

April 16, 2007

MEMORANDUM TO: John D. Monninger, Deputy Director  
Probabilistic Risk and Applications  
Division of Risk Assessment and Special Projects  
Office of Nuclear Regulatory Research

THRU: Jose G. Ibarra, Chief */RA/*  
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SUBJECT: SUMMARY OF THE HUMAN FACTORS PUBLIC MEETING WITH  
INDUSTRY REPRESENTATIVES AND OTHER STAKEHOLDERS  
TO PRIORITIZE HUMAN FACTORS RESEARCH ACTIVITIES

NRC conducted a public meeting with industry and stakeholders on March 13<sup>th</sup>, 14<sup>th</sup> and 15<sup>th</sup> at NRC headquarters to perform a Phenomena Identification Ranking Technique (PIRT) -like workshop to prioritize Human Factors Engineering (HFE) research issues related to new and advanced reactors.

A summary of the meeting is provided as Enclosure 1. The list of attendees and meeting agenda is provided as Enclosures 2 and 3.

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The basis for convening this PIRT-like meeting is to understand the human factors research priorities held by industry representatives and other stakeholders with regards to new and advanced reactors. The results of the meeting will be included in a future NUREG "Human Factors Considerations in New Nuclear Power Plants."

Enclosures

1. Public Meeting Summary
2. List of Attendees
3. Meeting Agenda

J. Monninger

-2-

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Distribution

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OFFICE	RES/DRASP	RES/DRASP	RES/DRASP	RES/DRASP
NAME	MBoggi	JPersensky	Jlbarra	JMonninger
DATE	04/12/07	04/12/07	04/12/07	04/16/07

Human Factors PIRT-like process Public Meeting Summary  
March 13 - 15, 2007

NRC conducted a public meeting with industry and stakeholders on March 13<sup>th</sup>, 14<sup>th</sup> and 15<sup>th</sup> at the NRC headquarters to perform a Phenomena Identification Ranking Technique (PIRT) -like workshop to prioritize Human Factors Engineering (HFE) issues related to new and advanced reactors. (A PIRT is a structured process for identifying and prioritizing research needs).

The purpose for convening this workshop was to understand the human factors research priorities held by industry representatives and other stakeholders with regards to new and advanced reactors.

Subject Matter Experts (SMEs) who attended the workshop included individuals from EPRI, AREVA, AECL and IEL (Halden) and other human factors researchers. The diverse human factors technical expertise represented at the workshop included Human Performance Modeling and Human Factors in the petroleum industry and others.

The source of the issues used in the workshop was NUREG-XXXX "Human Factors Considerations in New Nuclear Power Plants." This NUREG identifies human performance issues in new reactors and organizes the issues into the following seven topic areas:

1. Role of Personnel and Automation
2. Staffing and Training
3. Normal Operations Management
4. Disturbance and Emergency Management
5. Maintenance and Change Management
6. Plant Design and Construction
7. HFE Methods and Tools

Prior to attending the PIRT-like workshop, SMEs were given rating forms and instructions to rate the first five sets of issues with regard to their safety significance. Sets six and seven were rated with regard to the issue's likely importance to effective regulatory review. All issues were rated with regard to their immediacy.

Ratings were summarized and handed-out to all who attended the workshop. SMEs who attended the workshop were also given a copy of their personal ratings.

During workshop discussions, participants provided extensive input regarding the rationale behind their ratings. Based on these discussions each participant reconsidered their original independent rating. Each participant was free to change their rating at any point during the workshop. It is important to note that issue discussions were not meant to, necessarily, reach consensus. Ratings were individual and independent.

On the final day of the meeting additional issues were discussed that were based on the NRC-NEI committee on digital I&C. Also, on the last day, individuals in attendance were asked to rank their three most important research topics.

Rating sheets were collected at the end of the meeting and will be used to update NUREG-XXXX "Human Factors Considerations in New Nuclear Power Plants."

## Attendance List

### NRC

Nathan Sui  
Michael Boggi  
George Lapinsky  
J. Persensky

### Industry and other stakeholders

Tom Sanquist  
Bob Fink  
Joseph Naser  
Chris Plott  
Alf Ove Braseth  
Steve Fleger  
Don Dudenhoeffer  
Jeffery Jones  
Tim Hurst

### Brookhaven National Laboratory

Jim Higgins  
William Brown  
John O'Hara, BNL

## Meeting Agenda

### **Tuesday March 13**

- 8:30 Introductions
- 9:00 Role of the issue evaluation exercise in NRC research (J Persensky)
- 9:15 Project background (John O'Hara)
- 9:45 Analysis of preliminary evaluations (Bill Brown)
- 10:00 Process for discussing and reevaluating the issues (Mike Boggi)
- 10:15 Break
- 10:30 Issue Discussions Begin
- 12:00 Break for Lunch
- 1:00 Issue Discussions Continue
- 4:30 Break for day

### **Wednesday March 13**

- 8:30 – 4:30 Issue Discussions Continue

### **Thursday March 15**

- 8:30 Issue Discussions Continue
- 11:00 Summarize where we are and remaining actions
- 12:00 Meeting concludes