. Turner, TVA)
  1. See Attachment 8.
  2. The first two inquiries in the attachment were held back, so there was no action on these items.
  3. The third inquiry was discussed and it was decided that it will be withdrawn and consolidated into the update of Code Case N-513 (Action No. 12-841).

## **RECURRING ITEMS**

### **R1. Errata**

- No new errata.

### **R2. Fatigue Issues (Stevens)**

- EPRI's EAF Advisory Panel met on Monday from 2:00 to 6:00 pm.
- EPRI collected industry comments on the 2.5-hour summary presentation made by NRC/ANL at the May meeting on all of their EAF research activities to-date and provided those comments to the NRC.
- EPRI is restructuring their EAF activities into two parts: (1) a near-term effort for license renewal and operating plants headed by Ken Wolfe with support from Shannon Chu, and (2) a longer-term effort directed at research activities identified by EPRI's Gap Report headed by Jean Smith with support from Letitia Midmore.

### **R3. Working Group Reports**

- WGPFE (Scarth)
  - A proposed Code Case for Class 2/3 heat exchangers was developed (see Attachment 9).
  - The Code Case is more of an operability assessment vs. evaluation. The question is whether such an assessment is needed in the Code or should it be more evaluation specific.
  - This item will be discussed more at the next WG meeting.
  - After discussion, it was decided that the Code Case should be revised to be more like a structured evaluation and remove the operability assessment.
- WGOPC (Griesbach)
  - There were multiple NRC presentations at the meeting on the subject of RPV heatup/cooldown integrity assessments and the effects of cladding based on the NRC's 10 CFR 50 Appendix G efforts. There will be ongoing discussions.
  - There will be two public meetings at NRC headquarters on August 28, 2012: (1) in the morning with the PWR Owner's Group on extended beltline issues, and (2) in the afternoon with industry on the heatup/cooldown assessments. Both meetings will be noticed early next week.
- WGFE (DeBoo for Cipolla)

- The WG has been developing improvements to stress intensity factors for buried flaws. The buried flaw work has been completed. Subsurface stress intensity factors are under development.
- Modifications to Appendix K were discussed; a presentation will be given by the NRC at the November meeting.

**R4. References to Other Standards, Table IWA-1600-1 (Lee)**

- Darrell Lee agreed to champion this effort for SGES and coordinate the SGES input with Kevin Rhyne of WGGR.

**R5. Task Group Reports**

- **Task Group on HDPE Pipe (Scarth)**
  - Doug Scarth reported.
  - The TG did not meet.
  - Phil Rush is the new Chair for this TG.
  - The TG will meet in November.
  - The challenge is to provide TG focus.
  - This subject will proceed in November.
- **Task Group on Evaluation of Beyond Design Basis Events (Pace)**
  - Ray Pace reported.
  - The TG met on Tuesday from 4:00 to 6:00 pm.
  - 5 presentations were made (out of 7 scheduled).
  - T. Vo provided a presentation regarding EPRI guidance on re-start requirements after the North Anna earthquake.
  - George Anataki presented ASME beyond design basis events for DOE complexes and provided some ideas on how the TG might put together guidance on this topic. This included field walk-downs and PRA required for more important facilities.
  - Bud Brust gave two presentations, one on transition break size LBB evaluation and surface cracking and one on margin between Code allowables and structural evaluation. He also discussed the RCS loop modeled with 5 flaws and  $10^{-6}$  earthquake.
  - Dr. Hojo gave a presentation in which a vessel was evaluated with 2,000 cycles with Level D JSME requirements; the analysis demonstrated considerable margin.
  - The TG is going to start preparing something at the next meeting.

**R6. Additional Approved Action Items Retained Until Printed**

- "TOP TEN" ITEM !!!! -- 05-1328: Alternative Acceptance Criteria and Evaluation Procedure for Flaws in Ferritic Steel Components Operating in the Upper Shelf Range (Cipolla)
- (Errata) Keep Appendices proof mark-up issues on agenda until published.
- (Errata) N-641 Identified by Nathan Palm (Westinghouse) -- Warren provided this item to Ryan Crane for processing at the February meeting.
- 03-1377: Code Case for RT<sub>TD</sub> (Cipolla)
- 05-1328: Alternative Acceptance Criteria and Evaluation Procedure for Flaws in Ferritic Steel Components Operating in the Upper Shelf Range (Cipolla)
- 07-1307: Class 1, 2, and 3 Flaw Evaluation for Pipes Less Than NPS 4" (Cipolla)
- 09-159: EPRI-MRP-BWRVIP Risk Informed Appendix G Work (Server/Griesbach)
  - Need to verify that editorials submitted in November 2011 SC XI meeting get implemented.
- 09-794: Operational Leakage (Griesbach)
- 10-915: Evaluation of Metal Loss in Class 2 and 3 Metallic Piping Buried in a Back-filled Trench (McGill/Scarth)

- 11-61: Change to IWB-3112/IWC-3112 to Allow Evaluation of Subsurface Flaws Found During Pre-Service Inspections (Stevens)
- 11-207: Improvements in Evaluation of Flaws in PWR Reactor Head Nozzles (Guy DeBoo)
- 11-1791: Change to IWB-3112/IWC-3112 to Allow Evaluation of Subsurface Flaws Found During Pre-Service Inspections (Stevens)
- 11-1996: (Errata) An editorial change to Appendix G and a Table note correction for Appendix A.

#### **NEW BUSINESS**

- Dr. Kunio Hasegawa (JNES) gave a presentation on the restructuring of the Japanese nuclear regulator (see Attachment 10).
  - A new regulatory structure was approved in June to become effective starting on 9/1/12.
  - The key motivation is to ensure separation between nuclear power promotion and regulation responsibilities. A new entity will be formed entitled Nuclear Regulatory Agency (or Organization, depending on the correct English translation).
  - More detail and structure will be provided at the November meeting.

The meeting was adjourned at ~11:50 a.m.

Let me know if you have any questions, or would like to see any of the attachments.

Gary L. Stevens  
Senior Materials Engineer  
NRC/RES/DE/CIB  
E-mail: [Gary.Stevens@nrc.gov](mailto:Gary.Stevens@nrc.gov)  
Office: 301-251-7569  
Blackberry: (b)(6)