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FIRE PROTECTION SDP REVISION

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TT-2

PHASE 1 SCREENING

Four main screening questions in Phase One:

1. Cold Shutdown

2. Hot Shutdown

3. Fire Frequency $> 10^{-4} \rightarrow$ Ph II

4. Defense-In-Depth Degradation 1 high degraded, 2 mod. degraded $\rightarrow$ Ph II

Phase 2 Revision

Eleven Tasks:

1. Define Objectives and Goals – P. Kolthoff
2. Quantification Approach – J.S.
3. Fire Scenario Development – P. Lain
4. Fire Frequency – J.S.
5. Fire Detection/Suppression System Degradation – NEI
6. Fire Brigade – P. Lain (Mark Salley)
7. Fire Barriers – P. Lain (Dan Frumpkin)
8. Compensatory Measures – NEI
9. Safe Shutdown Findings – G. Perry
10. Manual Actions – G. Perry
11. Exemptions – P. Kolthoff

Fire Scenario Development

Time-Line Approach: Critical Events laid out on a linear time-line.

Time 0:00	Ignition
Time 1:30	Fire Detection Alarms
Time 3:00	Switchgear Cabinet Fully Involved
Time 4:00	Overhead Cables Involved
Time 5:00	2nd Switch Gear Involved
Time 5:30	Overhead @ 700°F
Time 6:00	Redundant Cables Ignite
Time 10:00	Fire Breaches Fire Barrier
Time 11:30	Fire Brigade on Scene
Time 15:00	Fire Brigade Ready to Suppress Fire
Time 16:30	Fire Extinguished

Fire Brigade

Methodology is needed to assess fire brigade performance degradation and integration with other fire protection issues.

Options:

1. Assign a single value to brigade success assuming a severe fire, as done in most Phase 3 SDP.

2. Develop a separate multiple degradation level approach.

3. Develop severity/response time/damage curves.

4. Develop a performance measures check list integrating the fire scenario time element.

Combo. Would like to use Bartlay to bounce draft SDP off of.

Fire Barriers

The current treatment of fire barriers, both the double room term and raceway barriers, are only rough estimates of the likelihood that the barrier will fail for any given scenario. Also, there is difficulty in correlating a barrier degradation to performance degradation that can hold up to the scrutiny given the poor knowledge base.

Options:

- Scenario driven time shift versus degradation
- Delete "Double Room Term"
- Establish a nominal raceway fire barrier case
- Match the barrier degradation to the hazard
- Factor in severity factors