

DOE Natural Phenomena Hazards (NPH) Workshop

October 25-26, 2011
Germantown, MD



U.S. DEPARTMENT OF
ENERGY

Office of the Chief
of Nuclear Safety



October 25 Agenda

Tuesday, October 25

7:30 a.m. Registration; coffee and bagels will be served

8:00 a.m. Welcome and introductions

8:10 a.m. Workshop Overview – Chip Lagdon, CNS

Theme 1: Soil-structure interaction issues

8:30 a.m. SASSI Subtraction Method Effects at Various DOE Projects
Greg Mertz, Michael Costantino, Thomas Houston, and Andrew Maham

9:00 a.m. Application of the Computer Program SASSI for Seismic SSI Analysis for DOE Facilities
Farhang Ostadan and Raman Venkata

9:30 a.m. BREAK

Oct. 25 Agenda (cont'd.)

- 9:45 a.m. SASSI Analytical Methods Compared with SHAKE Free-Field Results
Dennis Niehoff, Jayprakash Amin, Shawn Carey, and J. Bhatt
- 10:15 a.m. Structure Soil Structure Interaction Effects: Seismic Analysis of Safety-Related Collocated Structures
Shawn Carey, Dennis Niehoff, Nick Kennedy, Natalie Doulgerakis, and Leslie Sprague
- 10:45 a.m. Non-Linear Soil-Structure Interaction Analysis in the Time Domain
Justin Coleman
- 11:15 a.m. Time for Said Bolourchi on “low frequency” SASSI issue, and open discussion on SSI issues
- Noon-1:15 LUNCH (on your own)

Oct. 25 Agenda (cont'd.)

Theme 2: Structural and geotechnical modeling

- 1:15 p.m. The Uranium Processing Facility Finite Element Meshing Discussion
Loring Wyllie and Arne Halterman
- 1:45 p.m. Criteria for Selection of Seed Motions to Envelop Design Response Spectra
Michael Costantino, Greg Mertz, Andrew Maham, Carl Costantino, and Thomas Houston
- 2:15 p.m. Addressing Uncertainty in Design Inputs: A Case Study of Probabilistic Settlement Evaluations for Soft Zone Collapse at SWPF
Tom Houston, Greg Mertz, and Carl Costantino
- 2:45 p.m. BREAK

Oct. 25 Agenda (cont'd.)

- 3:00 p.m. Enhanced CPT Shear Wave Velocity Measurement at the Savannah River Site
D. Bruce Nothdurft, Alec McGillivray, and Brent Gutierrez
- 3:30 p.m. Liquefaction Triggering Evaluations at DOE Sites
Michael Lewis, Michael McHood, Rucker Williams, and Brent Gutierrez
- 4:00 p.m. Open discussion on structural and geotechnical modeling
- 4:30 p.m. Adjourn

October 26 Agenda

*Breakout session on current SASSI issues and potential actions
8:00 a.m. to 11:45 a.m., in Cloverleaf room 2073. Brent Gutierrez will moderate.*

Theme 3: NPH characterization and 10-year reviews

- 8:00 a.m. Best Practices in Literature Research for the 10-Year Extreme Wind Update at the DOE Pantex Site
Jim Nunley, John Baker, and Andrew Tinsley
- 8:30 a.m. Storm Water Modeling for the 10-Year Update at the DOE Pantex Site
Jim Nunley and Jeff Alcorn
- 9:00 a.m. Summary of the Revised Tornado, Hurricane, and Extreme Straight-Line Wind Characteristics at Nuclear Facility Sites
John D. Stevenson
- 9:30 a.m. BREAK

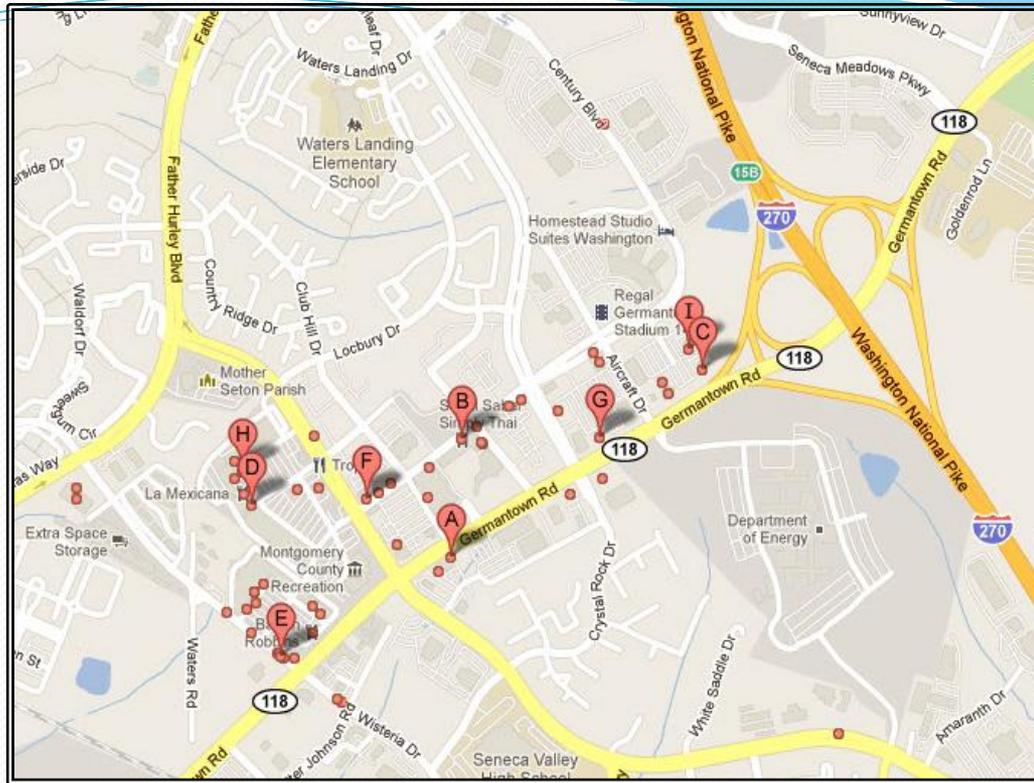
Oct. 26 Agenda (cont'd.)

- 9:45 a.m. A Method for Evaluating Fires After Earthquake Scenarios for Single Buildings
Raymond Tell and Elizabeth Kelly
- 10:15 a.m. The Need for an Integrated Risk Model
Michael Salmon and Lawrence Goen
- 10:45 a.m. Summary of New DOE-STD-1020-2011 (Proposed) Natural Phenomena Hazards Analysis and Design Criteria for DOE Facilities
Quazi Hossain, Joe Hunt, Robert Kennedy, Carl Mazzola, Steve McDuffie, and Gerald Meyers
- 11:15 a.m. Open discussion on NPH characterization and 10-year reviews
- 11:45 a.m.- LUNCH (on your own)
- 1:00 p.m.

Oct. 26 Agenda (cont'd.)

Theme 4: SSC classification and design

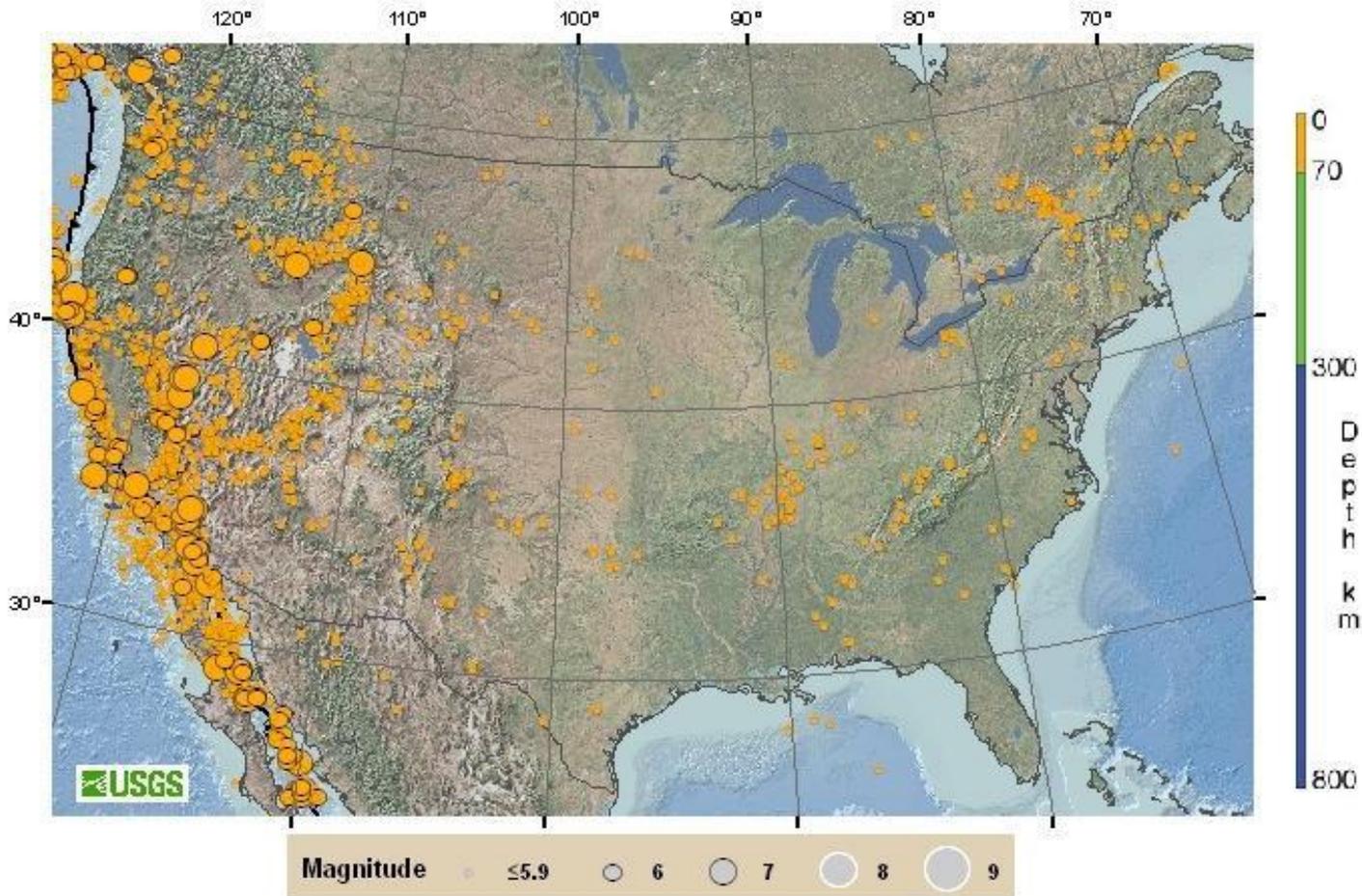
- 1:00 p.m. Seismic Analysis of Existing Facilities and Evaluation of Risk (SAFER)
Michael Salmon and Lawrence Goen
- 1:30 p.m. The Adequacy of Department of Energy Natural Phenomena Hazards
Performance Goals from an Accident Analysis Perspective
Jeff Kimball
- 2:00 p.m. Critical Issues in NPH Categorization and Limit State Selection of SSCs
Quazi Hossain
- 2:30 p.m. BREAK
- 2:45 p.m. Seismic Capacity of Threaded, Brazed, and Grooved Pipe Joints
Brent Gutierrez and George Antaki
- 3:15 p.m. Open discussion on SSC classification and design
- 4:00 p.m. Future actions and wrap-up
- 4:30 p.m. Adjourn



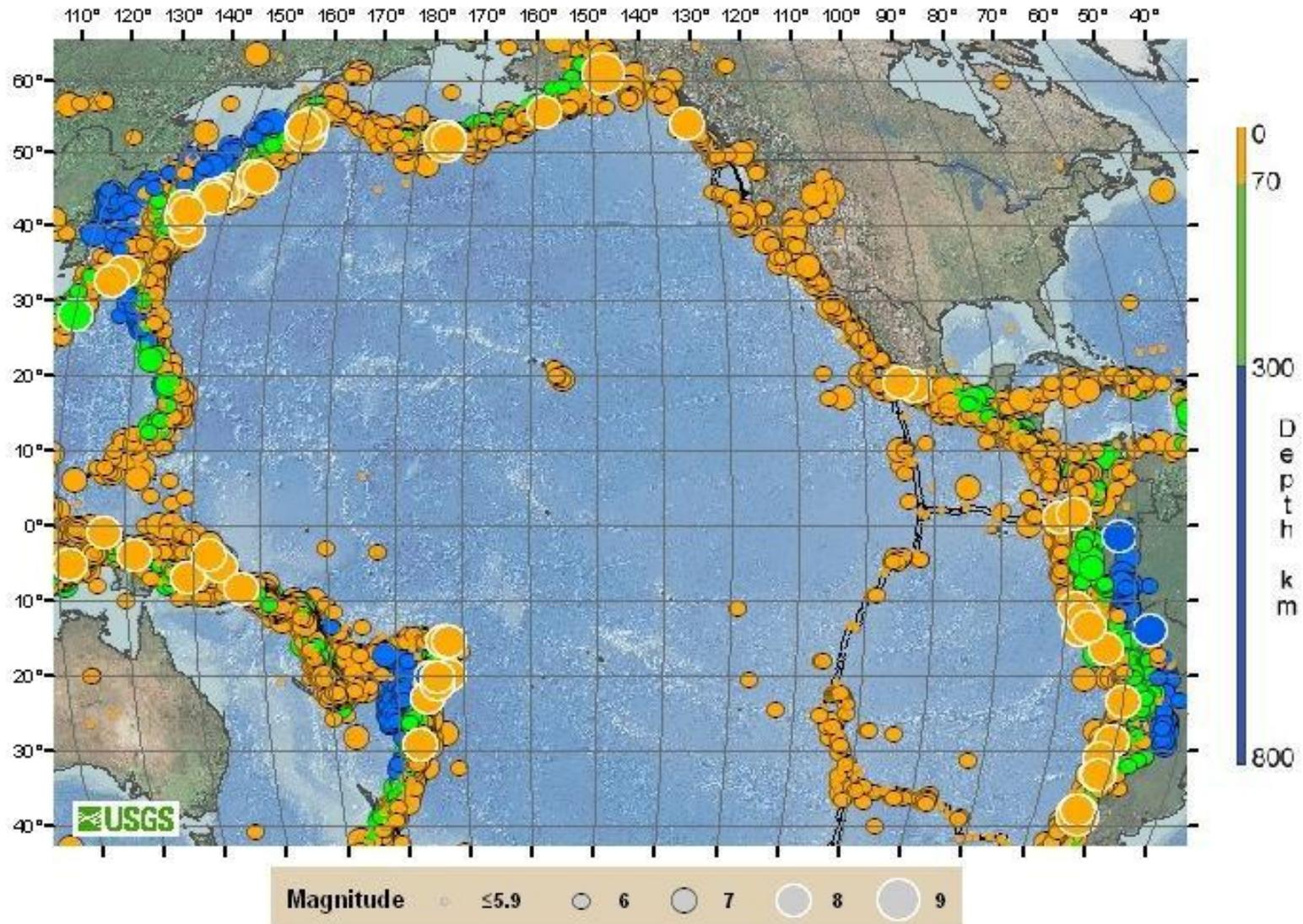
- A. Mi Rancho Restaurant - 19725 Germantown Rd # A
(301) 515-7480
- C. LongHorn Steakhouse - 20017 Century Blvd. (240) 686-2060
- E. Pelican Pete's - 12941 Wisteria Drive (301) 428-1990
- G. Carrabba's Italian Grill - 19935 Century Blvd. (240) 686-1100
- I. Bailey's Pub and Grille - 20021 Century Boulevard
(301) 515-8880

- B. Sabai Sabai Simply Thai - 19847 Century Boulevard
(301) 528-1400
- D. Pandini's Restaurant - 13000 Middlebrook Road (301) 540-6600
- F. Ruby Tuesday - 19800 Century Boulevard (301) 528-2688
- H. Hard Times Café - 13032 Middlebrook Road (240) 686-0150

USGS Earthquake Map



USGS Earthquake Map



Workshop Purpose

- Understand current efforts in NPH and their significance
 - Theme 1: Soil-structure interaction issues
 - Theme 2: Structural and geotechnical modeling
 - Theme 3: NPH characterization and 10-year reviews
 - Theme 4: SSC classification and design
- Promote thinking and questioning in fostering site improvements
- Promote continuous improvement