

March 9, 2005

MEMORANDUM TO: Robert A. Gramm, Chief, Section 2  
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Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

FROM: Girija Shukla, Project Manager, Section 2 */RA/*  
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SUBJECT: SUMMARY OF MEETING HELD ON FEBRUARY 9, 2005, WITH  
THE WESTINGHOUSE OWNERS GROUP REGARDING GENERAL  
DISCUSSION OF TOPICAL REPORTS REVIEW STATUS, INCLUDING  
RISK-INFORMED TOPICAL REPORTS

On February 9, 2005, representatives of the Westinghouse Owners Group (WOG) met with the Nuclear Regulatory Commission (NRC) staff to discuss review status of topical reports (TRs), including the risk-informed TRs WCAP-15622, "Risk-Informed Evaluation of Extensions to AC Electrical Power System Completion Times;" WCAP-15791-P, Revision 1, "Risk-Informed Evaluation of Extensions to Containment Isolation Valve Completion Times;" WCAP-15957-NP, "Risk-Informed Evaluation of Extensions to Fluid Safety System Completion Times;" WCAP-16168-NP, "Risk Informed Extension of Reactor Vessel In-service Inspection Intervals;" and the WOG white paper, "Single Failure Consideration When Technical Specification Actions Are Entered," dated November 19, 2004.

- **Discussion of WCAP-16168**

The WOG provided the background of TR WCAP-16168 and discussed resubmittal of the TR, the NRC's pressurized thermal shock (PTS) rulemaking, and the potential for some pressurized-water reactors (PWRs) to pursue one cycle relief requests related to reactor pressure vessel (RPV) shell weld in-service inspections.

The WOG presentation provided a brief summary of the history of TR WCAP-16168, and then addressed specific WOG concerns. The WOG asked when the "final" revision of the FAVOR Code, which would be used to support the work the NRC's Office of Nuclear Regulatory Research (RES) is doing to provide a technical basis to revise 10 CFR 50.61 (the PTS rule), will be released. The NRC staff has subsequently confirmed that the release of the revision of the FAVOR Code is planned for no later than June 2005. The WOG also asked when the Office of Nuclear Reactor Regulation (NRR) expected to receive the final 10 CFR 50.61 technical basis from RES. The NRC staff informed the WOG that the final technical basis was expected between June and September 2005.

The WOG expressed concern over their perception of the NRC staff's inability to promptly respond to questions from the NRC's Advisory Committee on Reactor Safeguards (ACRS) related to thermal-hydraulic assumptions used in the PTS technical basis development. The

NRC staff recommended that, since the PTS technical basis development work had been an NRC-industry joint effort since its inception, that the WOG should consider providing technical support to RES if they can provide insights which could assist in more promptly responding to ACRS questions.

With regard to the WOG's future re-submittal of TR WCAP-16168, the NRC staff made two specific points. The NRC staff noted that whenever the WOG decides to re-submit TR WCAP-16168, they must take "ownership" of all information necessary to support the conclusion drawn in the TR. As such, the WOG will be expected to answer all NRR staff questions which pertain to the information in the TR and the information from the RES work which is used to support the TR. The NRC staff also emphasized that the WOG must provide an integrated, fleet-wide inspection plan based on a "rolling 20-year window" which evenly distributes future PWR RPV shell weld inspections (and, in particular, the inspection of older PWRs) in order to provide reasonable assurance that a future degradation mechanism could be identified in a timely manner.

Regarding the topic of potential one cycle relief request for PWRs who would otherwise have to complete RPV shell weld inspections in the near term, the WOG then asked two specific questions which followed up on discussions between the NRC and WOG staff during a January 13, 2005 teleconference. The teleconference summary dated January 27, 2005, is available in the Agencywide Documents Access and Management System (ADAMS) under accession number ML050250410. The WOG asked if the staff was aware of any American Society of Mechanical Engineers (ASME) Code provisions beyond those already identified in ASME Code, Section XI, IWB-2500 which a licensee would have to ask for relief from in order to defer an RPV shell weld inspection. The NRC staff responded that they were not aware of any additional ASME Code provision from which relief would be required. The WOG staff also asked the NRC staff to confirm that NRR's Probabilistic Safety Assessment Branch (SPSB) had been consulted regarding the "framework" discussed for one cycle relief request which was discussed during the January 13, 2005 teleconference. The NRC staff affirmed that SPSB had been consulted and had no objection to the "framework" documented in the teleconference summary.

The WOG then addressed their schedule for future activities associated with TR WCAP-16168. The WOG stated that it was their intent to re-submit TR WCAP-16168 on May 27, 2005. The NRR staff suggested that the most efficient use of the NRC and WOG resources would be for the WOG to allow NRR to complete its pre-rulemaking review of the "PTS technical basis" and to resolve any outstanding technical questions before the WOG adopts the "PTS technical basis" as its starting point for developing a revised WCAP-16168. This would presumably minimize the number of questions that NRR has to ask about the basis upon which TR WCAP-16168 is founded. The NRC staff cautioned the WOG that if they go ahead and re-submit TR WCAP-16168 on May 27, 2005, there is a possibility that the NRC staff will reject the report at the acceptance review stage.

The WOG then discussed the schedule for potential one cycle relief request submittals for PWRs which have outages upcoming in 2006 in which they would have to perform RPV shell weld in-service inspections. The NRC staff noted that in order to support relief requests from spring 2006 outage plants, licensees need to begin making submittals as soon as possible.



- **Discussion of Risk-Informed Topical Reports**

The WOG discussed the NRC review of WOG risk-informed topical reports WCAP-15622, WCAP-15791, WCAP-15957 related to technical specification (TS) completion time (CT) extensions, and related issues. In the meeting, the staff participated in the discussions and the staff's positions on the issues related to these topical reports are provided below:

- WOG Issue 1: Staff is not prepared to issue a safety evaluation (SE) on the WCAP that includes approval of the plant-specific results (WCAP-15622 and WCAP-15957).

The staff review for both of these WCAPs treated the plant-specific data provided by various participating utilities as demonstrations of the proposed methodology. The difficulties with these two topical reports is illustrated below using WCAP-15622.

WCAP-15622 developed a methodology for calculating the impact of CT changes for the subject plants and for comparing the results between each plant and associated design. Although the proposed changes are intended to be generically applicable, the specific characteristics of each plant will require plant-specific evaluations of the proposed CTs. The WOG stated that although WCAP-15622 is a WOG program, participating utilities interested in the specific CT extension would provide a plant-specific application using plant-specific probabilistic risk assessment (PRA) models. Insufficient information was provided for some plants. An SE approving the methodology, approving some plant applications, and not approving other plant applications became unacceptably complex. An SE approving the methodology is being prepared.

- WOG Issue 2: Staff would rather licensees pursue a risk-informed Technical Specification Task Force Initiative 4b (CT with a backstop) rather than individual CT changes via the Regulatory Guides (RGs) 1.174 and 1.177 (WCAP-15957 and other RI CT extensions).

The WOG topicals, particularly the fluid systems topical, proposes to considerably extend all ECCS TS completion times that it raises the question as to whether staff resources should be shifted from the ongoing risk-management Technical Specifications (RMTS) Initiative 4b, which allows licensees to calculate TS CTs in real time. The staff has asked the WOG to coordinate their submittal with NEI as part of the RMTS initiatives, which the WOG has promised to do. The staff may require a commitment to a PRA quality standard if utilities adopt the risk-informed topicals, which the WOG does not agree with.

- WOG Issue 3: Staff requires assurance that 10 CFR 50.65(a)(4) will provide reasonable assurance that plant risk will be monitored and controlled to an acceptable level (WCAP-15957 and other RI CT extensions).

The WOG topical reports, particularly the fluid systems topical, proposes to considerably extend all ECCS TS completion times that it raises the question as to whether the configuration risk management programs that licensees currently use to meet the Maintenance Rule are adequate to assess and manage the risk for multiple SSCs out of service within TS CTs.

Current TS contemplate only single trains of SSCs out of service. The Maintenance Rule only requires assessment and management of risk for maintenance, but does not require quantitative risk criteria be used to control outage times for SSCs in a manner equivalent to plant TS.

- WOG Issue 4: Staff not comfortable with using Maintenance Rule (a)(4) to address TIER 3 large early release frequency (LERF) requirements (WCAP-15622, 15791, and 15957).

The staff is concerned that configuration risk management as implemented under the maintenance rule is inadequate to evaluate the risk impact of equipment in maintenance or repair such that the assumptions of the WCAPs remain valid. For example, the current TSs allow multiple condition entry for containment isolation valves (CIVs) but the topical report analyses are based on a single CIV CT. To fully address the proposed TS, the cumulative risk must be evaluated for multiple CIV LCOs either in the Topical (which they are not) or in TIER 3 calculations. Plant TIER 3 programs that are based on the maintenance rule generally do not provide a quantitative or qualitative assessment of CDF and LERF. If not addressed in the Topicals, licensees need to demonstrate that their maintenance rule assessment satisfy the requirements of the configuration risk management program. WCAP-15791 provide limited, if any, guidance on performing a TIER 3 analysis either for single or multiple CIV CTs and quantitative risk assessment is not required by the maintenance rule. In addition, any quantitative TIER 3 assessment that may be done through the maintenance rule is done with only a level 1 CDF analysis although the greatest risk impact of CIVs being taken out of service is on LERF.

- WOG Issue 5: With regard to the DG common cause failure Completion Time, the Staff feels that extending this CT may be inconsistent with RG 1.93 (WCAP-15622).

The WOG stated that, based on the differences in plant design and modeling, the demonstration plant results indicate that the impact on CDF is small for the proposed DG common cause CT extension. The staff notes that all the plant CDF estimates are within the acceptance guidelines given in RG 1.174 for internal events, but the ICCDP values for a number of the plants were not within the acceptance guideline of 5.0E-7 given in RG 1.177. In addition, a qualitative evaluation approach CT for the remaining operable DG common cause evaluation introduces additional uncertainty to the common cause evaluations not quantified in the PRA or specifically addressed by RG regulatory CT positions or staff guidance.

- **Discussion of WOG White Paper**

The WOG discussed the NRC review of its white paper, "Single Failure Consideration When Technical Specification Actions Are Entered," dated November 19, 2004. This white paper was submitted to the NRC in preparation of a future WOG TR where the WOG is proposing to add an Action to NUREG-1431, "Standard Technical Specifications Westinghouse Plants," for the associated CT of two inoperable reactor trip system (RTS) or engineered safety features actuation system (ESFAS) channels, for restoring an inoperable channel rather than enter into a TS required shutdown when two out of four channels are inoperable for RTS and ESFAS.

The WOG proposal to define a new TS Action to allow two channels to be inoperable would permit routine operation with two inoperable channels for corrective maintenance or preventative maintenance. The staff's concern for approving operation in this condition, even for a limited time period, is that this hardware design configuration (two out of four channels) reduction in redundancy and diversity is not justified by hardship as in the case of surveillance testing. In addition, when reviewing the topical report, the staff will rely on a deterministic evaluation in addition to available risk information to determine the acceptability of TS CTs.

The staff position was that we will review WOG request for changes to the instrumentation TS Actions for two of four channels inoperable, provided there is sufficient information to establish an adequate basis for a hardship consideration for testing only. The WOG requested the staff to reconsider its position. The NRC staff agreed to re-review the WOG white paper.

The WOG concluded the meeting with the general discussion of the review status of TRs currently under NRC review. Following the meeting, the staff expressed its appreciation to the WOG for the presentation. An attendance list is provided in the attachment. There were no members of the public represented at the meeting. The slides used during the meeting are available in the ADAMS under accession number ML050410017.

Project No. 694

Attachment: Meeting Attendees

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**MEETING ATTENDEES**

**MEETING WITH THE WESTINGHOUSE OWNERS GROUP  
GENERAL DISCUSSION OF TOPICAL REPORTS REVIEW STATUS INCLUDING  
RISK-INFORMED TOPICAL REPORTS**

**FEBRUARY 9, 2005**

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Project No. 694

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