

September 12, 2013

MEMORANDUM TO: Shana R. Helton, Chief
Rulemaking Branch
Division of Policy and Rulemaking
Office of Nuclear Reactor Regulation

FROM: Aaron L. Szabo, Cost Analyst **/RA/**
Rulemaking Branch
Division of Policy and Rulemaking
Office of Nuclear Reactor Regulation

SUBJECT: SUMMARY OF AUGUST 14, 2013, PUBLIC MEETING ON
CONTAINMENT VENTING OF BOILING WATER REACTORS
WITH MARK I AND MARK II CONTAINMENTS RULEMAKING
(FILTERING STRATEGIES RULEMAKING)

The U.S. Nuclear Regulatory Commission (NRC) held a Category 2 public meeting on August 14, 2013, to discuss the Containment Venting of Boiling Water Reactors with Mark I and Mark II containments rulemaking (filtering strategies rulemaking). The public meeting was held at the NRC headquarters location in Rockville, Maryland. The purpose of the meeting was to discuss development of the technical basis for the filtering strategies rulemaking, specifically: 1) core damage frequency (CDF) event trees and accident progression event trees (APET); and 2) MELCOR analysis.

The meeting was attended by 34 individuals primarily representing industry, private citizens, and NRC staff. Of the 34 participants, 14 participated in the meeting through audio teleconferencing and webinar.

The presentation materials are available in the Agencywide Documents Access and Management System (ADAMS) under Accession Nos. ML13225A532, "Industry Presentation Material for August 14, 2013 Public Meeting to Discuss Containment Ventilation (Filtering Strategies Rulemaking) of Boiling Water Reactors with Mark I and Mark II Containments," ML13226A199, "U.S. Nuclear Regulatory Commission Presentation Material for August 14, 2013 Public Meeting to Discuss Containment Ventilation (Filtering Strategies Rulemaking) of Boiling Water Reactors with Mark I and Mark II Containments," and ML13232A269, "Supplemental Information for Industry Presentation for August 14, 2013 Public Meeting to Discuss Containment Ventilation (Filtering Strategies Rulemaking) of Boiling Water Reactors with Mark I and Mark II Containments."

A transcription of the public meeting is available in ADAMS under Accession No. ML13252A298.

The major areas of discussion are summarized below:

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301-415-1985

NRC Presentation on CDF Event Tree

- NRC staff provided preliminary CDF event tree for comments and consideration.
- Expected completion of both the CDF event tree and APET with probabilities by the end of August.
- One attendee noted that the NRC should benchmark event trees to actual data and the Boiling Water Reactor Owner's Group Revision 3 of the Emergency Procedure Guidelines/ Severe Accident Guidelines (Rev. 3 EPG/SAG).

NRC Presentation on MELCOR Analysis

- The NRC staff provided initial proposed MELCOR analyses for the filtering strategies rulemaking.
- One attendee noted that it appeared premature to be reviewing MELCOR analyses before the event trees were completed as the event trees would provide the dominant sequences that should be analyzed.
- One attendee noted that the number of cases with 16 hour reactor core isolation cooling (RCIC) may not be appropriate due to those sequences not being dominant within the event trees and, thus, more cases with shorter RCIC duration should be run.
- One attendee noted that the difference between the small and large filter for the industry alternatives applied to the capacity of the filter and not the decontamination factor.

Industry Presentation on CDF Event Tree and APET

- Provided preliminary versions of the CDF event tree and APET with probabilities for comment and consideration.
- Provided human reliability analysis (HRA) for both the CDF event tree and APET.
 - Difficulty in determination of proper HRA in relation to these situations.

Action Items

- NRC
 - Tentatively schedule next public meeting for the week of September 9, 2013.
 - Will provide CDF event tree and APET with probabilities for the next public meeting.
- Industry
 - Provide support to NRC requests for information in relation to benchmarking NRC event trees.
 - Provide to NRC range of water levels for loss of wetwell vent for boiling water reactors with Mark I and Mark II containments.
 - Will provide expert on Rev. 3 EPG/SAG for next meeting.
 - Will consider an alternative of a filter on just the drywell.

Enclosure:
List of Attendees

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Enclosure:
List of Attendees

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Accession Nos.: Pkg. ML13238A323; Notice ML13210A132; Summary ML13238A328; Presentation Materials ML13225A532, ML13226A199, ML13232A269; Transcript ML13252A298 NRC-001

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| OFFICE | DPR/PRMB/CA | DPR/PRMB/RS | DPR/PRMB/MC | DPR/PRMB/CA |
| NAME | ASzabo | GLappert | SHelton | ASzabo |
| DATE | 9/9/2013 | 9/10/2013 | 9/12/2013 | 9/12/2013 |

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LIST OF MEETING ATTENDEES

| Name | Organization |
|-------------------|-------------------------------------|
| Aaron Szabo | NRC |
| Robert Dennig | NRC |
| Martin Stutzke | NRC |
| John Lane | NRC |
| Sudhamay Basu | NRC |
| Raj Auluck | NRC |
| Weidong Wang | NRC |
| Ed Fuller | NRC |
| Carmen Franklin | NRC |
| Patrick Castleman | NRC |
| Patrick Fallon | DTE |
| Paul Gunter | Beyond Nuclear |
| Terri Farthing | GE Hitachi Nuclear Energy |
| Shayne Tenace | CENG |
| Tom Parker | Xcel Energy |
| Randy Bunt | SNC |
| Jeff Gabor | ERIN |
| Doug True | ERIN |
| Camille Zozula | Westinghouse |
| Dennis Henneke | GEH |
| Marvin Lewis | Private Citizen |
| Ruth Thomas | Not provided |
| Jana Bergman | Scientech/CWFC |
| Doug Blair | Exelon/LaSalle |
| Tina Taylor | Electric Power Research Institute |
| Robert Sanders | Areva |
| Scott Wood | Not provided |
| Jim Smit | Nexus Engineering |
| David Marra | Not provided |
| Yuya Aoyagi | Not provided |
| Michael Bingham | Areva |
| Dale Wuokko | Toshiba America Nuclear Energy Corp |
| James Tomkins | Not provided |
| Aaron Chladil | Xcel Energy |

ENCLOSURE