SOARCA

Emergency Planning

Peer Review Comments / Resolution

Randy Sullivan - NRC

Peer Review Briefing

March 2-3, 2010

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E/17

Emergency Planning Peer Review Comments

- Emergency Response Modeling
  - Release truncation
  - Timing
  - Siren reliability
  - 20 mile planning
- Cohort Modeling
  - Non-evacuating cohort
  - Cohort response

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Emergency Response Modeling
Release Truncation

- Planned and ad hoc measures will be taken within 48 hours
  - Precise measures unknown *a priori*
  - Potential actions: utilize the Institute of Nuclear Power Operations (INPO) to provide assistance in locating emergency personnel, equipment, and operational analysis
- A national level effort will ensue
  - DHS will implement the National Response Framework
  - DOE, EPA, are available for monitoring and survey support
- 48 hour release represents upper bound

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Emergency Response Modeling
Timing

- High confidence regarding timing
  - Timing of declaration is regulatory based and exercised routinely.
- Sensitivity study conducted
  - 30 minute delay
- Sensitivity represents a potential delay in any of the following:
  - Declaration
  - Notification
  - Response
- Nate will discuss outcome of sensitivity.

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Emergency Response Modeling
Siren Reliability

- Reactor oversight program (ROP) data
  - The ROP maintains performance data
  - Data is publicly available through nrc.gov
- Siren reliability unlikely to cause delay
  - Peach Bottom sirens 99.8% reliable
  - Surry sirens 99.9% reliable

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Cohort Modeling
Non-evacuating cohort

- Non-evacuating cohort included in consequence predictions
  - 0.5% of population
  - Represent 100% of emergency phase risk in some cases
  - Inclusion is consistent with past analysis precedent
- Evacuation process clarified

  "It is important to note that emergency planning is in place to support evacuation of 100 percent of the public."
- Non-evacuating cohort consequences characterized

  "The non-evacuating cohort represents 1.4% of the overall emergency-phase risk using the LNT hypothesis."
- Is additional information needed to address this?

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Summary

- Advancements in the MACCS2 modeling, specifically the development of WinMACCS provided an opportunity to model emergency response at an appropriate level in SOARCA.
- The integration of emergency planning and response parameters represents an evolutionary advancement in consequence modeling.
- Nate will discuss how emergency planning and response activities are reflected in the consequences.

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