ANO-2 NFPA 805 Application

NRC Public Meeting - November 26, 2012

In advance of the ANO-2 re-submittal of its NFPA 805 application and as a follow-up to a public meeting held on October 9, 2012, Entergy requested an additional public meeting with the NRC in order to ensure gaps which resulted in non-acceptance of the previous ANO-2 License Amendment Request (LAR) will be resolved appropriately.

Agenda

1. **Entergy's proposed resolution to each of the previously identified gaps**
2. **Open discussion (following each resolution presentation)**

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Issue #1 - Transition Risk

- Variances from Deterministic Requirements (VFDRs) have been identified and mapped to the respective probabilistic risk analysis (PRA) modeled equipment in order to determine the compliant case core damage frequency (CDF) and large early release frequency (LERF) for all scenarios in Fire Area G (including control room non-abandonment scenarios)
- The VFDRs address the following Safety Functions:
  - Reactor Coolant System Pressure Control
  - Inventory
  - Decay Heat Removal
  - Vital Auxiliaries – Electrical
  - Vital Auxiliaries – Service Water
  - Vital Auxiliaries – Heating, Ventilation, and Air Conditioning

Issue #1 - Transition Risk

(continued)

- The Variant Case was calculated for these same scenarios by failing the equipment affected by fire and crediting a new Auxiliary Feedwater (AFW) pump modification which is not impacted by a fire in Fire Area G
- The Compliant Case was calculated by setting the equipment credited for shutdown for a fire in Fire Area G to its random failure probability; no credit was taken for the new AFW pump
- Delta risk results for the Control Room Analysis (results have not yet been certified):
  - CDF – (-7.40E-05/yr)
  - LERF – (-2.68E-06/yr)

Issue #1 - Transition Risk

(continued)

OPEN DISCUSSION

Issue #2 – Sensitivity Analysis on the use of Unapproved Methods

- Use of unapproved methods (i.e. electrical panel factors and long term manual non-suppression probabilities) have been removed and replaced with approved methodologies
- Detailed fire modeling has been performed on the affected areas
- Use of new ignition frequencies from FAQ 08-0048 “Fire Ignition Frequency” were applied

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Issue #2 – Sensitivity Analysis on the use of Unapproved Methods

(continued)

- The Sensitivity Analysis addresses:
  - Multi-Compartment Analysis / Hot Gas Layer (MCA/HGL) screening analysis
  - Calculates new CDF/LERF values
  - Calculates new delta CDF/LERF values
- Focused Scope Peer Review is near completion
- Results of the Sensitivity Analysis (results have not yet been certified):
  - New CDF – 5.10E-05/yr (Fire CDF only, excludes internal events and other external events)
    - Previously submitted CDF – 6.4E-05/yr (Fire CDF only)
  - New LERF - 1.08E-06/yr (Fire LERF only)
    - Previously submitted LERF – 1.4E-06/yr (Fire LERF only)

Issue #2 – Sensitivity Analysis on the use of Unapproved Methods

(continued)

- Results of the Sensitivity Analysis (continued):
  - New Delta CDF – (-4.28E-04/yr)
  - New Delta LERF – (-1.26E-05/yr)
  - MCA/HGL Analysis
    - New Scenarios with a larger zone of influence were developed and quantified after not screening
      - 2109-U-B/C/D/E/F/G
      - 2154-E
- Sensitivity Analysis will become the Model of Record after submittal and prior to transition to NFPA-805 is complete

Issue #2 – Sensitivity Analysis on the use of Unapproved Methods

(continued)

OPEN DISCUSSION

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Issue #3 – New Results could precipitate further changes to the plant or PRA

- Two new Modifications proposed:
  - Incipient detection for Panel 2C75 in 2154-E (Fire Area B-4)
  - The Reactor Coolant System (RCS) head vent valves to preclude spurious operation in Fire Area 2199-G (Fire Area G)
- No new Recoveries were identified
- No other changes to the Fire PRA model are anticipated

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Issue #3 – New Results could precipitate further changes to the plant or PRA

(continued)

OPEN DISCUSSION