



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

June 10, 2016

Ms. Victoria K. Anderson, Senior Project Manager  
Nuclear Energy Institute  
1201 F Street, NW, Suite 1100  
Washington, DC 20004;

SUBJECT: Response to Letter Regarding Industry Comments on Draft NUREG-2180,  
*Determining the Effectiveness, Limitations, and Operator Response for Very Early Warning Fire  
Detection Systems in Nuclear Facilities*

Dear Ms. Anderson:

Thank you for your interest and review of the final draft (pre-publications) version of the subject NUREG-report and participation at the April 26, 2016 workshop. This research provides useful data to characterize the performance of the smoke detection systems tested under low energy "incipient stage" fire conditions. The review of the operating experience has also allowed for a better understanding of the types of fires for which very early warning fire detection systems may benefit reactor safety. It is clear that the application of smoke detection in plants, regardless of type, helps reduce fire risk. This research serves to provide needed data as to how much risk benefit may be warranted.

We appreciate your proposal to inform us of the results of a tabletop pilot exercise of the risk quantification approach presented as Part II of the NUREG. The simple spreadsheet tool developed to support consistent application of the approach presented in the report was not completed prior to the draft report being published for comment. As such, piloting this tool may be useful in identifying any final clarification or usability issues, when applied to realistic fire scenarios.

As such, we would welcome feedback of a pilot of the spreadsheet tools and identified sections of the NUREG to support any final clarifications or last minute revisions to the report. We are also willing to make ourselves available to answer any questions that arise during the pilot, but understand that industry will be conducting the pilot. This work has been ongoing since 2012 and the testing results have not changed significantly since initially communicated during a March 2013 National Fire Protection Association (NFPA) Standard 805 public Frequently Asked Question (FAQ) call. The completed technical report was shared with the public at the April 26<sup>th</sup> workshop and is currently ready for publication, so any incorporation of insights from these pilots must be done in a timely manner. If the results from the proposed table top exercise can be provided to the NRC by July 31, 2016, then we will hold off publishing the report until that time. Please let us now if you can commit to this date. We will also consider acknowledging the licensees performing the pilot and we will prepare an appendix to the report to document these applications.

V. Anderson

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Lastly, we have reviewed the attachment "Industry Comments on Draft NUREG 2180" to your June 7, 2016 letter. In general, we believe that these comments point to areas of the report that could benefit from clarification. However, clarification on at least one of these comments will be needed to fully understand the concern. We have enclosed our proposed actions to address these concerns to this letter.

Please contact Gabriel Taylor at (301) 415-0781 or via e-mail at [gabriel.taylor@nrc.gov](mailto:gabriel.taylor@nrc.gov), to clarify and if you require any additional information.

Sincerely,

***/RA/ ( M. Thaggard for R. Correia)***

Richard Correia, Director  
Division of Risk Assessment  
Office of Nuclear Regulatory Research

Enclosure: As stated

V. Anderson

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Richard Correia, Director  
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Enclosure: As stated

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