August 6, 2013

MEMORANDUM TO: William D. Reckley, Chief
Policy and Support Branch
Japan Lessons-Learned Project Directorate
Office of Nuclear Reactor Regulation

FROM: Rajender Auluck, Senior Project Manager ***/RA/***
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SUBJECT: SUMMARY OF JUNE 26, 2013, PUBLIC MEETING TO DISCUSS ACTIVITIES ASSOCIATED WITH IMPLEMENTATION OF NEAR- TERM TASK FORCE RECOMMENDATION 5.1 RELATED TO CONTAINMENT VENTING SYSTEMS

On June 26, 2013, a Category 2 public meeting was held between the Nuclear Regulatory Commission (NRC) staff, representatives from the Nuclear Energy Institute (NEI) and Boiling Water Owners group(BWROG) related to the Implementation of Recommendation 5.1 of the Near-Term Task Force (NTTF) Recommendations for Enhancing Reactor Safety in the 21st Century report, issued July 12, 2011, (Agencywide Documents Access and Management System (ADAMS) Accession No. ML111861807). The specific purpose of this meeting was to discuss (i) development of interim staff guidance (ISG) in support for Order EA-13-109, which was issued on June 6, 2013, (ADAMS Accession Nos. ML13130A067), and (ii) continue discussions related to the development of technical bases for filtering strategies and accident management rulemaking for BWR Mark I and II containments.

The NRC staff opened the meeting with a brief discussion on schedules for completing the development of the ISG and the technical basis document. The staff highlighted the fact that in order to issue the ISG in late October, the draft needs to be completed and ready for public comment by mid August. The industry representatives agreed to support this deadline by providing sections of NEI 13-02, “Industry Guidance for Compliance with Order EA-13-109” for staff review and comment rather than completing the document and then submitting for NRC staff review.

The staff briefly provided an overview of various steps in developing the technical basis document in support of the proposed rulemaking. It will include publishing the draft in the *Federal Register* for public comment and interactions with the Advisory Committee on Reactor Safeguards. The current schedule is for an information paper due to the Commission in March 2014. The staff further stressed that the technical basis must address the regulatory problem, possible solutions, options, rulemaking concepts, regulatory analysis, and backfitting analysis.

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The regulatory analysis will be similar to the one prepared for SECY12-0157 issued in November 2012. On a related subject, the NEI representative asked if there was a review performed of their comments which were included in their January 25, 2013, letter to the Commission. The staff responded that a staff review was not formally documented, but the Office of Nuclear Reactor Regulation management and the Commission technical assistants were briefed. The staff will consider these comments as it moves forward in developing the ISG and the related rulemaking activity. The staff then provided an overview of their accident analysis plan. It will assume extended loss of ac power (ELAP), severe accident capable vent, and availability of FLEX system. The scenarios will also be informed by the Fukushima accident. Sensitivity analyses will account for uncertainties of variables and certain assumptions. Other variables will include, reactor core isolation cooling (RCIC) duration, reactor pressure vessel (RPV) depressurization and vessel injection, and drywell spray flow rate. The analysis options could include vent sizing, vent cycling criteria, and transition from wetwell to drywell venting. On the issue of early venting, the staff noted that if early venting is to be used, a criteria needs to be established. In the follow-up discussions, the industry representative stated that early venting is part of FLEX strategy. The industry is evaluating FLEX equipment capabilities and human interactions. The purpose of FLEX is to avoid core damage and is not part of severe accident management after core damage. The staff commented that it may be worth considering that certain FLEX connections as severe accident capable.

In their presentation, the industry representatives stated that their filtering strategies rulemaking proposal is based on performance based requirements and cited the objective from NRC's safety goal policy, i.e. to establish goals that broadly define an acceptable level of radiological risk. This translates into qualitative safety goals of bearing no significant additional risk to life and health to individuals, and the societal risks should be comparable to or less than the risks of generating electricity by other competing technologies and should not be significant addition to other societal risks. Their proposal related these qualitative safety goals to quantitative health objectives (QHOs). The presentation described how these QHOs can be implemented through the use of latent cancer risks to the population or prompt fatality risks to individuals. It is also assumed that there were significant quantities of fission products released before any emergency protective actions could be taken. There were several references made to previous NRC studies including, NUREG-1150, SOARCA, and SECY 12-0157 regarding prompt fatality and latent cancer risks to individuals. Total risks were calculated for all scenarios and compared to the QHOs. The evaluations showed that there is no potential for early fatalities and the focus should be on latent cancer risks and that existing generic individual latent cancer fatality (ILCF) risk analysis can be used to support success criteria development. The rulemaking focus should be accident management including water management. In a previous meeting, NRC staff provided information on proposed performance goals, performance objectives, and performance measures. The industry comments included: (i) on performance goal, the emphasis should be on public health and safety, and drywell filtration is already included as a subset of filtering strategy, (ii) on performance objectives, the focus should be on functions of accident management, (iii) adequacy and reliability of water injection is a good performance measure but attributes of "reliable" needs to be clarified. The staff asked questions related to specification requirements for the equipment, assessing the effectiveness of vent cycling, and how they will be related to margins in the QHOs. What is the advantage in not picking a fixed number for the DF? All agreed that these questions must be addressed as we move forward.

The second part of the meeting was devoted to discussions on the development of a guidance document in support of Order EA-13-109. An Industry representative provided an overview of draft Chapter 6, “Operational Considerations” of NEI 13-02. The staff provided their initial comments on the draft. These related to time duration of HCVS functionality, defining severe accident conditions, pipe routing, type of training, and availability of instrumentation during severe accident conditions. The staff further stated that they will have more specific comments to discuss in future public meetings.

Members of the public asked a few clarifying questions. The NRC staff responded to all questions appropriately.

Presentation slides and handouts may be located through ADAMS Package Accession No. ML13203A074

Enclosure:
1. List of attendees
2. Presentation slides

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NAME	RAuluck	SLent	WReckley	RAuluck
DATE	07/23/2013	07/24/2013	08/06/2013	08/06/2013

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NRC Public Meeting
Mark I and Mark II BWRs Containment Venting Systems Guidance for Order EA-13-109 and Accident Management Rulemaking

June 13, 2013

Name	Organization
Rajender Auluck	Nuclear Regulatory Commission(NRC)
Karl Sturzebecher	NRC
Sud Basu	NRC
N.R. Karipineni	NRC
Jerome Bettle	NRC
Shana Helton	NRC
James Shea	NRC
Carmen Franklin	NRC
Pat Castleman	NRC
Antonio Diaz	NRC
Brian Wittick	NRC
Tina Ghosh	NRC
Robert Pettis	NRC
John Lane	NRC
Joan Olmstead	NRC
Gary Wang	NRC
Richard Rogers	Enercon
Jeff Gabor	ERIN
Steven Kraft	Nuclear Energy Institute

NRC Public Meeting
Mark I and Mark II BWRs Containment Venting Systems Guidance for Order EA-13-109 and Accident Management Rulemaking

June 13, 2013

Name	Organization/Title
Bryan Ford	Entergy
Rick Wachovia	Electric Power Research Institute
Ken McCall	GE Hitachi
Marvin Morris	Enercon
Patrick Fallor	DTE Energy
David K. White	Areva
Randy Bunt	Sierra Nuclear Corp.
David Mosky	Enercon
Greg Krueger	Boiling Water Reactors Owners Group(BWROG)
Harry Goodman	BWROG
Thomas Zacharian	Pressurized-Water Reactors Owners Group