

# NEI 96-07, Appendix D, Section 2.0: *Definitions*

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Application of Guidance Contained in Appendix D of NEI 96-07  
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# TODAY'S OBJECTIVES

- Discuss Select Appendix D, Section 2 Definitions and Their Application
  - Coping Strategy Categories (Definition 2.4)
  - SSC Types (Definition 2.w)
- Solicit feedback and invite questions from the NRC Staff regarding the definitions and proposed alternatives for select definitions provided in NEI 96-07, Appendix D

# COPING STRATEGY CATEGORIES (2.4)

- Two Categories
  - Physical
  - Operational
- EPRI technical guidance Section 3.4.1, “Mitigating Measures Outside of the I&C” identifies three generic types of *mitigating measures* (i.e., *coping strategies*)
  - Operator Action
  - Diverse Actuation
  - Independent Systems

# COPING STRATEGY CATEGORIES (2.4)

## Physical Coping Strategies

- Modify an SSC
- Propose adding guidance to Appendix D, Section 3.2.1.1, Scope (of changes to the facility) to state: *“If a coping strategy involves activities that include physical changes to SSCs, those activities would also be addressed as proposed activities involving the facility as described in the UFSAR.”*

# COPING STRATEGY CATEGORIES (2.4)

## Operational Coping Strategies

- Modify a procedure (i.e., how the facility is operated)
- Propose adding guidance to Appendix D, Section 3.2.2.1, Scope (of changes to procedures) to state: *“If a coping strategy involves activities that necessitate operational changes to how the facility will be operated, those activities would also be addressed as proposed activities involving procedures as described in the UFSAR.”*

# COPING STRATEGY CATEGORIES (2.4)

## Illustrative Example

- Source: EPRI Technical Guidance, Example 3-5
- Proposed Activity: An upgrade to multiple ESFAS functions is planned that encompasses several safety systems in a PWR.
- Technical Finding: A [CCF] susceptibility analysis reveals that failure of a selected group of power sources can result in a spurious closure of the MSIVs concurrent with loss of auxiliary feedwater actuation and control.

# COPING STRATEGY CATEGORIES (2.4)

Illustrative Example (continued):

Two Possible Coping Strategies

- Coping Strategy #1
  - Operational
  - Replace automatic actuation with manual control
- Coping Strategy #2
  - Operational
  - Replace continuous AFW flow with HPSI feed and PORV bleed

# COPING STRATEGY CATEGORIES (2.4)

## Illustrative Example (continued):

### 50.59 Review of Coping Strategy #1

- Screen
  - Strategy involves an auto-to-manual activity
  - Conclusion: ADVERSE (i.e., a “default” condition per NEI 96-07, Rev. 1, Section 4.2.1.2)
- Evaluation
  - NEI 96-07, Rev. 1, Section 4.3.2, Example 7 applies
  - Conclusion: YES (more than minimal) to question #2  
[**License Amendment Request required**]



# COPING STRATEGY CATEGORIES (2.4)

## Illustrative Example (continued): 50.59 Review of Coping Strategy #2

- Screen
  - Strategy involves adding a new set of conditions under which core cooling is switched from secondary-side to primary-side
  - Conclusion: ADVERSE (conditions for switching from secondary-side cooling to primary-side cooling do not match those described in the EOP and reflected in the UFSAR)

**NOTE: This proposed activity does NOT involve a fundamental change in how a design function is performed since the EOP and UFSAR already allow this type of core cooling.**

# COPING STRATEGY CATEGORIES (2.4)

## Illustrative Example (continued):

### 50.59 Review of Coping Strategy #2

- Evaluation
  - Question 2 – Determine impact of new conditions on likelihood of previously evaluated malfunction(s)
  - Question 6 – Determine impact of new conditions on malfunction results

# TYPES OF SSCs (2.w)

- Purpose: Establish a set of SSC definitions that relate to the current licensing basis as described in the UFSAR
- Two Sets of SSC Definitions
  - Duplicate vs. Redundant
  - Equivalent vs. Identical vs. Similar
- Duplicate vs. Redundant
  - Key differentiating characteristic: Applicability of *single failure criteria*
  - Duplicate SSCs – *Single failure criteria* does NOT apply
  - Redundant SSCs – *Single failure criteria* DOES apply

# TYPES OF SSCs (2.w)

- Equivalent vs. Identical vs. Similar
  - Equivalent SSCs
    - Key differentiating characteristic: SSCs possess unique characteristics
    - Applies to hardware or software
  - Identical SSCs
    - Key differentiating characteristic: SSCs possess the exact same characteristics
    - Applies to software **ONLY**
  - Similar SSCs
    - Key differentiating characteristic: SSCs possess common characteristics
    - Applies to hardware or software

# SECTIONS 3.2.1.1 AND 3.2.1.2

- Section 3.2.1.1
  - Includes the proposed guidance for how to address Coping Strategies
  - Identifies the three areas to be addressed in the Screen
- Section 3.2.1.2
  - Applies the new definitions proposed in Definition 2.w
  - Example 3-a
    - Illustrates the guidance for duplicate SSCs
    - Illustrates the guidance for similar SSCs
  - Example 3-b
    - Examines licensing bases different from those in Example 3-a
    - Illustrates the impact on the Screen conclusion

# QUESTIONS / COMMENTS / FEEDBACK

