

February 13, 2008

MEMORANDUM TO: Michael Franovich, Chief  
PRA Operational Support & Maintenance Branch  
Division of Risk Assessment  
Office of Nuclear Reactor Regulation

James Andersen, Chief  
Performance Assessment Branch  
Division of Inspection and Regional Support  
Office of Nuclear Reactor Regulation

FROM: Ronaldo Jenkins, Chief /RA/ Jack Foster for  
Performance and Reliability Branch  
Division of Risk Analysis  
Office of Nuclear Regulatory Research

SUBJECT: NRR USER NEED REQUEST (NRR# 2004-09), "INDUSTRY  
TRENDS PROGRAM"

This memo documents the completion of the December 2007 activities agreed upon in the memorandum "User Need Request, Industry Trends Program, (NRR# 2004-09)," dated October 18, 2004 (ML042810407), to provide annually the information identified below to support the issuance of the annual SECY paper on the Industry Trends Program.

The RES staff has prepared reports related to system and component reliability, common cause failures, initiating events, and fire studies. These reports contain data and graphs, including statistical trend lines fitted to the data. The system reliability studies (7), component reliability studies (5), the initiating events study, and the fire study have all been updated to include FY 2006 data. The common cause failure database has been updated. This information, which is now available in pdf format, is presented on the [NRC Reactor Operational Experience Results and Databases web page](http://nrcoe.inel.gov/results/inotex.cfm). <http://nrcoe.inel.gov/results/inotex.cfm>. These studies and a background document are also available in ADAMS. The ADAMS accession numbers are shown in the enclosed table.

These studies provide unreliability estimates by failure mode for the systems and components studied and estimated frequencies for the initiating events and fire events. They also provide the estimated uncertainties and analyses of the trend in these reliability and frequency estimates. The 2006 studies did not find any statistically significant increasing trends in the unreliability and frequency estimates other than increases which were primarily due to changes in the reporting requirements for the Reactor Oversight Process.

This year the RES staff transitioned to using Equipment Performance and Information Exchange System and Mitigation System Performance Indicator data in the Standardized Plant Analysis Risk models to estimate component and system reliability. Formerly, these estimates had been based primarily on Licensee Event Reports data and generic fault trees. Our new methods are expected to provide more sensitive indicators of trends and less uncertainty in our estimates.

Please contact Bennett Brady (415-6363, [bmb1@nrc.gov](mailto:bmb1@nrc.gov)) of my staff, should you require any additional information on this matter.

Enclosure:  
As states

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Enclosure:  
As stated

Distribution:  
OEGIB RF  
DRA RF  
NRR# 2004-09  
MJohnson/BSheron, RES  
ASalomon, RES  
JAndersen, NRR  
DRasmuson, RES  
BBoger, NRR  
AMasciantonio, NRR  
SRichards, NRR  
JGrobe

**ADAMS Accession No.: ML073550175**

OFFICE	PRB	PRB		
NAME	BBrady	RJenkins		
DATE	02/08/08	02/13/08	/ /08	/ /08

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