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May 31, 2014

Dr. Jennifer L. Uhle
Deputy Director
Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Subject: Initial Industry Response to Nuclear Regulatory Commission Request for Information Related to the Filtering Strategies and Severe Accident Management of Boiling Water Reactors with Mark I and II Containments Rulemaking

Project Number: 689

Dear Dr. Uhle:

The Nuclear Energy Institute (NEI)¹ is pleased to provide the nuclear industry's initial response to the NRC's May 21, 2014, letter requesting² information to support the Boiling Water Reactor (BWR) with Mark I and II filtering strategies rulemaking. Please find enclosed the filter system cost estimate discussed by the industry at the April 30, 2014, public meeting.

The NRC data request covers three distinct areas:

1. detailed cost estimates – requested by May 31, 2014
2. major assumptions related to the BWR Owners' Group's guidance documents and other proprietary documents – requested by July 31, 2014
3. plant-specific information – requested by July 31, 2014.

¹ The Nuclear Energy Institute (NEI) is the organization responsible for establishing unified industry policy on matters affecting the nuclear energy industry, including the regulatory aspects of generic operational and technical issues. NEI's members include all entities licensed to operate commercial nuclear power plants in the United States, nuclear plant designers, major architect/engineering firms, fuel cycle facilities, nuclear materials licensees, and other organizations and entities involved in the nuclear energy industry.

² Letter, Jennifer Uhle (NRC) to Steven P. Kraft (NEI), *Request for Information Related to the Filtering Strategies and Severe Accident Management of Boiling Water Reactors with Mark I and II Containments Rulemaking*, May 21, 2014.

Information Request Response Due Dates

At the April 30 public meeting, NRC staff presented the industry representatives with three information requests covering the same three topics and due by the same dates as listed above. At the meeting, industry representatives acknowledged the requests, but noted that the due dates requested may be a challenge because of the detail of the requests. The industry asked the NRC staff to formalize the request in a letter to NEI and, if possible, include an explanation for how the information would be used so the industry would be better able to provide the information in a form most usable to the NRC staff.

The May 21 letter provides the explanation the industry was seeking and we thank the NRC staff for the time and effort in defining the specific data needs. We note, however, that the letter also increases the level of detail and specificity of the information requested while retaining the due dates requested at the April 30 meeting. Fortunately, the NRC recognizes the challenge this creates by indicating that the information requested (notably in Request #3) is listed in priority order and that information on Mark II containment plants is a higher priority than Mark I plants. We are endeavoring to meet the original due dates requested, however, we may have to provide the information in a priority format and will advise the NRC if the requested due dates cannot be met.

Detailed Cost Estimates (Request #1)

The attached detailed cost estimate, *Cost Estimate for the Conceptual Design of Filtration Strategy Hardware Alternatives for BWR Mk I And Mk II Containments*, is presented in a manner that relates to the alternatives being examined in the NRC's regulatory and backfit analyses supporting the filtering strategies rulemaking. We reviewed the estimate against the questions posed in the NRC's request.³ We believe that most of the information requested in the questions is included in the estimate. At the next public meeting, industry representatives will present the estimate and respond to questions.

The cost estimate is conceptual and sometimes referred to in industry parlance as a "revision 0" estimate. This is the level of detail typically used for industry strategic planning and comparison of alternatives. The uncertainties in the estimate, as described in the attachment, are dealt with by adding 50 percent to the estimate when using it in planning and comparisons. This appears to be the appropriate type of estimate for NRC cost-benefit analyses since they are, by their nature, alternative comparisons.

Efforts were made on the part of the estimators to understand key plant-to-plant variabilities so that the estimate is representative, *i.e.*, it is not a bounding cost. The cost estimate is generic, based on a generic conceptual design, and, therefore, is not binding on any plant. The estimate was performed on behalf of the NEI filtering strategies working group by an NEI member utility that is also an NRC licensee. The estimate is

³ *Id.*, Enclosure, page 1.

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based on that utility's standard cost-estimating process and reflects input from other NEI members. We are grateful for this contribution.

It is important to note that the estimate could not include a drywell vent that meets the requirements of NRC Order EA-13-109,⁴ because the functional and design requirements for such a drywell vent are unknown. As you know, the industry has expressed an interest⁵ in re-sequencing the effort to develop Phase 2⁶ guidance for implementing the order to first develop post-severe accident water makeup and water management prior to developing the drywell functional and design requirements. Industry analysis supporting the filtering strategies rulemaking discussed at the April 30 public meeting shows that post-severe accident water makeup and management are important factors in driving drywell requirements. At the next public meeting, the industry will be prepared to discuss its views on the steps needed to develop these concepts.

We trust the detailed estimate enclosed with this letter provides most of the cost information requested. The industry stands ready to discuss this estimate and the remainder of the information requested to support the filtering strategies rulemaking.

Please do not hesitate to contact me if you have any questions.

Sincerely,



Steven P. Kraft

Attachment

c: Mr. Aaron L. Szabo, NRR/DPR/PRMB, NRC
Ms. Lesa P. Hill, Chair, BWR Owners' Group

⁴ USNRC (USNRC 2013), Order EA-13-109, *Order Modifying Licenses with Regard to Reliable Hardened Containment Vents Capable of Operation Under Severe Accident Conditions*, June 6, 2013.

⁵ Industry discussion at Joint NRC – Industry Fukushima Steering Committees Meeting, May 15, 2014.

⁶ USNRC 2013, Attachment 2, §B(2).