

# FIRE IGNITION FREQUENCY & SEVERITY FACTORS

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# ISSUES

- Fire ignition frequency
- Severity
- Database

# FIRE IGNITION FREQUENCY

- Fire PRA fire frequency methods relatively mature and widely accepted
- Approach A: IPEEE-level analysis method
  - Existing proven approach – e.g. FIVE
  - Combines fire area with some component level analysis
- Approach B: Develop component based method
  - Allows for more plant specific differences
  - Requires that fire sources throughout plant be binned and counted
  - Not likely to be practical for SDP
- Expect component fire ignition frequency determination to require data analysis

# SEVERITY FACTORS

- Approach A: Use entire applicable fire frequency, excluding severity (e.g., the current approach)
- Approach B: Address fire severity
  - Severity factor with full set of fires (or equally only severe fires)
  - Criteria for severe fires
- Note: Expect that severity factor approach will require analysis of the event data

# SELECTION OF FIRE EVENTS DATABASE

- Two databases:
  - NRC/RES database
  - EPRI fire event database
- Database issues
  - Extent of coverage
  - Completeness
  - Quality of data
  - Format
  - Proprietary nature
  - Previous calculations

# SELECTION OF FIRE EVENTS DATABASE (cont.)

- Much broader issue than fire ignition frequency and severity
  - To account for dependency, must analyze fire duration and suppression consistently