NFPA 805 FINAL REGULATORY GUIDE ISSUES

The following are significant NRC positions in the final reg guide that are changes from or additions to the positions taken in the draft reg guide:

1. **Scope and Basis of Fire Protection Program Changes** (RG Section 3.2.1)
   a. Fire protection program (FPP) changes include the following:
      i. A physical plant modification that affects the FPP
      ii. A programmatic change (e.g., change to a procedure, assumption or analysis) that affects the FPP
      iii. An in-situ condition (physical or programmatic) that is a FPP regulatory requirement noncompliance or a fire protection licensing basis noncompliance and that the licensee does not intend to correct via a plant or programmatic modification
   b. Noncompliances are based on the applicable regulations, as well as staff positions (e.g., generic letters, regulatory issue summaries) developed in support of fire protection regulatory requirements, that were applicable to the licensee prior to the transition to a 10 CFR 50.48(c) FPP.
   c. The requirements of 10 CFR 50.48(c) and the guidance provided by the regulatory guide for evaluating changes are applicable regardless of when the noncompliance is identified (during or after the transition).

2. **Cumulative Risk Change for Transition** (RG Section 2.2)
   a. Total risk increase (ΔCDF/ΔLERF) due to FPP related changes should be determined and included with the LAR submittal for staff approval.
   b. Cumulative ΔCDF and ΔLERF should reflect the difference between fully compliant (with applicable fire protection regulatory requirements and fire protection licensing basis requirements) plant and post-transition plant (assuming all planned FPP-related modifications are complete).
   c. Risk reductions achieved by modifying or withdrawing staff approved conditions (e.g., staff approved exemptions) can be credited in the cumulative risk determination.
   d. Features not required by NFPA 805 but credited in the risk assessment should become part of the licensing basis.
3. **Self Approval Risk Change Thresholds - Post Transition** (RG Sections 3.1 and 3.2.5)
   a. Where permitted by the approved fire protection license condition, plants that have an acceptable fire PSA that is in accordance with the guidance in Regulatory Position 4.3 and has been subjected to a peer review process assessed against a standard or set of acceptance criteria that is endorsed by the NRC, may make changes without prior NRC review and approval based on the criteria below.
   b. When comparing the risk impact of a change to the risk thresholds, use the combined change in risk for all FPP changes related to the same FPP issue or for all FPP changes that affect the same fire area of the plant, as appropriate. The guidance for combining changes provided in Section 2.1.2 of RG 1.174 is applicable.
   c. All self-approved plant changes must also be consistent with the defense-in-depth

philosophy and must maintain sufficient safety margins.

d. 1E-7/yr for ΔCDF (1E-8/yr for ΔLERF) - self approval with no conditions; change may be implemented

e. 1E-6/yr to 1E-7/yr ΔCDF (1E-7/yr to 1E-8/yr for ΔLERF) - following completion of the change evaluation, submit a summary description of the change and the change evaluation, including the change in CDF/LERF risk. If the NRC does not object to the change within 90 days, the licensee may proceed with implementation of the proposed change.

f. The summary description required for reporting changes should include the following information:

   i. Summary of the change evaluation

   ii. Assumptions

   iii. Description of programmatic control elements (e.g., hot work permitting/fire watches and combustibles control) in place that support the analysis

   iv. Change in CDF/LERF, including the change in individual parameters used to calculate the ΔCDF/ΔLERF

   v. Affect of the change on safety margin

   vi. Affect of the change on defense-in-depth

g. For “changes” that involve acceptance of an existing condition (i.e., a noncompliance), appropriate compensatory measures should be established soon after the condition is identified as a potential noncompliance and should remain in place until the condition is resolved.

4. **Tracking of Cumulative Risk for Changes Addressed During Transition** (RG Sections 2.2, 3.2.6, 3.2.7)

   a. Upon completing the transition to an NFPA 805 licensing basis, the baseline FPP risk will be the risk of the plant as-designed and operated according to the NRC-approved FPP licensing basis.

   b. Separate post-transition tracking of the cumulative transition risk is not required.

   c. Monitoring is still required to ensure that assumptions, etc. remain valid.

5. **Tracking of Cumulative Risk after Transition** (RG Section 3.2.6)

   a. Total change risk increase post-transition does not need to be calculated or tracked separately

   b. Approved changes should be incorporated into the fire PSA periodic updates.

   c. No set threshold for total risk of all FPP-related changes since transition

   d. Acceptability of total plant risk will be judged according to Section 2.2.5.5 of RG 1.174.

   e. As with changes addressed during transition, monitoring still required to ensure that assumptions, etc., remain valid.

6. **Combining of FPP Changes With Other Plant Changes** (RG Section 3.2.6)

   a. For transition changes, risk reductions for non-FPP changes may not be used to offset

risk increases due to FPP-related changes

b. Post-transition, risk reductions for non-FPP changes may be used to offset risk increases due to FPP-related changes in accordance with Section 2.1.2 of RG 1.174 and must be pre-approved by the NRC.

7. **Requirements for Fire PSA Peer Review** (RG Section 4.3)

   a. No requirement for separate peer review for pilot plants - staff scrutiny during the pilot programs will provide adequate review

   b. Peer review for non-pilot plant fire PSAs will be required to the extent that adequate industry guidance is available in a timely manner to support the transition process - if suitable industry guidance is not available, NRC will review.

   c. Peer review must be completed prior to approval of 10 CFR 50.48(c) LAR. Actions required may be completed later, but a schedule should be provided prior to LAR approval.

   d. Incomplete actions that could have a nonconservative affect on the outcome of a plant change evaluation, should be completed before the licensee's fire PSA is applied to the evaluation of the plant change.

8. **Low Power and Shutdown Risk Evaluation** (RG Section 3.2.2)

   a. Must address change impact on non-power operational modes for all changes, including existing noncompliances

   b. See NRC-suggested additions to NEI 04-02, Appendix F, Section 4.3.3.

9. **Alternative Methodologies to Evaluate Changes** (RG Section 3.2.3)

   a. Where alternative methodologies have been adequately described in the license amendment request and have been accepted by the NRC in an SER, these alternative methods may be applied to the licensee's FPP. A licensee may apply these approved methods within the limits specifically described in the licensing basis to implement plant changes that affect the FPP without prior NRC review and approval.

   b. For PSA-based methodologies, an explanation of how the PSA is of sufficient technical adequacy for evaluation of the changes to which it will be applied must be included in the LAR.

   c. For PSA-based methodologies, a description of the peer review and how the review findings have been addressed must be included in the LAR.

   d. Since the appendices of NFPA 805 are not endorsed by 10 CFR 50.48(c), a risk-informed or performance based method described in the appendices but not in the main body of NFPA 805 is considered an alternative method and must be reviewed and approved by the NRC via a license amendment request.

   e. Subsequent changes to the approved alternative methodology must be submitted for NRC review and approval via a license amendment request prior to their application to the licensee's FPP.

10. **Treatment of Multiple Spurious Actuations** (RG Section 3.3)

    a. NEI 04-02, Section B.2.1 uses the following multiple spurious risk thresholds (all assume no operator manual action):

i. <1E-8/yr for ΔCDF (<1E-9/yr for ΔLERF) allows screening from further evaluation

ii. >1E-6/yr for ΔCDF (>1E-7/yr for ΔLERF) requires that the multiple spurious actions must be addressed (e.g., affected circuits must be protected against the effects of fire)

iii. Between 1E-6/yr and 1E-8/yr for ΔCDF (between 1E-7/yr and 1E-9/yr for ΔLERF) requires design or procedure change, if possible. Procedural actions must still meet feasibility criteria, but actions are not considered "required."

b. Staff accepts "i.", but licensee must use risk thresholds noted in Item 3 above, following transition to a 10 CFR 50.48(c) FPP.

c. Risk calculations may credit operator manual actions when determining whether a risk threshold has been exceeded and when determining the appropriate actions.

d. Quantitative risk calculations shall use the approach described in NFPA 805, Section 4.2.4.2 (compare to deterministic approach).

e. New multiple spurious scenarios identified may not be screened out of the deterministic evaluation prior to the determination of whether they are risk significant or not. (NEI wants this discretion to be included and has written it into NEI 04-02, Pg. B-7). However, the discretion allowed by 10 CFR 50.48(c) for noncompliances identified during the transition will apply.

11. **Plants That Do Not Adopt NFPA 805** (RG Introduction)

a. Plants that do not adopt an NFPA 805 performance-based fire protection program, including plants licensed after January 1, 1979, but use a risk calculation approach to evaluate plant changes that affect the fire protection program, must submit a license amendment for those changes in accordance with 10 CFR 50.90.

b. Pending NRC review and approval of the licensee's performance-based methods, the staff cannot accept that these methods will adequately demonstrate that a change "would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire."