

**Draft Slide Presentation for Extension of ABB-NV
Correlation and Modified ABB-NV Correlation for W-3
Equivalent Applications
Pre-Submittal Meeting
May, 2006**

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Agenda

- Objectives of the Meeting
- ABB-NV Qualification Equivalent to W-3 Application
 - ABB-NV DNB Correlation
 - Current W-3 Applications
 - Planned Licensing Submittal
 - Qualification Approach
 - Proposed Report Outline & Schedule
 - Summary

Objectives of the Meeting

- Present summary for ABB-NV correlation extension for non-mixing grid region for Westinghouse Pressurized Water Reactors
- Present summary for ABB-NV modification for Low Pressure Conditions as W-3 replacement in computing DNBR for Steamline Break Analyses (W-3 currently licensed in WCAP-9226-P-A Rev. 1)
- Present proposed schedule for Westinghouse topical submittals and NRC approval
 - Topical supplement for qualification of ABB-NV for Westinghouse PWR and modified ABB-NV for Low Pressure Conditions
- Obtain NRC feedback for Supplement to WCAP-14565-P-A, Addendum 1-A for new ABB-NV application and Modified ABB-NV Correlation

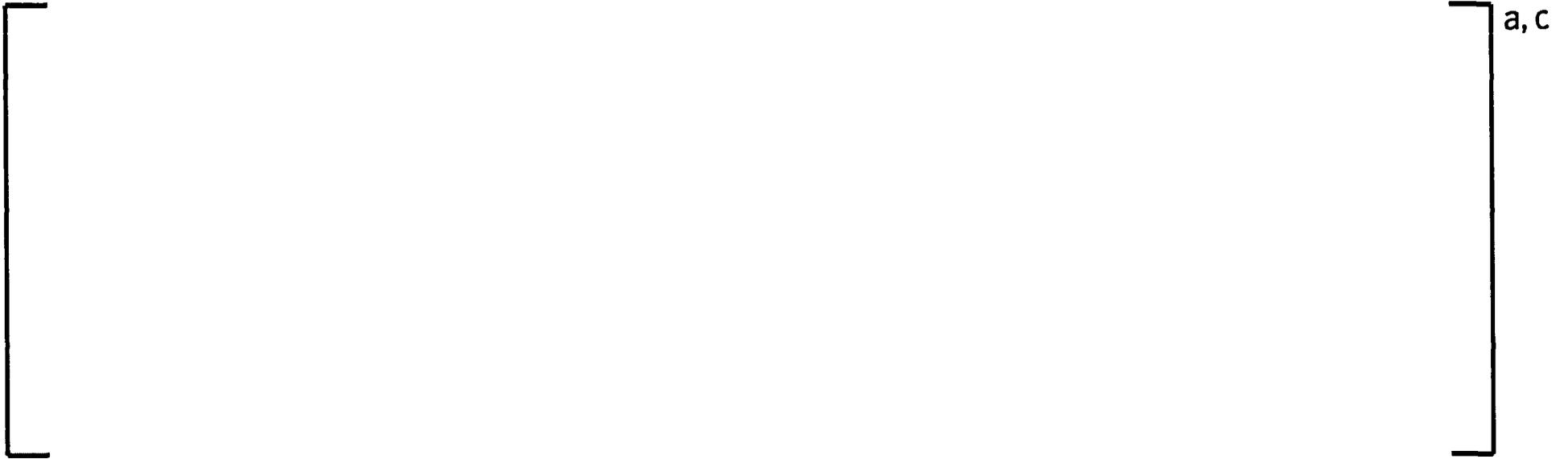
ABB-NV DNB Correlation

- Developed based on test data from rod bundles with non-mixing vane (NMV or NV) grids
 - With TORC (CENPD-387-P-A, 2000)
 - With VIPRE (WCAP-14565-P-A Addendum 1-A, 2004)
- Database consists of more 700 points
 - Typical (Matrix) and thimble test bundles
 - Different axial power distributions
- Applicable range defined in SERs
- 95/95 DNBR limit of 1.13 for CE-PWR fuel designs

W-3 DNB Correlation

- Developed in 1960's based on test data from single tube and annular geometry
- Validated to be conservative for rod bundles
 - Cold wall and non-uniform axial power factors
 - Grid benefit not credited
- Used with THINC, VIPRE and other subchannel codes
- Relatively high 95/95 DNBR limits
 - 1.30 (1000 – 2400 psia)
 - 1.45 (500 – 1000 psia)

Current W-3 Applications



Planned Licensing Submittal



What Will NOT Change



What Will NOT Change



ABB-NV Extension to Westinghouse PWR HL Below First MV Grid

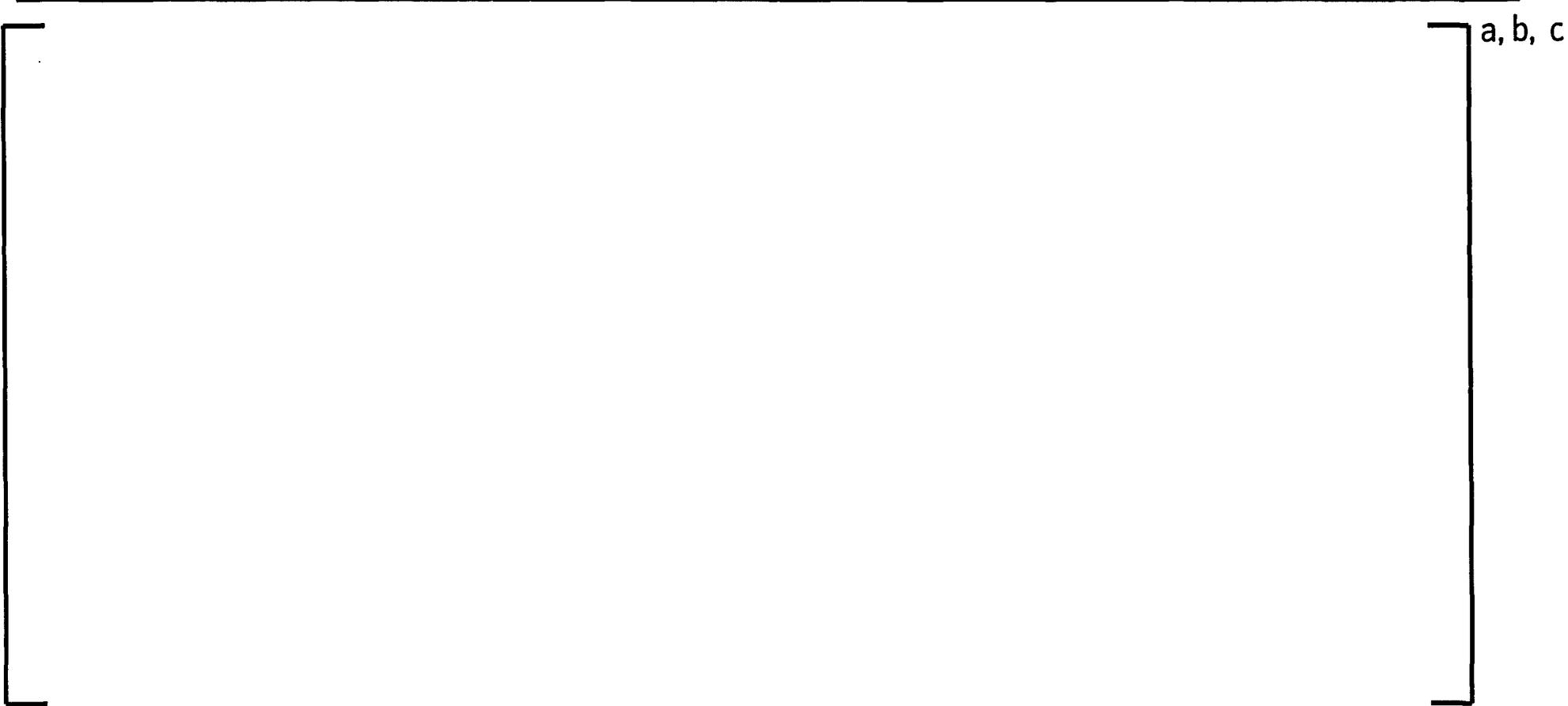


ABB-NV Extension Database

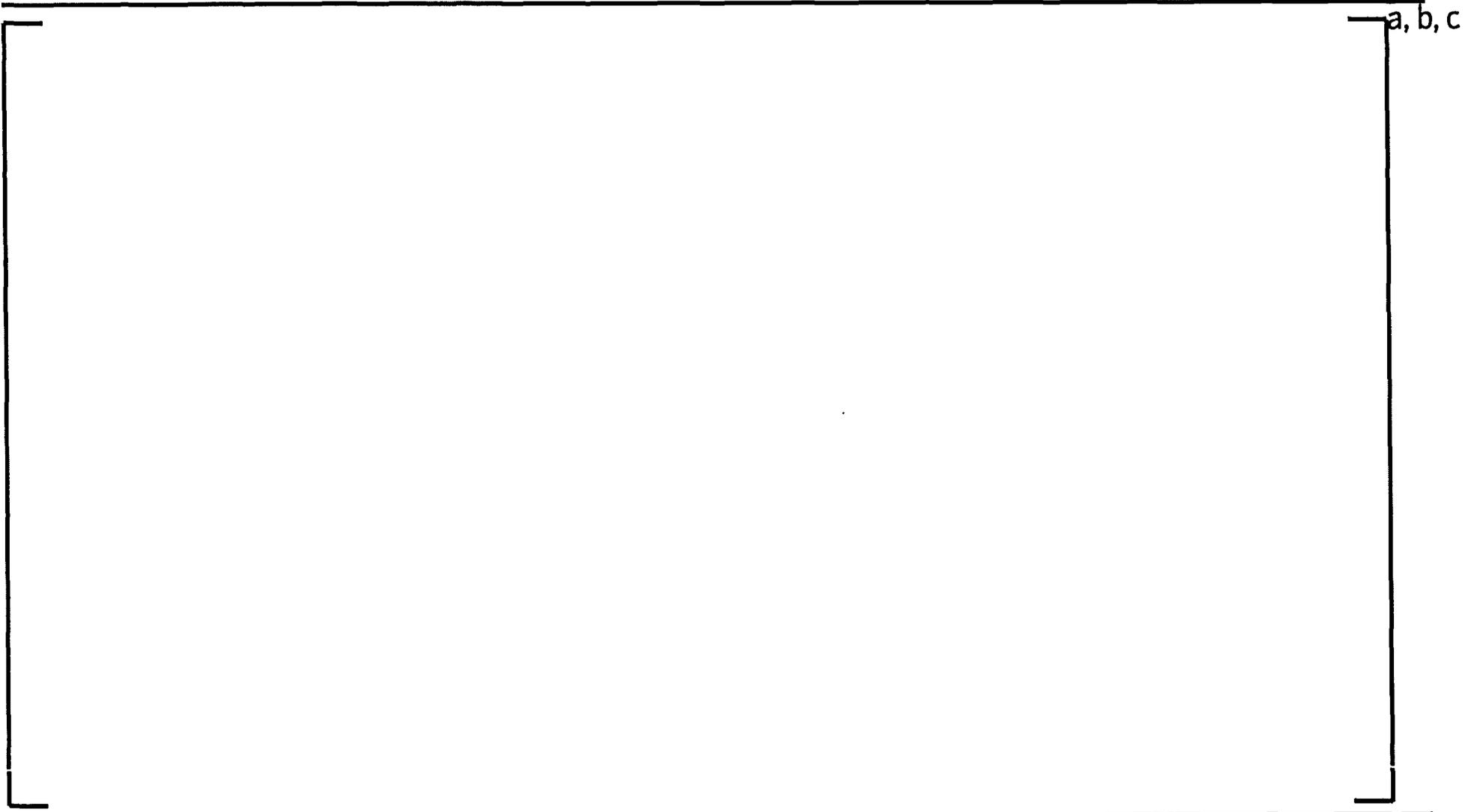


ABB-NV Extension - Results



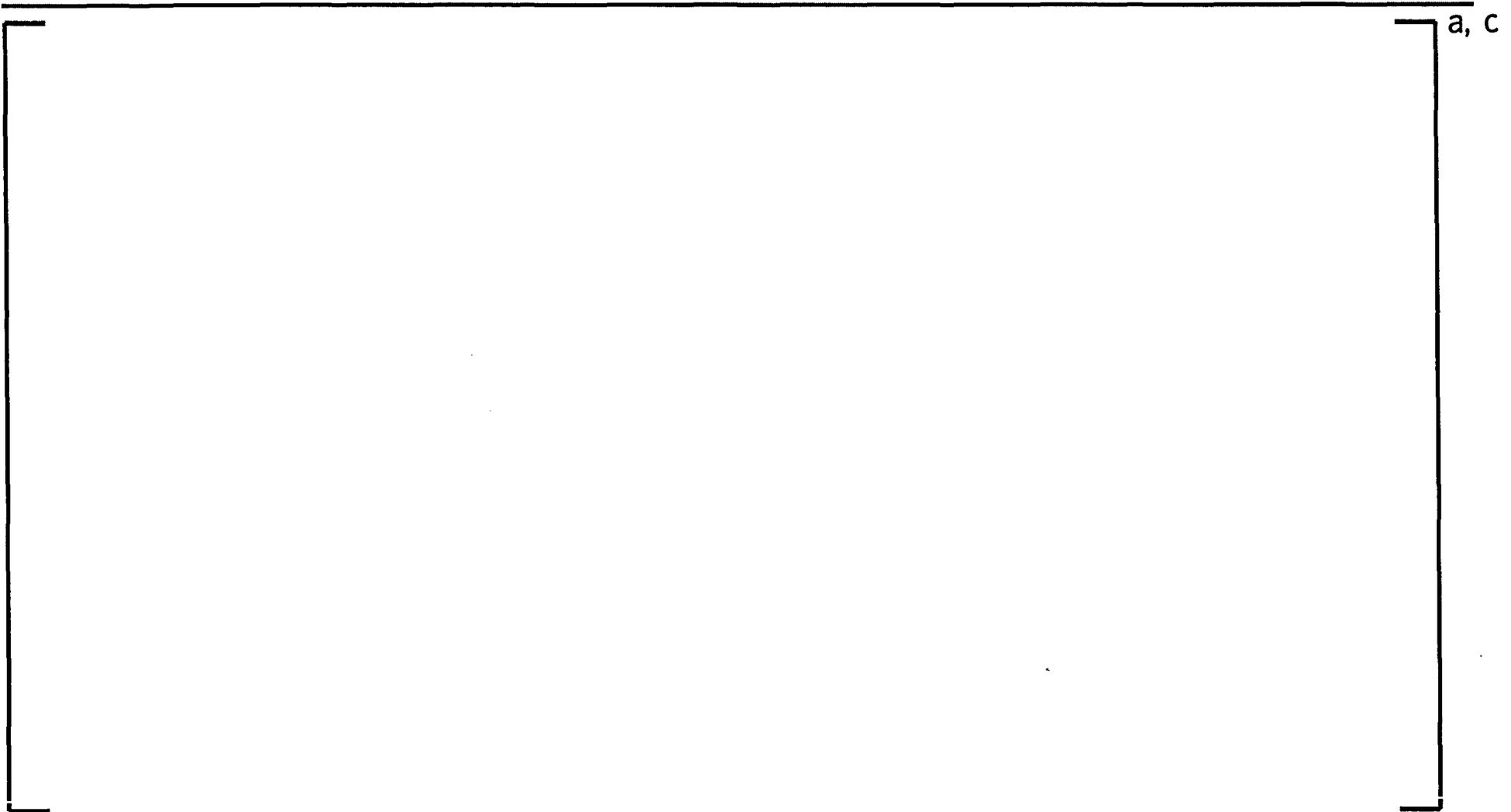
ABB-NV Modification (WLOP)



ABB-NV Modification –CHF vs Pressure



ABB-NV Modification (WLOP) Final Form



WLOP Correlation and Validation Database

a, b, c

WLOP Correlation Qualification



WLOP Correlation and Validation Database Results

a, b, c

WLOP Correlation MV Demonstration Database Results



Proposed WLOP Range of Applicability



Outline of ABB-Extension Submittal



Schedule for W-3 Replacement



W-3 Replacement - Summary

a, c

- Modified ABB-NV application for Westinghouse PWR equivalent to current W-3 use