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**ACRS**  
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## Topics

- Background
- Changes in Draft Guide
- Public comments
- Public comments not incorporated
  - Clearing of Hot Shorts within 20 Minutes for Components Important to Safe Shutdown
  - Appendix E of NEI 00-01 – Operator Manual Actions
  - Concurrent Hot Shorts in Separate Cables for Components Important to Safe Shutdown
- Path forward

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## Background (1)

- Proposed resolution to multiple spurious actuations in SECY 06-0196, "Issuance of Generic Letter 2006-xx, "Post-Fire Safe-Shutdown Circuits Analysis Spurious Actuations"
- SRM/SECY 06-0196:
  - "The present draft of the proposed Generic Letter does not contain the necessary specificity for a licensee to understand what process will be sufficient to meet the analysis needs and information demands of the draft Generic Letter"
  - "The staff should examine licensee analysis methods in this area, including those using system or functional scenario development approaches, and using the normal public regulatory process to enable stakeholder engagement, develop or endorse guidelines that provide a clearly defined method of compliance for licensees who do not choose to utilize the risk-informed approach contained in 10 CFR 50.48(c)." Emphasis Added

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## Background (2)

- Rule Language – 10 CFR 50, Appendix R, III.G.1
  - "where cables or equipment . . . of redundant trains of systems necessary to achieve and maintain hot shutdown conditions are located within the same fire area . . . , one of the following means of ensuring that one of the redundant trains is free of fire damage shall be provided:"
    - 3 hour fire barrier
    - 20' and suppression and detection
    - 1 hour barrier and suppression and detection
  - To summarize – only equipment necessary to achieve and maintain hot shutdown conditions is required to have III.G.2 protection provided

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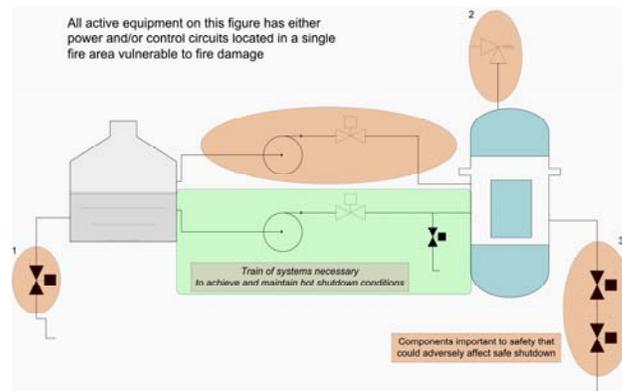
## Background (3)

- Two categories of equipment were identified in SECY 08-0093:
  - Safe Shutdown Success Path
    - Also "Green Box" or "Components Required for Hot Shutdown"
  - Components Important to Safe Shutdown
    - Also "Orange Box"
- Although both require protection – only Safe Shutdown Success Path Components require Appendix R, III.G.2 protection

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## Background (4)

- SECY 08-0093, "Resolution of Issues Related to Fire-Induced Circuit Failures."



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## Changes in Draft Guide

- The NRC initiated changes relate to Regulatory Position C.5 of the Guide. These changes include discussions of:
  - Safe shutdown success path components and components important to safety
  - Use of manual actions and fire modeling for assessing components important to safe shutdown
  - Examples of the safe shutdown success path components and important to safe shutdown components

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## Public Comments (1)

- Three industry stakeholders provided comments
  - Nuclear Energy Institute, on behalf of their members (83 Comments)
  - Dominion (3 comments)
  - Florida Power and Light (11 comments)
- Industry stakeholders commented that NEI 00-01, Revision 2 should be reference in the guide – this comment was consistent with Commission direction and was done except as explained below

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## Public Comments (2)

Total Comments	97
Comments Incorporated	53
Comments Incorporated in Part	11
Comments Not Incorporated – Discussed on following pages	21
Duplicate Comments	9
Observations – with no recommended changes	3

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## Public Comments Not Incorporated

- The main reason for non-acceptance of comments were along these themes:
  - The guide does not supersede a plants approved fire protection program – so no change was needed
  - Guidance is located elsewhere in the guide
  - There are means available to deviate from the regulatory guide
- Specific comments are discussed on the following slides

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## Clearing of Hot Shorts within 20 Minutes for Components Important to Safe Shutdown

- Two hot shorts of the body of testing of direct current (DC) circuits in ~32 tests didn't clear. This is not sufficient in the staff's opinion to justify setting a deterministic limit for DC circuit hot shorts to clear in 20 minutes.
- NEI's September 8, 2009, proposal agrees with the NRC staff position that DC circuits can't be assumed to clear in 20 minutes.
- The NRC staff and industry positions are the same with respect to DC circuit faults clearing

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## Appendix E of NEI 00-01 – Operator Manual Actions

- NEI 00-01 Appendix E lacks a clear discussion on reliability of manual actions
- Discussion with industry stakeholders indicate that for some scenarios the Appendix E timeline may be non-conservative, but in other scenarios it may be appropriate.
- The NRC staff position is that Appendix E, is not sufficient to address all plant response scenarios
- Implementing guidance on manual actions isn't necessary to bring circuit failure issues to closure

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## Concurrent Hot Shorts in Separate Cables for Components Important to Safe Shutdown (1)

- NEI 00-01, Rev. 2 proposed that only one cable be considered to have hot shorts for non-latching, non-locking circuits, and that concurrent multiple faults in separate cables need not be considered
- NRC staff express concerns with proposal this during the ACRS Subcommittee meeting
- NEI proposed in their September 8, 2009 letter to assume two separate cables experience concurrent hot shorts for non-latching, non-locking circuits

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## Concurrent Hot Shorts in Separate Cables for Components Important to Safe Shutdown (2)

- NRC has considered NEI's September 8, 2009, letter, and the DRA staff position regarding concurrent faults in non-latching and non-locking circuits of equipment important to safe shutdown is:
  - Licensees should consider concurrent fire-induced circuit failures in two separate cables, where defense-in-depth features are present.
  - For high low pressure interfaces, licensees should consider concurrent fire-induced circuit failures in three cables, where defense-in-depth features are present.
  - For multi-conductor cables, all circuit faults that could occur within the cable should be assumed to occur.

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## Path Forward (1)

- The NRC staff view is that there is sufficient guidance or alternatives available for licensees to complete fire induced circuit analyses
- The NRC staff has come to resolution with industry stakeholders on two of the issues identified. As more test data is available, the NRC staff will consider that information.
- NRC staff will continue to work with industry regarding refining the implementing guidance for operator manual actions, but this refinement is not necessary to fulfill the Commissions direction regarding a clearly defined method of compliance

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## Path Forward (2)

- Issuance of the Final Regulatory Guide 1.189 is planned for the fourth quarter of 2009
- Issuance of R.G. 1.189, will start the “clock” on Enforcement Guidance Memorandum (EGM) 09-002:
  - Licensees will have six months to identify noncompliances
  - And an additional 30 months to resolve those noncompliances
- The NRC will revise its inspection manual to assure that licensees are appropriately implementing the clarification described in RG 1.189

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# BACKUP SLIDE

## Appendix E of NEI 00-01 – NUREG-1852

