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Tri-E n Corporation

110 Columbia Street, Suite 202
 Vancouver, Washington 98660
 Phone: (360) 735-0092
 Fax: (360) 737-0743
 www.tri-en.com

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May 24, 2005 (9:45am)

Secretary
 U. S. Nuclear Regulatory Commission
 Washington, D. C. 20555-0001

OFFICE OF SECRETARY
 RULEMAKINGS AND
 ADJUDICATIONS STAFF

ATTENTION: Rulemakings and Adjudications Staff

SUBJECT: RIN 3150 AH—54 and DG-1136
 10CFR50, Appendix R, Section III.G and III.P Rulemaking

Dear Sirs and Madames,

Thank you for the opportunity to speak and hear other stakeholders during a public meeting held at your offices on April 27, 2005, regarding the proposed amendments to the fire protection regulations. When the proposal to revise Section III.G of 10 CFR 50, Appendix R, was first discussed in 2003,¹ my first thoughts were to question why there was a need to revise a 22 year-old rule (which is now 25 years-old) for plants that have been operating for 30 to 35 years of the 40-year life of their operating license. The proposed rulemaking begs the question as to how a licensee can credit manual actions for hot shutdown since 1981 (or when required by their operating license), endure multiple NRC inspections, endure NRC-oversight of the resolution to Thermo-lag fire barrier deficiencies, endure the pilot Fire Protection Functional Inspections, and then endure the new inspection guidance in 2000, and not have these manual actions identified as violations to Section III.G.2 until as recently as 2001. Perhaps, before a new rulemaking is hastily issued with significant repercussions (i.e., loss of confidence by the public, increase lack of trust between licensees and NRC, increased questions in the regulatory enforcement process, and inefficient use of utility and NRC resources and finances), I strongly recommend that the concerns identified at the public meeting be considered and thoroughly evaluated.

The general consensus between the 52 Appendix R plants (and the post-1979 plants that are committed to meet Appendix R Sections III.G as part of their license condition) is that the use of these manual actions for hot shutdown (e.g., manual operation of valves, switches and breakers) satisfies Section III.G.1.a criteria because these actions can be performed in the emergency control station, which is separated from the affected fire area by at least one or

¹ SECY 03-0100, *Rulemaking Plan on Post-Fire Operator Manual Actions*, dated June 17, 2003

Template = SECY-067

SECY-02



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more 3-hour fire barriers. Thus, the ability to control the safe shutdown component from the emergency control station is an equivalent method of satisfying the requirements of Section III.G.2.a in that the "redundant" means to operate the component outside the control room is protected from the affected fire area by 3-hour fire barrier(s), and hot shutdown conditions can still be achieved and maintained. Based on historical information discussed in the following paragraphs and comments in Enclosure 1, the use of manual actions for hot shutdown has been an acceptable method to satisfy Section III.G.1.a criteria, and is essentially considered equivalent the 3-hour fire barrier separation requirement of Section III.G.2.a.

A statement in SECY 03-0100 is misleading when it generalized the use of manual actions in that, *"It is the staff's understanding that most of the unapproved operator manual actions came about during the resolution of the Thermo-Lag fire barrier issue in the mid-1990's."* While that may be the case for some specific manual actions for some licensees, a majority of the manual actions to achieve and maintain hot shutdown conditions were credited as part of a licensee's original methodology to comply with the back-fit requirements of Section III.G. The corrective actions to resolve Thermo-lag fire barriers were specifically monitored by the NRC.² Therefore, if a licensee removed the fire barrier and took credit for a manual action, the NRC would have been notified because of the requirement from Generic Letter 92-08 from licensees to submit information on corrective actions to correct Thermo-lag issues.

The consensus in the industry is that the use of manual actions has been an accepted method to ensure that one train of systems necessary to achieve and maintain hot shutdown conditions from either the control room or emergency control station(s) is free from fire damage (Section III.G.1 of Appendix R).³ By that requirement alone, it implies that an operator can take action to operate a safe shutdown component outside the control room, provided that ability is available and free from fire damage. Although "emergency control station(s)" is not defined in the final rule, it can be safe to consider that it literally means a "station" (location outside the control room) where a person can "control" a component in the event of an "emergency." Therefore, if the emergency control station(s) is separated from the affected fire area by a 3-hour fire barrier, and that the ability to control the component can be electrically isolated from the affected fire area, then the requirements of Section III.G.2.a should be satisfied.

Every plant has a different license bases for their Fire Protection Program, and the license bases have been incorporated into a Plant's license condition. Since the fire at Browns Ferry Nuclear Plant on March 22, 1975, and the issuance of Appendix A to Branch Technical Position (BTP) APCSB 9.5-1, licensees went through significant manpower and financial efforts to modify their plant to meet the requirements of Section III.G (normal and

² Generic Letter 92-08, *Thermo-lag 330-1 Fire Barriers*

³ Attachment C (Item b) of SECY 83-269, *Fire Protection Rule for Future Plants* and specific NRC guidance to licensees (see Enclosure 1, Item 1)



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alternative shutdown), as well as installing modifications to satisfy the requirements or commitments in approved exemptions/deviations from Section III.G.2. Numerous generic issues have risen in the past 15 years that have involved additional financial burden on licensees (e.g., Thermo-lag issues, Information Notice 92-18 circuit failure for motor-operated valves, etc...), as well as requiring increased resources from the NRC. The use of manual actions has been an acceptable practice by the NRC prior to issuance of the final rule and expected criteria for acceptability of manual actions has even been provided in the past.⁴ Although the provisions of the license condition provided a means to allow a licensee to make a change to the approved fire protection program provided the change "*would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire,*"⁵ it is still the burden of the regulatory inspection process to ensure that Plants are maintaining the conditions of its license.

Section III.G of Appendix R was issued in 1981 to apply to plants that have been constructed and already operating (licensed prior to January 1, 1979). Thus, the NRC was mindful in that Section III.G of the Appendix R rule "*should state simply the requirement to protect cables or equipment of systems necessary for safe shutdown of the plant and leave specific implementation details in some other type of document,*"⁶ and the final rule was revised from the proposed rule accordingly. Thus, the listing of considerations and specific fire protection features in Table 1 of the original proposed Appendix R rule, dated May 29, 1980, were deleted, and the words in Section III.G were revised to provide clarification. As further stated in the Technical Basis for Section III.G, "*The objective for the protection of safe shutdown capability is in ensuring that at least one means of achieving and maintaining safe shutdown conditions will remain available during and after any postulated fire in the plant.*" The relaxation of the final rule allowed plants that were already operating on January 1, 1979, the flexibility of identifying the specific implementation details of how to ensure that one train of systems required to achieve and maintain hot shutdown is free of fire damage and one train of systems required to achieve and maintain cold shutdown can be repaired within 72 hours. It cannot be ignored that at the time the final rule was issued, the NRC has had numerous discussions amongst themselves as well as with licensees as to how to demonstrate the safe shutdown capability and the alternative shutdown capability. So, by the time the rule was issued, the licensee's safe shutdown methodology had already been in the final stages of completion.

Also, since issuance of the final Appendix R rule in 1981, there have been numerous interpretations and clarifications to the rule.⁷ Revising Section III.G to only address manual actions and to not address the other interpretations and clarifications that have been

⁴ NRC Inspection Manual Temporary Instruction 2515/XXX, *Fire Protection Functional Inspection (FPFI)*, Appendix C, Section 6 (see Enclosure 1, item 3 of this letter for details)

⁵ Generic Letter 86-10, pg. 5 of letter

⁶ Federal Register, vol. 45, No. 225, dated November 19, 1980, pg 76606

⁷ Generic Letter 83-33, "*NRC Positions Regarding Appendix R,*" Information Notice 84-09, "*Lessons Learned from Appendix R Inspections,*" Generic Letter 86-10, "*Implementation of Fire Protection Requirements*"



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generated in various NRC documents can be construed as "selective" rulemaking. Although these interpretations and clarifications have been communicated by the NRC staff as being "within the requirements of the rule," the appropriateness of some of these interpretations and clarifications have been questioned by some NRC members as being a shift from the initial fire protection review guidance, and in some cases are arguably in conflict with the rule, or the staff's interpretation of the rule.⁸ This attempt to clarify the acceptability of using manual actions in the proposed rule still does not resolve past NRC interpretations that are in conflict with the rule.

Changing a 25 yr-old deterministic rule to become an even more prescriptive rule by the addition of the proposed acceptance criteria for manual actions in Section III.P seems contrary to the direction of the current philosophy for risk-informed regulations. My primary concern with the proposed rule is that it only addresses one of many methods of demonstrating the ability to achieve and maintain safe shutdown. Each licensee submitted their methods to achieve and maintain safe shutdown (whether it be literal compliance with Section III.G.2, alternative shutdown capability or an approved exemption/deviation). Most likely, a licensee's fire protection program would have already credited manual actions as a means to achieve and maintain hot shutdown conditions, and are within the requirements of Section III.G.2.a, and as such satisfies the requirements of Section III.G.1.a. Section III.G.1 is the ultimate criteria for achieving and maintaining both hot shutdown (III.G.1.a) and cold shutdown (III.G.1.b).

Issuing this proposed rulemaking would create more uncertainty in the legality of a licensee's Appendix R compliance documentation because of the level of detail provided in the proposed rule. I personally would recommend that instead of issuing a new rule, the NRC should continue to enforce the existing regulation through the inspection process by reviewing a licensee's program that has been approved within their current license basis. In some cases, the NRC inspectors may find that using manual actions has been in the original Appendix R safe shutdown methodology, and that there is sufficient evidence demonstrating feasibility, training and procedural guidance. If the NRC inspector does not feel that feasibility of a specific manual action(s) is adequate, then appropriate enforcement actions (violation, finding, or unresolved item) can be used to resolve the specific issue. A similar acceptance criteria provided in the proposed Section III.P can be used as the baseline for the NRC's expectation of feasibility, which can be issued to all licensees as an Information Notice (IN) stating the NRC's expectations for crediting manual actions (similar type of NRC expectations/clarifications issued in IN 84-09, IN 92-18, and GL 86-10)^{5,9,10} Whether a suppression system and detection system is necessary for a given fire area is truly

⁸ SECY-93-143, "NRC Staff Actions to Address the Recommendations in the Report on the Reassessment of the NRC Fire Protection Program," pg 10-15 of Enclosure 2, "NRC Requirements Relating to Fire Barriers." Also see Enclosure 1, Item 2 of this letter for examples.

⁹ Information Notice 92-18, *Potential for Loss of Remote Shutdown Capability During a Control Room Fire*, dated 2/29/92

¹⁰ Information Notice 84-09, *Lessons Learned from NRC Inspections of Fire Protection Safe Shutdown systems (10 CFR 50, Appendix R)*, dated 2/13/84



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dependent on the specific hazards, and the need for such protective features can be determined during the inspection process of their license basis. Requiring literal compliance in the proposed Section III.G.2 rulemaking may result in undue financial burden and potential safety repercussions due to installing automatic suppression and detection at this stage of a Licensee's operating life. It would be the burden of the licensee to demonstrate that automatic suppression and detection would not be necessary given the hazards in the area. This recommendation may require more manpower from the NRC inspector and NRR personnel; however, this process ensures that the NRC has reviewed the manual action(s) and is in absolute agreement with the safety and feasibility of performing the action, and that performing the action is within the Licensee's license basis. I believe that it will be more burden for both the NRC and licensees to attempt to resolve whether manual actions are allowed or not allowed within Section III.G.2 (it has already been 3 years since the NRC first brought up the issue of "violation" of the rule), than it would be to review a plant's license bases documents and determine whether the use of manual actions is within their license basis.

Please review Enclosure 1, which documents specific references to information I discussed in my letter, as well as comments/questions on the issues described in the proposed rulemaking and discussed during the NRC meeting held on April 27, 2005. Should you have any questions regarding this transmittal, please feel free to call me at our office (360) 735-0092 or via electronic mail: fleurmeister@tri-en.com.

With Regards,

Fleur A. de Peralta-Meister, P.E.
President/Chief Executive Officer

Enclosure



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Enclosure 1

Comments and Questions

1. Manual Actions Satisfy Section III.G.2.a and III.G.1.a

As part of the review of the safe shutdown capability for various plants and prior to the issuance of Appendix R in 1981, the NRC had provided guidance to licensees on their expectations for the safe shutdown capability, alternative shutdown capability and protection of associated circuits. These guidance positions cannot be ignored and comprise the history of the NRC's expectations to demonstrate that the ability to achieve and maintain safe shutdown can be accomplished in every fire area. Thus, the guidance provided by the NRC to various licensees with respect to the use of manual actions is important in understanding the historical evolution of the expectations of the Appendix R rule, and especially Section III.G with respect to safe shutdown capability. In the following excerpts from the various transmittals, it is evident that the use of manual actions is an acceptable means to ensure that one train of hot shutdown systems is free of fire damage:

- Letter from NRC to Region III Plant dated November 21, 1978 (PF-12 Safe Shutdown Requirements, [NRC] Staff Position):

"Hot shutdown should be achievable from the control room or the remote shutdown panels. Where a fire in a given fire zone causes inoperability of hot shutdown equipment from control room or remote shutdown panels, remote manual operation of valves and breakers is permissible provided it can be shown that there is sufficient time and manpower to accomplish these manual operations [sic]. Manual operation of valves and breakers and replacing of cables for achieving and maintaining safe cold shutdown is permissible provided it can be shown that these operations can be done within 72 hours."

- Clarification Letter to Generic Letter 81-12, Enclosure 2, Attachment 2, Section B (Guidelines for Protecting Associated Circuits of Concern):

"The following guidelines are for protecting the shutdown capability from fire-induced failures of circuits (cables) in the fire area. The shutdown capability may be protected from the adverse affect of damage to associated circuits of concern by the following methods:

"1. Provide protection between the associated circuits of concern and the shutdown circuits as per Section III.G.2 of Appendix R, or...

"2. b.(3) provide a means to detect spurious operations and then procedures to defeat the maloperation of equipment (i.e., closure of the block valve if PORV spuriously operates, opening of breakers to remove spurious operation of safety injection)..."



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- Inspection and Enforcement Manual, Temporary Instruction 2515/62, dated January 24, 1983, *“Inspection of Safe Shutdown Requirements of 10 CFR 50, Appendix R (Sections III.G) at Nuclear Power Plants Licensed to Operate Before January 1, 1979”*:

Specific Inspection Requirements 041 d. *“Verify that redundant trains of cables (safety-related nonsafety-related, and associated circuits) and equipment in selected fire areas have been identified and analyzed by the licensee to show that they would not prevent safe shutdown operation because of hot shorts, open circuits, or short to ground. Verify that they have required separation or barriers as required by III.G.2 or Appendix R, or are protected as described in Enclosure 2, Attachment 2, Section B of NRR letter to licensees issued on various days during 1982. [Clarification letter to Generic Letter 81-12] (see Appendix 2 of this temporary instruction for exact date.)”*

- Inspection and Enforcement Manual, Temporary Instruction 2515/61, dated January 24, 1983, *“Inspection of Emergency Lighting and Oil Collection Requirements of 10 CFR 50, Appendix R (Sections III.J and O) at Nuclear Power Plants Licensed to Operate Before January 1, 1979”*:

Inspection Requirement 031 b. *“If the emergency lights are powered from a central battery or batteries, then the distribution system must contain such protective devices that a fire in one area will not cause a loss of emergency lighting in any unaffected area needed for safe shutdown operations.”* [Note: This implies that it has been accepted that a fire in one area may involve an operator action in another area and that the fire should not affect the emergency lighting in the area where the action is being taken.]

- Attachment C (Item b) of SECY 83-269, *“Fire Protection Rule for Future Plants”*:

“Section III.G.1 of Appendix R states that one train of systems needed for safe shutdown has to be operable during and following the fire. Operability of the hot shutdown system...must exist without repairs. Manual operation of valves, switches and circuit breakers is allowed to operate equipment and isolate systems and is not considered a repair.”

- Inspection and Enforcement Manual, Temporary Instruction 2515/62, Revision 2, dated February 14, 1985, *“Post-fire Safe Shutdown, Emergency Lighting and Oil Collection Capability at all Operating Plants”*:

Appendix A, Item 3. *“Procedures for Hot shutdown*...”*



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** Procedures for bringing the plant to hot shutdown in the event of a fire should consider both the use of only onsite power sources and the use of offsite power...Additionally, some 'associated circuits of concern' may require procedures to detect and correct spurious operations of these circuits. These procedures should also be included in the review."*

- Inspection Procedure 64100, *Postfire Safe Shutdown, Emergency Lighting and Oil Collection Capability at Operating and Near-term Operating Reactor Facilities*

"Section D. Inspection of Selected Redundant Hot Shutdown Equipment. To the extent possible through documentation review:

...3. Review the possible effects of spurious signals from associated circuits of concern and the necessity for circuit breaker coordination and fuse protection. Review procedures and features designed to prevent spurious operations arising from associated circuits of concern."

- Appendix C, NRC Inspection Manual Temporary Instruction 2515/XXX dated April 6, 1998, "*Fire Protection Functional Inspection (FPFI)*"

Item 4.(a) Area selection criterion 3. "The number of manual actions required to achieve and post-fire safe shutdown for the subject plant areas. It would not be expected that numerous manual actions would be required for post-fire safe shutdown [sic] using redundant trains of normal shutdown equipment."

Item 6. "For normal (redundant train) and alternative/dedicated post-fire safe shutdown, evaluate operator activities (manual actions both inside and outside the main control room) that are necessary to achieve safe shutdown conditions in the event of fire in the selected area(s)."

2. Inconsistent Treatment of Interpretations and Clarifications and Intent of Rule

Enclosure 2 of SECY-93-143, "*NRC Staff Actions to Address the Recommendations in the Report on the Reassessment of the NRC Fire Protection Program.*" discussed examples of how interpretations and clarifications generated in Generic Letter (GL) 86-10 "underscore an apparent lack of coordination between previous guidance documents, GL 86-10 and the intent of the rule and the regulatory process." However, as a matter of practice, GL 86-10 was taken as "the latest guidance to meet the rule and licensees will adjust their programs accordingly." Thus, the proposed rulemaking changes to Section III.G.2 and III.P only address manual action and not the other interpretations outlined in GL 86-10. The proposed rule will still not be consistent with interpretations provided in GL 86-10.

For example, GL 86-10 provided an interpretation of "free from fire damage" to



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allow the threshold level of protection to be "damaged but functional" as opposed to the literal meaning being "no damage." The concept of "functional" equipment appeared to be sufficient to achieve the underlying safety objective of getting the plant to a safe hot shutdown condition. However, because Generic Letter 86-10 established a "tone for fire protection reviews and the significance of fire protection features, it has been used, in practice, by both licensees and NRC personnel as the latest guidance."

Other examples are the guidelines provided in the clarification letter of Generic Letter 81-12 to protect associated circuits of concern (e.g., common power supply, common enclosure, and spurious operation of equipment). These guidelines provide options to modify electrical circuit design, provide administrative control for breakers or provide procedures to identify and mitigate spurious operation). The clarification letter specifically states to protect the associated circuits in accordance with Section III.G.2 or one of the following means listed in the letter. Each plant was required to submit their method of protecting associated circuits, and most plants followed the guidelines provided in the clarification letter. However, although the method of protecting associated circuits was submitted and reviewed by the NRC, there was not a requirement to submit the method as an exemption to Section III.G.2 provided.

3. Prescriptive Acceptance Criteria Stricter than Previous Guidance

NRC Inspection Manual Temporary Instruction 2515/XXX, dated April 6, 1998, "*Fire Protection Functional Inspection (FPFI)*," was a draft inspection procedure that outlined expectations of an adequate Fire Protection Program prior to changing the inspection process to the current Inspection Procedure 71111.05, "*Fire Protection (Triennial)*" in 2000 and then subsequently revised in 2004 to 71111.05T, "*Fire Protection (Triennial)*." The pilot inspections for the FPFI were performed during 1997-1998, and one nuclear power plant for each of the four Regions (Salem, Susquehanna, St. Lucie, and Prairie Island) was selected for review. Section 6 of Appendix C provides the NRC's expectations on the use of manual actions and characteristics to consider when evaluating "manual actions both inside and outside the main control room" that are credited for "normal (redundant train) and alternative/dedicated post-fire safe shutdown." During the FPFI inspection activities, there was neither mention of the need to provide suppression and detection in the areas where manual actions are credited, nor was there mention of the need for an approved exemption (deviation for post 1979 plants) from Section III.G.2 for use of the manual actions.

In Section 6 of Appendix C, it requires the need to evaluate manual actions that are credited in the event of a fire in the selected fire area(s). The characteristics that were required to provide reasonable assurance of the reliability of the manual action involved: (1) accessibility, (2) habitability, (3) normal and emergency lighting, (4)



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communications, (5) timeliness (adequacy of manual action timeline), (6) feasibility (of manual actions), (7) procedural adequacy, (8) operator familiarity with and training, (9) absence of repairs to achieve and maintain hot shutdown, and (10) cold shutdown repairs. These items are similar to the acceptance criteria provided in the proposed new Section III.P and DG-1136, but are not as detailed and specific. Generic guidance similar to that provided in Section 6 of Appendix C allows a licensee the flexibility to demonstrate the reliability and flexibility of their operator action. Each one of the characteristics is different for each plant based on their plant's design and operating license bases. Providing a significant amount of prescriptive expectations in proposed Section III.P and DG-1136 will most likely affect each Plant significantly because the method of crediting manual actions conformed to their design and operating license bases. Applying a new requirement for existing manual actions (albeit it is a "voluntary" method) that have been in place since promulgating Section III.G will most likely result in a significant number of exemption requests (see Section 3.2.5 of *Regulatory Analysis of Post-Fire Operator Manual Actions Proposed Rule - 10 CFR 50 - Appendix R*), as well as forcing licensees to back-fit their analysis of demonstrating the reliability of manual actions to conform with Section III.P.

4. Time Margins

I believe that it is good engineering practice to be able to demonstrate the feasibility of a "design" and include appropriate "margin" to ensure that the threshold for the design does not reach its failure point. Although the NRC did not originally issue the "acceptance criteria" for performing manual actions (even the acceptance of manual actions for alternative shutdown capability), it was up to the licensee to determine that the fire event would not adversely affect the ability to achieve and maintain safe shutdown. There are a considerable number of factors that are affected by the "time" and questions related to "an adequate margin." I believe the margin is subjective and should be applied to specific manual actions. Applying the same deterministic value on human performance is not logical because the level of stress, anxiety and potential for errors is different for each action. Considering a factor of 2 across the board seems irresponsible. An appropriate "margin" should be determined by the licensee, which would be based on their criteria for safety (i.e., type of fire damage, difficulty of manual action, frequency of training, and clarity of post-fire shutdown guidance).

5. Number of Spurious Operation(s) to Consider in Time Margin

The number of spurious operations to consider during a fire event has been a "bone of contention" since 1997. The results of Regulatory Issues Summary (RIS) 2004-03, "Risk-Informed Approach for Post-fire Safe Shutdown Circuit Inspections," Revision 1, dated 12/29/2004, provided a concern with the potential for multiple



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spurious operations to occur. The NRC described various risk-significant concerns with fire damage to either thermoplastic and thermoset cables. It has been clear in Generic Letter 86-10 (Question and Answer for 5.3.10, Enclosure 2) and again emphasized in Inspection Procedure 64100 [Section e.2(f)], that the assumptions in Appendix R Question 5.3.10 are meant for independent use, in that the established NRR review practice involves *“requiring licensees to analyze for any and all spurious operations where no such spurious actuations or failures occur simultaneously.”* This assumption has been considered by some NRR reviewers to only apply to alternative shutdown capability, which is inconsistent with past practice because specific sections of alternative shutdown have been applied to normal shutdown scenarios (e.g., maintain pressurizer level indication as required by Section III.L.2). The risk-significant issues related to thermoset and thermoplastic cables do not differentiate between an alternative shutdown area or normal shutdown area. Fire damage to each type of cable should result in similar consequences. Therefore, the need to consider multiple spurious operations appears to be outside the conditions to consider in the Plant transient. The results of the transient, and hence the time margin for performing the manual action, would be different if more than one spurious operation occurs. It is not clear in DG-1136 and the proposed rulemaking on the number of spurious operations to consider when determining the time margin.

6. Training and Demonstration of Manual Actions

I am in agreement with the provisions for periodic training of the safe shutdown procedures. The frequency of training should be consistent with the probable risk and frequency for the type of accident. An Appendix R fire (i.e., a fire that consumes every cable in the fire area) has not occurred in any Plant since the Brown's Ferry fire in 1975. Training could be a combination of in-class training of the procedure or in-plant training by physically performing more uncommon types of manual actions (e.g., locally operating a steam generator PORV). After the initial development of the time analysis and post-fire shutdown procedure, the configuration control process should ensure that the results of the change to the safe shutdown analysis and post-fire shutdown procedures are not affected by the change. Demonstrating the feasibility of the manual action on a periodic basis is good practice, especially with manual actions that are not commonly performed by Operators during routine shifts and outages.

7. Applicability to Section III.G.1 and III.G.3 (Request for Comment 3)

Appendix R, Section III.G.1 provides the criteria to ensure that at least one train of systems required to achieve and maintain safe shutdown. Section III.G.1.a requires that one train of systems necessary to maintain hot shutdown conditions from either the control room or emergency control station(s) be free from fire damage. Section III.G.1.b allows systems necessary to achieve and maintain cold shutdown from



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either the control room or emergency control station(s) to be repaired within 72 hours. The difference between the III.G.1.a and III.G.1.b is the level of fire damage to systems required for hot shutdown and cold shutdown. That is, systems that are required for cold shutdown can be damaged and repaired within 72 hours. Attachment C of SECY 83-269 differentiated between the types of actions that are considered a "repair" and "not a repair." In the examples described in the SECY, *"Manual operation of valves, switches and circuit breakers is allowed to operate equipment and is not considered a repair. However, the removal of fuses for isolation is not permitted. All manual operations must be achievable prior to the fire or fire suppressant induced maloperations reaching an unrecoverable plant condition."* The last sentence implies some type of analysis to demonstrate that the manual action in either the control room or emergency control station(s) is feasible.

Section III.G.3 is the provision to allow the use of an alternative shutdown capability. The requirements of an adequate alternative shutdown capability are provided in Section III.L. Section III.L.2 provides the performance goal for the alternative shutdown capability. Section III.L.4 requires that equipment and systems comprising the means to achieve and maintain the hot standby or hot shutdown condition shall be capable of maintaining such conditions until cold shutdown can be achieved. Section III.L.7 also requires that associated circuits should be electrically isolated, such that hot shorts, open circuits, or shorts to ground in the associated circuits will not prevent operation of the safe shutdown equipment. This also implies that some type of analysis is provided to ensure that manual action required for the alternative shutdown capability required by Sections III.L.4 and III.L.7 are able to maintain the performance goals of Section III.L.2.

Thus, the acceptance criteria for performing manual actions similar to the proposed rulemaking in Section III.P should also apply to manual actions at emergency control station(s) described in Section III.G.1 and III.L. As discussed in the Federal Register, the simplistic language in Sections III.L.3 and III.L.4 should not preclude the need to provide documentation of feasibility of the manual action. The acceptance criteria for all manual actions required for hot should be consistent.

8. Requirement for Automatic Suppression and Detection

Section III.G.1.a provides the provisions to ensure that one train of systems necessary to achieve and maintain hot shutdown from either the control room or emergency control station(s) be free of fire damage. If the control of component from the emergency control station(s) is separated from the affected fire area by a 3-hour fire barrier, is isolated from the affected fire area, and can be performed independent of the damaged cables in the affected fire area, then the manual action should satisfy the provisions of Section III.G.2.a. The need for suppression and detection would only be required for a fire barrier separation less than 3-hour rating



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(e.g., greater than 20-ft horizontal separation or 1-hour fire barrier). Automatic suppression and detection may be required in the affected fire area because of the fire hazards present, but it should not be dictated by whether a manual action in an emergency control station(s) is performed.

From: "Fleur Meister" <fleurmeister@tri-en.com>
To: <SECY@nrc.gov>
Date: Tue, May 24, 2005 12:56 AM
Subject: RIN 3150 AH-54 and DG-1136

Hello,

Attached please find my comments on the proposed Appendix R rulemaking.

Thanks,

Fleur de Peralta-Meister, P.E.
President/CEO

Tri-En Corporation
110 Columbia Street, Suite 202
Vancouver, WA 98660
Office: 360.735.0092 Cell: 360.600.8669
Fax: 360.737-0743 or E-fax: 509.479.1348
www.tri-en.com

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137213

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