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NRC MEETING
AST RESUBMITTAL

DECEMBER 12, 2002

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Agenda

- Opening Remarks
- Review of Submittal Errors
  - Meteorological Data Preparation
  - MSLB Analysis
- Operability Basis
- Review of Submittal Issues
  - Control Room Ingress/Egress
  - Secondary Containment Drawdown Analysis

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Agenda (Cont'd)

- Actions Being Taken by Energy Northwest
  - Meteorological Data Preparation
  - X/Q Modeling and Reanalysis
  - Drawdown Analysis
  - MSLB Analysis
- Project Schedule
- Closing Remarks

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Submittal Errors

- **Meteorological Data Preparation**
  - Errors related to data preparation and input to ARCON96
    - Incorrect coding of missing or invalid data with 9's
    - Not recognizing orientation of delta T measurement
    - Incorrect wind speed unit selection
    - Conversion to degrees centigrade per 100 meters
  - ARCON96 analysis done by contractor in 1999

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Submittal Errors (Cont'd)

- Energy Northwest provided Contractor with:
  - Delta T measurements reversed from ARCON96 input format (lower minus upper provided)
  - Wind speed data in miles per hour. ARCON96 default is meters/sec
  - Delta T in degrees Fahrenheit per 212 feet

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Submittal Errors (Cont'd)

- Contractor verified and approved his analysis per his nuclear QA Class 1 program
- AST project utilized this previously approved and accepted vendor analysis with one additional review -
  - Energy Northwest Peer Review included industry expert in ARCON96
- Preliminary analysis using corrected met data files indicates the control room dose is slightly over 5 Rem limit (keeping other analysis inputs the same)

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Submittal Errors (Cont'd)

- **Main Steam Line Break (MSLB)**
  - The gravity term in the force equation was missing
  - A conservatively small drag coefficient was used.
  - Above effects compensated for each other so dose effectively unchanged

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Operability Basis

- The existing JCO for building drawdown remains valid
  - Basis for JCO is an analysis that utilized NUREG 5055 to calculate X/Q values and it is not impacted by the current met data errors
- The existing FAO for Control Room inleakage is based on administering KI to Control Room personnel and is not impacted by the current issues

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Submittal Issues

- **Control Room In-leakage Flow**
  - Telecon may have confused issue of ingress/egress versus measured in-leakage
  - Per Lagus, the tracer gas test does not specifically quantify ingress/egress related inleakage
  - One ingress/egress point to Control Room used during test (normal activity was not restricted however)
  - Normally two ingress/egress points used for Control Room access (both with double doors)

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Submittal Issues (Cont'd)

- The Control Room has a total of 5 doors (access points). 3 of the doors are not used
- Unfiltered Control Room inleakage attributable to ingress/egress will be addressed by our resubmittal

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Submittal Issues (Cont'd)

- **Secondary containment drawdown analysis**
  - Resubmittal (12/01) was not clear on what GOTHIC analysis was used and what related information from the 1996 submittal was still valid

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Actions Being Taken

- **Meteorological Data**
  - Met data conversion errors have been corrected
  - Revised met data files have been verified by Energy Northwest and a consultant
  - ARCON96 analysis has been re-run using above revised met data files.

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Actions Being Taken (Cont'd)

- **X/Q Modeling and Reanalysis**
  - Refine to more accurately model unfiltered inleakage into Control Room through receptor point within the Radwaste Building
  - For unfiltered Control Room inleakage, utilize ARCON96 X/Q from release point to Radwaste Building HVAC intake point
  - New analysis will model the nuclide buildup within the Radwaste Building which becomes the source for unfiltered inleakage to the Control Room

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Actions Being Taken (Cont'd)

- **Drawdown Analysis**
  - Previously submitted (1996) GOTHIC model of the building has not been changed
  - This model will be re-validated prior to re-submittal
  - Re-submittal will clarify any changes made from the 1996 GOTHIC analysis, e.g.:
    - GOTHIC updated to version 6.0a
    - ASHRAE formulation used for boundary condition pressure calculations due to wind on building exterior
    - Bounding condition basis (temperature and wind conditions) not changed

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Actions Being Taken (Cont'd)

- **MSLB Analysis**
  - Submittal will continue to be based on the bubble model currently used corrected by:
    - Gravity term has been added to the force equation
    - Drag coefficient has been revised to 8/3
  - Sensitivity case will be performed based on DG-1111

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Actions Being Taken (Cont'd)

- **Dose Analysis**
  - Revised met data, updated ARCON96 analysis, and modified transport approach for Control Room unfiltered inleakage
  - No credit for Reactor Building mixing (40% previously)
  - Control Room tracer gas inleakage test result being investigated to determine appropriate value to use in the analysis

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Actions Being Taken (Cont'd)

- PAVAN offsite X/Q values remain unchanged
- Resubmittal based on revised dose analysis for each accident (LOCA, FHA, CRDA, and MSLB)

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Project Schedule

- Detailed manloading of schedule and funding requests are currently in process.
- Preliminary schedule indicates resubmittal by July 2003.
- Resubmittal date to be confirmed by January 6, 2003