

## PBMR PRE-APPLICATION REVIEW OF EXELON'S TECHNICAL WHITE PAPERS:

### NRC's Pre-application Review Objectives:

1. Identify significant technical issues, safety issues and policy issues,
2. (Where possible) identify a path to resolve the issues,
3. Develop the NRC staff know-how and Infrastructure to review a PBMR application

### NRC/Exelon PBMR Pre-Application Review Process and Schedule:

#### A. Conduct Monthly NRC/Exelon Public Meetings on Technical Topics, in which Exelon:

- Gives an oral presentation of the specific topic
  - Provides the slide handouts (proprietary and non-proprietary versions)
  - Responds to staff and stakeholder questions
  - Takes notes on questions and answers (Q&As)
  - States their objective(s) for staff's review of the topic
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- Design Codes and Standards (7/17-18/01)
  - Control of Chemical Attack, High Temperature Materials Graphite (10/25/01)

#### B. Exelon Later Submits "White Papers" on Specific Topics to NRC

Purpose of White Papers: To formally document the meeting topic presentation (and noted Q&As) and; to provide an acceptable reference for the staff's review of the topic.

- Control of Chemical Attack, High Temperature Materials Graphite (10/23/01)
- Design Codes and Standards (10/30/01)

#### C. NRC Staff Reviews the White Papers (and meeting handouts)

**Purpose: To develop and document the staff's RAIs on the key questions (Qs) directed at: (1) the staff's significant issues associated with the white paper topics; (2) Exelon's stated objective(s) for staff's review; (2/02)**

#### D. NRC Staff Transmits the RAIs to Exelon (2/02) and; requests Exelon's response, stating that:

- Responses may be submitted during pre-application review period or,
- Responses may be provided later - as part of an actual application

#### E. NRC staff meets with Exelon (optional) to present and discuss it issues and RAIs and; respond to any Exelon clarification questions (Date: TBD)

#### F. Any Exelon responses (As) provided during the pre-application review period shall also be included by way of a revision/addition to the applicable white paper(s)

- G. Exelon and NRC staff meet with the ACRS/ACNW (~9/02) to discuss white paper topics and identified key issues.

Purpose: To obtain ACRS/ACNW input to the PBMR pre-application review.

- H. NRC staff prepares a SECY paper (~1/03) summarizing the results ~~on the~~ of the staff's pre-application review scope including:

- Significant aspects of the PBMR design, analysis, safety and technical basis
- Staff's views/positions, including the identified associated significant issues
- (Where possible) the staff's views on the paths needed to resolve the issues
- Staff-identified Commission policy issues with decision options, recommended option and the technical bases

- I. NRC staff send a letter to Exelon (~4/03) summarizing the results of the staff's pre-application review scope:

- Significant aspects of the PBMR design, analysis, safety and technical basis
- Staff's views/positions, including the identified associated significant issues
- (Where possible) the staff's views on the paths needed to resolve the issues
- Commission policy decisions and the technical bases

#### Roles and Responsibilities for the PBMR Pre-application Review (and RAIs)

1. RES has the lead responsibility
2. NRR and NMSS have a support responsibility
3. National Labs provide Expert Technical Assistance in some areas (e.g., ORNL)

*Thermal fluid graphs*

#### RAI Development and Documentation Process

1. RES (with contractor support) will draft RAIs for each of the (3) technical topics
2. NRR/NMSS will provide office input to the draft RAIs
3. RES will transmit the agreed-upon RAIs to Exelon and request a response from Exelon
4. As needed, RES (with NRR/NMSS & contractor support) will present the RAIs to Exelon

#### RES Lead Reviewer for the (3) White Papers and RAIs

Dr. Joseph Muscara, DET  
ORNL Tim Burchell

#### Charges for Staff Review Time

PBMR Pre-application Review: 100%

*need comments by end of Jan forward to them*