

North Anna

3

Dominion Virginia Power Mandatory Hearing on Combined License for North Anna Power Station, Unit 3

Safety Panel

John Waddill

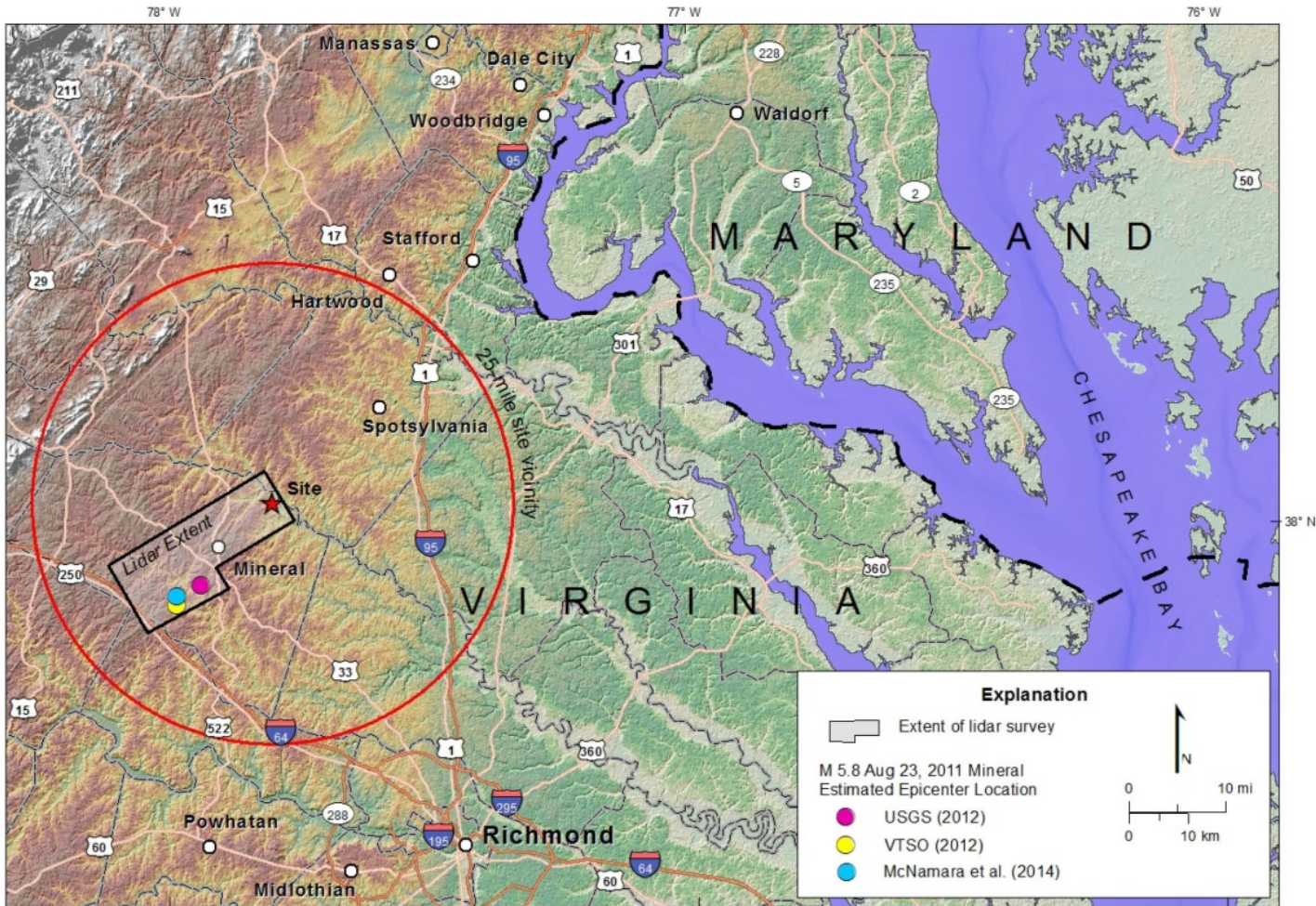
Regina Borsh

James Marrone

Luben Todorovski

March 23, 2017

Mineral Virginia Earthquake



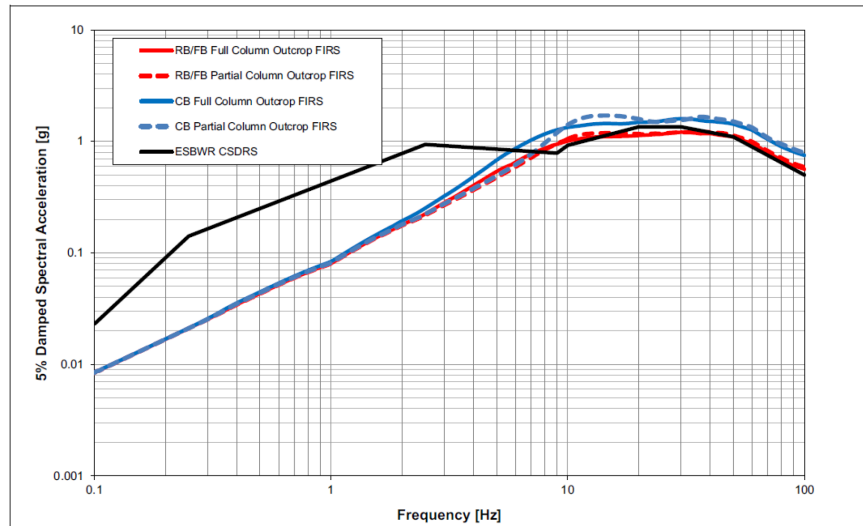
Reevaluation of Unit 3 Seismic Hazard

- Dominion reevaluated the Unit 3 seismic hazards and developed new spectra based on the most current guidance and methodologies:
 - Updated seismic sources using CEUS SSC and updated seismicity, including 2011 Mineral earthquake
 - Revised PSHA, using updated CEUS SSC and EPRI 2013 Ground Motion Prediction Equations
 - Developed new site-specific response spectra, GMRS and FIRS, using results of revised PSHA

Site-Specific Response Spectra

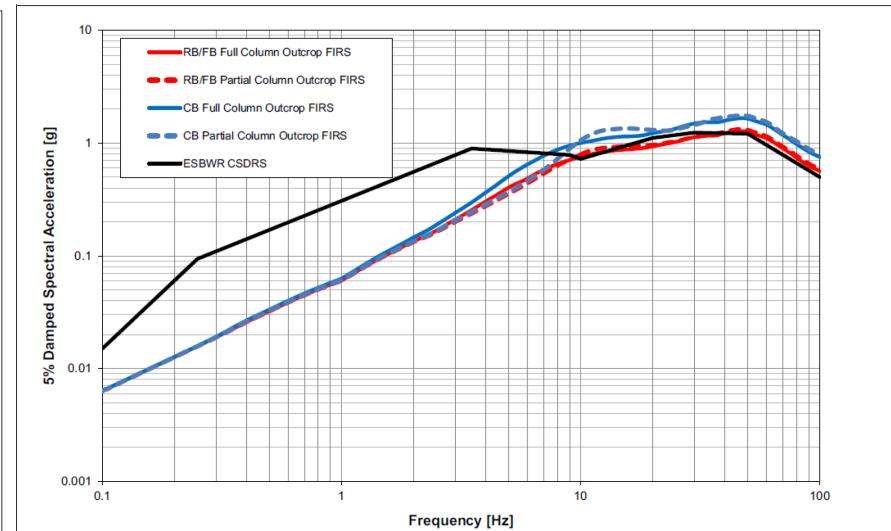
The Unit 3 site-specific seismic response spectra exceed the CSDRS at certain frequencies

NAPS COL 2.0-1-A
NAPS DEP 3.7-1
Figure 2.0-201 Comparison of Horizontal CSDRS with Unit 3 FIRS for RB/FB and CB



Horizontal

NAPS COL 2.0-1-A
NAPS DEP 3.7-1
Figure 2.0-202 Comparison of Vertical CSDRS with Unit 3 FIRS for RB/FB and CB



Vertical

Source: FSAR

Seismic Analyses and Evaluations

- Performed site-specific seismic response (SSI and SSSI) analyses to address CSDRS exceedances
 - Developed site-specific seismic demands on structures, systems and components and compared them to standard design loads
- Performed site-specific evaluations for Seismic Category I structures and components to address exceedances in DCD seismic load demands and demonstrate adequacy of designs for Unit 3 conditions
- Methodology and models used for the site-specific seismic response analyses and evaluations are consistent with the approved ESBWR DCD methodology

Seismic Evaluations Results

- Designs of DCD Seismic Category I structures are adequate for use at Unit 3
 - Made only minor reinforcement modifications to the standard design of a few reinforced concrete members
- Designs of DCD components and fuel are adequate for use at Unit 3
 - Site-specific evaluations performed for components evaluated in the DCD (Examples: PCCS Condenser, Fuel Racks, Fuel, and Control Rods)
 - Minor adjustments required for some components