

January 27, 2005

MEMORANDUM TO: Nilesh C. Chokshi, Chief
Operating Experience Risk Analysis Branch
Division of Risk Analysis and Applications
Office of Nuclear Regulatory Research

FROM: Donald A. Dube /RA/
Operating Experience Risk Analysis Branch
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SUBJECT: PUBLIC MEETING SUMMARY REGARDING CONSOLIDATED DATA
ENTRY SOFTWARE FUNCTIONAL REQUIREMENTS FOR THE
MITIGATING SYSTEMS PERFORMANCE INDEX HELD ON JANUARY
24, 2005

On January 24, 2005, a public meeting was held at the One White Flint North Building, Room 12B4, to discuss the Consolidated Data Entry (CDE) software functional requirements for the Mitigating Systems Performance Index (MSPI). A list of meeting attendees is provided as Attachment 1, and the agenda is given in Attachment 2. The documents that were reviewed, references used, and the preliminary list of issues for discussion is provided in Attachment 3.

The meeting participants discussed three documents related to the CDE. These documents are provided as Attachments 4-6. Attachment 7 also provides useful derivations of the MSPI mathematical formulation to be used in the CDE algorithm.

The representative from the Institute of Nuclear Power Operations (INPO) provided an overview of the CDE software functional requirements, and the use of the data collection for standardized plant analysis risk models (SPAR) and the MSPI. As implied by the name, the CDE consolidates data entry to minimize duplication of effort for the various data reporting programs as well as industry performance indicators. The INPO representative noted that the CDE software will be rolled out in stages with version 2.1 being released in April 2005 to allow licensees the opportunity to begin data entry. This version will not have the calculation engine, however.

Discussion took place regarding the document control process for the CDE. Industry and INPO agreed to implement a more formal sign-off process to ensure consistency between the NEI 99-02 Appendix F guidance document and the CDE documents. INPO also agreed to provide the NRC staff with a copy of the test plan methodology for the CDE changes related to MSPI.

The INPO representative then discussed how the PRA information from the licensees would be controlled. He agreed to clarify Section 2.2 of MSPI1 regarding how PRA information is to be locked out until the end of the quarter, consistent with the NEI 99-02 guidance. It was agreed

that any changes to PRA information during the quarter being measured would be the result of error corrections only, not PRA model updates, and are expected to be rare. Further discussion is needed regarding the details of this process.

The issue of how to treat pump failures in the first hour of operation was discussed. The issue is that the pump failure-to-start (FTS) and failure-to-run (FTR) records may need reclassification back to January 1, 2003 (or earlier) consistent with NEI 99-02 Appendix F that requires failures in the first hour of operation to be classified as FTS. The reason is that INPO acknowledges that industry has not always been consistent in how FTS and FTR have been reported. Some licensees have included component FTR that occur within the first hour as a FTS. Others have not and counted such failures as FTR. Industry will develop further MSPI implementation guidance to require consistency in that any pump failures that occur less than 1 hour from start are classified as FTS for MSPI purposes. After some discussion, all meeting participants agreed to this change to the guidance as well as the reclassification of pump failures. In addition, INPO will change the CDE guidance to expand the pump failure modes to clearly identify run failures that occur less than 1 hour after pump start.

Additional discussion took place and it was generally agreed that:

- The G. W. Sowers reference per Attachment 7 would become an appendix to MSPI9.
- Three significant figures (e.g. 2.93E-3) would be used for inputs to calculations and two significant figures (e.g. 1.7E-7) for reporting of MSPI results.
- 1.0E-8 would be the cut-off for MSPI graphing results. This means that positive values less than 1.0E-8 as well as negative values would be indicated as 1.0E-8 on graphs. However, negative results would continue to be displayed as negative in tables and text.
- The rounding of MSPI results to two significant figures shall be according to the protocol of the programming language used in CDE.

It was acknowledged that the values in Table 1 of the MSPI3 document would be updated prior to implementation of the MSPI. Values for circuit breakers need to be added to Table 1. Idaho National Laboratory will assess whether or not reliability data for diesel-driven pumps in service water systems can be combined with diesel-driven pumps in auxiliary feedwater systems.

Regarding document MSPI9, INPO provided further explanation of the use of Table 1. It was also agreed that in Section 3.3.1.1 of MSPI9, "event" date is to be changed to "discovery" date,

consistent with the principle of the MSPI formulation. Finally, in Section 3.4.3.1, the factor “ar” was inadvertently omitted from the second terms under Cases 2 and 3, and needs to be inserted before the “TM” in the expressions for X_{zi} .

Attachments:

1. CDE Meeting Attendance List
2. CDE Meeting Agenda
3. Review of CDE (Documents to be Reviewed, Reference Documents, and Preliminary List of Issues for Discussion)
4. CDE 3.0, Software Functional Requirements, Mitigating Systems Performance Index, General Statement of Requirements (MSPI1 - draft)
5. CDE 3.0, Software Functional Requirements, Mitigating Systems Performance Index, Unit Performance Modifications (MSPI3 - draft)
6. CDE 3.0, Software Functional Requirements, Mitigating Systems Performance Index, MSPI Derivations (MSPI9 - draft)
7. G. W. Sowers, “MSPI: How to Really Do the Calculation,” 8/23/2004

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6. CDE 3.0, Software Functional Requirements, Mitigating Systems Performance Index, MSPI Derivations (MSPI9 - draft)
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