

1. The industry does not believe the NRC staff are internally aligned on the interpretation of Point 4. Mr. Stattel provided an interpretation that is consistent with NEI and its members' desire to allow the CCF analysis performed by Points 1-3 determine the need for diverse displays and manual controls. The interpretation provided in the NRC slide deck and expressed by Mr. Darbali and Mr. Carte states that Point 4 is separate from Points 1-3 and applies to ALL "critical safety functions." This differing verbal communication is creating confusion as to what is the true intent and interpretation of Point 4. The policy needs to be clear and not subject to such a wide variety of interpretation.
2. Slide 11 of NRC's slide package specifically points out the fact that Point 4 has a separate purpose which drives a separate analysis. To address Point 4, different inputs are used in the analysis which drive a separate outcome from Points 1-3. The expressed intent of Point 4 is that "DI&C CCFs do not impede the operators' ability to take manual actions when needed." If Points 1-3 already evaluated and provide measures to address DI&C CCF, in what scenario are additional manual actions needed?
3. It is not NEI's intent to reduce the scope or design features of manual actions required by IEEE 279 or IEEE 603. We understand and agree that if these IEEE required manual controls are not subject to the same CCF, they may be credited to cope with a DI&C CCF. However, industry has commonly added an additional set of manual controls to satisfy Point 4 separate from those required by IEEE 279 or IEEE 603.
4. NEI is not aligned with the viewpoints expressed by Mr. Ken Scarola in the interpretation and application of Point 4. It is NEI's intent to only require additional requirements for manual controls when they are deemed necessary by a CCF coping analysis.
5. The NRC staff appears to have created a safety classification within Safety-Related specific to I&C. The term "critical safety function" is not defined within the NRC glossary, nor is it defined in any regulatory text beyond BTP 7-19 which ties it to NUREG-0737 Supplement 1 Safety Parameter Display System requirements. NUREG-0737 Supplement 1 does not use the term "critical safety function." Rather, it provides SPDS display requirements for the Safety Parameter Display System (SPDS) in Section 4.1.f as follows:

*The minimum information to be provided shall be sufficient to provide information to plant operators about:*

- (i) *Reactivity control*
- (ii) *Reactor core cooling and heat removal from the primary system*
- (iii) *Reactor coolant system integrity*
- (iv) *Radioactivity control*
- (v) *Containment conditions*

*The specific parameters to be displayed shall be determined by the licensee.*

The following excerpts from SECY-93-087 and SRM-SECY-93-087 display the NRC staff's intent to create flexibility based on the design of the I&C system. Additionally, in the SECY-93-087 Point 4 text provided below, the NRC staff's attempt to define "critical safety functions." We see in the SRM that the Commission did not approve the definition provided by the NRC staff, including it in the text that the Commission described as "highly prescriptive and detailed." According to our

research, the term “critical safety function” was not a defined term when the policy was written in 1993.

From SECY-93-087 (1993):

*After carefully reviewing ACRS, industry, and vendor comments, the staff has developed a final position. The staff has concluded that analyses that demonstrate adequate, rather than equivalent, defense against the postulated common-mode failures would be allowed in the diversity assessment required of the applicant. The critical safety functions that require backup manual controls and displays would be specified. The staff would consider allowing more flexibility in implementing the requirements for an independent set of displays and controls. The necessary degree of flexibility depends on the specific equipment and design features of the I&C system and will be evaluated for each design. The intent is to permit the use of diverse digital equipment that is not affected by the identified common-mode failures and to reduce complexity in the design. The staff will not require only analog equipment and will consider allowing simple digital equipment.*

- 4. A set of safety-grade displays and controls located in the main control room shall be provided for manual, system-level actuation of critical safety functions and monitoring of parameters that support the safety functions. The displays and controls shall be independent and diverse from the safety computer system identified in items 1 and 3 above. The specific set of equipment shall be evaluated individually, but shall be sufficient to monitor the plant states and actuate systems required by the control room operators to place the nuclear plant in a hot-shutdown condition. In addition, the specific equipment should be intended to control the following critical safety functions: reactivity control, core heat removal, reactor coolant inventory, containment isolation, and containment integrity.*

From SRM-SECY-93-087 (1993):

- 4. A set of displays and controls located in the main control room shall be provided for manual, system-level actuation of critical safety functions and monitoring of parameters that support the safety functions. The displays and controls shall be independent and diverse from the safety computer system identified in items 1 and 3 above.*

*Therefore, this clarification has been added to the fourth part of the staff's position (which refers to a subset of the safety functions referred to in the third part) by removing the safety grade requirement. Further, the remainder of the discussion under the fourth part of the staff position is highly prescriptive and detailed (e.g., "shall be evaluated," "shall be sufficient," "shall be hardwired," etc.). The Commission approves only that such prescriptiveness be considered as general guidance, the practicality of which should be determined on a case-by-case basis.*

By creating a new safety-related classification of “critical safety function,” the staff expects additional requirements when coping with CCF. Points 1-3 already determine the means in which a licensee will cope with CCF concurrent with a Design Basis Event. However, special treatment is required for the “critical safety function” classification provided in BTP 7-19. While the term remains in Point 4, the Commission did not approve the list of functions defined as “critical safety function” provided in SECY-93-087.

6. Why should a licensee be required to apply for an exemption or alternative if they have different “critical safety functions”? What is the licensee taking an exemption or alternative from if this is not defined in Part 50 or Part 52?
7. Is the guidance in NUREG-0800 Chapter 18 Appendix A not sufficient to evaluate the acceptability of credited manual actions? If it is sufficient, why are we adding prescriptive location requirements to the policy? The analysis provided in Chapter 18 Appendix A will lead to the correct conclusion specific to the applicant’s design for any credited manual actions.

NEI Point of Contact:

Alan Campbell

[adc@nei.org](mailto:adc@nei.org)

(202)439-3698