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Our ref: LTR-NRC-09-38

July 27, 2009

Subject: "South Texas Project 3&4 Primary Containment Analyses" (Non-Proprietary)

Enclosed is a copy of the presentation slides, "South Texas Project 3&4 Primary Containment Analyses" (non-proprietary) that were used in a meeting that was held July 7, 2009 at the Westinghouse Rockville offices. This meeting was held in support of the South Texas Project 3&4 COL Application (Docket Nos. 52-012 and 52-013).

This transmittal contains no proprietary information.

Correspondence with respect to the enclosed presentation information should reference LTR-NCR-09-38 and should be addressed to B. F. Maurer, Manager, ABWR Licensing, Westinghouse Electric Company LLC, P.O. Box 355, Pittsburgh, Pennsylvania 15230-0355.

Very truly yours,

A handwritten signature in black ink, appearing to read 'B. F. Maurer'.

B. F. Maurer, Manager  
ABWR Licensing

Enclosures

cc: G. Bacuta (NRC OWFN 12E-1)

DO91  
LRO

Westinghouse Non-Proprietary Class 3

**LTR-NRC-09-38 NP-Enclosure**

**“South Texas Project 3&4  
Primary Containment Analyses”**

**July 2009**

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## **South Texas Project 3/4 Primary Containment Analyses**

**July 7-8 in  
Rockville**

**July 13-17 in  
Isogo**

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# Primary Containment Analyses

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- Analyses Completed, Ongoing or Planned
  - P/T analysis with DCD like model - Phase I
    - LTR submitted - June 30, 2009
      - WCAP-17058
  - P/T analysis planned with GOTHIC recommended options - Phase II
    - LTR submittal – Sept 2010
      - WCAP
      - Supporting Toshiba benchmark report
- Pool swell analysis
  - LTR submittal – Sept 2009
    - Toshiba LTR
- CO/CH, SRV discharge loads evaluation reconstituted
  - Toshiba derivative document available for review
  - Input to structural analysis – 2009~2010

# Phase I P/T Analysis

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- **GOTHIC model is used to mimic DCD analysis method**
- **LTR contents include**
  - Evaluations of Differences between GOTHIC and DCD models
  - Benchmark Against DCD results
    - Toshiba recreated M&E data not provided in the DCD
  - Corrected Errors
    - Vent loss coefficients
    - Decay heat: 1979 ANS std with 2 sigma
    - BOP FW flow – calculated by Toshiba
  - Recalculated M&E data for FWLB and MSLB
    - GOBLIN code – calculated by WEC
  - Model is suitable for both short and long term analyses
  - NRC review in July in Rockville and Isogo

Note: Calculations available in Isogo for review are indicated in Red

# Phase II P/T Analysis

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- **GOTHIC model will be used with generally accepted modeling assumptions**
- **Benchmark of GOTHIC against HVT test**
  - Ongoing by Toshiba
  - A separate report will be submitted by Toshiba
    - required due to contractual restrictions on the use of the HVT data
- **LTR will reference Toshiba benchmark report**
- **NRC review as part of fuel amendment**
  - HVT data available for inspection in Isogo (July 13-17)

# Pool Swell Analysis

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- **GOTHIC model will be used**
- **LTR will be submitted by Toshiba**
  - Analysis performed in US on behalf of Toshiba
- **LTR will contain**
  - Benchmark against PSTF test data
    - Data obtained from a Toshiba document
  - Benchmark against DCD results
- **Apply the recalculated P/T results from Phase I P/T analysis as boundary conditions**
- **NRC review planned in Rockville in August 18-19**
  - Pool swell benchmark against PSTF available for inspection in Rockville (July 7-8)
  - PSTF data available for inspection in Isogo (July 13-17)

# CO/Chugging and SRV Discharge Loads

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- **Source load methodology (CO/Chugging) and empirical correlation (SRV) will be used**
- **Derivative documents will be prepared by Toshiba**
- **Derivative documents will contain**
  - Summary of methodology
  - Linkage to original basis
- **Not planned to be submitted to the NRC – methodologies are the same as those in DCD**
  - Progress of derivative documents can be monitored as part of TCAP follow-up activities
  - Engineering status / existing documents will be available for review in Isogo (July 13-17)

# Summary

Topic	Item	Where	When
P/T Analysis Phase I	Model and Analysis results, M&E data Vent loss coeff	Rockville	July 7-8
	FW-BOP flows	Isogo	July 13-17
P/T Analysis Phase II	HVT Test data	Isogo	July 13-17
Pool Swell Analysis	Benchmark against PSTF data	Rockville	July 7-8
	Model and Results	Rockville	August 18- 19
	PSTF data	Isogo	July 13-17
CO/Chugging	Existing Documents	Isogo	July 13-17