



## NUCLEAR REGULATORY COMMISSION

[NRC-2025-0089]

### Research Information Letter Report: Integrated Human Event Analysis System

#### Dependency Analysis Guidance (IDHEAS-DEP)

**AGENCY:** Nuclear Regulatory Commission.

**ACTION:** Request for comment.

**SUMMARY:** The U.S. Nuclear Regulatory Commission (NRC) is seeking public comment on the Research Information Letter (RIL) report, “Integrated Human Event Analysis System Dependency Analysis Guidance (IDHEAS-DEP),” which establishes guidance that documents how to perform a dependency analysis using the dependency model included in Integrated Human Event Analysis System for Event and Condition Assessment (IDHEAS-ECA) method for human reliability analysis (HRA).

**DATES:** Submit comments by **[INSERT 60 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**. Comments received after this date will be considered if it is practical to do so, but the Commission is able to ensure consideration only for comments received on or before this date.

**ADDRESSES:** You may submit comments by any of the following methods; however, the NRC encourages electronic comment submission through the **Federal rulemaking website**:

- **Federal rulemaking website:** Go to <https://www.regulations.gov> and search for Docket ID **NRC-2025-0089**. Address questions about Docket IDs in Regulations.gov to Bridget Curran; telephone: 301-415-1003; email: [Bridget.Curran@nrc.gov](mailto:Bridget.Curran@nrc.gov).

For technical questions, contact the individual(s) listed in the “For Further Information Contact” section of this document.

- **Mail comments to:** Office of Administration, Mail Stop: TWFN-7-A60M, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, ATTN: Program Management, Announcements and Editing Staff.

For additional direction on obtaining information and submitting comments, see “Obtaining Information and Submitting Comments” in the **SUPPLEMENTARY INFORMATION** section of this document.

**FOR FURTHER INFORMATION CONTACT:** Jing Xing, Office of Nuclear Regulatory Research, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, telephone: 301-415-2410, email: Jing.Xing@nrc.gov.

#### **SUPPLEMENTARY INFORMATION:**

##### **I. Obtaining Information and Submitting Comments**

###### **A. Obtaining Information**

Please refer to Docket ID **NRC-2025-0089** when contacting the NRC about the availability of information for this action. You may obtain publicly available information related to this action by any of the following methods:

- **Federal Rulemaking Website:** Go to <https://www.regulations.gov> and search for Docket ID **NRC-2025-0089**.

- **NRC’s Agencywide Documents Access and Management System (ADAMS):** You may obtain publicly available documents online in the ADAMS Public Documents collection at <https://www.nrc.gov/reading-rm/adams.html>. To begin the search, select “Begin ADAMS Public Search.” For problems with ADAMS, please contact the NRC’s Public Document Room (PDR) reference staff at 1-800-397-4209, at 301-415-4737, or by email to [PDR.Resource@nrc.gov](mailto:PDR.Resource@nrc.gov). The RIL report, RIL 2021-14, is available in ADAMS under Accession No. ML21316A104.

- **NRC’s PDR:** The PDR, where you may examine and order copies of publicly available documents, is open by appointment. To make an appointment to visit the PDR,

please send an email to [PDR.Resource@nrc.gov](mailto:PDR.Resource@nrc.gov) or call 1-800-397-4209 or 301-415-4737, between 8 a.m. and 4 p.m. eastern time, Monday through Friday, except Federal holidays.

#### B. Submitting Comments

The NRC encourages electronic comment submission through the **Federal Rulemaking Website** (<https://www.regulations.gov>). Please include Docket ID **NRC-2025-0089** in your comment submission.

The NRC cautions you not to include identifying or contact information that you do not want to be publicly disclosed in your comment submission. The NRC will post all comment submissions at <https://www.regulations.gov> as well as enter the comment submissions into ADAMS. The NRC does not routinely edit comment submissions to remove identifying or contact information.

If you are requesting or aggregating comments from other persons for submission to the NRC, then you should inform those persons not to include identifying or contact information that they do not want to be publicly disclosed in their comment submission. Your request should state that the NRC does not routinely edit comment submissions to remove such information before making the comment submissions available to the public or entering the comment into ADAMS. All comments should reference the applicable report.

## II. Discussion

The NRC Research Information Letter report, RIL 2021-14, discusses the dependency of human failure events in the context of human reliability analysis (HRA) which refers to the impact of failure of a human action on performance of subsequent human actions. HRA assesses the impact of dependency on human error probabilities as inputs to probabilistic risk analysis models. The staff at the NRC developed a HRA method, referred to as the Integrated Human Event Analysis System for Event and Condition Assessment (IDHEAS-ECA), which includes a human action dependency model. The staff further developed detailed guidance for applying the dependency model

to quantify the human error probability of a human action due to the dependency, and to gain a systematic understanding of factors contributing to dependency, and how the dependency impact can be mitigated. This RIL report presents the dependency guidance, along with worksheets and templates for using the guidance, and two full examples of performing HRA with the IDHEAS-ECA method and the dependency guidance. This RIL report can be used for HRA dependency analysis in combination with the IDHEAS-ECA method or stand alone for applications involving analyzing human action dependency.

### **III. Executive Order (E.O.) 12866**

The Office of Information and Regulatory Affairs determined that this RIL-2021-14 is not a significant regulatory action under E.O. 12866.

(Authority: 42 U.S.C. 2011 *et seq.*)

Dated: November 20, 2025.

For the Nuclear Regulatory Commission.

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