



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

December 16, 2020

MEMORANDUM TO: Ho Nieh, Director
Office of Nuclear Reactor Regulation

FROM: Raymond V. Furstenau, Director
Office of Nuclear Regulatory Research

A handwritten signature in blue ink that reads "Raymond V. Furstenau".

Signed by Furstenau, Raymond
on 12/16/20

SUBJECT: IMPENDING PUBLICATION OF NUREG-2198 "THE GENERAL
METHODOLOGY OF AN INTEGRATED HUMAN EVENT ANALYSIS
SYSTEM (IDHEAS-G)"

I am forwarding for your information the enclosed final version of NUREG-2198, "THE GENERAL METHODOLOGY OF AN INTEGRATED HUMAN EVENT ANALYSIS SYSTEM (IDHEAS-G)," which will be submitted for final publication in two weeks. My staff has worked closely with your staff in the Division of Risk Analysis to develop and finalize this report.

This report presents a human reliability analysis (HRA) method, IDHEAS-G, developed by RES staff to support NRC's risk-informed regulatory activities. IDHEAS-G was created in response to the staff requirements memorandum (SRM) M061020, dated November 8, 2006, to the Advisory Committee on Reactor Safeguards (ACRS). The SRM directed the ACRS to, "work with the [NRC] staff and external stakeholders to evaluate different human reliability models in an effort to propose a single model for agency use or guidance on which model(s) should be used in specific circumstances." IDHEAS-G is a human-centered, general methodology used to develop application-specific human reliability analysis (HRA) methods by the NRC. It integrates the strengths of existing HRA methods and enhances HRA in: (1) application scope, (2) scientific basis, (3) HRA variability, and (4) data for HRA.

The IDHEAS-G framework can be applied in many applications to determine operator reliability as part of probabilistic risk assessments. This includes scenarios outside a nuclear power plant control room. An example of the use of the IDHEAS-G framework is the development of IDHEAS for Event and Condition Assessment (IDHEAS-ECA), published in Research Information Letter RIL-2020-02, and its associated software tool. IDHEAS-ECA has proven to be a useful HRA method for supporting the NRC's risk-informed decisionmaking processes including applications to accident scenarios that credit FLEX equipment.

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The previous versions of this draft report have been through several rounds of external and internal reviews. The NRR staff reviewed the draft report in 2016 and the comments were incorporated into the current version. The report is recently updated by incorporating the comments from ACRS members and members of the public in 2019 and 2020. The authors of the report are especially thankful for the support of NRR staff, who have worked with RES throughout the development of IDHEAS-G by identifying technical requirements, providing timely feedback to interim versions of the method, and providing valuable comments on early drafts of this report.

RES established an online quality survey to collect feedback from user offices on the usefulness of RES products and services. This survey can be found online at the [RES Quality Survey](#). I would appreciate the responsible manager or supervisor completing this short—about 5 minutes—survey within the next 10 working days to present your office's views of the delivered RES product.

Enclosure:
As Stated

Memo for Notice of impending publication of NUREG-2198 DATE December 16, 2020

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DATE	Nov 30, 2020	Dec 1, 2020	Dec 14, 2020	Dec 16, 2020

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