

public release



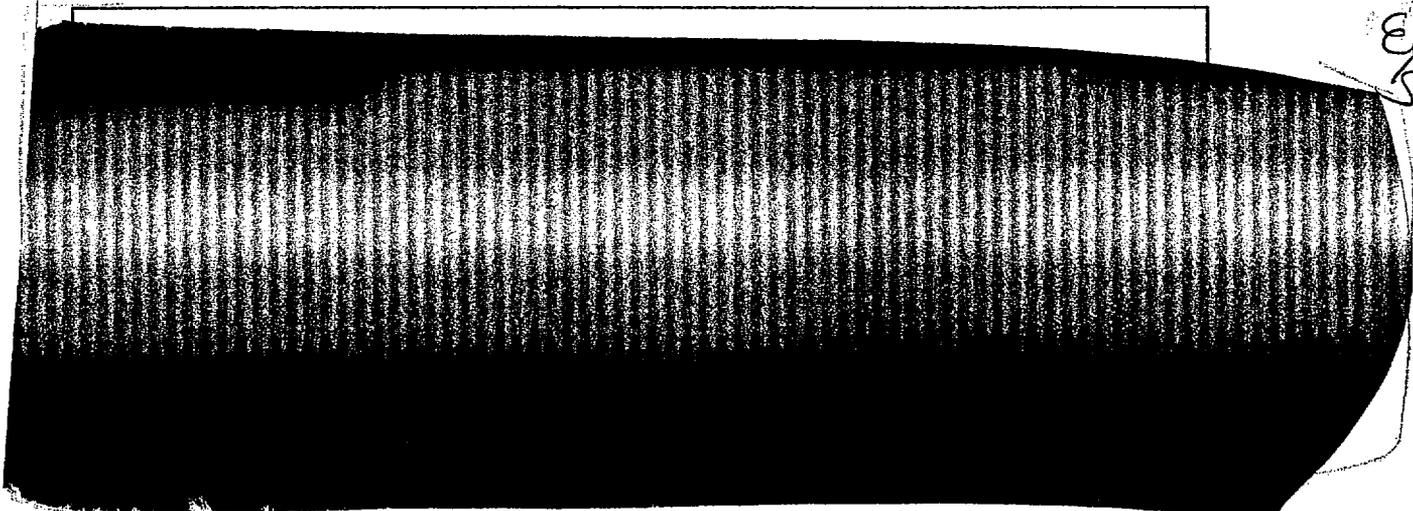
Post-Fire Operator Manual Actions Rulemaking Plan

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Act, exemptions 5
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High Level Objectives

- Maintain Safety
- Reduce Unnecessary Regulatory Burden
- Increase Public Confidence
- Improve Efficiency and Effectiveness



Post-Fire Operator Manual Actions Rulemaking Plan Briefing Agenda

- Current Status
- Background
- Objectives
- Alternatives
- Approach
- Next Steps
- Overall Rulemaking Process



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
- FOIA Received and Responded
- SRM to Proceed with Rulemaking Effort

1. FP IP-71111.05 in 03/2003 helps inspectors consistently document inspections findings related to the potential feasibility of the use of manual actions. Findings that indicate feasible manual actions would be classified as Green findings and be placed into Licensee Corrective Actions program, pending on the outcome of the final rule. Findings that indicate a non-green will be going through SDP and require the licensee to address and actions taken as appropriate.
2. Rulemaking plan released by the Commission in 7/03 for information.
3. A FOIA request was received on 7/23/2003 (by Nuclear Information and Resource Service)
4. NEI comments on the rulemaking plan letter to the Commission was received on 08/18/2003.



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

1. Appendix R when promulgated, [it was] recognized that strict compliance to III.G.2 associated with some plant conditions and configurations would not significantly enhance safety level already provided by licensee thru existing system configurations, MA would be acceptable thru a relatively simple set of actions. And the staff has granted such exemption or deviation, depending on plant license conditions (pre or post 1979)
2. Recent inspections of licensees' FP programs raised concerns about the use of MA to meet requirements in paragraph III.G.2 and the application of MA to provide safe shutdown capability. The use of MA came about during the resolution of the Thermo-lag fire barrier issue in mid-90s.
3. We believe that licensees, rather than upgrade or replace the Thermo-lag to comply with III.G.2, in terms of systems separation and protection, MA were relied upon. III.G.2 does not implicitly recognize the role of MA
4. Our concern is that not all MA have been approved by the staff and that in some instances, these actions that were relied upon to ensure safe shutdown, may not be feasible (accomplished successfully) when factors such as complexity, environmental conditions, time available to operators, training, accessibility,..., are considered

*A number of meetings
had been held
always a task force*

*regardless whether they've approved →
concern is those manual actions are effectiveness*



III.G.2 Requirements

- Separation of the redundant system by a passive barrier able to withstand a 3-hour fire; or
- Separation of the redundant system by a distance of 20 ft 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 one-hour fire, together with fire detectors and auto-suppression system



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
-
1. Use of MA without prior approval may or may not be a compliance depending on how the change was justified and analyzed under the licensee's change process to demonstrate that the actions are feasible and have not impacted the ability to achieve and maintain safe shutdown of plant. Our concern is more about the technical feasibility of such actions.
 2. The objective of the rule is to recognize the appropriate role of MA in the fire protection program and develop generic acceptance criteria for feasible operator MA
 3. Licensees complied with NRC established acceptance criteria will follow their current licensing conditions to make appropriate change to FP



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

1. Two concepts for the use of MA.

1. MA is equivalent to existing level of fire barrier and is used in combination of suppression/detection capability (this means a much larger set of MA that satisfy barrier protection requirement, complexity, environment,.....)
2. MA is used as compensatory action in combination existing fire barriers and suppression/detection capability (this means limited set of fairly simple actions that withstand the test of environment, complexity, operator available time)

↔ all licenses use manual actions w/o regards to existing ~~data~~ detection / suppressors & barriers.

↔ specific types of MA need to be considered.



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 performed locally by the operator typically 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)



Post-Fire Operator Manual Actions Rulemaking Approach

- Key parameters which influence manual action acceptance criteria
 - Time to damage
 - 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
 - Total number of manual actions

~~Suggestion for IP~~

- A III G.1(c) a number of measures are to allow MA
- Instrumentation \leftrightarrow indication. objective is accomplished when indicator SP, DT... are verified \rightarrow Manual actions effective.
- why 3 loss ~~lighting~~ ^{lighting} required.
- Can MA ~~for~~ be performed in the fire area.?
- Training should capture realistic conditions and qualification should be applicable to those personnel performing fire fighting capacity.
- need to have a better distinction between repair & manual action.
- Suggest to use the term of guidance rather than procedure.
- emergency procedure in MA context should reflect the application of abnormal procedure.



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

1. Factors such as performance shaping factor, human error probability in terms of D-I-D approach in which multiple barrier to human error are implemented such as personnel, training, work environment,....
2. Limitations of human intervention in lieu of plant design features
3. Effectiveness of multitasks

• V x V = industry wants to eliminate validation word.

• ~~unfeasible~~ ~~may be~~ manual actions can be grouped / categorized ~~not that~~ for (i.e., high if failure could lead direct to CDF,)

* clearly industry conveys that MA's criteria need to consider need if would provide the same principle throughout parts of App R & others.



Next Steps

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



Rulemaking Revised Process Snapshot

- Request For a Rulemaking Action
 - Initiate by Staff
 - Petition under 10 CFR 2.802, "Petition for Rulemaking"
 - EDO or Commission Directive
 - Congressional Mandate/Executive Branch Order
- Commission SRM
- Oversight Review Committees
 - Rulemaking Approval Board
 - Steering Group
 - Advisory Committee on Reactor Safeguards
 - Committee to Review Generic Requirements
- Commission Approval of Proposed Rule Plan, Proposed and Final Rule Language

OVERSIGHT COMMITTEE:

- Rulemaking Board reviews and approves staff approach to rulemaking item, provide resources to process the rule, and monitor progress
- Steering Committee provides guidance and direction to the working group, mediates issue major resolutions, resolves policy questions, facilitates office concurrences, keeps upper management apprised of overall status
- ACRS provides recommendations on Agency policies and directions
- CRGR reviews and assesses implication of a proposed new and/or revised regulation to ensure no undue burden to staff and licensees, as well as public safety



Rulemaking Revised Process Screening Tool

- Nature of a Regulatory Issue and How Change in The Regulation Would Resolve It
- Consideration of Existing Regulatory Tools and Why They Cannot Resolve The Problem
 - Generic Communication (RIS, GL, Bulletin)
 - Revise Regulatory Guidance
 - Revise SRP
 - Issue Plant Specific Exemption
 - Clarify Inspection Modules
 - Revise Enforcement Penalties
 - Do Nothing



Rulemaking Revised Process Screening Tool (cont.)

- Technical Basis Developed Sufficiently to Support The Proposed Change in Regulation
- NRC Policies Related to Issue (SECY papers, SRMs)
- Industry and Public Position on The Issue
- Impact of New Rule on Staff and Licensees
- Safety Benefits of The New Rule (Reduction in CDF/LERF or Radiation Exposure)



Rulemaking Products

- Proposed Rulemaking Plan
- Proposed Draft Rule Language
 - Made Publicly Available in Rulemaking-RuleForum (NRC Web Site)
- Proposed Rule Language (FRN & Formal Public Comments Request)
- Final Rule Language
- Other Required Products
 - Regulatory Analysis
 - Environmental Assessment/Environmental Impact Statement
 - Backfit Analysis
 - Congressional Letter and Press Release