October 4, 2017

MEMORANDUM TO: Jeff Circle, Team Leader
PRA Operations and Human Factors Branch
Division of Risk Assessment
Office of Nuclear Reactor Regulation

FROM: Alexander Schwab, Project Manager ***/ra/***
Generic Communications Branch
Division of Policy and Rulemaking
Office of Nuclear Reactor Regulation

SUBJECT: SUMMARY OF THE SEPTEMBER 19, 2017, PUBLIC MEETING BETWEEN THE UNITED STATES NUCLEAR REGULATORY COMMISSION AND INDUSTRY REPRESENTATIVES REGARDING COMMON CAUSE FAILURE METHODOLOGIES IN PROBABILISTIC RISK ASSESSMENT MODELS

On September 19, 2017, a Category 2 public meeting was held between the U.S. Nuclear Regulatory Commission (NRC) staff and external stakeholders, at Two White Flint North, in Room T2-B45. The purpose of the meeting was to discuss common cause failure (CCF) methodologies in probabilistic risk assessment (PRA) models used in the significance determination process (SDP) and accident sequence precursors program.

The meeting began with opening remarks and a presentation from the team leader of the PRA Operations and Human Factors Branch. The presentation, "Public Workshop on Common Cause Failure in the Significance Determination Process and Accident Sequence Precursor Program," (Agencywide Documents Access and Management System (ADAMS) Accession No. ML17261A032) detailed how the NRC evaluates CCF and why they adopted their current approach. This prompted some discussion from industry, who made several remarks about the presentation. Their first remark was that the NRC's approach could lead to results which were sometimes overly conservative. They also remarked that there wasn't enough questioning about the data that is an input for the NRC's method. The NRC maintained that the amount of the data was already small as it was, and using less data would create more uncertainty. The NRC and industry did comment that they were working together to evaluate the current quality of the data, and that they would continue to do so.

Industry then gave their presentation, "Common Cause Failure Methods Impacting SDP Evaluations" (ADAMS Accession No. ML17261A029). This presentation advocated for two possible avenues for additional guidance, which industry indicated is the best way to make progress quickly on more realistic CCF analyses. The first was to include guidance on

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conducting a sensitivity analysis on the contribution of CCF to the overall risk of an SDP evaluation. Industry stated that this could improve understanding between the CCF data used and the event/condition evaluation (i.e., help to see if CCF was even the cause of an event changing color thresholds in an SDP evaluation). One suggestion was to perform sensitivities using the 20th and 70th percentiles of the alpha factors used in computing CCF probabilities as bounding values. The second idea was considering crediting qualitative elements for risk-informed decision-making on CCF (i.e., sometimes qualitatively crediting actions the licensees are taking in order to help prevent common cause failures). Industry stated that this could motivate licensees to do more toward the prevention of common cause failures. Industry also made the point that having events that were more accurately categorized by their actual safety significance could help licensees focus on safety. Industry then asked if the NRC would be receptive to industry creating additional qualitative elements and guidance and giving it to the NRC for their review and possible inclusion in the guidance. The NRC responded that they were open to reviewing any guidance industry created, but wanted to emphasize that reviewing the guidance for consideration of possible inclusion did not guarantee that it would become part of NRC guidance. The NRC also responded that they are willing to perform table- top exercises with the industry on their two proposed avenues for additional guidance. This would determine the feasibility of the guidance developed by the industry.

During the meeting, the attendees were reminded that although their comments were discussed with the staff, no decisions would be made at the meeting.

A list of meeting attendees is enclosed.

Please direct any inquiries to Alexander Schwab, Project Manager, at 301-415-8539, or Alexander.Schwab@nrc.gov.

Enclosure:
As stated

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ATTENDANCE LIST

PUBLIC MEETING BETWEEN THE UNITED STATES NUCLEAR REGULATORY COMMISSION AND INDUSTRY REPRESENTATIVES REGARDING COMMON CAUSE FAILURE METHODOLOGIES IN PROBABILISTIC RISK ASSESSMENT MODELS (CATEGORY 2)

September 19, 2017
1:00 p.m. - 5:00 p.m.
TWO WHITE FLINT NORTH, T3-B45

NAME	ORGANIZATION
Jeff Circle	NRC
Brandon Hartle	NRC
Alex Schwab	NRC
Russell Gibbs	NRC
Chris Hunter	NRC
John David Hanna	NRC
George Macdonald	NRC
Scott Freeman	NRC
Matt Humberstone	NRC
Ching Ng	NRC
Antonios Zoulis	NRC
Michelle Kichline	NRC
Adrienne Driver	NRC
Houman Rasouli	NRC
John C. Lane	NRC
Jeff Mitman	NRC
James Slider	NEI
Greg Krueger	NEI
Jim Barstow	Exelon
Jeff Stone	Exelon
Gene Kelly	Exelon
Larry Parker	STARS Alliance
Jana Bergman	Curtiss-Wright/Scientech
Fernando Ferrante	EPRI
Roy Linthicum	PWROG
Brad Dolan	Tennessee Valley Authority
Dean Dudley	Xcel Energy
Gordon Clefton	INL

Enclosure