Attributes of a Well-Written NFPA 805 License Amendment Request

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Steven Laur, PE, Sr. Technical Advisor
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UNITED STATES NUCLEAR REGULATORY COMMISSION
Protecting People and the Environment

LAR Submittals

- Per 10 CFR 50.90, an amendment to the license must:
  - **fully describe the changes requested**
  - **follow (as applicable) the form prescribed for original applications**
- Per 10 CFR 50.34, the submittal must address:
  - **design and operating characteristics**
  - **unusual or novel design features**
  - **principal safety considerations**
- L1C-109*: "Acceptance Review Procedures"
  - **SRP 9.5.1.2 includes a checklist to aid NRC staff in determining whether NFPA 805 topics have been addressed**

* ADAMS No. ML081200811

NFPA 805 LAR Content

- **Good outline: SRP 9.5.1.2**
  - Draft out for public comment
  - Generally follows format of pilot plant submittals
- **Should present overall summary information**
  - Sufficient detail for NRC to make safety determination without the need to cross reference multiple documents
  - Not the level of detail in the sub-tier or archive documents (e.g., design calculations)
- **Should include licensee's determination that the 10 CFR 50.48(c) requirements have been met**
  - NRC should not have to infer or deduce compliance

Notional Example – Summary Information

- **Fire area #1: Deterministic Compliance (§4.2.3)**
  - Existing exemption for 15’ vice 20’ (valid)
  - Opposite train cable will be wrapped (mod)
  - Licensee conclusion that regulations met
- **Fire area #2: Performance-Based (§4.2.4.2)**
  - VFDs are: (list or summarize and point to ref.)
  - Recovery actions are: (list or summarize)
  - Risk of alternative compared to §4.2.3 deterministic is: (risk assessment results)
  - Defense-in-depth and safety margins: (provide)
  - Licensee conclusion that regulations met

Notional Example – Summary Info. (cont'd)

- **Fire area #3: Performance-Based (§4.2.4.1)**
  - VFDs are: (list or summarize and point to ref.)
  - Fire model results: (including operational guidance)
  - Licensee conclusion that regulations met
- **Fire area #4: Alternate RI/PB [50.48(c)(4)]**
  - Explicitly request approval to use alternative, which must:
    - satisfy performance goals, objectives, and criteria in NFPA 805 for nuclear safety and radiological release;
    - maintain safety margins; and
    - maintain fire protection defense-in-depth
  - Recovery actions are: (list or summarize)
  - Results of alternative RI/PB method
  - Licensee conclusion that regulations met

NFPA 805 Submittal Should:

- Provide accurate, summary level description of existing FP licensing basis
- Clearly demonstrate that the requirements in 10 CFR 50.48(c) will be met
- Reflect the current as-built plant configuration, or provide a detailed, proposed configuration
- Identify all proposed modifications in sufficient detail to allow NRC review
- List non-conformances being addressed during transition and describe the disposition of each

NFPA 805 Submittal Should:

- Justify Fire PRA technical adequacy for the specific changes being made (next slide)
- Justify how the Fire PRA is being used for the risk-informed decisions being made (next + 1)
- Provide both CDF and LERF as applicable
- Provide a risk-informed basis for the acceptability of the proposed changes, in sufficient detail to enable the NRC staff to decide whether the fire PRA or fire modeling is appropriately credited

Address FPRA Technical Adequacy (base model)

- **RG 1.200 Rev. 1:**
  - Rev. 1 effective 1/1/2008 for all uses of plant-specific PRA in licensing actions (see RIS 2007-06 ML070650428)
  - Endorses ASME standard for internal events PRA, which is applicable when internal events PRA is used as basis for subsequent fire PRA model
  - Provides high level technical adequacy requirements for internal fire and PRA (sections 1.2.4, 1.2.5, and Table 3)
- **RG 1.205 Rev. 1:**
  - Assess fire PRA technical adequacy using draft combined standard (until endorsed and applicable under RG 1.200)

Address FPRA Technical Adequacy (applications)

- **For internal events and fire PRA standards**
  - Verify requirements are met, or
  - Disposition any requirements not met, open findings and observations, or capability category assessment of less than II
- **Assess any relevant key PRA assumptions/approximations using sensitivity studies**
- **Submit documentation per Section 4.2 of RG 1.200:**
  - Unincorporated plant changes and disposition
  - Disposition of relevant unmet or lower capability category of applicable technical requirements
  - Summary of risk assessment methodologies used for each type of change
  - Change in CDF and LERF for each fire area and the cumulative change (including any risk beneficial offsets being implemented)
    - NFPA 805 requires delta risk between actual configuration and deterministically compliant configuration
    - If >1E-6 ΔCDF or 1E-7 ΔLERF, must also show total CDF/LERF below 1E-4/yr and 1E-5/yr; include appropriate disposition of seismic and other external events risk.
  - Identification of relevant key assumptions/approximations
  - Discussion of resolution of relevant peer review/self assessment findings and observations

NFPA 805 Submittal Should:

- List pre-transition operator manual actions
- Properly classify actions as “recovery actions”
- Demonstrate the acceptability (including feasibility) of NFPA 805 recovery actions
- Provide an evaluation of the risk of recovery actions as defined in NFPA 805
- Provide a description of how the impact of MSAs has been addressed

Conversely:

- **Don't expect NRC staff to deduce or infer compliance based on supporting calculations or other detailed design documents**
- **Don't provide conceptual or hypothetical modifications, methods, processes, procedures, etc.**
- **Don't "predict" compliance will be achieved assuming processes are followed**
- **Don't incorrectly apply the definition of "recovery action:"**
  - Overly broad definition of "primary control station"
  - Classification of operator actions as "defense-in-depth" actions in order to not designate them as "recovery actions"
- **Don't report "discretionary" or "nice-to-do" operator actions that are not necessary for compliance with NFPA 805**

Discussion