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MEMORANDUM TO: MarkHenry Salley, Chief
Fire and External Hazards Analysis Branch
Division of Risk Analysis
Office of Nuclear Regulatory Research

FROM: Kendra L. Wright /RA/
Fire and External Hazards Analysis Branch
Division of Risk Analysis
Office of Nuclear Regulatory Research

SUBJECT: SUMMARY OF PUBLIC MEETING TO DISCUSS RECENT
RESEARCH ON THE USE OF VERY EARLY WARNING FIRE
DETECTION SYSTEMS HELD APRIL 26, 2016

On April 26, 2016, staff from the Office of Nuclear Regulatory Research (RES), Division of Risk Analysis (DRA) hosted a Category 3 public meeting to discuss the data, methods and tools developed in support of NUREG-2180, "Determining the Effectiveness, Limitations, and Operator Response for Very Early Warning Fire Detection Systems in Nuclear Facilities (DELORES-VEWFIRE)". The meeting was held in the Two White Flint North Auditorium before an audience comprised of industry stakeholders, and NRC staff from RES and NRR. In addition, a large number of stakeholders who could not attend the meeting in person participated in the meeting via webinar. This included participants from Japan and Korea.

The primary objectives of the public meeting were to share the details and findings from the research project conducted to evaluate the benefits of very early warning fire detection (VEWFD) systems, to share tools developed to aid in estimating risk parameters, to share regulatory expectations related to the release of NUREG-2180, and to give industry an opportunity to share feedback and plans related to this NUREG's release. These details were delivered by a panel of presenters from RES, the National Institute of Standards and Technology (NIST), the Office of Nuclear Reactor Regulation (NRR), and an industry representative from Duke Energy.

Gabriel Taylor and Nicholas Melly, from the Fire and External Hazards Analysis Branch presented detailed overviews of the project scope, experimental design, and test results. Tom Cleary from the National Institute of Standards and Technology (NIST) presented the testing approach and the results of tests conducted at NIST in support of this project. Dr. Susan E. Cooper, and Dr. Amy D'Agostino from RES Human Factors and Reliability Branch presented on how human factors and human reliability were applied to the context of VEWFDs.

CONTACT: Kendra L. Wright, RES/DRA
301-415-0781

Brian Metzger from the Office of Nuclear Reactor Regulation (NRR) presented their perspectives and expectations. Industry comments, feedback, and plans for VEWFDS were delivered by Jeff Ertman from Duke Energy.

NUREG-2180 summarizes confirmatory research conducted to evaluate the performance of VEWFD systems, also referred to as incipient fire detection systems, relative to conventional spot-type detection systems for use in nuclear power plant (NPP) applications. VEWFD systems are defined in NFPA 76 as being systems that detect low-energy fires before the fire conditions threaten telecommunications service. Research on this topic was needed because the data and understanding of the performance of VEWFD systems in NPP applications to detect low energy pre-flaming (incipient) fire conditions was insufficient to support intended applications such as the close out of National Fire Protection Association (NFPA) Standard 805 FAQ 08-0046 which provided the interim treatment of incipient fire detection systems in a fire probabilistic risk assessment (PRA).

This meeting served as a valuable opportunity for the NRC and industry stakeholders to exchange information on this pertinent topic. Both the in-person and the webinar audiences were highly engaged and posed a large number of insightful questions throughout the meeting. The use of a webinar during the public meeting was very successful in reaching a larger audience, many of whom could not travel to the NRC for a one-day meeting.

NUREG-2180 is currently available as a draft with the final report expected to be published during the summer of 2016.

Enclosures:

1. Meeting Slides
2. Meeting Attendance List

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RCorreia, RES	SCooper, RES
MThaggard, RES	NMelly, RES
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OFFICE	RES/DRA/FXHAB	BC: RES/DRA/FXHAB
NAME	K. Wright	M. Salley
DATE	5/25/16	5/26/16

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