

Industry Views on Fire Protection SDP Changes

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Topics

- Goals for meeting
- Industry position
- Previous industry comments
- Recommended actions



Goals for Meeting

- Staff understanding of industry positions and rationale
- Agreement on pathway for revising SDP
- ✓ ■ Agreement on interim measures



Industry Positions

- Revise SDP to address industry concerns
- Provide improved bases for determining degradation of DID elements
- Provide clear guidance for interim SDP use

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Industry Position

- Need revised SDP:
 - Risk informed
 - Allows use of plant PSA
 - Addresses all DID elements
 - Useful to inspectors and licensees
 - Effectively screens out low significance issues
 - Credits compensatory measures and manual actions
 - Consistent with other SDPs
 - Transparent use

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Industry Position

- Improved basis for determining degradation of DID elements
 - Current guidelines in IM 0609F-2 are unnecessarily conservative
 - Specific recommendations made in NEI letter of 10/18/01

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Industry Position

- Interim safety significance determination needs clear NRC guidance
 - Emphasis on transparent use and clear staff-licensee communication
 - Improve ability to credit non safe shutdown equipment to avoid core damage

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Previous Industry Comments

- NEI letter October 18, 2001
 - Unnecessary complexity and subjectivity in fire protection SDP
 - Detailed comments provided
 - Address excessive application of resources to inspections
 - Pursue use of self-assessments to reduce inspection resources

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Recommended Actions

- Develop new SDP with stakeholder input
- Revise IM 0609F-2, with stakeholder input
- Develop clear guidance for interim use of current SDP, with stakeholder input
- Agree on concrete steps to pursue increased use of self-assessments

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Proposed Approach

$$\Delta CDF = F_f \cdot P_L \cdot P_{ED} \cdot P_{AS} \cdot P_{DM} \cdot \Delta P_{CCD} \text{ (per r.y.)}$$

- F_f - frequency of any size fire
- P_L - fire size parameter (more realistic location and size)
- P_{ED} - probability of equipment/cable damage given substantial fire
- P_{AS} - probability that automatic suppression won't control the fire
- P_{DM} - probability that detection and manual suppression won't control the fire
- ΔP_{CCD} - change in conditional probability of core damage given fire-induced failure(s)

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severity factor

Proposed Approach

$$\Delta CDF = \{F_f \cdot P_L\} \cdot \{P_{DM} \cdot P_{AS}\} \cdot \{P_{ED}\} \cdot \{\Delta P_{CCD}\}$$

DID element	Address
Prevention	Ignition frequency; fire severity; scenario development
Det/Suppr	Degradation ratings; brigade performance evaluation
Safe Shutdowns	Barrier degradation; spurious actuations
Core Damage	Credit for remaining mitigation capability; credit for ASSD capability and manual actions

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Pre-screening

- Application of prevention or safe shutdown considerations
 - Screen out if fires are very low probability of if there is no safe shutdown or cable present

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