

MEMORANDUM TO: Patrick Baranowsky, Chief
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Division of Risk Analysis and Applications
Office of Nuclear Regulatory Research

THRU: Steven Mays, Assistant Branch Chief
Operating Experience Risk Analysis Branch
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Office of Nuclear Regulatory Research

FROM: Bennett Brady
Operating Experience Risk Analysis Branch
Division of Risk Analysis and Applications
Office of Nuclear Regulatory Research

SUBJECT: SUMMARY OF THE DECEMBER 2000 MEETINGS OF THE EPIX
REPORTING REQUIREMENTS DESIGN DETAILS SUBCOMMITTEE
AND EPIX AD HOC WORKING GROUP

Steve Mays and I represented the NRC at meetings of the EPIX Reporting Requirements Design Details Subcommittee on December 5 and 6, 2000 and the EPIX Ad Hoc Working Group on December 7 at INPO Headquarters in Atlanta. The list of attendees and agenda for the meetings are shown in Attachments 1 and 2. During the meeting of the EPIX Ad Hoc Working Group, Bennett Brady gave a presentation on the status, plans and uses of RADS (Attachment 3).

The Equipment Performance and Information Exchange (EPIX) System is an industry-wide database of failure, reliability, and operating experience information on components that are important to nuclear plant safety. It contains records on more than 900,000 devices (components and piece parts) and more than 15,000 failure records. These data and information are available to NRC staff from an easily searchable database on the INPO web site. EPIX 4.0, a fully Web-based system for both the submittal and retrieval of data, is scheduled for release in June 2001. The purpose of these meetings was 1) to update the groups on EPIX development, the NEI Data Review Group actions, and NRC's Reliability and Availability Data System (RADS); and 2) to discuss EPIX 4.0 design issues, user guide and output reports. In particular, the discussions were focused on efforts to better obtain reliability and availability data for use in reliability and risk applications as noted below.

- New fields in EPIX 4.0 (the fully web-based system scheduled for release in June 2001)
 - PSA failures and ESF failures
 - There will be two new (Yes/No) fields in 4.0 to indicate if an EPIX failure was a PRA/PSA failure and a failure that occurred during an ESF demand.

- The current EPIX guidance (INPO 98-001, Revision 2) defines a “PSA Relevant Failure” as “a risk-significant system or component fails to meet a plant’s PRA/PSA success criteria.” There is no definition of a failure that occurred on an ESF demand.
 - NRC noted that the definition of a PRA/PSA failure needs to distinguish between failures of auto start signals and other failures to start to properly account for failures in risk related applications. This would correct a current problem where long unavailabilities (fault exposure time).
 - were being counted against a component when its manual start capability was not degraded.
- ESF demands and ESF test demands
 - NRC has proposed that utilities report ESF demands and estimated ESF test demands to EPIX for selected risk-important components. These data are needed for estimating the demand failure probability for input to NRC PRA models, risk-based performance indicators, and other risk-informed applications. This proposal will be put before the NEI/INPO/NRC/industry standing committee on consolidated reporting. (See “Update on NEI Data Review Group” below.)
 - *NRC agreed to provide a proposed definition for PSA/PRA failures, ESF demands, ESF test demands, failures during ESF demands, and fault exposure time for consideration in the EPIX 4.0 guidance.¹
 - NRC also pointed out that for ESF test demands, it is also important that demands be counted only for those components that are actually challenged to perform their risk-significant safety function by the test demand. For example, the RCS injection valve may normally receive an ESF signal to open during a real demand, but not during a test. An EDG output breaker may be manually closed during a test, but the auto closure feature is not challenged. ESF test demands should not be counted for these components in this case.
 - Unavailability
 - EPIX will contain fields to enable reporting of planned, unplanned, and fault exposure hours.
 - No decision has been made on the NRC proposal to
 - Report unavailability for selected risk significant non-SSPI systems and
 - Report unavailability for all trains for all modes when one train is required.
 (The new NRC/INPO/NEI/ industry consolidated database standing committee will also consider this. See “Update on NEI Data Review Group” below.)
- Update on NEI Data Review Group
 - The NEI Data Review Group at their last meeting on September 15 recommended:

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* Indicates NRC action item.

- A standing committee with representatives from NEI, INPO, NRC and industry to resolve data inconsistency issues and address and rectify any data definition questions and issues that arise in the future
 - A single, industry wide consolidated web-based database for data collection using NEI and INPO information technology
 - The principles for performance indicators and data that the group developed
 - A projects plan to implement the recommendations.
- It is expected that:
 - EPIX 4.0 will be the platform for consolidated reporting
 - INPO will be the owner of this program
 - INPO 98-001 will become the data collection manual and data definitions document.
 - The high-level standing committee will be appointed in January or February 2001.
 - The Data Review Groups' recommendations were presented to the NEI Nuclear Strategic Issues Advisory Committee (NSIAC) on Wednesday, December 6, 2000. The Committee agreed that INPO should take the lead to implement the Data Review Group's recommendations.
- Data Quality Improvements
 - Reliability data comparison study
 - INPO will group plant data by similar plant designs and provide each utility tables showing key components and their reliability data (demands and run hours) submitted by plants with similar designs.
 - Utilities will be asked to compare their reliability data reporting with that of similar plants and revise their data as needed. Reliability data for SSPI components are to be completed by the May 30, 2001 submittal, for the other risk-significant components, by the August 30 submittal.
 - PRA failure modes
 - NRC also noted some concern in the selection of EPIX engineering failure modes and the mapping of EPIX engineering failure modes to PRA failure modes in RADS
 - *NRC will provide some suggested guidance on defining PRA failure modes and examples where EPIX engineering failure modes are difficult to interpret and may not be mapping correctly into PRA failure modes in RADS.

Attachments: As stated

cc: J. Bishop, INPO
G. Masters, INPO
N. Lossing, INPO

MEMORANDUM DATED: / /01

SUBJECT: SUMMARY OF THE DECEMBER 2000 MEETINGS OF THE EPIX REPORTING
REQUIREMENTS DESIGN DETAILS SUBCOMMITTEE AND EPIX AD HOC
WORKING GROUP

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Attachment 1

EPIX REPORTING REQUIREMENTS DESIGN DETAILS SUBCOMMITTEE

December 5-6, 2000

Attendees

Jo Ann Amick	Summer
Joe Bishop	INPO
Bennett Brady	NRC
Andy Cato	Vogtle
George Felgate	INPO
Dave Hambree	INPO
Ernie Hite	Duke Power
Kim Hulsey	INPO
Neil Lossing	INPO
Glen Masters	INPO
Steve Mays	NRC
Craig Nierode	Monticello
Jim Nurrenbern	Callaway
Mike Polishak	South Texas
Pam Sergeant	Nine Mile Point
Rich Slone	Clinton
Mike Strait	Exelon

EPIX AD HOC WORKING GROUP

December 7, 2000

Attendees

Jo Ann Amick	Summer
Joe Bishop	INPO
Bennett Brady	NRC
Matt Caraghes	Fermi
Andy Cato	Vogtle
Larry Ellgass	Hatch
George Felgate	INPO
Julie Gadzinski	Kewanee
Ernie Hite	Duke Power
Kim Hulsey	INPO
Karl Jessen	Indian Point 3
Yehia Khalil	Millstone
Nancy Lauer	Bechtel
Stanley Levinson	Framatone
Neil Lossing	INPO
Jim Maddox	Watts Bar
Glen Masters	INPO
Jim Merced	Comanche Peak
Jim Nurrenbern	Callaway
John Ramsdell	San Onofre
Pam Sergent	Nine Mile Point
Rich Slone	Clinton

Mike Strait


Exelon

Kavi Walia

Vogtle


Gary Welsh

INPO

	<p style="text-align: right;">Ad Hoc Subcommittee Meeting Agenda December 5 & 6, 2000 Room 130</p>
0800	Welcome / Introductions – Joe Bishop / Jim Maddox
0830	Review Agenda Review Action Items from 6/8/ 00 Meeting – Joe Bishop
0900 - 1000	Web site Usage Guide Review / Comment – Joe Bishop
1000 - 1130	EPIX Release 4.0 Demonstration – Room 203 - Neal Lossing
1130	Lunch
1230 - 1300	LCM & Equipment Obsolescence Data Needs – Glen Masters & Joe Bishop
1300 - 1600	EPIX 4.0 Design Issues Breakout Sessions –Joe Bishop / Neal Lossing / Glen Masters
1600	Adjourn

December 6, 2000

0800 – 0930	EPIX 4.0 Design Issues Breakout Sessions –Joe Bishop / Neal Lossing / Glen Masters
0945 – 1130	EPIX 4.0 Design Issues Joint Session – Neal Lossing / Glen Masters
1230 – 1330	EPIX Website Output Reports - Prioritization
1330 - 1600	Data Collection Process (Reliability, ESF Failures, PSA Failures, etc.)– Glen Masters / Neal Lossing

	<p style="text-align: right;">Ad Hoc Working Meeting Agenda December 7, 2000 Room 130</p>
0800	Welcome / Introductions – Gary Welsh / Jim Maddox
0830	Review Agenda Review Action Items from 6/7/00 Meeting – Joe Bishop
0900	Update on NEI Data Review Working Group Activities – Joe Bishop
0930	RADS Update & Status of Risk-informed RADS Outputs – Bennett Brady
1000	Subcommittee Activity Summaries of December 5 & 6 Meeting – Neal Lossing
1030	Review Proposed Reporting Requirements Definitions Document – Joe Bishop / Glen Masters
1130	Lunch
1230 - 1600	Review Proposed Reporting Requirements Definitions Document – Joe Bishop / Glen Masters
1600	Adjourn