

## **Second-Quarter CY2003 OERAB Status Report**

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**Part 2b       Items Still Open**

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**Part 1: RES Operating Plan Milestones (3rd Quarter FY2003 Update)**

<b>Complete (Yes/No)</b>	<b>Target Date</b>	<b>Completion Date</b>	<b>Top 10 Item</b>	<b>Milestone</b>	<b>Person Responsible for Meeting Milestone</b>
Yes	10/2002	10/2002	Yes	Provide updated graphs and trends through FY2001 for systems reliability, common-cause failures, and fire events.	Dale Rasmuson
Yes	11/2002	11/2002	Yes	Complete all Rev. 3i SPAR models and issue for use.	Pat O'Reilly
Yes	12/2002	12/2002	Yes	Identify 'significant' precursors for FY2002 for input to OCFO.	Don Marksberry
Yes	12/2002	12/2002	Yes	Issue quarterly report on SDP/ASP differences to NRR.	Erul Chelliah
Yes	02/2003	02/2003	No	Provide status report on industry trends work for NRR.	Dale Rasmuson
Yes	02/2003	02/2003	No	Finalize the consolidated data collection and coding system functional requirements specifications.	Bennett Brady
Yes	03/2003	03/2003	Yes	Forward to the EDO the latest annual SECY report on the status of the ASP/SPAR model programs.	Don Marksberry
Yes	03/2003	03/2003	Yes	Issue quarterly report on SDP/ASP differences to NRR.	Erul Chelliah
Yes	06/2003	06/2003	Yes	Reduce coding in SCSS by eliminating coding of sequences.	Bennett Brady
Yes	06/2003	06/2003	No	Complete design of initial OERAB data and analysis Web pages and begin 3-month trial period on the RES internal Web site.	Dale Rasmuson

**Part 1: RES Operating Plan Milestones (3rd Quarter FY2003 Update)**

<b>Complete (Yes/No)</b>	<b>Target Date</b>	<b>Completion Date</b>	<b>Top 10 Item</b>	<b>Milestone</b>	<b>Person Responsible for Meeting Milestone</b>
No	08/2003		Yes	Letter from INEEL documenting completion of the development of the consolidated data collection and coding system, including key features from SCSS and beginning of trial use period.	Bennett Brady
No	09/2003		Yes	Document LP/SD SPAR models completed from 09/2002 through 08/2003.	Pat O'Reilly
No	09/2003		Yes	Letter from INEEL documenting completion of final version of the OERAB data and analysis Web pages.	Dale Rasmuson
No	09/2003		Yes	Letter from INEEL certifying that the consolidated data collection and coding system has been maintained and updated with latest quarterly data and the data are available for use in the industry trend program updates.	Bennett Brady
No	09/2003		Yes	Provide a draft report presenting the results of independent verification of mitigating system performance index values for the ROP pilot plants.	Don Dube
No	09/2003		Yes	Complete a final report on SDP/ASP differences.	Erul Chelliah
No	09/2003		Yes	Document onsite QA reviews of Rev. 3i SPAR models completed from 09/2002 through 08/2003.	Pat O'Reilly

**Part 1: RES Operating Plan Milestones (3rd Quarter FY2003 Update)**

<b>Complete (Yes/No)</b>	<b>Target Date</b>	<b>Completion Date</b>	<b>Top 10 Item</b>	<b>Milestone</b>	<b>Person Responsible for Meeting Milestone</b>
No	09/2003		Yes	Document LERF SPAR models completed from 09/2002 through 08/2003.	Pat O'Reilly
No	09/2003		Yes	Letter from ORNL certifying that the SCSS has been maintained and updated with the latest quarterly data available through 08/2003.	Bennett Brady
No	09/2003		Yes	Complete report on the integrated industry initiating event indicator.	Dale Rasmuson
No	09/2003		No	Document users' needs and results of evaluation of external events analysis methodology.	Pat O'Reilly
No	10/2003		No	Complete evaluation of artificial intelligence software for use in consolidated data collection and coding system process.	Dale Rasmuson
No	10/2003		No	Provide updated graphs and trends through FY2002 for systems reliability, common-cause failures, fire events, initiating events, and components.	Dale Rasmuson
No	12/2003		No	Identify 'significant' precursors for FY2003 for input to OCFO.	Don Marksberry

**Part 1: RES Operating Plan Milestones (3rd Quarter FY2003 Update)**

<b>Complete (Yes/No)</b>	<b>Target Date</b>	<b>Completion Date</b>	<b>Top 10 Item</b>	<b>Milestone</b>	<b>Person Responsible for Meeting Milestone</b>
No	01/2004		No	Document completion of all onsite QA reviews of Rev. 3i SPAR models, revision of models to address review results, and certification of all 72 models as Rev 3 SPAR models suitable for general use.	Pat O'Reilly
No	03/2004		No	Issue draft program plan for developing prototype templates for external events and issue for internal peer review/evaluation by key users.	Pat O'Reilly
No	03/2004		No	Issue draft program plan for developing a prototype SDP front-end interface for internal review.	Pat O'Reilly
No	03/2004		No	Forward to the EDO the latest annual SECY report on the status of the ASP/SPAR model programs.	Don Marksberry
No	04/2004		No	Discontinue SCSS at ORNL.	Bennett Brady
No	04/2004		No	Consolidated data collection and coding system trial use period completed and fully implemented under a single contractor.	Bennett Brady
No	06/2004		No	Issue first prototype template for external events to key users for internal review/evaluation.	Pat O'Reilly

**Part 1: RES Operating Plan Milestones (3rd Quarter FY2003 Update)**

<b>Complete (Yes/No)</b>	<b>Target Date</b>	<b>Completion Date</b>	<b>Top 10 Item</b>	<b>Milestone</b>	<b>Person Responsible for Meeting Milestone</b>
No	06/2004		No	Issue prototype SDP front-end interface to key users for beta testing/evaluation.	Pat O'Reilly
No	09/2004		No	Memorandum from INEEL certifying that the consolidated data collection and coding system has been maintained and updated with latest quarterly data.	Bennett Brady
No	09/2004		No	Revise first prototype template for external events to address review comments and issue final template and associated users' guidance.	Pat O'Reilly
No	09/2004		No	Revise prototype SDP front-end interface to address review comments and issue final interface.	Pat O'Reilly
No	09/2004		No	Document LP/SD SPAR models completed from 09/2003 through 08/2004.	Pat O'Reilly
No	09/2004		No	Document LERF SPAR models completed from 09/2003 through 08/2004.	Pat O'Reilly

**Part 2: RES Office-Level Tracked Items**  
**Part 2a: Completed in the 2nd Quarter of CY2003**

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<b>Subject</b>	<b>Assigned To</b>	<b>Completion Date</b>
Referral of 12/02/2002 e-mail to C. Carpenter re: "Strategic Plan Measure Related to Significant Precursors."	Mike Cheok	04/17/2003

**Part 2: RES Office-Level Tracked Items**  
**Part 2b: Items Still Open**

<b>Subject</b>	<b>Assigned To</b>	<b>Expected Completion Date</b>
OERAB Support for Expert Elicitation for LOCA Frequency Evaluation in Response to Request from RES/DET	Bennett Brady, Erul Chelliah	11/30/2003



### **Part 3: Status of Projects**

#### **Operating Plan Activity Code**

1A1GAA, Industry Trends Support

#### **Project/Program Name**

Parameter Estimations and Industry Trends and Thresholds

#### **Assigned Staff**

Lead - Dale Rasmuson; Others - Tom Wolf, Bennett Brady, Marc Harper.

#### **Contractor(s) and Job Code Number(s)**

INEEL: Y6214, Y6194, and J8263 (applicable efforts transferred to Y6546 in April 2003).  
Information Systems Laboratories: Y6636

#### **Progress During Quarter**

- Draft industry initiating event indicator report sent out for internal and external peer review.
  - Completed design of initial OERAB data and analysis Web pages and began 3-month trial period on the RES internal Web site.
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#### **Operating Plan Activity Code**

1A1GAD, Reactor Performance Data Collection Program

#### **Project/Program Name**

Consolidation of Reactor Operating Experience Data Collection, Coding and Parameter Estimation

#### **Assigned Staff**

Lead - Dale Rasmuson; Others - Tom Wolf, Bennett Brady, Marc Harper.

#### **Contractor(s) and Job Code Number(s)**

INEEL: Y6214

#### **Progress During Quarter**

- Draft integrated data coding manual received from INEEL.
  - Implemented beta testing of the software for the consolidated data collection and coding system.
  - Draft integrated database user's guide received from INEEL.
-

### **Part 3: Status of Projects**

#### **Operating Plan Activity Code**

1A1GAD, Reactor Performance Data Collection Program

#### **Project/Program Name**

Reactor Operating Experience Databases

#### **Assigned Staff**

Lead - Dale Rasmuson; Others - Tom Wolf, Bennett Brady, Marc Harper.

#### **Contractor(s) and Job Code Number(s)**

INEEL: Y6468 (began in Jan. 2003; consolidated similar efforts previously conducted under Y6214, Y6194, and J8263.); ORNL: A9134; INPO: Y6626; OECD/NEA: J8258 ORNL: A9134; INPO: Y6626; OECD/NEA: J8258

#### **Progress During Quarter**

- Received letter from INEEL certifying that all databases have been maintained and updated with latest quarterly data.
  - Received letter from ORNL certifying that the SCSS has been maintained and updated with the latest quarterly data.
- 

#### **Operating Plan Activity Code**

1A1GAE: Accident Sequence Precursor (ASP) Program

#### **Project/Program Name**

Accident Sequence Precursor Program

#### **Assigned Staff**

Lead - Gary DeMoss; Others - Don Marksberry, Erul Chelliah, Marc Harper, Jim Houghton, Pat O'Reilly, Chris Hunter.

#### **Contractor(s) and Job Code Number(s)**

ABS Consulting: Y8215

#### **Progress During Quarter**

- The plan for completing the ASP backlog is being implemented.
-

### **Part 3: Status of Projects**

#### **Operating Plan Activity Code**

1A1GAF: Reactor Oversight Process (ROP) Support

#### **Project/Program Name**

Reactor Oversight Process Support

#### **Assigned Staff**

Lead - Don Dube/Erul Chelliah; Other - Tom Wolf, Chris Hunter.

#### **Contractor(s) and Job Code Number(s)**

INEEL: J8263; Information Systems Laboratories, Y6370

#### **Progress During Quarter**

- Held two Public Meetings regarding on-going research results on the Mitigating Systems Performance Index (MSPI).
  - Held an internal NRC meetings with about twenty representatives from NRR and all four Regions on April 15.
  - Distributed the White Paper on the MSPI methodology for review and comment (ADAMS Accession No. ML031350208).
  - Completed nine of eleven SPAR model enhancements for the Pilot Plants.
  - Adapted the concepts of "frontstop" and "backstop" from the Risk-Informed Tech Specs task force and applied them to the MSPI in order to address Invalid and Insensitive Indicators.
  - Identified technical approaches to resolve all key issues such as the treatment of common cause failure contribution to Fussell-Vesely importance measures, support system initiators, and system boundary issues.
  - Developed a detailed project schedule that identifies all tasks necessary to meet the September 2003 target for the draft report on the results of the MSPI Pilot Program, per Operating Plan.
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### **Part 3: Status of Projects**

#### **Operating Plan Activity Code**

1A1GCE: SPAR Model Development Program

#### **Project/Program Name**

SPAR Model Development - External Events Analysis

#### **Assigned Staff**

Lead - Pat O'Reilly; Other - Eli Goldfeiz

#### **Contractor(s) and Job Code Number(s)**

TBD: Y6595

#### **Progress During Quarter**

- \$50K budgeted for preliminary work and project planning during FY2003 was lost as a result of budget cuts. No work will be done on the project until the start of FY2004. Revised schedule being developed.
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#### **Operating Plan Activity Code**

1A1GCE: SPAR Model Development Program

#### **Project/Program Name**

SPAR Model Development - Level 1, Rev. 3

#### **Assigned Staff**

Lead - Pat O'Reilly; Other - Eli Goldfeiz

#### **Contractor(s) and Job Code Number(s)**

INEEL: W6467

#### **Progress During Quarter**

- Completed the third set of onsite QA reviews of Rev. 3i SPAR models.
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### **Part 3: Status of Projects**

#### **Operating Plan Activity Code**

1A1GCE: SPAR Model Development Program

#### **Project/Program Name**

SPAR Model Development - Level 2/LERF

#### **Assigned Staff**

Lead - Pat O'Reilly; Other - Eli Goldfeiz

#### **Contractor(s) and Job Code Number(s)**

BNL: Y6153

#### **Progress During Quarter**

- Issued LERF model for first lead plant and associated documentation for Peer Review by internal and external
- 

#### **Operating Plan Activity Code**

1A1GCE: SPAR Model Development Program

#### **Project/Program Name**

SPAR Model Development - Low Power and Shutdown

#### **Assigned Staff**

Lead - Pat O'Reilly; Other - Eli Goldfeiz

#### **Contractor(s) and Job Code Number(s)**

INEEL: W6355

#### **Progress During Quarter**

- Issued draft NUREG/CR report documenting updated and improved HRA methodology for Peer Review.
  - Issued draft users' manual for LP/SD SPAR model for lead plant in fourth plant class for Peer Review.
  - Issued draft users' manual for LP/SD SPAR model for lead plant in fifth plant class for Peer Review.
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### **Part 3: Status of Projects**

**Operating Plan Activity Code**

1A1GCE: SPAR Model Development Program

**Project/Program Name**

SPAR Model Development - SDP Front-End Interface

**Assigned Staff**

Lead - Pat O'Reilly; Other - Eli Goldfeiz

**Contractor(s) and Job Code Number(s)**

TBD, Y6553

**Progress During Quarter**

- No work was done during the reporting period.
-

**Part 4: ASP Analyses  
Part 4a: Processing Count**

		Activity this quarter	Events from <sup>a</sup>			
			FY-03	FY-02	FY-01	FY-00
<b>Part A:</b>						
<b>Initial Evaluation/Screening</b>						
•	Potential events identified	39	75	206	277	214
•	Events screened out	21	55	169	229	190
•	Events selected for detailed analysis	18	20	37	48	24
<b>Part B:</b>						
<b>Precursor Analysis</b>						
•	Preliminary analysis in progress	11		22	14 <sup>b</sup>	2
•	Preliminary analysis issued	1		2	0	8
•	Final analysis in progress	7		1	0	6
•	Final analysis issued	0		0	0	2
•	Event rejected (<10 <sup>-6</sup> ) <sup>c</sup>	1		6	26	25

a. Does not include counts from "Activity this quarter" column. One event or precursor analysis may include multiple units. For example, one analysis of a condition applicable at all three units at Oconee may be counted as three precursors.

b. Oconee 1, 2, 3 CRDM cracking events are counted as one analysis.

c. Beaver Valley (Instrument Air)

d. For simplicity,

- (potential event identified) = (events screened out) + (events selected for detailed analysis)

- (events selected for detailed analysis) = (preliminary analysis in progress) + (final analysis in progress) + (final analysis issued)

**Part 4: ASP Analyses**  
**Part 4b: Summary**

Note: Some preliminary analyses may indicate that an event can be rejected (very low risk) or issued as a one-step final analysis (low risk and agreement with SDP) in accordance with the ASP catch-up plan that was approved in 2ndQtr CY2003.

Event Date	Plant	Event/Condition	Issue Preliminary Analysis (Date to NRR and Licensee)	Issue Final Analysis (Date to Everyone)	Lead	Review	Status at End of 2ndQtr CY2003
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Events From FY1999							
08/31/1999	Indian Point 2	LOOP	Completed; date not available	Q2 CY2003	O'Reilly	Marksberry	Completed

Events From FY2000							
11/15/1999	Salem 2	Appendix R - Degraded CO2	Q3 CY2003	Q3 CY2003	Houghton	Goldfeiz	One-step final analysis issued in July 2003
02/15/2000	Indian Point 2	SGTR	Completed; date not available	Q3 CY2003	O'Reilly/Hunter	DeMoss	Final-analysis review
05/15/2000	Diablo Canyon 1	LOOP	Completed; date not available	Q2 CY2003	Houghton	DeMoss	Final-analysis issued in July 2003
06/26/2000	Harris	Appendix R - Degraded Barrier	Q3 CY2003	Q3 CY2003	Houghton	Goldfeiz	One-step final analysis issued in July 2003
06/28/2000	Oconee 1, 2, 3	Tornado - Inoperable HPI	Completed; date not available	Q3 CY2003	ABS Consulting	DeMoss	Final-analysis issued in July 2003
09/20/2000	Millstone 2	Inoperable TDAFW	Completed; date not available	Q3 CY2003	ABS Consulting	Harper	Final-analysis issued in July 2003
09/21/2000	Summer	Inoperable TDAFW	Completed; date not available	Q3 CY2003	ABS Consulting	Chelliah	Final-analysis issued in July 2003

Events From FY2001							
11/01/2000	Prarie Island 1	Degraded ESW	Q3 CY2003	Q3 CY2003	ABS Consulting	Chelliah	One-step final analysis issued in July 2003
11/01/2000	Oconee 1, 2, 3	Seismic Flooding	Q3 CY2003	Q1 CY2004	Houghton	DeMoss	Preliminary-analysis review



**Part 4: ASP Analyses**  
**Part 4b: Summary**

Note: Some preliminary analyses may indicate that an event can be rejected (very low risk) or issued as a one-step final analysis (low risk and agreement with SDP) in accordance with the ASP catch-up plan that was approved in 2ndQtr CY2003.

Event Date	Plant	Event/Condition	Issue Preliminary Analysis (Date to NRR and Licensee)	Issue Final Analysis (Date to Everyone)	Lead	Review	Status at End of 2ndQtr CY2003
11/27/2000	Beaver Valley 1	Degraded TDAFW	Q3 CY2003	Q1 CY2004	ABS Consulting	DeMoss	Preliminary-analysis review
12/04/2000	Oconee 1	CRDM Cracks	Q4 CY2003	Q2 CY2004	ABS Consulting	DeMoss	Preliminary analysis
02/18/2001	Oconee 3	CRDM Cracks	Q4 CY2003	Q2 CY2004	ABS Consulting	DeMoss	Preliminary analysis
02/23/2001	Limerick 2	Trip + SORV	Q3 CY2003	Q1 CY2004	ABS Consulting	Goldfeiz	Preliminary analysis
03/28/2001	Fermi 2	Inoperable EDG	Q3 CY2003	Q1 CY2004	ABS Consulting	Goldfeiz	Preliminary-analysis review
04/15/2001	Surry 1, 2	Degraded EDG Bearing	Q3 CY2003	Q1 CY2004	Houghton	Goldfeiz	Preliminary-analysis review
05/17/2001	Calvert Cliffs 1	Inoperable TDAFW	Q3 CY2003	Q1 CY2004	Houghton	Goldfeiz	Preliminary-analysis review
06/22/2001	Beaver Valley 1	Lost IA + trip	Q3 CY2003	Q1 CY2004	ABS Consulting	Houghton	Preliminary-analysis review
07/27/2001	Palisades	Appendix R	Q3 CY2003	Q1 CY2004	Houghton	Chelliah	Preliminary-analysis review
08/02/2001	Quad Cities	LOOP	Q3 CY2003	Q1 CY2004	ABS Consulting	Goldfeiz	Preliminary-analysis review
08/29/2001	Cook 1, 2	Degraded ESW + EDG + TDAFW	Q2 CY2003	Q4 CY2003	Goldfeiz	Cheok	Preliminary analysis issued
09/03/2001	LaSalle 2	Trip + Bus Loss	Q3 CY2003	Q1 CY2004	ABS Consulting	Harper	Preliminary analysis

**Part 4: ASP Analyses**  
**Part 4b: Summary**

Note: Some preliminary analyses may indicate that an event can be rejected (very low risk) or issued as a one-step final analysis (low risk and agreement with SDP) in accordance with the ASP catch-up plan that was approved in 2ndQtr CY2003.

Event Date	Plant	Event/Condition	Issue Preliminary Analysis (Date to NRR and Licensee)	Issue Final Analysis (Date to Everyone)	Lead	Review	Status at End of 2ndQtr CY2003
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Events From FY2002							
10/08/2001	Harris	Degraded RHR	Q4 CY2003	Q2 CY2004	ABS Consulting	Houghton	Preliminary analysis
10/17/2002	Duane Arnold	Lost IA + Trip	Q4 CY2003	Q2 CY2004	ABS Consulting	Houghton	Preliminary analysis
11/29/2001	Point Beach 1, 2	CCF AFW	Q1 CY2003	Q3 CY2003	ABS Consulting	Goldfeiz	Issued Preliminary
12/03/2001	Callaway	Degraded AFW	Q4 CY2003	Q2 CY2004	ABS Consulting	Houghton	Preliminary analysis
12/26/2001	Indian Point 2	Partial LOOP	Q4 CY2003	Q2 CY2004	ABS Consulting	Not yet assigned	Preliminary analysis
01/10/2002	Kewaunee	Degraded CCW	Q4 CY2003	Q2 CY2004	ABS Consulting	Houghton	Preliminary analysis
04/25/2002	Columbia 2 (Formerly WNP2)	Degraded Breakers	Q4 CY2003	Q2 CY2004	ABS Consulting	Houghton	Preliminary analysis
03/18/2002	Braidwood	Pressurizer PORVs	Q4 CY2003	Q2 CY2004	Chelliah	Houghton	Preliminary analysis
02/16/2002	Davis Besse	Head Hole	Q3 CY2003	Q1 CY2004	DeMoss	Cheek	Preliminary analysis
06/11/2002	Point Beach 1	IA	Q3 CY2003	Q1 CY2004	ABS Consulting	Goldfeiz	Preliminary analysis
07/19/2002	Indian Point 2	Fire Barrier	Q2 CY2003	Q2 CY2003	Houghton	DeMoss	Preliminary analysis
10/12/2001	TMI	CRDM crack	Q4 CY2003	Q2 CY2004	ABS Consulting	DeMoss	Preliminary Analysis

## Part 4: ASP Analyses

### Part 4b: Summary

Note: Some preliminary analyses may indicate that an event can be rejected (very low risk) or issued as a one-step final analysis (low risk and agreement with SDP) in accordance with the ASP catch-up plan that was approved in 2ndQtr CY2003.

Event Date	Plant	Event/Condition	Issue Preliminary Analysis (Date to NRR and Licensee)	Issue Final Analysis (Date to Everyone)	Lead	Review	Status at End of 2ndQtr CY2003
10/28/2001	Surry 1	CRDM crack	Q4 CY2003	Q2 CY2004	ABS Consulting	DeMoss	Preliminary Analysis
11/12/2001	Oconee 3	CRDM crack	Q4 CY2003	Q2 CY2004	ABS Consulting	DeMoss	Preliminary Analysis
11/13/2001	North Anna 2	CRDM crack	Q4 CY2003	Q2 CY2004	ABS Consulting	DeMoss	Preliminary Analysis
12/03/2001	Callaway	Degraded AFW + ESW	Q4 CY2003	Q2 CY2004	ABS Consulting	Houghton	Preliminary Analysis
12/05/2001	Point Beach 1	App R-AFW	Q4 CY2003	Q2 CY2004	Houghton	Cheok	Preliminary Analysis
12/07/2001	Catawba 2	Partial LOOP + trip	Q4 CY2003	Q2 CY2004	ABS Consulting	Goldfeiz	Preliminary Analysis
01/01/2002	Point Beach 12	Degraded SI pump	Q4 CY2003	Q2 CY2004	ABS Consulting	Houghton	Preliminary Analysis
04/01/2002	Oconee 1	CRDM crack	Q4 CY2003	Q2 CY2004	ABS Consulting	DeMoss	Preliminary Analysis
04/30/2002	Point Beach 2	Degraded SRV	Q4 CY2003	Q2 CY2004	ABS Consulting	Houghton	Preliminary Analysis
06/22/2002	Grand Gulf	Partial LOOP	Q4 CY2003	Q2 CY2004	ABS Consulting	Goldfeiz	Preliminary Analysis
07/12/2002	Sequoyah 1	Partial LOOP + trip	Q4 CY2003	Q2 CY2004	ABS Consulting	Goldfeiz	Preliminary Analysis
05/30/2002	Oconee 123	HPI cable connector	Q1 2004	Q3 2004	ABS Consulting	DeMoss	Preliminary Analysis
08/05/2002	Duane Arnold	ESW plugging	Q1 2004	Q3 2004	ABS Consulting	Goldfeiz	Preliminary Analysis

**Part 4: ASP Analyses**  
**Part 4b: Summary**

Note: Some preliminary analyses may indicate that an event can be rejected (very low risk) or issued as a one-step final analysis (low risk and agreement with SDP) in accordance with the ASP catch-up plan that was approved in 2ndQtr CY2003.

Event Date	Plant	Event/Condition	Issue Preliminary Analysis (Date to NRR and Licensee)	Issue Final Analysis (Date to Everyone)	Lead	Review	Status at End of 2ndQtr CY2003
01/10/2002	Kewaunee	Degraded CCW	Q1 2004	Q3 2004	ABS Consulting	Houghton	Preliminary Analysis
08/22/2002	McGuire 2	Manual Trip	Q1 2004	Q3 2004	ABS Consulting	DeMoss	Preliminary Analysis
09/27/2002	Watts Bar 1	Partial LOOP	Q1 2004	Q3 2004	ABS Consulting	DeMoss	Preliminary Analysis
09/22/2002	Perry 1	Scram	Q1 2004	Q3 2004	ABS Consulting	Chelliah	Preliminary Analysis

**Part 5: Unplanned and/or Unbudgeted Work Items**

<b>OERAB Staff Assigned</b>	<b>Title or Brief Description</b>	<b>What Was, or Will Be, Produced</b>	<b>When Was It, or Will It Be Produced</b>	<b>Level of Effort Required</b>	<b>Impact on RES Op Plan Activities</b>
Bennett Brady, Erul Chelliah	OERAB support for expert elicitation for LOCA frequency evaluation in response to request from RES/DET	Determination of the SB, MB, and LB LOCA break frequency distributions to support the option 3 reevaluation of 10 CFR 50.46 currently underway within DRAA	November 2003	Approximately 0.2 FTE over 9 months	May delay data consolidation work as well as reactor oversight self-assessment support
Don Dube	RCS Barrier Integrity PI	A new measure of performance	Over the next 3 years	Minimum thus far (less than 1 hour per week)	Longer term impact beginning in autumn of 2003
Don Marksberry	NRC Operating Experience Task Force	Report	Draft in September 2003. Final in November 2003.	Full Time	One FTE not available to do ASP analyses.

**Part 5: Unplanned and/or Unbudgeted Work Items**

<b>OERAB Staff Assigned</b>	<b>Title or Brief Description</b>	<b>What Was, or Will Be, Produced</b>	<b>When Was It, or Will It Be Produced</b>	<b>Level of Effort Required</b>	<b>Impact on RES Op Plan Activities</b>
Erul Chelliah	Review final report titled "Operating Experience Assessment: Effects of Grid Events on Nuclear Power Plant Performance 1994-2001."	Comments and Management Briefing	August 2003	30% Time	Will delay some ASP analyses.
Tom Wolf	RES/DRAA FY2005 Budget	Funding and FTE Values	August 2003	1/4 to 1/2 Time	No impact because all TM work was transferred to other OERAB staff members.

## **Part 6: OERAB Projects**

### **Operating Plan Activity Code**

1A1GAA, Industry Trends Support

### **Project/Program Name**

Parameter Estimations and Industry Trends and Thresholds

### **Assigned Staff**

Lead - Dale Rasmuson; Others - Tom Wolf, Bennett Brady, Marc Harper.

### **Contractor(s) and Job Code Number(s)**

INEEL: Y6214, Y6194, and J8263 (applicable efforts transferred to Y6546 in April 2003).

Information Systems Laboratories: Y6636

### **Purpose/Objective**

Produce industry trends for initiating events, common-cause failures, systems, components, and fire events.

Establish thresholds for the associated industry trends.

Develop integrated industry indicators and thresholds for the above.

Produce parameter estimates for use in the SPAR models and other risk analyses for initiating events, components, and common-cause failures.

Produce graphs and charts that provide additional information about initiating events, system performance, common-cause failures, component performance, and fire events.

### **Key Milestones/Deliverables and Dates (+ indicates RES Op Plan Item; \* indicates RES Op Plan Top-10 Item; c indicates completed item; # indicates CTM)**

Provide preliminary results of the methodology and risk-informed industry thresholds development. 10/2002 c

Provide NRR with updated graphs and trends through FY2001 for systems reliability, common-cause failures, and fire events. 10/2002 +\*c

Provide status report on industry trends for NRR. 02/2003 + c

Prepare draft report documenting integrated industry initiating event indicator. 03/2003 c

Begin trial application of the integrated industry initiating event indicator. 06/2003 c

Complete design of initial OERAB data and analysis Web pages and begin 3-month trial period on the RES internal Web site. 06/2003 + c

Complete report on the integrated industry initiating event indicator. 09/2003 +\*

Final version of the OERAB data and analysis Web pages completed. 09/2003 +\*

### **Part 6: OERAB Projects**

Provide NRR with updated graphs and trends through FY2002 for systems reliability, common-cause failures, fire events, initiating events, and components. 10/2003 +

Updated graphs and charts associated with system and component reliability studies, common-cause failure evaluations, component performance, and initiating event evaluations through FY2002 for the RES Web page. 11/2003

Status report on the industry trends and thresholds for NRR. 01/2004

Updated initiating events frequencies, system performance, component performance, and common-cause failure parameter estimates, and associated graphs and charts through FY 2003 for the RES Web page. 11/2004

Updated initiating events frequencies, system performance, component performance, and common-cause failure parameter estimates, and associated graphs and charts through FY 2004 for the RES Web page. 11/2005

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## **Part 6: OERAB Projects**

### **Operating Plan Activity Code**

1A1GAD, Reactor Performance Data Collection Program

### **Project/Program Name**

Consolidation of Reactor Operating Experience Data Collection, Coding and Parameter Estimation

### **Assigned Staff**

Lead - Dale Rasmuson; Others - Tom Wolf, Bennett Brady, Marc Harper.

### **Contractor(s) and Job Code Number(s)**

INEEL: Y6214

### **Purpose/Objective**

Develop tools, methods, procedures, and system for consolidation, integration, and standardization of data collection (failures, demands, operating times).

Develop tools, methods, procedures, and system for parameter estimation (initiating event frequencies, component failure probabilities and unavailabilities, system reliabilities, common-cause failure parameter estimates, fire events).

Develop quality assurance procedures and methods to review the data collection and parameter estimations.

Develop OERAB web page for publication of OERAB parameter estimations and studies for easy access by other NRC staff.

Develop an integrated searchable LER database for use by NRC staff.

### **Key Milestones/Deliverables and Dates (+ Indicates RES Op Plan Item; \* indicates RES Op Plan Top-10 Item; c indicates completed item; # indicates CTM)**

Draft integrated data collection system functional requirements specification for the INEEL databases received from INEEL. 11/2002 c

Begin development of Web pages to be incorporated into the RES internal Web page to provide OERAB risk and reliability data compilations and data analysis results. 11/2002 c

Provide draft proposal for the integration of the Sequence Coding and Search System (SCSS) with the with the preliminary Integrated Data Collection and Coding System at INEEL to NRC users and coordination groups. 01/2003 c

Finalize the consolidated data collection and coding system functional requirements specifications. 02/2003 + c

Draft integrated data collection system functional requirements specification for the consolidated INEEL databases and SCSS received from INEEL. 03/2003 c

Draft integrated data coding manual received from INEEL. 05/2003 c

Implement beta testing of the software for the consolidated data collection and coding system. 06/2003 c

### **Part 6: OERAB Projects**

Draft integrated database user's guide received from INEEL. 06/2003 c

Draft integrated data analysis manual received from INEEL. 07/2003

Letter from INEEL documenting completion of the development of the consolidated data collection and coding system, including key features from SCSS and beginning of trial use period. 08/2003 +\*

Evaluation completed of artificial intelligence software for use in the consolidated data collection and coding system process. 10/2003 +

Consolidated data collection and coding system trial use period completed and fully implemented under a single contractor. 04/2004 +

Begin evaluation of the use of artificial intelligence software in the consolidated data coding process. 04/2004

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## **Part 6: OERAB Projects**

### **Operating Plan Activity Code**

1A1GAD, Reactor Performance Data Collection Program

### **Project/Program Name**

Reactor Operating Experience Databases

### **Assigned Staff**

Lead - Dale Rasmuson; Others - Tom Wolf, Bennett Brady, Marc Harper.

### **Contractor(s) and Job Code Number(s)**

INEEL: Y6468 (began in Jan. 2003; consolidated similar efforts previously conducted under Y6214, Y6194, and J8263.);

ORNL: A9134; INPO: Y6626; OECD/NEA: J8258 ORNL: A9134; INPO: Y6626; OECD/NEA: J8258

### **Purpose/Objective**

Collect and code nuclear power plant operational data (failures, demands, operating times, maintenance unavailabilities) for initiating events, system performance, component performance, common-cause failures (CCF) and fire events to support the Industry Trends Program, RES Web pages, and OERAB databases (RADS, ASP, CCF, and MOR).

Make operating experience analyses and links to supporting database sites available to NRC staff and contractors via the Reactor Operating Experience Results and Databases web page on the RES internal web site.

Provide NRC staff and contractors access to the Institute of Nuclear Power Operation's (INPO's) Web-based Equipment Performance and Information Exchange (EPIX) system.

Provide common-cause failure (CCF) data to other countries through the International Common-Cause Data Exchange (ICDE) Project.

### **Key Milestones/Deliverables and Dates (+ indicates RES Op Plan Item; \* indicates RES Op Plan Top-10 Item; c indicates completed item; # indicates CTM)**

INEEL demonstrates preliminary Integrated Data Collection and Coding System for INEEL databases. 11/2002 c

Letter from INEEL certifying that the preliminary Integrated Data Collection and Coding System has been maintained and updated with the latest quarterly data. 12/2002 c

Letter from ORNL certifying that the SCSS has been maintained and updated with the latest available quarterly data. 12/2002 c

Collect and code EPIX data for the previous fiscal year. 01/2003 c

Letter from INEEL certifying that all databases have been maintained and updated with latest quarterly data. 03/2003 c

Letter from ORNL certifying that the SCSS has been maintained and updated with the latest quarterly data. 03/2003 c

## **Part 6: OERAB Projects**

Letter from INEEL certifying that all databases have been maintained and updated with latest quarterly data. 06/2003 c

Letter from ORNL certifying that the SCSS has been maintained and updated with the latest quarterly data. 06/2003 c

Reduce coding in SCSS by eliminating coding of sequences. 06/2003 +\* c

Letter from INEEL certifying that the consolidated data collection and coding system has been maintained and updated with latest quarterly data and the data are available for use in the industry trend program updates. 09/2003 +\*

Letter from ORNL certifying that the SCSS has been maintained and updated with the latest quarterly data available through 08/2003. 09/2003 +\*

Maintain access to the Equipment Performance and Information Exchange for FY 2003 (this is a year-to-year ongoing effort). 09/2003

Participate in the exchange of reactor operating experience and risk-analysis information with the international and national communities; support the OECD/NEA International Common-Cause Failure Data Exchange (ICDE) by issuing NRC CCF data packages in ICDE exchange format. 09/2003

Letter from INEEL certifying that the consolidated data collection and coding system has been maintained and updated with latest quarterly data. 12/2003

Letter from INEEL certifying that the consolidated data collection and coding system has been maintained and updated with latest quarterly data. 03/2004

Final letter from ORNL certifying that the SCSS has been maintained and updated with the latest quarterly data. 12/2003

Discontinue SCSS at ORNL. 04/2004 +

Letter from INEEL certifying that the consolidated data collection and coding system has been maintained and updated with latest quarterly data. 06/2004

Letter from INEEL certifying that the Consolidated Data Collection and Coding System has been maintained and updated with latest data available through 08/2004. 09/2004 +

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## **Part 6: OERAB Projects**

### **Operating Plan Activity Code**

1A1GAE: Accident Sequence Precursor (ASP) Program

### **Project/Program Name**

Accident Sequence Precursor Program

### **Assigned Staff**

Lead - Gary DeMoss; Others - Don Marksberry, Erul Chelliah, Marc Harper, Jim Houghton, Pat O'Reilly, Chris Hunter.

### **Contractor(s) and Job Code Number(s)**

ABS Consulting: Y8215

### **Purpose/Objective**

Systematically evaluate U.S. nuclear plant operating experience to identify precursors.

### **Key Milestones/Deliverables and Dates (+ indicates RES Op Plan Item; \* indicates RES Op Plan Top-10 Item; c indicates completed Item; # indicates CTM)**

Identify "significant" precursors for FY 2002 for input to OCFO. 12/2002 +\*c

Forward to EDO the annual SECY report on the status of the ASP/SPAR model programs. 03/2003 +\*# c

Identify "significant" precursors for FY 2003 for input to OCFO. 12/2003 +\*

Forward to EDO the annual SECY report on the status of the ASP/SPAR model programs. 03/2004 +\*#

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## **Part 6: OERAB Projects**

### **Operating Plan Activity Code**

1A1GAF: Reactor Oversight Process (ROP) Support

### **Project/Program Name**

Reactor Oversight Process Support

### **Assigned Staff**

Lead - Don Dube/Erul Chelliah; Other - Tom Wolf, Chris Hunter.

### **Contractor(s) and Job Code Number(s)**

INEEL: J8263; Information Systems Laboratories, Y6370

### **Purpose/Objective**

Develop enhanced performance indicators for selected areas as requested by NRR, and support the ROP pilot program by performing technical evaluations, and providing technical guidance to address issues raised by the NRR, regions, and industry.

Provide an independent review of the SDP findings and identify any potential areas for improvement in SDP documentation and realistic risk results affecting the SDP overall conclusions.

### **Key Milestones/Deliverables and Dates (+ Indicates RES Op Plan Item; \* indicates RES Op Plan Top-10 Item; c indicates completed item; # indicates CTM)**

Complete a feasibility study for developing containment PIs. 08/2002 +c

Prepare a guidance document for technology transfer of shutdown RBPI insights. 09/2002 +c

Issue quarterly report on SDP/ASP differences to NRR. 08/2002 +\*c

Issue quarterly report on SDP/ASP differences to NRR. 12/2002 +\*c

Prepare a draft white paper to describe technical bases for Mitigating Systems Performance Indicators (MSPIs) proposed for ROP pilot program and provide it to ACRS. 04/2003 c

Prepare a document to present results of feasibility study for developing PIs at higher levels. 08/2004

Prepare a draft report to present results of independent verification of MSPI values for ROP pilot plants. 09/2003 +\*

Issue quarterly report on SDP/ASP differences to NRR. 03/2003 +\* c

Complete a final report on SDP/ASP differences. 09/2003 +\*

## **Part 6: OERAB Projects**

### **Operating Plan Activity Code**

1A1GCE: SPAR Model Development Program

### **Project/Program Name**

SPAR Model Development - External Events Analysis

### **Assigned Staff**

Lead - Pat O'Reilly; Other - Eli Goldfeiz.

### **Contractor(s) and Job Code Number(s)**

TBD: Y6595

### **Purpose/Objective**

Develop simplified tools for analyzing the risk from operating events/conditions associated with external events initiators (e.g., fires, floods, seismic events, etc.).

### **Key Milestones/Deliverables and Dates (+ indicates RES Op Plan Item; \* indicates RES Op Plan Top-10 Item; c indicates completed item; # indicates CTM)**

Complete discussions with key users regarding need for analysis tool. TBD

Document users' needs and results of evaluation of external events analysis methodology. TBD

Issue draft program plan for developing prototype templates for external events and issue for internal peer review/evaluation by key users. TBD

Issue first prototype template for external events to key users for internal review/evaluation. TBD

Revise first prototype template for external events to address review comments and issue final template and associated users' guidance. TBD

Complete additional external events analysis tools. TBD

Maintain completed external events analysis tools and provide technical support to users. TBD

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## **Part 6: OERAB Projects**

### **Operating Plan Activity Code**

1A1GCE: SPAR Model Development Program

### **Project/Program Name**

SPAR Model Development - Level 1, Rev. 3

### **Assigned Staff**

Lead - Pat O'Reilly; Other - Eli Goldfeiz.

### **Contractor(s) and Job Code Number(s)**

INEEL: W6467

### **Purpose/Objective**

Produce Level 1, Revision 3 SPAR models for all operating plants, and subject each model to a systematic internal and external QA review process.

### **Key Milestones/Deliverables and Dates (+ indicates RES Op Plan Item; \* indicates RES Op Plan Top-10 Item; c indicates completed item; # indicates CTM)**

Complete onsite QA reviews for 10 plants and issue for use. 07/2002 +\*c

Complete onsite QA reviews for 10 additional plants (consistent with availability of licensee/regional/NRR support). 09/2002 +c

Complete all Rev. 3i SPAR models and issue for use. 11/2002 +\*c

Document onsite QA reviews of Rev. 3i SPAR models completed from 09/2002 through 08/2003. 09/2003 +\*

Complete remaining 32 onsite QA reviews, revise models to address review results, and issue Revision 3 models for use. 01/2004

Document completion of all onsite QA reviews of Rev. 3i SPAR models, revision of models to address review results, and certification of all 72 models as Rev. 3 SPAR models suitable for general use. 01/2004 +

Maintain/update 72 Revision 3 SPAR models; provide technical assistance to users. 09/2004

Maintain/update 72 Revision 3 SPAR models; provide technical assistance to users. 09/2005



## **Part 6: OERAB Projects**

### **Operating Plan Activity Code**

1A1GCE: SPAR Model Development Program

### **Project/Program Name**

SPAR Model Development - Level 2/LERF

### **Assigned Staff**

Lead - Pat O'Reilly; Other - Eli Goldfeiz.

### **Contractor(s) and Job Code Number(s)**

BNL: Y6153

### **Purpose/Objective**

Develop simple, user-friendly analysis tools for the NRC staff to use in performing Level 2/LERF assessments of the risk associated with operating events/conditions. These analysis tools will be subjected to a systematic internal and external QA review process.

### **Key Milestones/Deliverables and Dates (+ indicates RES Op Plan Item; \* indicates RES Op Plan Top-10 Item; c indicates completed item; # indicates CTM)**

Prepare a plan for developing LERF/Level 2 SPAR models, with the schedule to be determined in conjunction with efforts of the SPAR Model Users Group. 09/2002 +c

Issue draft bridge and event trees for LERF model for first lead plant (PWR w/large dry containment) for internal review by model users. 01/2003 c

Issue LERF model for first lead plant and associated documentation for Peer Review by internal and external stakeholders. 06/2003 c

Issue draft bridge and event trees for LERF model for second lead plant (BWR w/Mark I containment) for internal review by model users. 08/2003

Document LERF SPAR models completed from 09/2002 through 08/2003. 09/2003 +\*

Issue LERF model for second lead plant and associated documentation for Peer Review by internal and external stakeholders. 12/2003

Issue LERF model for third lead plant (PWR w/ice condenser containment) and associated documentation for Peer Review by internal and external stakeholders. 05/2004

Document LERF SPAR models completed from 09/2003 through 08/2004. 09/2004 +

Issue LERF model for fourth lead plant (BWR w/Mark III containment) and associated documentation for Peer Review by

## **Part 6: OERAB Projects**

internal and external stakeholders. 11/2004

Issue LERF model for fifth lead plant (BWR w/Mark II containment) and associated documentation for Peer Review by internal and external stakeholders. 04/2005

Issue LERF model for sixth lead plant (PWR w/subatmospheric containment) and associated documentation for Peer Review by internal and external stakeholders. 05/2005

Issue LERF model for seventh lead plant (PWR w/large dry containment) and associated documentation for Peer Review by internal and external stakeholders. 07/2005

Issue LERF model for eighth lead plant (PWR w/large dry containment) and associated documentation for Peer Review by internal and external stakeholders. 09/2005

Issue LERF model for ninth lead plant (PWR w/large dry containment) and associated documentation for Peer Review by internal and external stakeholders. 10/2005

Issue LERF model for tenth lead plant (BWR w/Mark I containment) and associated documentation for Peer Review by internal and external stakeholders. 12/2005

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## Part 6: OERAB Projects

### Operating Plan Activity Code

1A1GCE: SPAR Model Development Program

### Project/Program Name

SPAR Model Development - Low Power and Shutdown

### Assigned Staff

Lead - Pat O'Reilly; Other - Eli Goldfeiz.

### Contractor(s) and Job Code Number(s)

INEEL: W6355

### Purpose/Objective

Produce a Level 1, low power/shutdown (LP/SD) SPAR model for the lead plant in each plant class, prepare guidance for developing LP/SD models for other plants in the same plant class, and subject the model for each lead plant to a systematic internal and external QA review process.

### Key Milestones/Deliverables and Dates (+ indicates RES Op Plan Item; \* indicates RES Op Plan Top-10 Item; c indicates completed item; # indicates CTM)

Complete internal peer review of specification, prototype template, and associated guidelines for developing low power/shutdown (LP/SD) SPAR models, and issue final products. 09/2002 +c  
Issue draft users' manual for LP/SD SPAR model for lead plant in first plant class for Peer Review. 09/2002 c  
Issue draft users' manual for LP/SD SPAR model for lead plant in second plant class for Peer Review. 10/2002 c  
Issue draft users' manual for LP/SD SPAR model for lead plant in third plant class for Peer Review. 12/2002 c  
Issue draft NUREG/CR report documenting updated and improved HRA methodology for Peer Review. 03/2003 c  
Issue draft users' manual for LP/SD SPAR model for lead plant in fourth plant class for Peer Review. 03/2003 c  
Issue draft users' manual for LP/SD SPAR model for lead plant in fifth plant class for Peer Review. 05/2003 c  
Issue draft users' manual for LP/SD SPAR model for lead plant in sixth plant class for Peer Review. 09/2003  
Document LP/SD SPAR models completed from 09/2002 through 08/2003. 09/2003 +\*  
Maintain/update existing LP/SD models; provide technical assistance to users. 09/2003  
Issue draft users' manual for LP/SD SPAR model for lead plant in seventh plant class for Peer Review. 11/2003  
Issue draft users' manual for LP/SD SPAR model for lead plant in eighth plant class for Peer Review. 01/2004  
Document LP/SD SPAR models completed from 09/2003 through 08/2004. 09/2004 +  
Develop additional LP/SD models for additional plants in each plant class. 09/2004

### **Part 6: OERAB Projects**

Maintain/update existing LP/SD models; provide technical assistance to users. 09/2004

Develop additional LP/SD models for additional plants in each plant class. 09/2005

Maintain/update existing LP/SD models; provide technical assistance to users. 09/2005

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## **Part 6: OERAB Projects**

### **Operating Plan Activity Code**

1A1GCE: SPAR Model Development Program

### **Project/Program Name**

SPAR Model Development - SDP Front-End Interface

### **Assigned Staff**

Lead - Pat O'Reilly; Other - Eli Goldfeiz.

### **Contractor(s) and Job Code Number(s)**

TBD, Y6553

### **Purpose/Objective**

Develop a user-friendly, front-end processor for use with the Revision 3 SPAR models to facilitate their use in Phase 2 SDP analyses.

### **Key Milestones/Deliverables and Dates (+ indicates RES Op Plan Item; \* indicates RES Op Plan Top-10 Item; c indicates completed item; # indicates CTM)**

Complete discussion with users to define needs and uses for interface. TBD

Issue draft program plan for developing a prototype SDP front-end interface for internal review. 03/2004 +

Complete final interface specifications. TBD

Complete program plan for developing prototype interface. TBD

Issue prototype SDP front-end interface to key users for beta testing/evaluation. 06/2004 +

Revise prototype SDP front-end interface to address review comments and issue final interface. 09/2004 +

Complete presentation materials for training workshop. TBD

Conduct workshop to train users on interface. TBD

Provide technical support to interface users. TBD

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Part 7: FY2003 Contract Financial Status

RIMS Information:  
July 10, 2003

Job Code	FY	Funds Budgeted (\$K)	Funds Committed (\$K)	Funds Yet to Be Committed (\$K)	Comments
A9134	2003	435	185	250	Being Processed
J8263	2003	389	389	0	
W6355	2003	314	314	0	
W6467	2003	891	891	0	
Y6153	2003	430	430	0	
Y6214	2003	5	5	0	
Y6215	2003	797	797	0	
Y6370	2003	195	195	0	
Y6468	2003	373	373	0	
Y6546	2003	467	467	0	
Y6636	2003	84	84	0	
Y6626	2003	253	253	0	
J8258	2003	15	15	0	
Y6553	2003	50	0	50	Being Processed
Y6595	2003	0	0	0	FY2003 funds cut; will start in FY2004
G6810	2003	25	25	0	Grant to National Academy of Engineering

Totals = 4723 4423 300  
Total Budgeted  
Funds = 4723

**Part 8: OERAB Project Managers and Technical Monitors**  
**(Listed By Job Code Under RES Operating Plan Activity)**

RES Operating Plan		OERAB Job Code			
Activity Number	Activity Title	Job Code Number	Job Code Title	Project Manager	Technical Monitor
1A1GAA	Industry Trends Support	Y6546	Industry Trends Program Support	T. Wolf	M. Harper
		Y6636	Support for Industry Trends	T. Wolf	D. Rasmuson
1A1GAD	Reactor Performance Data Collection Program	A9134	Sequence Coding and Search System (SCSS) LER Database	B. Brady	B. Brady
		J8258	International Common-Cause Failure Data Exchange (ICDE) Project	D. Rasmuson	D. Rasmuson
		Y6154	Reactor Operational Data Collection Improvements	T. Wolf	T. Wolf
		Y6194; Split Job Code	Reliability and Availability Database Systems, CCF/RADS	T. Wolf	D. Rasmuson
		Y6214	Integrated Data Coding and Analysis Methods	T. Wolf	D. Rasmuson
		Y6468	Reactor Operating Experience Data for Risk Applications	T. Wolf	B. Brady
		Y6626	Access to INPO's EPIX System	B. Brady	B. Brady
1A1GAE	Accident Sequence Precursor Program	G6810	Management of Presursors Study	M. Harper	M. Harper
		Y6215	Operational Events for Accident Sequence Precursor (ASP) Program	M. Harper	G. DeMoss

**Part 8: OERAB Project Managers and Technical Monitors  
(Listed By Job Code Under RES Operating Plan Activity)**

RES Operating Plan		OERAB Job Code			
Activity Number	Activity Title	Job Code Number	Job Code Title	Project Manager	Technical Monitor
1A1GAF	Reactor Oversight Process Support	J8263	Reactor Oversight Process Support (at INEEL)	T. Wolf	D. Dube
		Y6370	Development of Risk-Based Performance Indicators (at ISL)	T. Wolf	D. Dube
1A1GCE	SPAR Model Development Program	W6355	SPAR Model Development: Low Power/Shutdown (LP/SD)	P. O'Reilly	P. O'Reilly
		W6467	SPAR Model Development: Level 1, Rev. 3 Models	P. O'Reilly	P. O'Reilly
		Y6153	SPAR Model Development: Level 2/LERF	P. O'Reilly	P. O'Reilly
		Y6553	SDP Front-End Interface for SPAR Models	P. O'Reilly	P. O'Reilly
		Y6595	SPAR Model Development: External Events Analysis	P. O'Reilly	P. O'Reilly



## Part 9: OERAB Staff Individual Assignments

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OERAB Staff Member	Assignments
Bennett Brady	Reliability and Availability Data Acquisition. Data Collection and Analysis Consolidation. EPIX Coordination. Sequence Coding Search System (SCSS) LER Database (Job Code A9134), PM/TM. Reactor Operating Experience Data for Risk Applications (Job Code Y6468), TM Access to INPO's EPIX System (Job Code Y6626), PM/TM Statistical Analysis Support. LER Rule, 10CFR50.73 Coordinator. MSPI (Mitigating Systems Performance Index) pilot needs/NRC data needs coordinator. Support RES/DET Expert Elicitation for LOCA Frequency Evaluation, Lead
Erul Chelliah	ASP In-house Analyses. Compare ASP and SDP Findings. Support RES/DET Expert Elicitation for LOCA Frequency Evaluation.
Gary DeMoss	Davis-Besse Information Collection ASP In-House Analyses, Senior Technical Advisor. ASP In-House Methodology Development. Operational Events for Accident Sequence Precursor (ASP) Program (at ABS Consulting) (Job Code Y6215), TM.
Don Dube	Reactor Oversight Process Support (at INEEL) (Job Code J8263), TM. Development of Risk-Based Performance Indicators (at ISL) (Job Code Y6370), TM.

## Part 9: OERAB Staff Individual Assignments

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OERAB Staff Member	Assignments
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Eli Goldfeiz

ASP In-House Analyses.  
Assist in Development of SPAR Level 2/LERF Models.  
Assist in Development of SPAR Level 1 Rev. 3 Models.  
Assist in Development of SPAR Low Power/Shutdown (LP/SD) Models.  
Submit to licensees all documentation needed to do onsite QA of Level 1, Rev. 3 SPAR models and available LP/SD SPAR models.

Marc Harper

ASP In-House Analyses.  
CCF Insights Reports.  
Performance measures coordinator with RES/PMPDAS for submittal to OCFO.  
Accident Precursors Study (at NAE) (Job Code G6810), PM/TM.  
Operational Events for Accident Sequence Precursor (ASP) Program (at ABS Consulting) (Job Code Y6215), PM.  
Industry Trends Program Support (at INEEL) (Job Code Y6546), TM.

Jim Houghton

ASP In-House Analyses.  
Risk Informing the Inspection Process.

Chris Hunter

ASP In-House Analyses.  
Risk-Based Performance Indicators Development.

### **Part 9: OERAB Staff Individual Assignments**

<b>OERAB Staff Member</b>	<b>Assignments</b>
<b>Walt Leschek</b>	RES Operating Plan Coordinator. OERAB Quarterly Status Report Coordinator. OERAB Resources Planning Document Coordinator. Risk-Informed Regulation Implementation Plan (RIRIP) Coordinator. Respond to Assigned RES, DRAA, and OERAB Action Items. Content Sponsor, Content Provider, and Primary Poster for placing RES/DRAA information on the RES Web Pages of the NRC Public and Internal Internet Web Sites.
<b>Don Marksberry</b>	ASP Analyses, Consultant. Detailed to EDO Operating Experience Task Force.
<b>Pat O'Reilly</b>	SPAR Model Development: Low Power/Shutdown (LP/SD) (at INEEL) (Job Code W6355), PM/TM. SPAR Model Development: Level 1, Rev. 3 Models (at INEEL) (Job Code W6467), PM/TM. SPAR Model Development: Level 2/LERF (at BNL) (Job Code Y6153), PM/TM. SDP Front-End Interface for SPAR Models (at INEEL) (Job Code Y6553), PM/TM. SPAR Model Development: External Events Analysis (contractor TBD) (Job Code Y6595), PM/TM. NRC SPAR Model Users Group (SMUG) - Lead. ASP In-House Analyses.
<b>Dale Rasmuson</b>	Industry Trends Support Reliability and Availability Data Acquisition. Data Collection and Analysis Consolidation. Industry Trends Program Support (at INEEL) (Job Code Y6546), TM Support for Industry Trends (at ISL) (Job Code Y6636), TM. International Common-Cause Failure Data Exchange (ICDE) Project (Job Code J8258), PM/TM. Reliability and Availability Database Systems, CCF/RADS (at INEEL) (Job Code Y6194), TM. Integrated Data Coding and Analysis Methods (at INEEL) (Job Code Y6214), TM.

### **Part 9: OERAB Staff Individual Assignments**

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<b>OERAB Staff Member</b>	<b>Assignments</b>
Tom Wolf	<p>DRAA budget planning: budget cycle activities and schedules; branch resource plan; Lead.</p> <p>OERAB project/contract management processes and procedures: assurance of OERAB conformance with agency, office, division, and branch guidance; project planning and monitoring; use of Gantt charts; Lead.</p> <p>OERAB activity status and tracking: integration and coordination of status and tracking systems; RES Operating Plan input; branch quarterly progress report, weekly activity reports; budget/funding/spending status and tracking; Risk-Informed Regulation Implementation Plan (RIRIP); Lead.</p> <p>OERAB Web planning, interfaces, and coordination; Lead.</p> <p>Industry Trends Program Support (at INEEL) (Job Code Y6546), PM.</p> <p>Support for Industry Trends (at ISL) (Job Code Y6636), PM.</p> <p>Reactor Operational Data Collection Improvements (at INEEL) (Job Code Y6154), PM/TM.</p> <p>Reliability and Availability Database Systems, CCF/RADS (at INEEL) (Job Code Y6194), PM.</p> <p>Integrated Data Coding and Analysis Methods (at INEEL) (Job Code Y6214), PM.</p> <p>Reactor Operating Experience Data for Risk Applications (at INEEL) (Job Code Y6468), PM.</p> <p>Reactor Oversight Process Support (at INEEL) (Job Code J8263), PM.</p> <p>Development of Risk-Based Performance Indicators (at ISL) (Job Code Y6370), PM.</p>

# Part 10: Primary Users & Uses of OERAB Products

Revision Date:

07/01/2003

## OERAB Activities in RES Operating Plan

## Users & Uses

### 1A1GAE: Accident Sequence Precursor (ASP) Program

- Review and evaluate operational experience to identify precursors to potential severe core damage sequences
  - Document precursors
  - Categorize precursors by plant-specific and generic implications
  - Provide a measure for trending nuclear plant core damage risk
  - Provide a partial check on failure combinations identified in PRAs and IPEs

### 1A1GCE: Standardized Plant Analysis Risk (SPAR) Model Development Program

- Level 1, Rev. 3 Models
- Level 2/LERF Models
- Low Power/Shutdown (LP/SD) Models
- External Events Analysis Models
- SDP Front-End Interface for SPAR Models (future)

### 1A1GAF: Reactor Oversight Process (ROP) Support

- Support risk-informed improvements to the SDP
  - Compare ASP and SDP findings
  - Support shutdown and fire SDP improvements
- Develop and pilot improved Performance Indicators for the Reactor Safety Cornerstones (including thresholds)
  - Develop and pilot Mitigating Systems Performance Indicators (MSPIs)
  - Develop Reactor Coolant System Barrier PI
  - Develop thresholds for above PIs for use in a risk-informed regulatory framework
- Link risk-informed operating experience to the inspection process

### 1A1GAA: Industry Trends Support

- Provide trends for initiating events, systems reliability, components reliability, common-cause failures, and fire events (including thresholds) in Web-page format
- Develop thresholds for above trends for use in a risk-informed regulatory framework
- Provide reactor operating experience information on systems, components, initiating events, CCF events, and fire events in Web-page format

### 1A1GAD: Reactor Performance Data Collection Program

#### NRC/OERAB

- Operational Data
  - SCSS for LERs (Being phased out)
  - Monthly Operating Reports (MORs)
  - Common-cause failures (CCF)
  - Fire Events
- Initiating Events (IEs)
- Reliability and Availability
  - RADS
  - Systems
  - Components
- Accident Sequence Precursors (ASP)

#### NRC/NRR

- ROP PIs
- MSPIs (In trial program)
- AEOD PIs

#### INPO

- EPIX (Starting in 1997)
- NPRDS (Prior to 1997)
- WANO Data (future)

#### OECD/NEA

- ICDE
- Pipe Failures (SKI-Pipe)

### ASP analyses used to support:

- Annual Performance and Accountability Report to Congress via the OCFO (significant precursors) and via NRR/DIPM/IIPB (adverse industry trend)
- Industry trends program by NRR/DIPM/IIPB
- Annual SECY paper to the Commission on status of ASP program
- Assessment by NRR/DSSA/SPSB of the risk associated with actual events to support senior management decisions to dispatch AIT or IIT
- NRR decisions to develop generic communications
- Studies by RES/DSARE/REAHFB to determine the safety significance of potential regulatory issues

### SPAR models are used to:

- Promptly assess risk significance of events to identify regulatory actions by NRR & Regions
- Evaluate the significance of inspection findings in SDP Phase 3 by NRR & Regions
- Establish plant-specific thresholds for unreliability and unavailability PIs by RES & NRR
- Support risk-informed technical reviews of proposed license amendments by NRR/DSSA/SPSB
- Evaluate the effectiveness of regulatory requirements by RES/DSARE/REAHFB
- Estimate the risk associated with operational events/conditions as part of the ASP program by OERAB
- Perform regulatory analyses to resolve generic issues by RES
- Support decisions to issue generic communications by NRR

### Reactor Oversight Process (ROP) Support for NRR/DIPM/IIPB to:

- Compare ASP and SDP findings in support of ROP
- Transfer shutdown RBPI results and insights to NRR to enhance shutdown SDP
- Evaluate Mitigating Systems Performance Indicators (MSPIs) for pilot plants based on plant-specific thresholds using available Rev 3 SPAR models

### Industry Trends Support for:

- NRR/DIPM/IIPB to: (1) monitor trends and report results to Congress; (2) monitor industry-wide safety performance and provide feedback to the ROP; and (3) enhance plant inspections of risk-important systems
- NRR/DSSA/SPSB to support risk-informed technical reviews of proposed license amendments
- RES/DSARE/REAHFB to evaluate the effectiveness of regulatory requirements

### Data sources used to support:

- All OERAB analysis activities
- NRR/DSSA/SPSB's risk-informed review of submittals, SDP evaluations, and resolution of generic safety issues
- NRR/DIPM/IIPB's development of risk-informed inspection guidance
- RES/DSARE/REAHFB identification of ways to improve the effectiveness of NRC regulatory requirements, guidance, and processes
- NRC's development of enhanced PIs and associated pilot program for the ROP

NRC licensees have access to CCF data.