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AREVA

Safety Evaluation Report Conditions

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Agenda

- > Issue**
- > Problems and Uncertainties**
- > Precedence**
- > Regulations and Regulatory Intent**
- > Summary**
- > Recommendations**

Issue

- > Framatome ANP believes that the inclusion of statements similar to “the licensee shall submit a plant specific analysis” in a safety evaluation for an accepted topical report is inconsistent with the topical report review process, presents unnecessary risks to licensees, and discourages owners from seeking new fuel reloads.**

Problems and Uncertainties

- > Licensee perspective of unacceptable risk**
 - ◆ Extends LAR approval process significantly because of timing difficulties in submitting all material early in the process**
 - ◆ Added review and approval process is perceived by licensees as high risk, either delaying or preventing planned fuel transitions**
 - ◆ Unnecessary burden on NRC, licensee, and vendor**
 - ◆ Discourages or prevents open competition – owners will be reluctant to seek a new fuel reload**

Precedence – Historical Application of Topical Reports

- > Purpose of topical report (from NRC web site)**
 - ◆ *A topical report minimizes time and resources that both industry and the NRC could expend on repetitive reviews of the same topic by providing for a single review and, if appropriate, NRC approval of a safety-related topic***

- > Purpose of topical report review**
 - ◆ Adequacy of method**
 - ◆ Example applications to illustrate method**
 - ◆ Single review**

- > Condition has not generally been imposed in the past or by other NRC branches**

Precedence – Licensee Reliance on Topical Reports

> Fuel Transitions – Changes to Technical Specifications

- ◆ Fuel design description section
- ◆ List of topical reports
- ◆ DNBR correlation limit for PWRs, or
- ◆ Safety limit for BWRs

> Fuel Transitions – Justification for Changes

- ◆ Reference to NRC approval of topical report
- ◆ No analysis typically required unless a limit in Technical Specification changed

Precedence

> **Fuel Transitions – Examples of NRC Past Reviews**

- ◆ **Browns Ferry (2004)**
- ◆ **Columbia Generating Station (2003)**
- ◆ **Ft. Calhoun (2001)**
- ◆ **River Bend (2001)**
- ◆ **Grand Gulf (2001)**
- ◆ **LaSalle Unit 1 (1999)**
- ◆ **LaSalle Unit 2 (1999)**
- ◆ **Quad Cities Unit 1 (1998)**
- ◆ **Quad Cities Unit 2 (1997)**
- ◆ **Harris (1992)**

Precedence

> Fuel Transitions – Examples of topical Reports Used

- ◆ **ANF-89-151(P)(A), ANF-RELAP Methodology for Pressurized Water Reactors**
- ◆ **EMF-96-029(P)(A), Reactor Analysis Systems for PWRs**
- ◆ **EMF-2087(P)(A), SEM/PWR-98: ECCS Evaluation Model for PWR LBLOCA Applications**
- ◆ **EMF-2328(P)(A) PWR Small Break LOCA Evaluation Model**
- ◆ **EMF-92-116(P)(A), Generic Mechanical Design Criteria for PWR Fuel Designs**

Precedence

- > **EMF-92-116(P)(A) *Generic Mechanical Design Criteria for PWR Fuel Designs***
- > **SER states:**
 - ◆ ***EMF-92-116(P) describes an approach to fuel mechanical design criteria that SPC intends to apply to changes or improvements in existing fuel designs for pressurized-water reactor (PWR) fuel. This approach will not require staff review and prior approval when these criteria are met. This approach is consistent with the staff position on other fuel vendors.***

Regulations and Regulatory Intent

- > No safety benefit from SER Condition to submit analyses**
- > The 10 CFR 50.59 process is adequate and supported by NEI guidance and a Regulatory Guide**
- > Backfit to topical report approval process**
- > Unnecessary regulatory burden**

No Safety Benefit

- > NRC has previously reviewed all significant issues in topical reports**
 - ◆ Criteria**
 - ◆ Methods to demonstrate compliance to criteria**
 - ◆ Materials: M5, UO₂**

- > NRC review of the application of an approved topical report is, in effect, an audit, which can be conducted without making a submittal for review and approval**

10 CFR 50.59

- > The regulation 10 CFR 50.59 establishes the conditions under which a licensee may make changes without NRC review and approval**
 - ◆ NEI has published guidance for licensees to use in implementing 10 CFR 50.59**
 - ◆ Regulatory Guide 1.187 endorses the NEI guidance**
 - ◆ Criterion 8 allows use of approved topical reports without NRC review and approval**

10 CFR 50.59

- > Excerpt from Final Rule on 10 CFR 50.59 (64 FR 53599)**
 - ◆ The Commission believes that with the guidance concerning "evaluation methods" and the definition of departure, licensees have the capability to perform analyses as needed without being unduly burdened by the need for NRC review, while still preserving those inherent conservatisms in the methods that provide the confidence that safety is maintained when the parameters are calculated to be at their design basis limits and that SSC capability continues to meet design basis requirements.**

Backfit

- > Backfit is equivalent to modification of a design approval process resulting from the imposition of a regulatory staff position that is different from a previously accepted staff position**
 - ◆ Previous topical reports on the same subject do not have this condition**

Backfit - Example

- > ANF-89-151(P)(A) *ANF-RELAP Methodology for Pressurized Water Reactors***
 - ◆ Predecessor to topical report EMF-2310(P)(A) *SRP Chapter 15 Non-LOCA Methodology for Pressurized Water Reactors***
 - ◆ Contains no requirement for submittal of analyses**
 - ◆ Non-LOCA results are nearly identical between the two methodologies**
 - ◆ Thus NRC approval of EMF-2310(P)(A) with a condition to submit represents a disincentive to use a new topical report (or to submit future revisions)**

Disincentive - Example

- > Licensee perceives risk related to submittal to be too high**
 - ◆ Licensee LAR dated 8/28/2002 to add references to Technical Specifications**
 - EMF-2310(P)(A), a non-LOCA methodology**
 - EMF-2328(P)(A), a SBLOCA methodology**
 - ◆ NRC approved adding EMF-2328(P)(A) since it contains no SER requirement for submittal**
 - ◆ NRC requested analysis to be submitted to justify adding EMF-2310 because of its SER condition**
 - ◆ Licensee withdrew request to add EMF-2310(P)(A) to list of references – August 2003**

Unnecessary Regulatory Burden

- > Major increase in information to be generated and reviewed**
- > Burden on all parties: vendor, licensee and NRC**
- > Detracts from focus on safety issues**
- > Nothing is gained or learned in the process**
- > Extends time to gain approval of LAR, requiring much earlier submittal**

Summary

> Problems

- ◆ **Uncertainty in review process results in too high a risk as perceived by licensee**

> Precedence

- ◆ **Past fuel transitions**
- ◆ **Past SERs for topical reports**

> Regulations and Intent

- ◆ **10 CFR 50.59 (specifically criterion 8)**

Recommendations

- > Remove sentence that requires or implies need for submittal of analyses, including for review and approval**
- > Or, implement this statement in a way and at a time that is less threatening to the licensee**
- > Or, modify the statement (at least in the future) to “plant-specific analyses shall be made available for NRC audit.”**
- > And, clarify the NRC’s intent that audits may be made in a way and at a time that presents no apparent risk to a licensee making a fuel transition**

Recommendations

- > Analyses Available for audit**
 - ◆ Consistent with past practice**
 - ◆ Efficient use of resources**
 - ◆ Consistent with safety benefit**

Conduct of Fuel Transitions

- > What is the NRC's perception of the safety benefit from an additional review?**
- > What can we do to gain the NRC's confidence about the fuel transition process without a separate NRC review?**