ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
MEETING OF THE SUBCOMMITTEE ON
FIRE PROTECTION
ROOM T-2B3, 11545 ROCKVILLE PIKE, ROCKVILLE, MARYLAND
SEPTEMBER 9, 2003

Contact: Marvin D. Sykes (301-415-8716, mds1@nrc.gov)

-PROPOSED SCHEDULE-

	TOPIC	PRESENTER	TIME
I.	**Opening Remarks**	S. Rosen, ACRS	8:30-8:35 a.m.
II.	**Staff Introduction and Overview**	J. Hannon, S. Weerakkody, NRR	8:35-8:45 a.m.
III.	**Revised 10 CFR 50.48 Risk Informed Fire Protection Rule**		
	a. Background and Overview	J. Birmingham, NRR	8:45-9:40 a.m.
	b. Proposed Rule Language, exceptions to NFPA 805 Standard	P. Lain, NRR	
	c. Implementation and Pilots	J.S. Hyslop, RES	
	d. Schedule		
	e. RES Support		
	f. NEI Discussion	F. Emerson, NEI	9:40-10:40 a.m.
	*****BREAK*****		**10:40-11:00 a.m.**
IV.	**Circuit Analysis Resolution**		
	a. Risk Informing the Inspection	S. Weerakkody, NRR	11:00-12:00 p.m.
	b. Training Inspectors	M. Salley, NRR	
	c. Public Workshop	J.S. Hyslop, RES	
	d. Resuming Inspection		
	e. RES Support		
	*****LUNCH*****		**12:00-1:00 p.m.**
V.	**Circuit Analysis Resolution (Continued)**		
	f. NEI Discussion	F. Emerson, NEI	1:00-2:00 p.m.
VI.	**Fire Dynamics Spreadsheets**		
	a. Status of NUREG-1805	N. Iqbal, NRR	2:00-3:00 p.m.
	b. Inspector Training	M. Salley, NRR	
	c. Demonstration of Tool		
	*****BREAK*****		**3:00-3:15 p.m.**
VII.	**Manual Actions**		
	a. Background	D. Diec, NRR	3:15-4:15 p.m.
	b. Inspection	P. Qualls, NRR	
	c. Rulemaking	E. Lois, RES	

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in scope

p-7

Information in this record was deleted in accordance with the Freedom of Information Act, exemptions 5
FOIA- 2004-277

	d. Schedule e. RES Support f. NEI Discussion	F. Emerson, NEI	4:15-5:15 p.m.
VIII.	**General Discussion**	S. Rosen, ACRS	5:15-5:30 p.m.
IX.	**Adjourn**	S. Rosen, ACRS	5:30 p.m.

Note:

- **Presentation time should not exceed 50 percent of the total time allocated for a specific item. The remaining 50 percent of the time is reserved for discussion**
- **35 copies of the presentation materials to be provided to the Subcommittee.**

Post-Fire Operator Manual Actions Rulemaking Plan

David Diec

Erasmia Lois

Phil Qualls

September 9, 2003

Post-Fire Operator Manual Actions Rulemaking Plan Briefing Agenda

- Current Status
- Background
- Objectives
- Alternatives
- Approach
- Next Steps

Post-Fire Operator Manual Actions Rulemaking Plan Current Status

- Commission Released Rulemaking Plan (SECY-03-0100) to Public on July 2, 2003
- Fire Protection Inspection Procedure IP-71111.05 Issued on March 6, 2003

Ex 5 [redacted]

Background

- Questions about compliance with Paragraph III.G.2 of Appendix R to Part 50 arose as a result of recent inspections of licensee fire protection programs
- Appendix R, III.G.2 does not recognize manual actions
- Principal concerns are associated with the use of operator manual actions to provide capability to achieve and maintain hot shutdown
- Not all manual actions implemented by licensees have been approved by NRC

Post-Fire Operator Manual Actions Rulemaking Objectives

- Permit the use of operator manual actions as an alternative to existing requirements in paragraph III.G.2 of Appendix R to Part 50
- Develop generic acceptance criteria for feasible operator manual actions
- Use of manual actions that comply with established acceptance criteria would not require NRC approval

Post-Fire Operator Manual Actions Rulemaking – Current Thinking

- Current Rule (Appendix R, III.G.2)
  - No manual actions allowed, without prior approval
- Alternatives:
  - Manual actions, in combination with fire detection and fixed fire suppression systems, or
  - Limited set of defined manual actions, in combination with fire detection and fixed fire suppression systems, and existing fire barriers

Post-Fire Operator Manual Actions Rulemaking Approach

- Key parameters which influence manual action acceptance criteria
  - Time to damage [redacted]
  - Environment encountered by operators
    - Temperature
    - Fire effects (smoke and toxic gases)
  - Instrumentation available for detection
  - Effectiveness of protective equipment (i.e., SCBA,...)
  - Accessibility of all locations where manual actions are required
  - Specific procedures identifying the required actions
  - Available and accessible special tools required for the action
  - Training program to include the use of simulation
  - Communication capability
  - Complexity of operator manual actions [redacted]
  - Total number of manual actions

Post-Fire Operator Manual Actions Rulemaking Approach (cont.)

- Operator manual actions must be validated
- RES review of insights from sources such as, Plant Updated PRA, IPEEE report, Fire Re-Quantification project, and inspection findings related to sample plants
  - Factors considered in taking credit for manual actions
  - Potential limits on the feasibility of implementing operator manual actions in lieu of plant design features that might otherwise obviate the need for such actions
  - Ability of operators to perform multiple duties

Next Steps

- Engage public discussion on feasibility and limitations of operator manual actions
- Develop acceptance criteria and associated regulatory guidance
- Implement Commission SRM once released
  - Exercise enforcement discretion
  - Publish Regulatory Issue Summary conveying NRC position and direction
- Develop proposed draft rule language

Operator Manual Action Definition

NRC

- Those actions taken by operators to perform manipulations of components and equipment from outside the main control room to achieve and maintain post-fire safe shutdown. This action is typically performed locally by the operator at the equipment

NEI

- Operation of safe shutdown equipment on the required safe shutdown path using the control room devices (e.g., switches) in the event that automatic control of the equipment is either inhibited based on plant procedures or unable to function as a result of fire-induced damage
  - Remote Manual Operation: Operation of safe shutdown equipment on the required safe shutdown path using remote controls (e.g., control switches) specifically designed for this purpose from a location other than the main control room
  - Local Operation: Operation of safe shutdown equipment on the required safe shutdown path by an operator when automatic, remote manual or manual operation are no longer available (e.g., operating of a MOV using the hand wheel)

III.G.2 Requirements

- Separation of the redundant system by a passive barrier able to withstand a fire for 3-hour; or
- Separation of the redundant system by a distance of 20ft with no intervening combustible material, together with fire detectors and auto-suppression system; or
- Separation of the redundant system by a passive barrier able to withstand a fire for one-hour, together with fire detectors and auto-suppression system