

# Exelon Lessons Learned Regarding Alternative Source Term (AST)

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#### **Overview**



- Exelon AST background
- NRC interaction
  - Pre-submittal
  - Submittal
  - Post-submittal
- Level of detail in submittals
- Use of precedents
- Use of unique systems
- Use of administrative controls
- Regulatory environment
- Post-submittal RAIs
- Summary

## **Background**



- Exelon has submitted AST license amendment requests for several (9) plants.
  - Three Mile Island 1
    - Submitted January 2001
    - Approved October 2001
  - Dresden 2 & 3 and Quad Cities 1 & 2
    - Submitted October 2002
    - Under review
  - Clinton
    - Submitted April 2003
    - Approved September 2005

## **Background (Continued)**



- Byron 1 & 2 and Braidwood 1 & 2
  - Submitted February 2005
  - Under Review
- Limerick 1 & 2
  - Submitted February 2004
  - Under Review
- Oyster Creek
  - Submitted March 2005
  - Under Review

## **Background (Continued)**



- Peach Bottom 2 & 3
  - Submitted July 2003
  - Withdrawn May 2005
    - Technical differences
    - Long response time for RAIs
- LaSalle 1 & 2 LAR is under development
  - Analyses on hold, pending other Exelon submittals
  - Similar to Limerick

#### **NRC Interaction**



- Pre-submittal meetings
  - Face-to-face public meetings
    - Methodologies
    - RG exceptions
    - Existing licensing bases
    - Audience
- On-going check-ins
  - Routine scheduled calls
- Post-submittal RAI discussions
  - Understand questions
  - Ensure responses meet NRC expectations

#### **Submittal - Level of Detail**



- New or revised methods
  - Adequately highlighted in LAR
  - Note exactly what is being changed
- Submit supporting calculations
  - Independent third party reviews
  - Provide key un-docketed references
    - Discuss need with NRC
    - Cite ADAMS reference numbers
    - Indicate applicable sections of large documents
- Reg. Guide conformance and exception
  - Adequate descriptions of conformance or alternate method
  - Table format
- RIS 2001-19

#### **Submittal – Use of Precedents**



- Evolving regulatory standards require preapproval for application of precedents
  - Discuss in pre-submittal meeting
  - RG interpretation
  - Adequate justification presented
  - Level of detail required has varied
- More than one precedent may be available

#### **Submittal – Use of Precedents**



- Multiple precedents lead to inconsistencies
  - MSIV leakage particle size & settling velocities
  - Flashing fractions
  - HVAC issues
  - Drywell / Wetwell airspace mixing
  - Purge analyses
  - Plume rise adjustments
  - Cesium contribution to MSLB
  - Airborne cloud shine
  - Gamma shine from liquid sources

# **Submittal – Use of Unique Systems**



- Discuss in pre-submittal meeting
- Additional current licensing basis justification may be required for use with AST





- Technical Specifications vs. procedures
  - If used in accident analysis, must be in TS
- Non-standard release points controlled by procedure

# **Submittal – Regulatory Environment**



- Assess AST impacts on other issues
  - CRH
  - HVAC
- Use of TSTF-51
  - Don't assume 100% compliance
- RG 1.183 interpretations
  - Use currently published guidance
  - RIS 2006-04
- SRP 15.0.1 detail

#### Post-Submittal – RAIs



- Responses may result in changes to original LAR
  - Highlight all changes
  - Ensure clarity
  - Provide information to support NRC Safety Evaluation

## **Summary**



- Interaction with NRC early interaction with the NRC makes the process more efficient.
- Level of detail in submittals this ensures the NRC has enough information to complete their review accurately and efficiently.
- Use of precedents since several precedents may be available for any one topic, ensure applicability for your specific plant design.
- Use of unique systems discuss the specific applicability with the NRC before incorporating them into design analyses.
- Use of administrative controls use caution when using admin controls; ensure their use is included in TS.
- Regulatory environment ensure your interpretation of guidance is consistent with that of the NRC.
- Post-submittal RAI responses communicate openly and frequently with the NRC to ensure full understanding of questions and responses.

# **Questions**



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