

APPENDIX A: PROJECT PARTICIPANT BIOGRAPHIES

TI TEAM

William R. Lettis, PhD, of Lettis Consultants International, Inc., is the Technical Integrator (TI) lead for the SSHAC SSC Project. He has over 30 years' experience performing regional and site investigations to assess geologic and seismic hazards for large engineered facilities including bridges, dams, nuclear and fossil fuel plants, pipelines, and liquid natural gas terminals. With over 100 publications, he is a recognized authority on the assessment of seismic hazards, both in the United States and throughout the world. As peer reviewer, Dr. Lettis was chosen to observe the SSHAC Level 3 assessment of potential seismic sources and attenuation models for potential nuclear power plant sites in the United Arab Emirates. He provided recommendations to ensure that the results from the SSHAC meeting formed a solid basis for developing the ground motion response spectra and would be acceptable during regulatory review of the construction license application. He is also the TI lead for a Level 3 SSHAC assessment of seismic sources for the BC Hydro project and directed the development of the tectonic framework. Dr. Lettis was in the lead position of oversight, providing direction and input for the seismic source applications for 18 of the current COL applications in the United States. Dr. Lettis earned his BS in geology from Humboldt State University, and his MS and PhD in geology from the University of California, Berkeley.

Hans AbramsonWard, of Lettis Consultants International, Inc. is an engineering geologist with more than fourteen years of professional consulting experience related to geologic hazard assessment and engineering projects both domestic and abroad. His areas of expertise include engineering geology, geologic hazards, Quaternary geology, and seismic source characterization for probabilistic seismic hazard analysis (PSHA). He applies his broad technical skills to a variety of projects, which vary widely in both scale and complexity. As an experienced field geologist, he routinely characterizes sites with complex geologic conditions through careful compilation and review of available data followed by design and implementation of field mapping and exploration programs. Mr. AbramsonWard provides earthquake geology and fault characterization expertise and expertise with the interpretation of marine geophysical data for purposes of characterizing faulting and active tectonics. Mr. AbramsonWard earned his AB from the University of California, Berkeley, and his MS in geology from the Humboldt State University.

Glenn Biasi, PhD, of the Nevada Seismological Laboratory at the University of Nevada Reno, is a Research Associate Professor. Dr. Biasi has over 27 years of experience in geophysics, seismology, paleoseismic analyses, and seismic hazard related studies. Dr. Biasi has conducted funded research on multiple projects related to seismic hazard assessment, working with and for entities like GNS Science, the USGS National Earthquake Hazard Reduction Program (NEHRP), the Air Force Research Laboratory, and the Department of Energy. Dr. Biasi was a core member of the Working Group on California Earthquake Probabilities for the Uniform California Earthquake Rupture Forecast 3 (UCERF3) project. Lead contributions included paleoseismic rupture rates for California faults, distribution of slip in ruptures, data and probabilities for the incidence of fault-to-fault ruptures, with supporting contributions in paleoseismic earthquake

detection and procedures for UCERF3 rupture development. Dr. Biasi serves as a TI Team support staff member for the Palo Verde Nuclear Generating Station Seismic Source Characterization, providing analysis of UCERF3 and estimates of equivalent Poisson ratios. Dr. Biasi earned his BS from the University of California, San Diego, an MS from the University of Southern California, an MS from University of California, Riverside, and a PhD from the University of Oregon.

John Caskey, PhD, of San Francisco State University, is an Associate Professor and an independent geologic and geotechnical consultant. Dr. Caskey is a structural geologist with 20 years' experience working in disciplines emphasizing neotectonics and seismic hazards of the coastal central and northern California and of the Central Nevada Seismic Belt and Death Valley regions of the Basin and Range province. Dr. Caskey earned his BA in geology from Humboldt State University and his MS and PhD in geology from the University of Nevada Reno.

Kathryn Hanson, of Amec Foster Wheeler plc in Oakland, California is a geologist with more than 37 years of applied research and consulting experience, conducting and directing investigations to quantitatively assess geologic hazards to critical facilities in the United States and abroad. Her work has involved the integration of earth science data and treatment of the uncertainty in these data to assess seismic, volcanic, and related geohazards in a variety of tectonic environments, both onshore and offshore. Ms. Hanson's consulting experience has emphasized regional and site-specific geologic, seismologic, and geophysical studies to identify and evaluate geohazards such as potential earthquake ground motions, surface faulting and related secondary deformation, landslides, and tsunamis. She was the technical lead for SSC and surface faulting investigations in support of ESP and COL applications for several potential nuclear power plant sites and existing nuclear plants in the Central and Eastern United States, and she participated as a reviewer for similar studies for new-build nuclear plants in the United Kingdom. She has extensive SSHAC 3 experience, having been a key participant in the EPRI/DOE/NRC Central and Eastern United States SSC Project, the BC Hydro PSHA, the Hanford PSHA, and the Thyspunt nuclear power plant in South Africa SSHAC 3 projects. Ms. Hanson earned her BS from Iowa State University and her MS from the University of Oregon.

Stephen Thompson, PhD, of Lettis Consultants International, Inc., is a Professional Geologist with over ten years of consulting experience focused on seismic and other geologic hazards in a variety of geologic environments both nationally and internationally. He has conducted numerous seismic hazards investigations for lifelines, dams, nuclear power plants, and other critical facilities, providing both field-based data collection and office-based numerical analysis. Dr. Thompson specializes in seismic source characterization for probabilistic and deterministic seismic hazard analysis (PSHA and DSHA) and fault rupture hazard characterization for siting studies and for probabilistic and deterministic fault displacement hazard analysis (PFDHA and DFDHA). Dr. Thompson earned his AB in geology from Dartmouth College, and his MS and PhD in geology from the University of Washington.

PROJECT TECHNICAL INTEGRATOR

Norman Abrahamson, PhD, of Pacific Gas and Electric and the University of California, Berkeley, has extensive experience in the practical application of seismology to the development of deterministic and probabilistic seismic criteria (response spectra, and/or time histories) for engineering design or analyses. He has been involved in developing design ground motions for hundreds of projects including dams, bridges, nuclear power plants, nuclear waste repositories, water and gas pipelines, rail lines, ports, landfills, hospitals, electric substations, and office buildings, both in the Western US and abroad. Dr. Abrahamson has worked in evaluating numerical modeling predictions of ground motions as part of several projects including the Diablo Canyon LTSP, EPRI Eastern U.S. ground motion study, SCEC scenario earthquake time history study, and Yucca Mountain scenario earthquake time history study. At PG&E, Dr. Abrahamson is responsible for developing ground for seismic evaluations of PG&E facilities including nuclear power plants, nuclear waste storage, dams, penstocks, electric substations, office buildings, and gas pipelines. He is also responsible for the technical management of the PG&E seismic research program funded through the Pacific Engineering Research Center. As a consultant, Dr. Abrahamson was the leader of the ground motion characterization study for the proposed nuclear waste repository at Yucca Mtn. Dr. Abrahamson is currently the leader of the ground motion and site response characterization studies for the PEGASOS project in Switzerland, a PSHA study conducted to evaluate the seismic hazard at the Swiss nuclear power plants, including probabilistic treatment of site response effects.

HAZARD ANALYST

Nicholas Gregor, PhD, is a seismological consultant in Oakland, California and is the hazard analyst for the SSHAC Level 3 project. He has over 20 years of experience in probabilistic seismic hazard analysis studies and ground motion prediction equation (GMPE) development and application. Dr. Gregor is also an expert in the development of spectrum compatible time histories, and he has developed time histories for a wide range of projects including the PEGASOS Refinement Project. His involvement in these types of studies has been as the primary technical lead and or as a technical reviewer and cover a wide range of project types from dams to LNG facilities to nuclear power plant studies. Recently Dr. Gregor was a resource expert for the ground motion characterization (GMC) part of the BC Hydro SSHAC Level 3 study. As part of his involvement, Dr. Gregor is a co-author for the development of the BC Hydro GMPE model for subduction zone earthquake ground motions. Dr. Gregor has also participated in the Hanford SSHAC Level 3 as a resource expert. He is also performing the same duties as the hazard analyst for the Southwest United States (SWUS) Ground Motion Characterization SSHAC Level 3 project. Dr. Gregor earned his AB and PhD from the University of California at Berkeley.

DATABASE MANAGER

Serkan Bozkurt, of Lettis Consultants International, Inc., is currently managing the GIS database for Diablo Canyon Nuclear Power Plant Seismic Hazard Update SSHAC Level-3 Project. He has over 17 years of experience on Geographic Information Systems (GIS), information management (IM) and Information Technologies (IT) projects to support geoscience projects such as seismic hazard analysis for proposed or existing nuclear power plants, geologic and geotechnical investigations for oil facilities, offshore platforms, pipelines, bridges, dams, levees, and similar critical facilities. He is an expert in a wide range of GIS practices including 3D GIS analysis, scientific visualizations, animations, remote sensing technologies, digital elevation models, LiDAR, InSAR, multibeam and radar data. He has managed GIS and database needs of several seismic hazard projects including COL applications for nuclear power plants and SSHAC Level 2 / Level 3 studies for nuclear and hydro power plants around the world. Some of his recent SSHAC project activities include SSHAC Level-3 studies for Central and Eastern United States SSC Project, South Africa Thyspunt nuclear power plant PSHA study, BC Hydro PSHA Project and SSHAC Level-2 Project for the EPRI (2004, 2006) Ground-Motion Model (GMM) Review Project. Mr. Bozkurt earned his BS and MS degrees from Mimar Sinan University in Istanbul, Turkey.

PARTICIPATORY PEER REVIEW PANEL

Kevin Coppersmith, PhD, of Coppersmith Consulting, Inc., is the Participatory Peer Review Panel Lead of the DCCP SSC project. He has 33 years of consulting experience, with primary emphasis in probabilistic hazard analyses (seismic, volcanic, and related geohazards) for design and review of critical facilities within regulated environments. He has pioneered approaches to characterizing earth sciences data and their associated uncertainties for PSHAs for a range of critical facility sites, including nuclear power plant sites, high-level waste repositories, dams, offshore platforms, pipelines, and bridges. Dr. Coppersmith has extensive experience in leading SSHAC Level 3 and 4 studies for nuclear facilities, including serving as TFI or TI Lead for SSHAC Level 4 seismic hazard studies at the Yucca Mountain, Nevada, the PEGASOS SSHAC Level 4 study for four nuclear power plants in Switzerland, BC Hydro SSHAC Level 3 project, the SSHAC Level 3 PSHA conducted for the Thyspunt nuclear power plant in South Africa, the SSHAC Level 3 PSHA for the Hanford DOE site, Washington, and the Central and Eastern United States Seismic Source Characterization for Nuclear Facilities project, which was a SSHAC Level 3 project conducted under the joint sponsorship of the NRC, DOE, and several nuclear utilities. In addition to conducting more than 100 major projects worldwide as part of his consulting career, Dr. Coppersmith has published more than 60 papers in peer-reviewed journals, served as a member of the Board of Directors of the Seismological Society of America, and has been a member of the editorial boards of the journal Earthquake Spectra and the Journal of Geophysical Research, Solid Earth. Dr. Coppersmith earned his BS from Washington & Lee University and his PhD from the University of California, Santa Cruz.

Steven Day, PhD, of San Diego State University, is a professor of seismology. Dr. Day is a recognized expert in ground motions with over 30 years' experience with methods for the numerical simulation of ground motion. He has experience with both kinematic and dynamic

approaches for simulation of ground motions and has participated in the SCEC ground motion simulation studies. He also has experience in simplifying results of numerical simulations into useable engineering models as part of the 2008 NGA project. Dr. Day has served on the NRC peer review panel for the 1985-1991 DCPD Long Term Seismic Program and also as a member of the seismic technical advisory board for both DCPD and SONGS. Dr. Day's experience with the SSHAC process is as a member of the PPRP for the SWUS GMC study. Dr. Day earned his Ph.D. from the University of California, San Diego.

Neal Driscoll, PhD of the University of California, San Diego, is a professor at Scripps Institution of Oceanography. Dr. Driscoll has over twenty-five years of experience in the field of marine geology and geophysics, with demonstrable expertise in geophysical data collection, processing, and geologic interpretation. He is well respected and well published in his field. Dr. Driscoll served as a PPRP member for the San Onofre Nuclear Generating Station (SONGS) SSHAC Level 3 Seismic Source Characterization. Dr. Driscoll was selected as a member of the PPRP because of his well-rounded expertise in marine geology and geophysics and his demonstrated application of the SSHAC process. This expertise and experience make him well suited for the role of PPRP member for the DCPD SSHAC Level 3 Seismic Source Characterization. His procedural knowledge and concurrent application of the SSHAC process will serve to ensure this Project adheres to the applicable regulatory guidelines, and his technical knowledge of the tectonic issues of interest to the DCPD will serve to ensure the center, body, and range of the data, models, and methods of the technically informed community are appropriately integrated and evaluated in this Project. Dr. Driscoll earned his BS from the University of New Hampshire, his MS from the University of Rhode Island, and a Ph.D. from Columbia University.

Thomas Rockwell, PhD, of San Diego State University is a professor of neotectonics and Quaternary geology and an internationally renowned paleoseismologist and geomorphologist who has published over 130 articles in major international journals, coauthored a number of book chapters, published 40 papers in conference proceedings and guidebooks, and coauthored over 300 papers presented at professional meetings. He is an expert on the tectonics of California, Baja California, and Turkey. He has conducted extensive trenching programs to date earthquakes on faults in the western U.S., Middle East, Asia, Mexico, Panama, Portugal, Spain, the Czech Republic, Chile and Argentina. He routinely uses soil stratigraphy and geomorphology to assess rates and recency of fault activity. Providing input on the age of the soils or geomorphic surfaces of interest, and assisting with fault evaluations to resolve recency and magnitude of movement, he often acts as a consultant for local geotechnical and archaeological consulting firms. In this capacity, Dr. Rockwell has 35 years consulting experience working on seismic hazard assessment of major dams, LNG facilities, nuclear power plants, the Panama Canal expansion, and other large infrastructure projects. In addition to his duties as at San Diego State University, Dr. Rockwell has been the principal investigator for numerous research studies funded by the National Science Foundation, the United States Geological Survey, and the Southern California Earthquake Center. Dr. Rockwell earned his BS in Geology from the University of Nevada, Reno, and a Ph.D. in Geology from the University of California, Santa Barbara.

PROJECT MANAGER

Kent Ferre, of Pacific Gas and Electric, is a Licensed Civil and Structural Engineer and the Project Manager for the Diablo Canyon Seismic Hazard Update project. Mr. Ferre has over 30 years' experience in working as a Design Engineer, Project Engineer, and Project Manager in many departments including Substation Engineering, Gas Transmission, and Power Generation. Mr. Ferre is currently the Manager of the Geosciences Department at PG&E and manages PG&E's Earthquake Risk Management Program for the gas, electric and corporate real estate business units. Mr. Ferre earned his BS degree in Civil Engineering from Montana State University.