

August 4, 2005

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

Michael Cheok, Assistant Branch Chief
Operating Experience Risk Analysis Branch
Division of Risk Analysis and Applications
Office of Nuclear Regulatory Research

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

SUBJECT: SUMMARY OF EQUIPMENT PERFORMANCE AND
INFORMATION EXCHANGE (EPIX) AD HOC WORKING
GROUP MEETING, JUNE 29, 2005

On June 29, 2005, I participated in a meeting of the Equipment Performance and Information Exchange (EPIX) System Ad hoc Working Group at the Institute of Nuclear Power Operations (INPO) headquarters in Atlanta, Georgia. EPIX is maintained by INPO and provides an industry-wide database of information on Maintenance Rule components at all US nuclear power plants. NRC staffs access the EPIX database through the INPO website. EPIX data are used in NRC's Reliability and Availability Data System (RADS), Integrated Data Collection and Coding System, and Common Cause Failure Database to estimate probabilistic risk assessment (PRA) parameters. EPIX data are also used to update NRC Standardized Plant Analysis Risk (SPAR) models and to assist in developing and implementing the Mitigating System Performance Index (MSPI).

EPIX is part of INPO's new Consolidated Data Entry (CDE) system that collects data from all utilities to meet licensee reporting requirements for the Reactor Oversight Process (ROP), World Association of Nuclear Operators (WANO), and Monthly Operating Reports (MORs). The list of attendees and agenda for the meeting are shown in Attachments 1 and 2.

The Working Group was updated on the action items from previous meetings, the use of EPIX data for industry performance analyses, MSPI implementation, the results of a survey of industry usage of EPIX data, and initiatives to improve the quality and timeliness of EPIX data. I also gave a presentation on NRC's recent update of data in NRC's SPAR models (Attachment 3).

- **Action Items from Previous Meetings**

1. NRC has been proposing a change in the requirements for reporting reliability data (component demands and run hours). NRC has asked that utilities report quarterly ESF (actual) demands and run hours and estimated operating (test and operational) demands for the major risk-significant components. This proposal will be implemented with MSPI implementation.
2. Also with implementation of the MSPI, the Consolidated Data Entry System will have a failure rate calculator that will compute PRA failure rates, i.e., the probability of failure on demand and the operating failure rate. EPIX and its predecessor, NPRDS, only computed the number of failures per unit of time.

- **Industry Performance Analysis**

1. INPO presented a new tool that they have developed to identify the most significant problems and causes of component failures and adverse trends.
2. In the future, they will add a statistical analysis package to identify statistically significant trends.

- **MSPI Implementation**

1. In February 2006, Consolidated Data Entry 3.0 will begin capturing each utility's MSPI information and data and calculate their unreliability and unavailability indices.
2. The two major challenges now for MSPI implementation are PRA technical adequacy and increasing communication between the licensees' engineering, PRA and licensing units.

- **INPO 98-001**

1. INPO has updated their reporting guidance. The major focus was to provide improved guidance on when failure/occurrence reports are required. These occurrences include not only component failures but also occurrences with no equipment damage but involving generation losses or transients.

- **EPIX usage survey**

1. INPO has completed a survey of EPIX users to identify opportunities for improvements in the value of output products.
2. The major needs were for training and training aids and improvement in data quality and completeness.

3. To address these needs, INPO plans to:
 - Develop hard copy job aids, conduct short training web casts and embed help demonstrations in the software
 - Hold short focused reporting Web cast training
 - Review and feedback samples of the data
 - Use software cross-checks between EPIX and NRC Reactor Oversight Process safety system unavailabilities, NRC Monthly Operating Reports, INPO Events Database, and INPO Nuclear Network Operating Experience.
 - Improve computer checks and completeness
- Update of SPAR Models with EPIX Data
 1. Formerly, SPAR models used data from OERAB system studies, WASH-1400, NUREG-1150, and the Initiating Event Study (NUREG/CR-5750)
 2. NRC recently used EPIX data from 1998 to 2002 to update component reliability in SPAR models. ROP safety system unavailability data were used to update component unavailability; and LERs, to update initiating event frequencies.
 3. Results of update:
 - Component unreliability results are generally lower than old SPAR values (especially for important components such as EDGs and TDPs).
 - Updated SPAR component/train unavailability results are both lower and higher than old SPAR values, depending upon component or train.
 - Most of the updated initiating event frequencies are lower than the old SPAR values.
 - Future activities
 1. Glen Master, INPO Manager of EPIX, will give a presentation to NRC staff on using and the uses of the EPIX data.
 2. The next meeting of the EPIX Ad hoc Working Group will be in one year unless a meeting is needed in connection with MSPI implementation.
 3. I will provide INPO examples of inconsistencies we have found in the "failure mode field" versus the "discovery field" and inconsistencies in demands and run hours.
 4. Dale, Steve Eide, INL, and I will meet with INPO prior to MSPI implementation to discuss changes that will impact the data we receive from INPO for the RADS program.

Attachments: As stated

5. To address these needs, INPO plans to:
 - Develop hard copy job aids, conduct short training web casts and embed help demonstrations in the software
 - Hold short focused reporting Web cast training
 - Review and feedback samples of the data
 - Use software cross-checks between EPIX and NRC Reactor Oversight Process safety system unavailabilities, NRC Monthly Operating Reports, INPO Events Database, and INPO Nuclear Network Operating Experience.
 - Improve computer checks and completeness
- Update of SPAR Models with EPIX Data
 1. Formerly, SPAR models used data from OERAB system studies, WASH-1400, NUREG-1150, and the Initiating Event Study (NUREG/CR-5750)
 2. NRC recently used EPIX data from 1998 to 2002 to update component reliability in SPAR models. ROP safety system unavailability data were used to update component unavailability; and LERs, to update initiating event frequencies.
 3. Results of update:
 - Component unreliability results are generally lower than old SPAR values (especially for important components such as EDGs and TDPs).
 - Updated SPAR component/train unavailability results are both lower and higher than old SPAR values, depending upon component or train.
 - Most of the updated initiating event frequencies are lower than the old SPAR values.
 - Future activities
 1. Glen Master, INPO Manager of EPIX, will give a presentation to NRC staff on using and the uses of the EPIX data.
 2. The next meeting of the EPIX Ad hoc Working Group will be in one year unless a meeting is needed in connection with MSPI implementation.
 3. I will provide INPO examples of inconsistencies we have found in the "failure mode field" versus the "discovery field" and inconsistencies in demands and run hours.
 4. Dale, Steve Eide, INL, and I will meet with INPO prior to MSPI implementation to discuss changes that will impact the data we receive from INPO for the RADS program.

Attachments: As stated

OAR in ADAMS? (Y or N) Y ADAMS ACCESSION NO.: ML052150127 TEMPLATE NO. RES-006
 Attachment 3 Accession No.: ML052150134
 Package Accession No.: ML052150130
 Publicly Available? (Y or N) Y DATE OF RELEASE TO PUBLIC: 08/08/2005 SENSITIVE? N
 To receive a copy of this document, indicate in the box: "C" = Copy without enclosures "E" = Copy with enclosures "N" = No copy

OFFICE	*OERAB	E	*OERAB	E	*OERAB	E
NAME	BBrady		MCheok		NChokshi	
DATE	8/3/05		8/4/05		8/4/05	

OFFICIAL RECORD COPY

(RES File Code) RES 2C-3

MEMORANDUM DATED: 8/4/05

SUBJECT: SUMMARY OF EQUIPMENT PERFORMANCE AND INFORMATION
EXCHANGE (EPIX) AD HOC WORKING GROUP MEETING, JUNE 29, 2005

DOCUMENT NAME: G:\DRAA\EPIX_JUNE05_MEETING.WPD

Distribution:

OERAB RF	JThompson, NRR
DRAA RF	BBoger, NRR
File Center	SRichards, NRR
NRC RADS Coordination Group	IJung, NRR
CPaperiello, RES	JFoster, NRR
CAder, RES	EBenner, NRR
JWiggins, RES	BRini, NRR
JMonninger, RES	PHiland, NRR
HHamzehee, RES	DMatthews, NRR
MCunningham, RES	TMarsh, NRR
JRosenthal, RES	TQuay, NRR
RBarrett, RES	
PO'Reilly, RES	
DDube, RES	

EPIX AD HOC WORKING GROUP MEETING

June 29, 2005

Attendees

Jo Anne Amick	V.C. Summer
Bennett Brady	NRC
Marty Bridges	EPRI
John Center	Callaway
Dennis Curtley	Sequoyah
Larry Elgass	Hatch
Julie Gadzinski	Kewaunee
Lee Gard	INPO
Tim Geib	INPO
Wade Green	INPO
Kim Hulsey	INPO
Stanley Levinson	Framatome ANP
Glen Masters	INPO
Tom Mooney	Duke Energy
John Ramsdell	San Onofre
Manu Sharma	LaSalle
Scott Tate	Calvert Cliffs

Agenda**EPIX Ad hoc Working Group Meeting
June 29, 2005
Room 216**

<u>TIME</u>	<u>TOPIC</u>	<u>FACILITATOR</u>
8:00 a.m.	Welcome / Introductions	Wade Green/ John Ramsdell
8:15 a.m.	Action Items From Previous Meetings	Glen Masters
8:30 a.m.	EPRI Initiatives	Glen Masters
9:00 a.m.	Break	
9:10 a.m.	Viewer Update	Glen Masters
9:30 a.m.	MSPI Update	Glen Masters
10:15 a.m.	NRC Update	Bennett Brady
10:30 a.m.	Break	
10:40 a.m.	Revision 4 Update	Glen Masters
11:30 a.m.	Lunch	
12:15 p.m.	EPIX Survey Update	Glen Masters
12:30 p.m.	Reporting & Usage Update	Glen Masters
1:00 p.m.	TVA Review of Data Quality	Glen Masters
2:30 p.m.	Recap and Action Items	Wade Green
2:45 p.m.	Adjourn	Wade Green/ John Ramsdell