

**DOCKETED**

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**State of California**

**California Natural Resources Agency**

**M e m o r a n d u m**

**To:** Patty Monahan, Presiding Member  
Kourtney Vaccaro, Associate Member

**Date:** April 7, 2022

**From: California Energy Commission**  
**715 P Street, MS 40**  
**Sacramento, CA 95814-5512**

Lisa Worrall  
Senior Environmental Planner  
(916) 661-8367

**Subject: STAFF'S OPENING TESTIMONY WITH DECLARATIONS AND RESUMES FOR THE  
SAN JOSE DATA CENTER SMALL POWER PLANT EXEMPTION PROCEEDING (19-  
SPPE-04)**

In accordance with the *Revised Scheduling Order* filed on March 15, 2022 (TN 242335), California Energy Commission staff hereby submits its Opening Testimony. Staff's testimony consists of documents previously filed in the project's docket, which are: the *Final Environmental Impact Report Part 1 and Part 2*, (TN 241977-1 and TN 241977-2, respectively), the *Addendum to the Final Environmental Impact Report Part 1 for the San Jose Data Center SPPE Proceeding* (TN 242489), and the *San Jose Data Center Mitigation Monitoring and Reporting Program* (MMRP) (TN 242492). Staff's declarations and resumes supporting this testimony are attached to this memorandum.

**DECLARATION OF  
Abdel-Karim Abulaban, Ph.D., P.E.**

I, Abdel-Karim Abulaban, declare as follows:

1. I am employed by the California Energy Commission as an Associate Civil Engineer.
2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.
3. I prepared the staff testimony on **Hydrology & Water Quality, Noise, Utilities and Service Systems, and Wildfire sections** for the **SAN JOSE DATA CENTER** based on my independent analysis of the Application for Small Power Plant Exemption and supplements hereto, data from reliable documents and sources, and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issues addressed therein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 3/15/2022 Signed: 

At: Sacramento, California

# ***AbdelKarim Abulaban***

## ***Education***

**Ph.D. Civil Engineering**, University of Minnesota (*Hydrology and Water Resources*).

Thesis title: Modeling the transport of sorbing chemicals in heterogeneous porous media.

**B.S. and M.S. Civil Engineering**, Yarmouk University, Jordan (*Water Resources*).

## ***Registration:***

Registered Professional Engineer (Civil) with the state of California (Lic. No. 76030)

## ***Employment***

### **June 2010-Present: Associate Civil Engineer**

CA Energy Commission, Sacramento, CA.

Reviewing and evaluating the construction, operation, and maintenance of energy facilities and power plants for water supply, wastewater quality and disposal, and stormwater management to assess the potential impacts to human health and the environment. Also, reviewing sensitive project sites that may have issues involving flooding and stormwater management, discharges to impaired water bodies, depleted groundwater and surface water resources, and wastewater management and disposal methods, in addition to responding to soils or water resources issues that may arise regarding power plant operations. This work includes conducting investigations to determine if any violations of the program's regulations, the Energy Commission's conditions of certification, or the CA Environmental Quality Act (CEQA) have taken place.

### **Dec. 2006-May 2010: Water Resources Engineer**

CA Dept. of Water Resources, Fresno, CA.

In charge of hydraulic modeling and sediment transport for the San Joaquin River restoration project. Perform 1- and 2-D hydraulic analysis to support restoration of the San Joaquin River for the purpose of improving spawning/rearing habitat, enhancing floodplain connectivity, and improving riparian corridor.

### **Dec. 2001-Dec. 2006: Retained Hydrologist**

J.L. Nieber & Associates, Hydrologic Consultants, Lindstrom, Minnesota, USA.

Hydrologic analysis and assessment of environmental impact of contamination incidents on ground water resources, as well as design of remediation plans. Contaminants analyzed included hydrocarbons, chlorinated solvents, as well as agricultural chemicals.

### **Dec. 90 – Dec. 93: Retained Hydrologist.**

BAUMGARTNER ENVIRONICS, INC, Olivia, Minnesota, USA.

Assessment of the environmental impact of contamination incidents on groundwater resources, and design of action plans.

### **Sep. 2003-Sep. 2005:**

Assistant Professor, Hashemite University, Zarqa, Jordan.

Taught general and specialized courses in the civil engineering department: Water and Wastewater Treatment Methods; Wastewater Engineering; Statics; Engineering Drawing; Visual Communication. rs

### **June – August, 96, 97, 98, 2000:**

Army High Performance Computing Research Center, Minneapolis, Minnesota.

Taught and helped teach the Summer Institute course in hydrology and transport in porous media. The Summer Institute is a summer course offered to promising upper class students from member institutions. The ground water flow and transport group normally has about 4 students from different backgrounds. I was involved in training the students to use a particle tracking solute transport code which I developed, and also to use the DoD's Ground Water Modeling System, GMS; however, in the summer of 2000 I was in charge of the whole group consisting of four students.

### **August, 1997:**

University of Minnesota, Minneapolis, Minnesota, USA.

Taught a short course on the application of the Department of Defense's Ground Water Modeling System, GMS, offered by the American Society of Agricultural Engineers and attended by about 40

professionals and academicians from around the United States as well as several countries around the world.

## *Research*

### **i- Ground Water Flow and Transport:**

#### **Oct. 93-Mar. 2002: Research Associate**

Biosystems and Agricultural Engineering Department, University of Minnesota, USA.

Modeling single and multi-phase flow and multicomponent transport in variably saturated heterogeneous porous media with chemical transformation such as adsorption and biodegradation. A computer model based on the Random Walk Particle Tracking technique was successfully developed and applied for this purpose. Because of the large memory and CPU time requirements, the model was developed and implemented using on a **supercomputer platform** through several grants from the Minnesota Supercomputer Center. This work was continued in a joint effort between the Biosystems and Agricultural Engineering Department and the Army High Performance Computing Research Center through a grant from the US Army Corps of Engineers Waterways Experiment Station, Vicksburg, MS.

I also was involved in the modeling of flow and transport through preferential flow paths caused by unstable wetting fronts. Sample results for a simple scenario can be found on the World Wide Web by visiting <http://www.arc.umn.edu/education/SummerInst/1996/>

### **ii- Surface Water Hydrology:**

#### **Oct. 93- Jun. 95: Post-Doctorate Associate**

Department of Biosystems and Agricultural Engineering, University of Minnesota, Saint Paul, Minnesota, USA.

Analysis of the impact of and best management practices of surface tile inlets on the water quality in the Minnesota River basin.

#### **Sep. 84 - Jun. 87: Research Assistant**

Civil Engineering Dept., Yarmouk University, Irbid, Jordan.

Development of Intensity-Duration-Frequency (IDF) Curves for design rain storms in Irbid Region. This research was supported by a grant from Yarmouk University.

## *Sample Publications*

Hamasha, S.; Abu Allaban, M; **Abulaban A.** (2008). Modeling Atmospheric Turbidity at Zarqa Area Using Meteorological Data. JJP, 1:(1), 53-60.

Munjed Al-Sharif, J. Abu Ashour, **A. Abulaban**, and S. Al-Shar'a, (2007), Effect of Soil-Water Separation Technique on the Estimation of Bacterial Adsorption onto Soil, Jordan Journal of Civil Engineering, Vol.(1), No. 2. pp. 295-302.

Peters, J.F., Howington, S.E., Maier, R.S., **Abulaban, A.**, and Nieber, J.L (2002). *Imbedding velocity autocorrelation into simulators for constituent transport through porous media*. Computational Methods in Water Resources: Proceedings of the Xivth International Conference on Computational Methods in Water Resource Proceedings, Delft, The Netherlands, pp.405-412.

**Abulaban, A.** and J.L. Nieber (2000). *Modeling plume behavior of non-linearly sorbing solutes in saturated heterogeneous porous media*. *Advances in Water Resources*, **23**, pp. 893-905.

**Abulaban, A.**, J.L. Nieber, and D. Misra (1998). *Modeling plume behavior of non-linearly sorbing solutes in saturated homogeneous porous media*. *Advances in Water Resources*, **21** (6) pp. 487-498.

Nguyen, H.V., J.L. Nieber, and **A. Abulaban** (1998). *An improved method to model gravity-driven unstable flow in porous media*. International Workshop 'Soil Water Repellency: Origins, Assessment, Occurrence, Consequences, Modeling, and Amelioration', Wageningen, The Netherlands, September 2-4, 1998.

**DECLARATION OF**  
**Robert Anderson, P.G. 6252, C.E.G. 2003**

I, Robert Anderson, declare as follows:

1. I am employed by the California Energy Commission as an Engineering Geologist.
2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.
3. I reviewed the staff testimony on the **Geology, Soils and Mineral Resources** sections for the **SAN JOSE DATA CENTER** Final Environmental Impact Report.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issues addressed therein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 03/03/2022 Signed: Robert Anderson

At: Sacramento, California

## **Resume**

Robert Lowell Anderson P.G., C.E.G.  
California Energy Commission  
715 P Street  
MS-46  
Sacramento, California 95814

### **Education:**

B.A. Geology, 1982, California State University, Sacramento  
M.S. Homeland Security, 2008, San Diego State University

### **Registrations:**

Professional Geologist, California, Number 6252  
Certified Engineering Geologist, California, Number 2003

### **Most Recent Employment:**

**California Energy Commission (CEC)**  
**January 2022 to Present**  
**Retired Annuitant, Engineering Geologist**

At the CEC, I serve as a retired annuitant Engineering Geologist in the Engineering Office of the Siting, Transmission and Environmental Protection Division. I am a mentor for staff Engineering Geologists and lead Engineering Geologist on natural hazards and specifically seismic hazards.

**Alfred E. Alquist, California, Seismic Safety (Commission)**  
**May 2001 through December 2019**  
**Senior Engineering Geologist**

I provided expert subject matter support on issues related to geology, faulting and natural hazards assessment with respect to earthquakes, tsunamis and volcanism to the Commission, state and local governments and the public, including the Governor's Office of Emergency Services.

I have made multiple presentations about seismic hazard assessment, seismic safety and preparedness to the public and professional organizations and occasionally decision makers from several countries.

From 2001 through 2019, I coordinated applied seismic hazard and faulting research projects and interfaced with researchers from the United States Geological Survey and internationally. In addition, I studied select earthquakes worldwide to gain insight how the earthquakes affected the built environment and focused on geological and

seismological issues affecting the performance and resiliency of infrastructure. This learning from earthquakes activity, focused on what observations, data and issues that could be useful especially in California. I reported out staff findings and recommendations along with the Commission's Structural Engineer and reported to the Commission Executive Director and Commissioners. I also co-authored the seismic hazards portion of the California Multi-Hazard Mitigation Plan.

From time to time I served as the Commission staff on the California Strong Motion Advisory Committee (CSMIAC). The Commission committee CSMIAC, oversaw the California Strong Motion Instrument Program.

In September 2011, I participated in the American Association for the Advancement of Science (AAAS) Legislative Day, where I met with various congressional representative staff to discuss science and public policy.

From 2011 through 2019, I provided subject matter support to the California Public Utility Commission reviewing seismic and tsunami hazard assessment of California nuclear power plants.

From January 2007 through June 2013, I provided subject matter support to the California Earthquake Authority for earthquake hazards and contract management.

Projects overseen included the Uniform California Earthquake Rupture Forecast (UCERF) and both the Next Generation Attenuation (NGA) and Next Generation Attenuation West (NGA West) projects.

From October 2006 through December 2019, I provided subject matter support for seismic hazard assessment for nuclear power plants in California to the California Energy Commission.

**California Energy Commission  
December 1998 through April 2001  
Associate Engineering Geologist**

I provided subject matter support for the siting and construction of non-nuclear thermal power plants and related facilities. I wrote the geology and paleontology sections of preliminary and final staff assessments for power plants and testified in hearings for licensing of same.

Applied research project overseen included the Electric System Seismic Safety Reliability project for the California's Electric Transmission system, Uniform California Earthquake Rupture Forecast (UCERF) and both the Next Generation Attenuation (NGA) and NGA West projects. I also investigated earthquake effects on electric power systems worldwide.



**California Integrated Waste Management Board (Board)  
December 1990 through November 1998  
Associate Engineering Geologist**

I reviewed and inspected landfill projects in California. I provided subject matter expertise in landfill performance during earthquakes and slope stability of landfills to local enforcement agency's the State and the United States Environmental Protection Agency. I supported training of and provided subject matter expertise to Local Enforcement Agencies throughout California.

From 1982 to 1990, I was a consultant for various companies, worked for the United States Army Corps of Engineers at Fort Irwin, California and worked in the oil and gas industry in the Santa Barbara Channel and Bering Sea, Alaska.

**Overseas Lectures and Presentations**

In January 2006, I made several presentations in Johannesburg and Pretoria, Republic of South Africa to the Council of Scientific and Industrial Research and the Association of Engineering Geologists on the status of applied earthquake research in California.

I made a presentation on the status of applied earthquake research in California at the American Geophysical Union meeting in Acapulco, Mexico in April, 2007.

I made multiple lectures on earthquake forecasting to the geological engineering faculty, students and staff at Gadjah Madja University, Yogyakarta, Indonesia in December 2007. In 2007, I also released a book on the Yogyakarta earthquake of May 2006 in Yogyakarta after field work there in July 2006.

I made a presentation on seismic hazard assessment at the University of the West Indies, in Mona, Jamaica in January 2011.

I made a presentation and participated in discussions on seismic hazard assessment to the Kyrgyzstan NVD in Osh, Kyrgyzstan in April 2011, as a guest of the Montana National Guard.

**DECLARATION OF  
J. Brewster Birdsall**

I, James Brewster Birdsall, declare as follows:

1. I am employed by Aspen Environmental Group as a contractor for the California Energy Commission.
2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.
3. I prepared the staff testimony on **Air Quality and Greenhouse Gas Emissions** for the **SAN JOSE DATA CENTER** based on my independent analysis of the Application for Small Power Plant Exemption and supplements hereto, data from reliable documents and sources, and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issues addressed therein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: March 2, 2022 Signed: *J. Brewster Birdsall*

At: San Francisco, California



# Brewster Birdsall

SENIOR ASSOCIATE,  
AIR QUALITY AND ENGINEERING



**PROFILE:** Mr. Birdsall is an engineer and environmental scientist who specializes in analyses of air quality and greenhouse gas (GHG) emissions with extensive experience in the areas of energy facility siting and infrastructure planning, permitting, analysis, and special studies. He has over 25 years of consulting experience focusing on climate change, air resources, and air quality and noise-impact modeling, and assessment under the California Environmental Quality Act (CEQA), National Environmental Policy Act (NEPA), and the Clean Air Act.

## EDUCATION:

- MS, Civil Engineering, Colorado State University, 1993
- BS with High Honors, Mechanical Engineering, Lehigh University, 1991

## PROFESSIONAL EXPERIENCE

### SITING CASES – REVIEW OF APPLICATIONS TO CONSTRUCT POWER PLANTS

*California Energy Commission, 2001-present*

Mr. Birdsall assists the California Energy Commission (CEC) as a technical specialist by reviewing and providing testimony on Applications for Certification (AFC) for new power plants throughout California, including natural gas-fired, solar, and geothermal facilities and installations of standby backup generators. This work addresses the potential effects of new power plants on overall electricity system operation, achieving California's GHG goals, avoiding deterioration of air resources, and offsetting air pollutant emissions.

- San Jose City Data Center (2019-ongoing). Air quality and GHG assessment of standby backup generators.
- Laurelwood Data Center (2019). Air quality and GHG assessment of standby backup generators.
- Humboldt Bay Generating Station (2016-2018). Air quality review of changes in diesel fuel firing.
- Redondo Beach Energy Project (2012-2014). Provided air quality and GHG assessment support for a proposed 496 MW replacement power plant using fast-starting combined cycle technology.
- Pio Pico Energy Center (2011-2012). Provided air quality assessment support for proposed 300 MW power plant in San Diego County adjacent to the existing Otay Mesa Generating Project.
- Mariposa Energy Project (2009-2011). Lead technical staff for a 200 MW fast-starting simple cycle power plant capable of integrating renewable resources in eastern Alameda County.
- Oakley Generating Station (2009-2011). Lead technical staff for air quality and greenhouse gas assessment for a 624 MW fast-starting combined cycle power plant in Contra Costa County.
- Marsh Landing Generating Station (2008-2010). Lead technical staff for air quality and greenhouse gas assessment for new 760 MW fast-starting power plant in Contra Costa County.
- Avenal Power Center (2002, 2008-2009). Prepared precedent-setting greenhouse gas impact evaluation and air quality assessment for 600 MW combined cycle power plant in Kings County. Identified the roles played by fossil-fueled and renewable resources together in furthering California's GHG reduction goals.
- Tracy Combined Cycle Power Plant (2008-2010). Lead technical staff for air quality and greenhouse gas assessment for new 314 MW power plant in San Joaquin County.
- Turlock Irrigation District Almond 2 Power Plant (2009-2010). Lead technical staff for air quality and greenhouse gas assessment for new 174 MW simple cycle power plant near Ceres.

- Lodi Energy Center (2008-2010). Lead technical staff for air quality and greenhouse gas assessment for new 255 MW combined cycle power plant in Lodi.
- Vaca Station Power Plant (2008-2009). Lead technical staff for air quality and greenhouse gas assessment for new 660 MW combined cycle power plant near Vacaville, Solano County.
- San Joaquin Solar 1 and 2 (2008-2010). Lead technical staff for air quality and greenhouse gas assessment for two new solar and biomass hybrid power plants in Fresno County.
- Carrizo Energy Solar Farm (2009). Provided air quality and greenhouse gas assessment for proposed 177 MW solar thermal power plant in San Luis Obispo County.
- Bottle Rock Geothermal Power Plant (2006). Prepared air quality assessment to allow the re-firing of this 55 MW renewable energy facility after 15 years of non-operation.
- Eastshore Energy Power Plant (2006-2008). Lead technical staff for air quality assessment for new 116 MW power plant with 14 natural gas-fired engine generators in Hayward, Alameda County.
- Humboldt Bay Repowering Project (2006-2008). Lead technical staff for air quality assessment for new 163 MW power plant with 10 dual-fuel diesel/natural gas-fired engine generators in Eureka.
- Inland Empire Energy Center (2001-2003, 2005-2006). Lead technical staff for air quality assessment for original 670 MW and amendment for 810 MW combined cycle power plant near Romoland in Riverside County. The project is the first use of the General Electric H System in the US.
- Blythe Energy Project Phase II (2002-2006). Lead technical staff for air quality assessment and technical staff for water conservation program including cooling water supply and dry cooling system studies for new 520 MW combined cycle power plant and affiliated 118-mile transmission line in the Mojave Desert and Coachella Valley of Riverside County.
- Tesla Power Plant (2001-2004). Lead technical staff for air quality assessment and analysis of visible plumes and established major emissions offset program for new 1,120 MW combined cycle power plant and 11-mile recycled water pipeline in rural eastern Alameda County near Tracy.
- Palomar Energy (2001-2003). Lead technical staff for air quality assessment and supporting staff for cooling system studies for new 540 MW combined cycle power plant in northern San Diego County.
- Kings River Conservation District Peaking Power Plant (2003-2004). Lead technical staff for air quality assessment of new 97 MW simple cycle power plant in Fresno County.
- Russell City Energy Center (2001-2002). Lead technical staff for noise assessment of new 600 MW combined cycle power plant adjacent to shoreline recreational areas in Hayward.
- Los Esteros Critical Energy Facility (2001-2002). Lead technical staff for impacts of noise and visible plumes from new 180 MW simple cycle power plant adjacent to recreational areas in San Jose.

## TECHNICAL STUDIES

### *California Energy Commission, 2002-2018*

Mr. Birdsall authors and edits special studies on energy issues.

- Energy Systems Planning: Siting, Transmission, and Environmental Protection Division (2016-2018). For the Strategic Transmission Planning Office, Mr. Birdsall provided deputy program management, engineering support, and technical assistance for energy facility and infrastructure planning, including technical support for the RETI 2.0 process.
- Transmission Options in Southern California (2013-2015). Prepared an environmental feasibility study for electric transmission options and potential corridor designations from Imperial County and Riverside County to Orange County and San Diego in response to closure of San Onofre Nuclear Generating Station (SONGS). Documented potential overland transmission line corridors and the feasibility of building offshore submarine high voltage direct current (HVDC) cable corridors in the Pacific Ocean to connect the Southern California Edison (SCE) and San Diego Gas and Electric (SDG&E) electrical transmission systems.
- Biomethane Additionality Study (2012). Developed comparisons of landfill gas, digester gas, and other biogas emission factors in various applications as an alternative to pipeline quality gas.

- California Credit Policies: Lowering the Effective Cost of Capital for Generation Projects (2006). Prepared workshop report exploring policy options for transforming power procurement and credit policies to encourage power plant development in California and manage the risk of project failure.
- WESTCARB Environmental Documentation and PIER Global Climate Change Research (2006). Supporting technical staff for impact assessment of greenhouse gas sequestration test cases.
- Relative Cost Differences Between Anhydrous and Aqueous Ammonia Systems for Power Plants (2004). Supervising editor for cost comparison on air pollution control systems minimizing use of hazardous materials.
- 2003 Environmental Performance Report (2003). Technical and editorial review for environmental performance and natural gas market outlook portions of the first Integrated Energy Policy Report for the Governor and Legislature.
- Upgrading California's Electric Transmission System: Issues and Actions for 2004 and Beyond (2004). Technical author on Alternatives to Transmission chapter and overview of Transmission Planning in California in support of 2004 Integrated Energy Policy Report Update.
- Air Quality Compliance (2003). Analyzed modifications to permit conditions at the Moss Landing Power Plant. Prepared independent analysis of permit requirements and environmental consequences of increasing the capacity of the Midway-Sunset Cogeneration Project.
- Alternative Cooling Technology Studies (2002-2003). Supporting staff for analyses of water conservation through dry cooling and hybrid cooling alternatives for the Cosumnes Power Plant and Palomar Energy Project. Coordinated and edited documentation from design engineers and other specialists.

## CEQA DOCUMENTS AND ENERGY STUDIES

### *California Public Utilities Commission, 2002-present*

Mr. Birdsall authors environmental documents and energy studies.

- Ivanpah-Control Project (2019-ongoing). Reviewed the project description and application materials for technical deficiencies and impacts to energy and environmental resources.
- Eldorado-Lugo-Mohave Series Capacitor Project (2018-2019). Assessed the project description for direct and indirect effects to system and energy resources. Conducted the review of impacts to air quality, GHG, transportation, noise, and utilities systems.
- West of Devers Upgrade (2013-2016). Coordinator for transmission planning and engineering alternatives in the environmental review to access desert-area generation. Directed the independent power flow modeling work and structural design review with the goal of identifying feasible alternatives to partially rebuild the corridor, develop the project in longer term phases, or provide a plan of service to replace the project altogether. Assessed noise, air quality, and GHG impacts.
- Embarcadero-Potrero 230 kV Transmission Project (2012-2014). Deputy Project Manager and coordinator of transmission planning and engineering alternatives in the environmental review of this underground and submarine transmission line in the San Francisco Bay for improving reliability in downtown San Francisco. Conducted the review of health effects, noise, air quality, and GHG.
- Long-Term Procurement Plan Guidelines and Renewable Portfolio Standard Implementation (2008-2011). Developed timelines of permitting and identified barriers to implementing the 33 percent Renewable Portfolio Standard (RPS), including ranking and screening of available energy resources. Surveyed historical transmission build-out timelines, based on experiences of the California Independent System Operator (CAISO), CPUC, and other cooperating agencies. Mapped and scored renewable resources from the Renewable Energy Transmission Initiative (RETI) process and CPUC Energy Division database for environmental concern and permitting risk.
- Sunrise Powerlink 500 kV Transmission Line (2006-2011). Coordinator for transmission planning and engineering alternatives in the environmental review. Assessed GHG results of production cost modeling and analyzed net GHG emissions and climate change effects for multiple renewable and

conventional generation and transmission scenarios. Developed mitigating actions and carbon offset strategies that were adopted in advance of AB 32 implementation.

- Colorado River Substation (2011). Analysis of GHG emissions, including indirect effects of renewable energy production and fossil fuel displacement, for the CPUC's Supplemental EIR evaluating new 500 kV substation design and location in eastern Riverside County.
- Desert Sunlight Solar Farm/Red Bluff Substation (2011). Peer review of fugitive dust issues and construction equipment controls for a 550 MW solar power plant near Joshua Tree National Park.
- Devers–Palo Verde 500 kV #2 Transmission Line (2005–2006). Coordinator for transmission planning and engineering alternatives in the environmental review of this major transmission upgrade between the Phoenix area and urban Riverside County to deliver low-cost, out-of-state power.
- San Onofre Nuclear Generating Station and Diablo Canyon Power Plant, Steam Generator Replacement Projects (2004–2005). Deputy Project Manager for two comprehensive Environmental Impact Reports to fulfill CEQA requirements for major investments in the Diablo Canyon and SONGS nuclear power plants, with analyses of potential shutdown, replacement facilities, and extension of life.
- Miguel-Mission 230 kV #2 Transmission Line (2003–2004). Conducted the air quality and noise review for a system that would reduce transmission constraints between San Diego County and generators within the US and Mexico. Supervised the engineers studying impacts to traffic and transportation, the transmission system design, and public health.
- Jefferson-Martin 230 kV Transmission Line (2003–2004). Prepared air quality and noise studies and provided oversight of health effects analyses for construction and operation of a 27-mile transmission line through urban and rural San Mateo County. The project passes through the Cities of Burlingame, Millbrae, San Bruno, South San Francisco, Brisbane, Colma, and Daly City to serve the projected electric demand in San Francisco.

## REGIONAL RENEWABLE ENERGY RESOURCE PLANNING AND TRANSMISSION STUDIES

*Various Clients, 2015–2018*

Mr. Birdsall actively works with the energy policy issues that affect electric utilities, transmission, and generation. He provides senior-level analyses for landscape-scale energy resource planning, energy supply alternatives, transmission planning, and the impacts on greenhouse gas emissions and air resources.

- Mr. Birdsall served as a coordinator for statewide and region-wide environmental reviews for expanding California's access to renewable energy across the western states.
- Within the 2017–2018 Integrated Resource Plan (IRP) cycle, he reported on long-range energy resource planning as it relates to local air pollutants and California's disadvantaged communities.

## CITY OF SANTA CLARA

*City of Santa Clara/*

*Silicon Valley Power (SVP), 2019–present*

Under Aspen's on-call environmental services contract, Mr. Birdsall prepared CEQA documentation for proposed 60 kV transmission upgrades/extensions in the City of Santa Clara. In addition, he is authoring the environmental review for new regulations in the City related to distributed energy resources and parallel generation.

## CONFIDENTIAL PROJECT(S)

*Confidential Client(s), 2015–2018*

Mr. Birdsall prepares analyses, technical studies, presentations, and reports on the feasibility and the impacts of developing renewable energy, energy storage, transmission and distributed energy resources as driven by California's RPS and GHG goals.

**SAN LUIS TRANSMISSION PROJECT EIS/EIR***Western Area Power Administration/San Luis & Delta Mendota Water Authority, 2015-2017*

Air quality, general conformity, GHG, and noise analyses with Voluntary Emission Reduction Agreement (VERA) for construction and operation of 95 miles of new transmission lines in western San Joaquin Valley, to serve pumping and generating facilities along the California Aqueduct and the Delta-Mendota Canal.

**GREENHOUSE GAS EMISSIONS THRESHOLD OF SIGNIFICANCE***Santa Barbara County, Energy Division, 2015*

Expert review to support the Planning Commission and Board of Supervisors formal adoption of a new significance threshold, guidelines, and potential mitigation strategies for the CEQA treatment of GHG emissions caused by industrial stationary sources in the unincorporated areas of Santa Barbara County.

**STRAUSS WIND ENERGY***Santa Barbara County, Energy Division, 2016-2019*

Analyzed noise effects and mitigation strategies for a new 102 MW wind energy generation facility near Lompoc.

**ATHOS RENEWABLE ENERGY PROJECT***Intersect Power, 2018-2019*

Prepared air quality, GHG, and noise topics and technical analyses for utility-scale solar power with battery storage on behalf of Riverside County and the BLM.

**ANALYSIS OF OIL AND GAS WELL STIMULATION TREATMENTS IN CALIFORNIA EIR***Department of Conservation, 2013-2015*

Mr. Birdsall prepared the air quality and GHG impact assessments in the EIR evaluating oil and gas well stimulation treatments throughout California, as required by Public Resources Code Section 3161 (b)(3) and (4) (Senate Bill 4 [Pavley]), as signed into law on September 20, 2013. Section 3161 (b)(3) and (4) requires the Division of Oil, Gas and Geothermal Resources (DOGGR) to evaluate the impacts of well stimulation treatments that may occur from either existing or future oil and gas wells, including hydraulic fracturing, acid fracturing and acid matrix stimulation.

**OIL AND GAS LEASING AND DEVELOPMENT, DRAFT RESOURCE MANAGEMENT PLAN AMENDMENT AND EIS***Bureau of Land Management, 2015-2018*

Developed background information on reasonably foreseeable oil and gas development trends in the BLM Central Coast Field Office territory of Monterey County, San Benito County, and Fresno County, and prepared impact analyses for air quality, atmospheric conditions, greenhouse gas emissions, and climate change.

**POSEIDON SEAWATER DESALINATION AT HUNTINGTON BEACH PROJECT***California State Lands Commission, 2017*

Technical reviewer for topics of air quality, GHG emissions, noise, and underwater sound levels within a supplemental analysis of marine vessels and offshore installation of seawater intake and discharge.

**PLAN TO PROVIDE RETAIL ELECTRIC SERVICE***South San Joaquin Irrigation District (SSJID), 2005-2006, 2010-2014*

Project manager for full environmental analyses for new provider of electric distribution service. Topics of assessment include how GHG emissions and energy conservation programs could be affected by

change in system ownership, assessment of concurrent Municipal Services Review and Sphere of Influence, and analysis of Community Choice Aggregation (CCA) and as an alternative to allowing a change in retail electric service provider in southern San Joaquin County.

### **DESERT RENEWABLE ENERGY CONSERVATION PLAN EIR/EIS**

*California Energy Commission, 2014-2015*

Mr. Birdsall provided senior review and analysis of the climate change and air quality topics, and he prepared responses to comments from the public and reviewing agencies and organizations.

### **RENEWABLE ENERGY STREAMLINING PROGRAM AND EIR**

*San Luis Obispo County, 2013*

Analysis of electric transmission and distribution systems and interconnection processes for a county-wide Opportunities and Constraints Technical Study to determine Renewable Energy Development Areas for siting of small-scale renewable energy. The analysis would be used for updating or establishing renewable energy policies, a Renewable Energy Combining Designation for the County General Plan Open Space Element, and a Renewable Energy Ordinance in a process funded by the CEC.

### **DESERT HARVEST SOLAR FARM EIS**

*Bureau of Land Management, 2011*

Peer review of air quality and climate change analyses and NEPA documentation for a new 150 MW solar power plant near Joshua Tree National Park in eastern Riverside County near Red Bluff Substation.

### **BURNING MAN 2012-2016 ENVIRONMENTAL ASSESSMENT**

*Bureau of Land Management, 2011-2012*

Developed technical memoranda on community noise, air quality, and a greenhouse gas emissions inventory for the annual Burning Man Event for the five-year review conducted by the BLM Winnemucca Field Office and Black Rock City LLC.

### **NEPA TECHNICAL SUPPORT**

*Presidio Trust, 2002-2011*

Analyzed climate change, air quality, and noise impacts within the Golden Gate National Recreation Area for various demolition, rehabilitation, and infill construction, including the Main Post, Contemporary Art Museum, Public Health Service Hospital District, and Letterman Digital Arts Center. Provided technical support and peer review of tunnel and high-way noise and vibration for the South Access to the Golden Gate Bridge, Doyle Drive Reconstruction through the Presidio of San Francisco. Developed mitigation to protect natural sounds consistent with National Park Service policy.

### **WILDHORSE AND BUCKEYE GEOTHERMAL POWER PLANT PROJECTS**

*Northern Sonoma County Air Pollution Control District and Sonoma County, 2011-2012*

Assessed GHG impacts of new renewable energy facilities and air quality effects of two new geothermal power plants in the Geysers resource area, with complex dispersion modeling.

### **MONTEREY ACCELERATED RESEARCH SYSTEM CABLED OBSERVATORY**

*California State Lands Commission, 2004-2005*

Provided technical analysis of air quality and noise effects of installing new underwater equipment in Monterey Bay. Provided marine biologists with analysis of underwater sound levels in the Monterey Bay National Marine Sanctuary.



### CONCORD-SACRAMENTO PIPELINE

*California State Lands Commission, 2002-2003*

Provided technical analysis of air quality and noise effects of constructing a new 20-inch, 70-mile petroleum products pipeline, including upgrades to storage tank facilities in Concord and distribution systems in West Sacramento.

### AIR QUALITY GENERAL CONFORMITY REPORTS

*Angeles National Forest, 2004-2005*

Prepared emission inventories and federal general conformity rule compliance reports for forest vegetation management and pre-scribed burning activities in the South Coast Air Quality Management District.

### PREVIOUS EMPLOYMENT

**EIP Associates** (1998-2001). As a Senior Environmental Scientist at EIP Associates, Mr. Birdsall performed comprehensive analyses of air quality and noise impacts for Environmental Impact Reports/Statements and independent studies.

**Trinity Consultants** (1994-1998). Mr. Birdsall prepared compliance strategies, evaluated modeled impacts, and negotiated air permits while a Project Supervisor at Trinity Consultants, an environmental firm specializing in air quality. Mr. Birdsall advised clients in the industries of municipal solid waste landfills and landfill gas to energy, independent power production, open-pit metallic mineral mining, major natural gas pipelines, and upstream natural gas processing.

### PROFESSIONAL AFFILIATIONS AND AWARDS

- Panelist, Offsets for Environmental Mitigation, Navigating the American Carbon World 2014
- Professional Engineer (Mechanical, California #32565)
- Qualified Environmental Professional, Institute of Professional Environmental Practice (#03030005)
- 2001 Outstanding Performance Award presented by the California Energy Commission
- Air and Waste Management Association since 1994

**DECLARATION OF  
Huei-An (Ann) Chu**

I, Huei-An (Ann) Chu, declare as follows:

1. I am employed by the California Energy Commission as an Air Resources Engineer.
2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.
3. I prepared the staff testimony on **Air Quality** and **Environmental Justice** for the **SAN JOSE DATA CENTER** based on my independent analysis of the Application for Small Power Plant Exemption and supplements hereto, data from reliable documents and sources, and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issues addressed therein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 2022/03/02 Signed: Huei-An Chu

At: Sacramento, California

**Huei-An (Ann) Chu**  
715 P Street, MS-46, Sacramento, CA 95814  
Phone: 916-237-2547, Email: [Ann.Chu@energy.ca.gov](mailto:Ann.Chu@energy.ca.gov)  
Citizenship Status: U.S. Citizen

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## **EDUCATION**

**PhD**, Environmental Sciences and Engineering, 05/2006  
School of Public Health, University of North Carolina at Chapel Hill  
Area of Specialization: Environmental Risk Assessment, Environmental Management and Policy, Risk-Based Regulation, Biostatistics, Environmental Epidemiology

**MEM**, Environmental Management, 05/2000  
School of Forestry and Environmental Studies, Yale University, New Haven, CT

**MS**, Environmental Engineering, 06/1998  
National Taiwan University, Taipei, Taiwan

**BA**, Geography, with honors, 06/1996  
National Taiwan University, Taipei, Taiwan

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## **SKILLS**

Language: Fluent in Chinese and English.

Computer software and programming skills: Hotspot Analysis Reporting Program (HARP), SAS, Stata, Minitab, ArcGIS, Stella, Crystal Ball, ISC, Microsoft Excel, PowerPoint, Word.

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## **WORK EXPERIENCE**

**Air Resources Engineer**, California Energy Commission, 1/12/2012 - Present

- Independently performs responsible, varied analyses assessing impacts from thermal power plants 50 megawatts and larger and the plants related facilities such as emergency engines and transmission lines, etc.
- Task scopes include public health impacts and transmission line safety and nuisance.
- Model air quality and public health impacts of stationary sources using HARP (Hot Spot Analysis and Reporting Program).
- Identify air quality and public health impacts of stationary sources and measures to mitigate these impacts following California Environmental Quality Act and regulations of US EPA (including the National Environmental Policy Act), ARB, and the Districts.
- Identify safety issues and nuisance impacts of transmission lines and measures to mitigate these impacts following guidelines of California Public Utilities Commission (CPUC) and Federal Aviation Administration (FAA).
- Collect, analyze, and evaluate data on the effects of air pollutants and power plant emissions on human health, and the environment.

- Ensure conditions of certification are met and recommending enforcement actions for violations.

**Research Associate**, Taiwan Development Institute, 10/01/2010 – 12/31/2011

- Provided professional consultation for the environmental risk assessment of Taiwan's techno-industrial development initiatives
- Reviewed the environmental risk assessment reports of Taiwan's techno-industrial development initiatives
- Presented in various distinguished lecturer series about environmental risk assessment

**Consultant**, Chu Consulting, 08/2007 - 07/2010

- Conducted a cumulative risk assessment to evaluate the risk associated with the emissions of VOCs from a petrochemical plants in southern Taiwan
- Used EPA's ISC3 model (based on Gaussian dispersion model) to simulate the dispersion and deposition of VOCs from this petrochemical plant to the neighboring areas, then used ArcGIS to spatially combine the population data and VOC simulation data (and further calculated risks)
- Built a framework of risk-based decision making to set the emission levels of VOCs to reduce people's exposure and the risk of experiencing health problems
- Presented in conference: SRA 2007
- Awarded: CSU-Chico BBS Faculty Travel Funds (2007)

**Environmental Justice Intern**, Clean Water for North Carolina (CWFNC), Summer, 2005

- Reviewed and critiqued key state environmental policies and the federal EPA Public Participation Policy.
- Interviewed impacted communities, member organizations of the NC Environmental Justice Network, state policy officials about how those policies are actually implemented.
- Wrote a report about the survey and review of environmental justice needs for key state policies.
- Report Publication: "Achieving Environmental Justice in North Carolina Public Participation Policy" (Aug, 2005).

**Volunteer**, New Haven Recycles and Yale Recycling, 08/1998 – 05/2000

- Promoted recycling and conservation
- Checked trash cans (chosen randomly) and recycling bins at each entryway of residential college, then gave grades.

**Volunteer**, Urban Resource Initiative (URI), Summer, 1998

- Planted trees for local community of New Haven for a better and sustainable environment

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## RESEARCH EXPERIENCE

### Postdoctoral Research

Department of Public Health Sciences, University of California, Davis, 07/01/2010 – 09/30/2012

Research advisor: Dr. Deborah H. Bennett and Dr. Irva Hertz-Picciotto

- Work on two projects: NIEHS-funded ***Childhood Autism Risks from Genetics and Environment (CHARGE)*** and EPA-funded ***Study of Use of Products and Exposure Related Behavior (SUPERB)***.
- Perform statistical and quantitative analyses with SAS to analyze collected house dust data and children's urine concentrations of metabolites.
- Conduct exposure assessment to investigate if pesticides, flame retardants, and phthalates are risk factors for children autism.
- Conduct exposure assessment to explore the relationships between children's exposure to phthalate, benzophenone-3 (oxybenzone), triclosan, and parabens, and the use of personal care products.
- Produce scholarly peer-reviewed publications of methodology and findings, and write the final reports of both projects.

Carolina Environmental Program, University of North Carolina at Chapel Hill, 01/01/2006 – 12/31/2006

Research advisor: Dr. Douglas J. Crawford-Brown

- Applied a framework of risk-based decision-making to perchlorate in drinking water. (Awarded: SRA Annual Meeting Travel Award 2006)
- Conducted a material and energy flow analysis (MEFA) to quantify the overall environmental impact of Bank of America operations, and quantitatively analyze the strategies BOA might adopt to reduce these impacts and achieve sustainability. (Report Publication: "Environmental Footprint Assessment")

### Doctoral Research, 08/2000-12/2005

Department of Environmental Sciences and Engineering, School of Public Health, University of North Carolina at Chapel Hill

Research advisor: Dr. Douglas J. Crawford-Brown

- Dissertation topic: **"A framework of Risk-Based Decision Making by Characterizing Variability and Uncertainty Probabilistically: Using Arsenic in Drinking Water as an Example"**.
- Conducted risk assessment for arsenic in drinking water.
- Conducted theoretical analysis on the variability and uncertainty issues of risk assessment.
- Conducted a meta-analysis to improve dose-response assessment.
- Conducted analytical and numerical analysis to build a new framework of risk-based decision-making which can be applied coherently across the regulation decisions for different contaminants.

- Presented in conferences: APPAM (2004), SRA (2004, 2005 and 2006), DESE Seminar (2005), CEP Symposium on Safe Drinking Water (2006).
- Awarded: SRA Annual Meeting Student Travel Award (2004 & 2005), UNC-CH Graduate School Travel Grants (2004), UCIS Doctoral Research Travel Awards (2002).

### **Master's Research**

School of Forestry and Environmental Studies, Yale University, 08/1999 - 06/2000

Research advisor: Dr. Xuhui Lee

- Master's project: "**Forest Stand Dynamics and Carbon Cycle**".
- Research project: "Monitoring Forest CO<sub>2</sub> Uptaking"
- Used remote sensing (ERMapper) to investigate the role of forest in the uptake of CO<sub>2</sub>.
- Awarded from Teresa Heinz Scholars for Environmental Research Program (2000) and Klemme Award (1999).

Graduate Institute of Environmental Engineering, National Taiwan University, 06/1996 - 06/1998

Research advisor: Dr. Shang-Lien Loh

- Master's thesis: "**The Loads of Air Pollutants from Urban Areas on a Neighboring Dam and its Water Quality**"
- Research Projects: "Research on Air Pollutant Deposition in Urban Areas" and "the Fate and Flow of Recyclable Materials"
- Used Gaussian's Dispersion model (ISC3) to investigate the loads of air pollutants on dam water.

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## **TEACHING EXPERIENCE**

### **Lecturer**

Department of Environmental Studies, California State University at Sacramento

- Environmental Politics and Policy, Fall 2011

Department of Geological & Environmental Science, California State University at Chico

- Environmental Risk Assessment, Spring 2009 & 2010
- Applied Ecology, Spring 2008
- Pollution Ecology, Fall, 2007

Department of Geography & Planning, California State University at Chico

- Seminar in Applied Geography & Planning – Environmental Regulation and Policy, Fall, 2007

Department of Forestry and Environmental Resources, North Carolina State University

- Environmental Regulation, Fall, 2006

### **Teaching Assistant**

Department of Environmental Sciences and Engineering, UNC-Chapel Hill

- Environmental Risk Assessment, Spring, 2002
- Introduction to Environmental Science, Fall, 2001
- Analysis and Solution of Environmental Problems, Fall, 2001

### **Lab Instructor**

Department of Environmental Sciences and Engineering, UNC-Chapel Hill

- Biology for Environmental Science, Fall, 2000

Graduate Institute of Environmental Engineering, National Taiwan University

- Water Quality Analysis, Fall, 1997

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### **AWARDS and HONORS**

- CSU-Chico BBS Faculty Travel Funds, 2007
- Member of Society of Risk Analysis (SRA), 2006-2008
- SRA Annual Meeting Student Travel Award, 2004-2006
- UNC-CH Graduate School Travel Grants, 2004
- Member of Association for Public Policy Analysis and Management (APPAM), 2004-2005
- UCIS Doctoral Research Travel Awards, 2002
- Graduate Student Teaching and Research Assistantships, 2000-2005
- Teresa Heinz Scholars for Environmental Research Program, 2000
- Yale Forestry & Environmental Studies, Klemme Award, 1999

**DECLARATION OF  
Brett Fooks**

I, Brett Fooks, declare as follows:

1. I am employed by the California Energy Commission as a Senior Mechanical Engineer.
2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.
3. I prepared the staff testimony on **Hazards and Hazardous Materials** for the **SAN JOSE DATA CENTER** based on my independent analysis of the Application for Small Power Plant Exemption and supplements hereto, data from reliable documents and sources, and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issues addressed therein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 03/03/2022 Signed: *Brett Fooks*

At: Sacramento, California



# BRETT FOOKS, P.E.

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## MECHANICAL ENGINEER

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### PROFESSIONAL EXPERIENCE

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**California Energy Commission - STEP**                      **Sacramento, CA**                      **2/2014 - Present**  
The Commission ensures that energy facilities (power plants) are permitted in an acceptable manner. The STEP division prepares environmental documentation for the Commission as required by the California Environmental Quality Act (CEQA).

#### **SENIOR MECHANICAL ENGINEER**

*Provide independent engineering analysis for various technical areas with an emphasis on hazardous materials management, worker safety, & fire protection.*

- Review, analyze and prepare engineering analysis for hazardous materials management, fire protection, and worker safety for gas-fired power plants.
- Provide written and oral expert witness testimony at commission hearings.
- Conduct power plant inspections during construction and operational phases.
- Investigate accident, fire, and hazardous materials incidents at licensed power plants.

**Capital Engineering Consultants, Inc.**                      **Rancho Cordova, CA**                      **6/2004 – 2/2014**

A leader in mechanical engineering design in Northern California since 1947 specializing in areas including K-12 Education, Higher Education, Civic and Justice, and Healthcare.

#### **SENIOR ENGINEER, ASSOCIATE**

*Manage the design, project specification, calculations and cost estimations for new and renovated construction projects. Oversee and supervise the daily workload, mentoring, and quality control for an assigned junior engineer.*

- Plan and monitor the workload of projects, while preparing and taking responsibility for the concept of and preliminary engineering solutions for the detailed design phase.
- Implement the detailed design engineering of HVAC systems; code review, heating and cooling load calculations, air-flow requirements, ductwork sizing and layout, piping sizing and layout, equipment selection, and system controls with an emphasis on healthcare facilities.
- Prepare and deliver calculations for Title 24 building compliance.
- Prepare and deliver calculations and documents for project LEED certification.

#### **Select Accomplishments**

- Assisted in the implementation and teaching of new 3-D modeling software, CAD-MECH, to team members for the Sutter Health Eden Medical Center.
- Worked with co-workers to create and implement standards for plumbing calculations firm wide leading to an increased efficiency.

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### EDUCATION

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**STATE OF CALIFORNIA ~ LICENSED PROFESSIONAL ENGINEER**  
**UC DAVIS EXTENSION – WORKPLACE HEALTH & SAFETY CERTIFICATE (2016)**

**BACHELOR OF SCIENCE ~ MECHANICAL ENGINEERING (2004)**

California Polytechnic State University, San Luis Obispo

**Computer Literacy:** Proficient in the use of various software applications including Microsoft Office (Word, Excel, PowerPoint, Outlook) AutoCAD 2012/2013, Revit 2013/2014, Visio, NavisWorks, and ProjectWise.

**DECLARATION OF  
Ashley Gutierrez**

I, Ashley Gutierrez, declare as follows:

1. I am employed by the California Energy Commission as a Planner II (EFS).
2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.
3. I prepared the staff testimony on **Transportation** for the **SAN JOSE DATA CENTER** based on my independent analysis of the Application for Small Power Plant Exemption and supplements hereto, data from reliable documents and sources, and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issues addressed therein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 3/7/2020 Signed: *Ashley Gutierrez*

At: Sacramento, California



## **ASHLEY GUTIERREZ**

### **Education & Certifications**

- Bachelor of Arts, Geography with a concentration in Natural Resource Management, San Francisco State University (2013)
- Land Use and Environmental Planning Certification, UC Davis Extension (2019)

### **Experience**

#### **California Energy Commission - 2015 to present**

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##### *Environmental Planner II, Energy Facility Siting*

As part of the Siting, Transmission, and Environmental Protection Division, Mrs. Gutierrez serves as a technical lead for the preparation of environmental impact analysis in the areas of transportation, land use, visual resources and socioeconomics (recreation, population/housing, public services) for Notices of Intention, Applications for Certification, and Small Power Plant Exemptions as required by California Environmental Quality Act (CEQA) for thermal electric generating facilities (50 MWs and greater) and related linear facilities (electric transmission lines, natural gas and water pipelines). Mrs. Gutierrez also evaluates energy facility compliance with conditions of certification throughout the life (construction, operation, and decommissioning) of the project. She examines and evaluates amendments and project changes in accordance with the Warren-Alquist Act, CEQA, existing and proposed laws, ordinances, regulations, and standards (LORS). As well as participates in public workshops and provides testimony at hearings regarding project proposals. When necessary she will perform site visits. Mrs. Gutierrez has also prepared a variety of CEQA Categorical exemptions for the Research and Development Division under the Food Production Investment Program (FPIP) and the EPIC Long Duration and Title 24 Storage program.

### **Projects**

- **Great Oaks South Data Center Project - San Jose, Santa Clara County, CA.** Prepared the Transportation section and assisted with the preparation of the Alternatives section.
- **Mission College Data Center – Santa Clara, Santa Clara County, CA.** Prepared the cumulative impact analysis, Public Services, Population and Housing, and Recreation environmental analysis sections.
- **Vierra Transmission Line Reinforcement Project - Lathrop, San Joaquin County, CA.** Prepared the Public Services, Population and Housing and Recreation sections and cumulative section.
- **Ravenswood Reconductoring Project, East Palo Alto, San Mateo County, CA.** Prepared the Transportation, and cumulative impact analysis.
- **SEGS III-VII Facility Decommissioning – Boron, San Bernardino County, CA.** Prepared the Transportation analysis for the Decommissioning Plan Staff Assessment.
- **Stanton Energy Reliability Center- Stanton, Orange County, CA.** Prepared the cumulative analysis and assisted with the preparation of the Transportation section.
- **Puente Power Project - Oxnard, Ventura County, CA.** Prepared the Land Use and cumulative analysis.
- **Mission Rock Energy Center- Santa Paula, Ventura County, CA.** Prepared the cumulative analysis.
- **Chemehuevi Community Center Solar Grant Proposal, County, CA.** Assisted in grant review.

**DECLARATION OF**  
**Mark R. Hamblin**

I, Mark R. Hamblin, declare as follows:

1. I am employed by the California Energy Commission as a Planner II in the Siting, Transmission and Environmental Protection Division.
2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.
3. I prepared staff testimony on the **San Jose Data Center** in the technical area(s) of **Aesthetics**. This testimony reflects my independent analysis of the Application for Small Power Plant Exemption and related materials, data from reliable documents and sources, and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issues addressed therein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: March 3, 2022 Signed: Mark R. Hamblin

At: Sacramento, California



**MARK R. HAMBLIN**  
**PLANNER II**

**Education**

Master of Public Administration. California State University Bakersfield. Bakersfield, California. August 1988.

Bachelor of Science Public Administration. California State University Sacramento. Sacramento, California. May 1984.

**Experience**

**California Energy Commission**

Planner II

November 2000 to present

I identify, describe, and analyze complex land use and planning, and/or aesthetics related issues regarding the siting of a thermal power plant and transmission facilities reviewing applicable federal, state, local laws, ordinances, regulations and standards (California Environmental Quality Act [CEQA] and Guidelines, California Planning, Zoning and Development Laws, county/city general plan and zoning, etc.), and the California Energy Commission siting regulations in a written analysis and/or testimony; participate in public workshops, present sworn testimony during evidentiary hearing(s) before Commissioners, when requested.

**Yolo County Planning and Public Works Department**

Associate Planner

June 1992 to October 2000

I advised and assisted individuals in the processing of land use and planning proposals (general plan amendments, conditional use permits, subdivision maps, etc.). I reviewed the proposal for consistency and compliance with state environmental, planning and zoning law (CEQA Guidelines, Subdivision Map Act, Williamson Act Program, etc.), the county General Plan and the county government code for presentation in a staff report before the planning commission and/or board of supervisors. I served as a county representative/liaison to citizens' and interagency committees (county airport advisory committee, county habitat conservation plan steering committee, and community general plan citizen advisory committee[s], etc.). I drafted zoning ordinances. I hired and supervised consultants. I performed contract management in the preparation of land use and environmental assessment documents (e.g., general plan amendment, environmental impact report). I served as a county zoning administrator deciding on minor land use proposals. I conducted zone code enforcement with cooperation from the district attorney's office. I reviewed building plans for compliance with county codes and issuance of the permit. I answered questions from individuals who visited the public counter and over the telephone regarding land use and development in the county.

**DECLARATION OF  
Mark Hesters**

I, Mark Hesters, declare as follows:

1. I am employed by the California Energy Commission as a Senior Electrical Engineer.
2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.
3. I prepared the staff testimony included in Appendix B for the **SAN JOSE DATA CENTER** based on my independent analysis of the Application for Small Power Plant Exemption and supplements hereto, data from reliable documents and sources, and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issues addressed therein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: March 7, 2022 Signed: Mark Hesters

At: Sacramento, California

# Mark Hesters

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916-931-8942

mark.hesters@energy.ca.gov

## Qualifications

- Analyzed the reliability impacts of electric power plants for twenty-three years.
- As an expert witness, produced written and oral testimony in numerous California Energy Commission proceedings on power plant licensing.
- Expertise in power flow models (GE PSLF and PowerWorld). Microsoft word-processing, spreadsheet and database programs.
- Contributing author to many California Energy Commission reports.
- Represented the Energy Commission in the development of electric reliability and planning standards for California.

## Experience

### Senior Electrical Engineer

2005-Present California Energy Commission, Sacramento, CA

- Program manager of the transmission system engineering analysis for new generator Applications of Certification.
- Lead the development of transmission data collection regulations.
- Overhauled the transmission data adequacy regulations for the Energy Commission's power plant certification process.
- Participated in the analysis of regional transmission projects.
- Technical lead for Commission in regional planning groups.

## **Associate Electrical Engineer**

1998–2005 California Energy Commission, Sacramento, CA

- Lead transmission systems analyst for power plant licensing under 12-month, 6-month and 21-day licensing processes.
- Provided expert witness testimony on the potential transmission impacts of new power plants in California Energy Commission licensing hearings.
- Authored chapters for California Energy Commission staff reports on regional transmission issues.
- Studied the economics of transmission projects using electricity production simulation tools.
- Analyzed transmission systems using the GE PSLF and PowerWorld load flow models.
- Collected and evaluated transmission data for California and the Western United States

## **Electric Generation Systems Specialist**

1990–1998 California Energy Commission, Sacramento, CA

- Lead generation planner for southern California utilities.
- Analyzed electric generation systems using complex simulation tools.
- Provided analysis on the impact of resource plans on air quality and electricity costs for California Energy Commission reports.
- Developed modeling characteristics for emerging technologies.
- Evaluated resource plans.

## **Education**

1985–1989 University of California at Davis Davis, CA

- B.S., Environmental Policy Analysis and Planning



## DECLARATION OF Joseph Hughes

I, Joseph Hughes declare as follows:

1. I am employed by the California Energy Commission as an Air Resources Supervisor.
2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.
3. I oversaw the preparation of the staff testimony on **Air Quality** and **Greenhouse Gases** for the **SAN JOSE DATA CENTER** based on independent analysis of the Application for Small Power Plant Exemption and supplements hereto, data from reliable documents and sources, and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issues addressed therein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: March 2, 2022

Signed: *Joseph Hughes*

At: Sacramento, California

## Education

California State University, Sacramento, 2003-2008

Sacramento, Ca

*Bachelor of Science, Mechanical Engineering Technology, May 2008*

## Licensures

Professional Engineer, Mechanical (California License No. M 38221)

## Experience

**California Energy Commission, 2020-Present**

Sacramento, Ca

### **Air Resources Supervisor I**

Air Resources Supervisor in the Engineering Office of the Siting, Transmission, and Environment Protection Division, responsible for the Air Quality, Public Health and Transmission Line Safety and Nuisance unit. The Air Resources Supervisor is the first level to which administrative responsibilities are assigned. Staff in the unit are responsible for reviewing and understanding United States Environmental Protection Agency, California Air Resources Board, and regional air quality district public health and air quality regulations. Specific responsibilities include the following:

- Planning, directing, evaluating, and managing the work of air resources engineers and public health experts.
- Reviewing staff conducted scientific investigations and complex technical analysis, including air quality and public health impacts of stationary sources and methods to mitigate these impacts following California Environmental Quality Act and federal, state, and local regulations.
- Reviewing staff conducted analysis of transmission line and safety, nuisances and impacts on public health.
- Research new technology development; recommend and implement statewide planning and policy initiatives for the Energy Commission, as well as developing and evaluating proposed legislation.

**California Department of Transportation, 2018-2020**

Sacramento, Ca

### **Mechanical Engineer**

Mechanical engineer in the Office of Electrical, Mechanical, Water & Wastewater responsible for performing difficult mechanical engineering design, specification preparation, estimating, and inspection work involved in the design, construction, and maintenance of storm drainage pumping plants and sewage lift stations, vehicular tunnels, movable bridges, roadside

rests, highway maintenance stations, toll plazas, truck weigh and inspection stations water well and water supply systems, solar heating, and other transportation-related facilities. Specific responsibilities include the following:

- Performing professional work such as designing and preparing plans, specifications and estimates for mechanical systems such as heating, ventilating, air conditioning, plumbing, water, sanitary, and mechanical equipment.
- Checking drawings and contractor's shop plans and lists of equipment.
- Testing completed work for compliance with contract documents and conducting construction and repair inspections.
- Assisting in maintenance inspections of pumping plants, water supply systems, movable bridges, safety roadside rest areas, truck weigh and inspection stations.

**California Energy Commission, 2009-2018**  
Sacramento, Ca

**Air Resources Engineer**

Technical expert responsible for completing engineering and environmental analysis on thermal power plant project applications seeking a California Energy Commission license, or an amendment or project modification to an existing license, in addition to determining ongoing operational compliance for facilities operating under existing Energy Commission licenses. Specific responsibilities include the following:

- Independently perform responsible, varied analysis assessing environmental impacts of energy resource use and large electric power generation projects in California.
- Analyzing project applications to verify engineering data, conducting scientific investigations and completing complex technical analysis.
- Identifying air quality impacts of stationary sources through the use of complex dispersion modeling and measures to mitigate these impacts following California Environmental Quality Act (CEQA) and regulations of U.S. Environmental Protection Agency, California Air Resources Board, and local air pollution control districts.
- Managing ongoing engineering and environmental compliance for operational power plant facilities and recommending enforcement actions for violations.
- Researching new technologies and developing, recommending, and implementing statewide planning and policy initiatives for the Energy Commission and the Governor.
- Presenting complex technical staff reports and planning/policy recommendations at evidentiary hearings, business meetings,

committee meetings, publicly-noticed workshops, and meetings with project developers.

- Testifying as an expert witness at committee held evidentiary hearings.

## **Awards**

2014 Superior Accomplishment Award – California Energy Commission

**DECLARATION OF  
Andrea Koch**

I, Andrea Koch, declare as follows:

1. I am employed by the California Energy Commission as an Energy Facility Siting Planner II.
2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.
3. I prepared the staff testimony on **Land Use and Planning and Agriculture and Forestry Resources** for the **SAN JOSE DATA CENTER** based on my independent analysis of the Application for Small Power Plant Exemption and supplements hereto, data from reliable documents and sources, and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issues addressed therein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 3/3/2022

Signed: Andrea Koch

At: Sacramento, California



**ANDREA KOCH**  
**PLANNER II – ENERGY FACILITY SITING**

**Education, Certification & Associations**

- Bachelor of Science Degree, Wildlife, Fish and Conservation Biology, University of California, Davis (2002)
- Master of City and Regional Planning, Cal Poly San Luis Obispo (2004)

**Experience**

**California Energy Commission (CEC) – from 12/2009 to Present**

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*Planner II – Energy Facility Siting*

Review power plant applications for: transportation and land use impacts; alternatives; and compliance with applicable laws, ordinances, regulations, and standards. Coordinate with other staff and agencies to conduct environmental reviews. Write environmental analysis documents. Perform compliance oversight of power plants during construction and operation. Assist junior colleagues with environmental review.

**City of Sacramento – from 6/2007 to 7/2009**

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*Assistant Planner – Long-Range Planning*

Performed long-range planning for the City of Sacramento. Coordinated review of the Draft 2030 General Plan, a comprehensive citywide land use plan. Prepared Ben Ali and Hagginwood neighborhood plans. Worked with City staff and community members to identify strategies for resolving neighborhood issues, such as infrastructure deficiencies. Reviewed 70 development applications, analyzing their consistency with City policy and providing written feedback to applicants.

**County of Santa Cruz – from 6/2005 to 6/2007**

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*Resource Planner II – Current Planning*

Reviewed development permit applications to ensure their consistency with regulations for creeks, wetlands, grading, geologic hazards, erosion control, and sensitive plant and animal species. Wrote staff reports analyzing development proposals and providing recommendations to the Environmental Planning Division Manager. Performed an average of 5 weekly pre-construction meetings and final inspections at project sites to ensure that development was consistent with County regulations and required mitigations. Regularly assisted the public with resource planning questions, both in-person and over the phone.

**County of Monterey – from 11/2004 to 6/2005**

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*Assistant Planner – Current Planning*



## CALIFORNIA ENERGY COMMISSION

Reviewed development permit applications for consistency with County regulations. Prepared and presented staff reports for development applications. Reports provided recommendations to the Zoning Administrator. Assisted the public with zoning questions, both in-person and over the phone.

## DECLARATION OF Shahab Khoshmashrab

I, Shahab Khoshmashrab, declare as follows:

1. I am employed by the California Energy Commission as a Senior Mechanical Engineer.
2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.
3. I oversaw the preparation of staff testimonies on **Noise and Vibration, Energy Resources, Appendix A, and Alternative Technologies in Alternatives** for the **SAN JOSE DATA CENTER project** based on my independent analysis of the Application for Small Power Plant Exemption and supplements hereto, data from reliable documents and sources, and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issues addressed therein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated:                   3.3.22                   Signed: *shahab khoshmashrab*

At: Sacramento, California



**Shahab Khoshmashrab, P.E.**  
Senior Mechanical Engineer

**Professional Experience**

**2001-Current**—Senior Mechanical Engineer – Siting, Transmission, and Environmental Protection Division – California Energy Commission

- Perform analysis of, and address complex engineering issues related to, generating capacity, power plant reliability, energy efficiency, noise and vibration, jurisdictional determination, and the mechanical, civil, electrical, and structural aspects of power plants' licensing, construction, and operation.
- Review and evaluate projects to ensure compliance of power plants and related facilities with applicable laws, ordinances, regulations, and standards and California Environmental Quality Act.
- Assist the California Energy Commission in policy making related to electricity generation.

**1998-2001**—Structural Engineer – Rankin & Rankin

Engineered concrete foundations, structural steel and sheet metal of various building structures including energy related structures such as fuel islands. Performed energy analysis/calculations of such structures and produced both structural plans and detailed shop drawings using AutoCAD.

**1995-1998**—Manufacturing Engineer – Carpenter Advanced Technologies

Managed manufacturing projects of various mechanical components used in high tech medical and engineering equipment. Wrote and implemented QA/QC procedures and occupational safety procedures. Conducted developmental research of the most advanced manufacturing machines and processes including writing of formal reports. Developed project cost analysis. Developed/improved manufacturing processes.

**Education**

- California State University, Sacramento-- Bachelor of Science, Mechanical Engineering
- Registered Professional Engineer (Mechanical), California License No. M 32883, Exp. 9/30/2022

**DECLARATION OF  
Ellen LeFevre**

I, Ellen LeFevre, declare as follows:

1. I am employed by the California Energy Commission as a Planner II.
2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.
3. I prepared the staff testimony on **Population and Housing, Public Services, Recreation, Mandatory Findings of Significance, and Environmental Justice** for the **SAN JOSE DATA CENTER** based on my independent analysis of the Application for Small Power Plant Exemption and supplements hereto, data from reliable documents and sources, and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issues addressed therein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: March 15, 2022 Signed: *Ellen LeFevre*

At: Sacramento, California



**Ellen LeFevre**  
**Planner II**

**Education, Certification & Associations**

Sacramento State

Degree: Bachelor of Science in Geology

UC Davis Extension

Land Use and Environmental Planning courses

**Experience**

California Energy Commission

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Planner II – 2017 to present

- Prepare socioeconomic, land use, transportation, and environmental justice analyses for proposed and existing energy facility sites. Prepare final analyses for power plant applications in the form of expert technical testimony.
- Coordinate and work with federal, state, regional, and local governments regarding energy-related issues and to assure their input into the Commission power plant siting process.
- Evaluate projects in accordance with the Warren-Alquist Act, California Environmental Quality Act (CEQA), California Energy Commission siting regulations, federal, state, and local laws, ordinances, regulations, and standards.
- Evaluate the licensee's compliance with conditions of certification for power plant facilities.

California Energy Commission

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Planner I – 2015 to 2017

- Evaluate and analyze environmental and socioeconomic impacts of proposed energy facilities to ensure the requirements of the Warren-Alquist Act and California Environmental Quality Act are satisfied.

**DECLARATION OF  
Garry Maurath, Ph.D., PG, CHG**

I, Garry Maurath, declare as follows:

1. I am employed by the California Energy Commission as a Engineering Geologist.
2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.
3. I prepared the staff testimony on **Geology and Soils** and **Mineral Resources** for the **SAN JOSE DATA CENTER** based on my independent analysis of the Application for Small Power Plant Exemption and supplements hereto, data from reliable documents and sources, and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issues addressed therein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 2 March 2022

Signed: \_\_\_\_\_



At: Sacramento, California

Garry Maurath, Ph.D., P.G., CHG  
Engineering Geologist

Experience Summary

Dr. Maurath has 45+ years of experience in the design, management, and execution of geologic, hydrogeologic, geotechnical, geophysical, geothermal, and environmental investigations. Dr. Maurath has conducted numerous licensing studies and performed feasibility studies, site assessments, and construction support for power plants, hazardous waste facilities, dams, canals, tunnels, levees, high-temperature geothermal projects, strategic fuel depots, solid waste landfills, hazardous, toxic and radioactive waste (HTRW) facilities, and both permanent and tactical military infrastructure. He has been responsible for examining and evaluating present and potential geology, paleontology, hydrogeology, and environmental conditions for the planning, design, construction, maintenance, and/or clean-up of numerous facilities. This work has been performed in urban, rural, and remote settings.

His work has included CERCLA and RCRA site remedial investigations and feasibility studies, surface geologic mapping in volcanic, metamorphic, and sedimentary terrain, surface geophysical surveys, borehole siting, drilling, logging, aquifer evaluation and testing, subsurface mine evaluations, mine sampling, construction dewatering, and mercury soil surveys. Dr. Maurath has been responsible for the execution of hazardous waste, low-level, and high-level radioactive waste projects within local, state and federal regulatory guidelines in US EPA regions III, V and IX. He has been involved in the preparation of NEPA and CEQA documentation, EISs, EIRs, NDs, MNDs, NPDES permits, and numerous license applications for the Federal Energy Regulatory Commission and the California Energy Commission.

Dr. Maurath has been a senior scientist and managed projects for small, medium, and large size companies; local, state, and federal government agencies; and non-profit organizations. He has worked with or for SMUD, PG&E, Calpine, LADWP, MWD, DWR, California Geological Survey, U.S. Army Corps of Engineers, and several DOE facilities/national laboratories, including Los Alamos, SANDIA, INEL, Savannah River, LBNL, JPL, Maxey Flats, and Hanford. His career has given him the opportunity to work in more than 26 states and 21 countries throughout the world.

Selected Project Experience [technical position/project name/location/lead agency or owner]

- Engineering Geologist, North of the Delta Off-stream Storage (NODOS) Project [Sites], US Bureau of Reclamation
- Engineering Geologist, North Umpqua River Project, Roseburg, Oregon
- Engineering Geologist, Piñon Pine Power Project, Sierra Pacific Power Company
- Engineering Geologist, Protected Fuel Depots Feasibility Study, Kuala Lumpur, Malaysia, Malaysian Ministry of Defense
- Engineering Geologist, Sanitary Landfill Siting Investigation, Fort Drum, New York, US Army Corps of Engineers
- Engineering Geologist, Sharp Army Depot Building S-4 Geohazard Assessment, US Army Corps of Engineers
- Engineering Geologist, Site Characterization of Superconducting Super-Collider (SSC) Sites, New York, NY UDC.
- Engineering Geologist, Union Valley Penstock Bifurcation Study, Upper American River, CA, SMUD
- Engineering Geologist, Upper Gorge Bypass Power Plant, Los Angeles Department of Water and Power
- Environmental Geologist, Gardena Sumps, Gardena, California, Atlantic Richfield
- Environmental Geologist, Low-level Radioactive Waste Disposal Site, Moorehead, KY, Maxey Flats Steering Committee.
- Environmental Geologist, Regulatory Compliance and Emergency Reporting Requirements, EG&G
- Field Coordinator, Feather River West Levee Rehabilitation Project, Sutter Butte Flood Control Agency and CA DWR
- Geochemist, Office of Nuclear Waste Isolation Licensing Project Manager, Columbus, OH, Battelle Memorial Institute
- Geologist, Geology and Soils, Supplemental CEQA Document - Slab Creek, SMUD.
- Geologist, Alternative Energy Feasibility Study, Ohiopyle State Park, Pennsylvania, PA Department of Natural Resources
- Geologist, Assessment of Geothermal and Precious Metal Prospects, Western United States, AMAX Exploration
- Geologist, Clearlake Hot Dry Rock Demonstration Project, Clearlake, CA, California Energy Commission
- **Geologist, Hydropower Relicensing EIS's, California, Federal Energy Regulatory Commission**
- Geologist, Paleoliquefaction Studies along the Eastern Seaboard of the United States, Nuclear Regulatory Commission
- Geologist, Public Hearings on the North Carolina Low-Level Waste Siting
- Geologist, Rocky Point Pumped Storage Project, Taylor Park, Colorado, Natural Energy Resource Company
- Geologist, Statewide Liquid Geothermal Resource Evaluation, California, California Energy Commission
- Geologist/Paleontologist/Mining/ Waste Management: Dr. Maurath has been the senior scientist responsible for the technical areas of geology and soils, paleontology, mineral resources, and waste management for the California Energy Commission for the past 6 years, He is responsible for preparing CEQA documentation for new power plant applications and compliance oversight for the 76 operating power plants that are under the jurisdiction of the California Energy Commission. This includes expert witness testimony during public hearings and representing the California Energy Commission as a technical expert for public outreach. A few of these projects are listed below.
- Geologist/Paleontologist, Alamitos Energy Center, California, California Energy Commission
- Geologist/Paleontologist, Blyth Solar Power Project, Blyth, California, California Energy Commission
- Geologist/Paleontologist, Carlsbad Energy Center Project, Carlsbad, California, California Energy Commission
- Geologist/Paleontologist, El Segundo Power Project, El Segundo, California, California Energy Commission
- Geologist/Paleontologist, Gateway Generating Station, Antioch, California, California Energy Commission
- Geologist/Paleontologist, Geysers (Lakeview; NCPA #2), Calistoga, California, California Energy Commission
- Geologist/Paleontologist, Humboldt Bay Project, Humboldt, California, California Energy Commission
- Geologist/Paleontologist, Huntington Beach Energy Center, Huntington Beach, California, California Energy Commission

- Geologist/Paleontologist, Ravenswood-Cooley Landing Reconductoring, Menlo Park and East Palo Alto, CPUC
- Geologist/Paleontologist, Stanton Energy Reliability Center, Stanton, California, California Energy Commission
- Hydrogeologist, Arco 5550 – City of Pomona Well-29, California, BP/Atlantic Richfield
- Hydrogeologist, ARCO Alegria/Gaviota Marine Terminal, Gaviota, California, BP/Atlantic Richfield
- Hydrogeologist, Assessment of 14 U.S. EPA Superfund Sites, CA, NJ, VA, OH, PA, and NY, US EPA
- Hydrogeologist, Auburn Tunnel Pumping Project, Auburn, California, City of Auburn
- Hydrogeologist, Defense Fuel Supply Point Ozol, Benicia, California, U.S. Army Corps of Engineers
- Hydrogeologist, Delta Habitat Conservation and Conveyance Project (DHCCP), CA DWR
- Hydrogeologist, Destruction of Wells N-11, N-18, & N-19, Sacramento, CA, Sacramento Suburban Water District
- Hydrogeologist, Diamond Valley Reservoir, Hemet, CA, Metropolitan Water District of Southern California
- Hydrogeologist, Geff Alternative Site Aquifer Characterization, Chicago, IL, State of Illinois
- Hydrogeologist, Groundwater Modeling of Alternative Low-level Waste Vault Designs, Savannah River, Westinghouse
- Hydrogeologist, Groundwater Monitoring in the Globe Mining District, Globe Arizona, Gila River Indian Community
- Hydrogeologist, Hydrogeologic Assessment of Potential Hazardous Waste Sites, San Francisco Bay Area, CA, PG&E
- Hydrogeologist, Kern Water Bank Evaluation Project, Kern Water Bank
- Hydrogeologist, Lake Skinner Groundwater Seepage Adjudication, Metropolitan Water District of Southern California
- Hydrogeologist, Los Baños Grandes Groundwater Resource Evaluation, Los Baños, California, CA DWR
- Hydrogeologist, Municipal Water Supply Well Siting, Design, & Construction, Alleghany County Water District
- Hydrogeologist, Mt. Hope Pumped Storage Project, Mt. Hope, New Jersey, Federal Energy Regulatory Commission
- Hydrogeologist, Platte River EIS, Wyoming and Nebraska, Federal Energy Regulatory
- Hydrogeologist, Sacramento Ethanol and Power Cogeneration Project, Sacramento, CA, ARK Energy
- Hydrogeologist, Sutter Power Plant AFC with the California Energy Commission, Sutter County, Calpine
- Hydrogeologist, Upper Rio Grande Flood Control Sys. Replacement, TX, Int. Boundary & Water Com.- US & Mexico
- Hydrogeologist, Vinvale Terminal, Southgate, California, BP/ARCO
- Hydrogeologist, Well 23 Assessment, Sacramento, CA, Sacramento Suburban Water District
- Hydrogeologist, Well 6 Destruction and Re-design, Sacramento, CA, Sacramento Suburban Water District
- Hydrogeologist, Well15 Rehabilitation, Rio Linda, CA, Rio Linda Elverta Community Water District, Rio Linda
- Independent Technical Reviewer, Calaveras Dam Replacement Project
- Independent Technical Reviewer, Diablo Canyon Nuclear Power Plant, Diablo Canyon, California, CEC
- Independent Technical Reviewer, Panama Canal Pacific Access Channel Project #4, Panama Canal Authority.
- Independent Technical Reviewer, Searchlight Wind Energy Project EIS, Bureau of Land Management
- Program QA/QC Manager, Urban and Non-Urban Evaluation Program (ULE/NULE), Sacramento, California, CA DWR
- Project Manager, Castaic Power Plant FERC Relicensing, Los Angeles Department of Water and Power (LADWP)
- Project Manager, Dos Pueblos Pipeline Removal Project, Goleta, California, BP/Atlantic Richfield
- Project Manager, Hanford, Technical Baseline Studies, Hanford, Washington, Westinghouse Hanford Company
- Project Manager, Los Angeles Terminal, Los Angeles, California, Conoco-Phillips
- Soils Analyst, Soil Trafficability Surveys, Federal Republic of Germany, U.S. Army Corps of Engineers
- Subject Mater Expert, California Geology, CA Board of Professional Engineers, Land Surveyors, and Geologists
- Subject Mater Expert, Hydrogeology, CA Board of Professional Engineers, Land Surveyors, and Geologists
- Task Order Manager, Non-Urban Levee Evaluation Project (NULE), Sacramento Delta, California, CA DWR

#### Education

- PhD/Geology/1989/Kent State University, OH
- MS/Geology/1980/Kent State University, OH
- BS/Geology/1974/Lehigh University, PA

#### Registration

- 2008/Certified Hydrogeologist/CA/#906
- 1992/Professional Geologist/CA/#8346
- 1985/HAZWOPER/OHSA
- 1991/HAZWOPER Supervisor Certification/OHSA

#### Professional Societies/Affiliates

- Sigma Xi, Scientific Research Society, Life Member
- Association of Environmental and Engineering Geologists (former Finance Committee co-chair and member of the Board of Directors)
- Groundwater Resources Association of California

#### Publications

Dr. Maurath has more than 40 publications covering topics including paleoliquefaction, terrestrial heat flow, numerical modeling, hydrogeology, nuclear waste, hazardous waste, and geothermal energy. He is co-editor of *Geology of Sacramento*, which was published in January 2020.

#### Academia

Dr. Maurath has taught undergraduate courses in Physical Geology, Hydrogeology, Environmental Habitats, and Laboratory Safety; and graduate level courses in Geology of the Bahamian Platform, Carbonate Deposition, Reef Ecology, Forensic Photography, Data Management, and ICP Laboratory Techniques for Trace Element Geochemistry. Dr. Maurath has been affiliated with Kent State University, University of California at Davis, California State University Sacramento, Monmouth College, and the University of St. Francis.

**DECLARATION OF  
Melissa Mourkas**

I, Melissa Mourkas, declare as follows:

1. I am employed by the California Energy Commission as a Planner II.
2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.
3. I prepared the staff testimony for the Built Environment on **Section 4.5 Cultural/Tribal Cultural Resources** for the **SAN JOSE DATA CENTER** based on my independent analysis of the Application for Small Power Plant Exemption and supplements hereto, data from reliable documents and sources, and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issues addressed therein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: March 3, 2022

Signed: *Melissa Mourkas*

At: Sacramento, California

# MELISSA MOURKAS

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## EDUCATION

### **MASTER OF ARTS, LANDSCAPE DESIGN & PLANNING, 1994 CONWAY SCHOOL OF LANDSCAPE DESIGN, CONWAY, MASSACHUSETTS**

Graduate landscape design program providing professional training in site design and land-use planning. Curriculum emphasis is on sustainable landscape planning and design. Graduate projects included: Master Plan for a 45-acre historic resort, original landscape designed by F.L. Olmsted and Performance Standards for a proposed industrial park.

### **BACHELOR OF ARTS, HISTORY OF ARCHITECTURE & ART, 1981 SCRIPPS COLLEGE, CLAREMONT, CALIFORNIA**

Major studies in Art and Architectural History, Urban Development. Senior thesis: documentation and analysis of the innovative residential designs and construction techniques of California modern architect Rudolf M. Schindler. Minor studies in Art and the Humanities.

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## PROFESSIONAL EXPERIENCE/QUALIFICATIONS

- Licensed Landscape Architect, California # 5139
- Qualified Architectural Historian, Secretary of the Interior's Standards for Historic Preservation, Code of Federal Regulations, 36 CFR Part 61.

### ***PLANNING AND HISTORIC PRESERVATION:***

**April 2010 to Present: Planner II, California Energy Commission, Siting, Transmission and Environmental Protection Division.** Provide technical environmental analysis of proposed energy facilities and development. Review of EIR/EIS documents prepared by other agencies under NEPA. Specific tasks include: the assessment of potential impacts of new electric power plants on both Visual and Cultural Resources; identification of suitable mitigation measures under CEQA; preparation of written testimony; participation in public workshops; presentation of sworn testimony during evidentiary hearings, and project monitoring to ensure compliance with local, state and federal environmental laws and regulations. Cultural Resources specialty in the built environment, architectural and landscape history. Section 106 review of federally-funded energy efficiency upgrades under Programmatic Agreement with California OHP.

**2008-2014: Member, City of Sacramento Preservation Commission** (Chair 2013-2014)

**2005 to 2008: Assistant Planner, Historic Preservation Office, City of Sacramento, CA**  
Responsible for design review and approval for private and public development projects involving rehabilitation, preservation and restoration of historic resources and districts under CEQA. Prepared staff reports for Preservation Commission and Council, and coordinated with other planning staff on concurrent entitlements. Staff liaison on municipal development projects involving historic resources.

### ***LANDSCAPE ARCHITECTURE:***

**1994 to Present: Landscape Architecture and Design.** Experience in landscape architecture, landscape construction estimating, site planning, historic landscapes and landscape master plans. Provide landscape architecture and consulting services to private clients, public organizations, contractors, and design firms. Preparation of Cultural Landscape Reports. Frequent speaker to various groups on landscape design, construction and cultural landscapes.



**DECLARATION OF  
Laiping Ng**

I, Laiping Ng, declare as follows:

1. I am employed by the California Energy Commission as an Associate Electrical Engineer.
2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.
3. I prepared the staff testimony on Appendix B for the **SAN JOSE DATA CENTER** based on my independent analysis of the Application for Small Power Plant Exemption and supplements hereto, data from reliable documents and sources, and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issues addressed therein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: Laiping Ng Signed: 3/7/2022

At: Sacramento, California

**Laiping Ng**  
**Associate Electrical Engineer**

**Education:**

Master of Science: Electrical Engineering - Power  
California State University, Sacramento

Bachelor of Science: Electrical Engineering - Power  
California State University, Sacramento

Power Certificate – EPRI

**Experience:**

April 1999 – Present:

- Review and evaluate electrical transmission system sections of the application to ensure that the transmission engineering aspects of the power plant, switchyards, substations, and the related facilities comply with applicable laws, ordinances, regulations, and standards (LORS).
- Prepare written analysis, which address the issues of the adequacy of proposed projects to meet applicable LORS.
- Perform load flow studies and fault analysis.
- Coordinate with CAISO, WSCC and other regulatory agencies and coordinate with utilities companies in the review and evaluation of the power plant siting process.

May 1991 – April 1999:

- Prepared engineering bid specifications for recommended lighting and HVAC projects. Evaluated contractor bids and recommended contractors to customers. Reviewed RFPs and RFQs. Evaluated, selected, and managed engineering consultants. Administrated and coordinated contracts.
- Designed electrical systems for indoor and outdoor lighting and lighting controls. Assisted in design cooling systems and controls for school buildings and office buildings. Reviewed and checked electrical lighting designs and drawings. Analyzed designs and made recommendations for effective actions.
- Performed facility energy audits and field surveys on schools, offices, hospitals and county jail facilities to identify energy efficiency improvements and cost estimate with respect to lighting and HVAC systems. Inspected lighting and HVAC system equipment installation.
- Worked in a Nonresidential Energy Efficiency Standards development team. Prepared and updated Standards concentrating on interior building illumination and indoor and outdoor flood lighting.

**DECLARATION OF  
Gabriel Roark, M.A.**

I, Gabriel Roark, declare as follows:

1. I am employed by the California Energy Commission as a Senior Environmental Planner (archaeologist).
2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.
3. I prepared the staff testimony on **Cultural and Tribal Cultural Resources** for the **SAN JOSE DATA CENTER** based on my independent analysis of the Application for Small Power Plant Exemption and supplements hereto, data from reliable documents and sources, and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issues addressed therein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: March 8, 2022 Signed: *Gabriel Roark*

At: Sacramento, California

## GABRIEL ROARK, M.A.

### Archaeologist

Since 1999, Mr. Roark has directed and conducted cultural resource investigations for projects involving the California Environmental Quality Act (CEQA), National Environmental Policy Act (NEPA), and Section 106 of the National Historic Preservation Act (NHPA). Mr. Roark possesses extensive professional experience in prehistoric archaeology, historical archaeology, and regulatory compliance, routinely serving as the project manager and technical lead on several projects simultaneously. He specializes in the design and implementation of archaeological monitoring programs, archaeological surveys and excavations, archival research, and CEQA and Section impact analyses. His Section 106 experience includes drafting memoranda of agreement, programmatic agreements, and historic properties treatment plans.

Mr. Roark currently serves as the technical senior in the Cultural Resources Unit of the California Energy Commission's Siting, Transmission, and Environmental Protection Division. In addition to cultural resource analyses for power plant applications under the Warren-Alquist Act, Mr. Roark provides quality control and assurance for the work of the Cultural Resources Unit staff.

### Professional Employment History

State Energy Resources Conservation and Development Commission (California Energy Commission). Senior Environmental Planner (Cultural Resources). May 1, 2019–present.

State Energy Resources Conservation and Development Commission (California Energy Commission). Planner II (Cultural Resources). June 1, 2012–April 30, 2019.

ICF International. Senior Associate (Archaeologist). February 23, 1999–May 30, 2012.

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### Years of Experience

- Professional start date: 02/23/1999

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### Education

- MA, Anthropology, California State University, Sacramento, 2009
- BA, Anthropology, California State University, Sacramento, 1999

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### Special Training

- Cascade Range Archaeological Project, Crew Chief, California State University, Sacramento, 1999
  - Archaeological Field School, Mammoth Lakes, California State University, Sacramento (Dr. Mark E. Basgall, Director), 1999
  - Anthropology 199: Introduction to Analysis of California Gold Rush Chinese Ceramics, Independent Study, California State University, Sacramento (Dr. Jerald J. Johnson, Instructor), 1999
  - Anthropology 195A and 192: Fieldwork and Laboratory Work in Archaeology, Coloma, California State University, Sacramento (Dr. Jerald J. Johnson and Dr. Tom Strasser, Instructors), 1997
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## DECLARATION OF Kenneth Salyphone

I, Kenneth Salyphone, declare as follows:

1. I am employed by the California Energy Commission as a Mechanical Engineer.
2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.
3. I prepared the staff testimony on **Energy and Energy Resources** section, and portions of the **Alternatives** section for the **SAN JOSE DATA CENTER** based on my independent analysis of the Application for Small Power Plant Exemption and supplements hereto, data from reliable documents and sources, and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issues addressed therein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: March 14, 2022 Signed: *Kenneth Salyphone*

At: Sacramento, California

# Kenneth Salyphone

916.654.4658

1516 9<sup>th</sup> Street Sacramento CA 95814

kenneth.salyphone@energy.ca.gov

## PROFESSIONAL EXPERIENCE:

### **Mechanical Engineer**

California Energy Commission, Sacramento CA

12/2020 – Present

### **Mechanical Design Engineer, Lead**

Micron Technology, Inc., Folsom CA

12/2017 – 12/2020

### **Mechanical Design Engineer**

Micron Technology, Inc., Folsom CA

12/2013 – 12/2017

### **Mechanical Design Engineer, Intern**

Micron Technology, Inc., Folsom CA

06/2013 – 12/2013

## EDUCATION:

**Master of Science in Mechanical Engineering**, CSU Sacramento, 2013

**Bachelor of Science in Mechanical Engineering**, CSU Sacramento, 2010

## CERTIFICATION/LICENSE:

**Engineer-In-Training (EIT) Certified # 149129**

**SolidWorks Certified # C-65MWAZ786B**

**Professional Engineering License (in progress)**

## WHAT I DO:

- Prepare analyses of facility design code compliance, noise and vibration, power plant efficiency, generating capacity determination, and power plant reliability aspects of power generation plants and related facilities. Includes evaluating facility design; potential impacts and appropriate mitigation measures; and determining the ability of the facility to comply with applicable laws, ordinances, regulations, and standards
- Review and evaluate the mechanical engineering and related aspects of equipment as applied to thermal power plants related facilities. Includes the evaluation of system and equipment design, performance and reliability, as well as alternatives to the proposed facility.
- Develop compliance monitoring requirements and verifications related to noise and vibration and facility design to ensure that proposed facilities are properly constructed and operated in accordance with Energy Commission certification requirements.
- Monitor construction and operation of licensed facilities to assure their conformance with licensing requirements.
- Evaluate the efficiency and reliability implications of energy generation, supply, and end use strategies as input energy policy development.
- Evaluate existing and proposed governmental laws, ordinances, regulations, standards, and policies as they pertain to power plant design.
- Provide expert witness testimony at commission hearings.

## MEMBERSHIPS AND AFFILIATIONS:

- Member of Tau Beta Pi
- Member of the American Society of Mechanical Engineers

**DECLARATION OF  
Cameron Travis**

I, Cameron Travis, declare as follows:

1. I am employed by the California Energy Commission as an Energy Analyst.
2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.
3. I prepared the staff testimony on **Cultural and Tribal Resources** for the **SAN JOSE DATA CENTER** based on my independent analysis of the Application for Small Power Plant Exemption and supplements hereto, data from reliable documents and sources, and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issues addressed therein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 3/10/2022

Signed: *Cameron Travis*

At: Sacramento, California

## **Cameron Travis**

### **EDUCATION**

**BACHELOR OF ARTS, HISTORY, 2016, Sonoma State University, Rohnert Park, CALIFORNIA**

Major studies in History. Senior thesis: Analysis of historical divisions and coalitions in feminist, black, and lesbian activism. Minor studies in minor studies in Anthropology.

### **PROFESSIONAL EXPERIENCE/QUALIFICATIONS**

#### ***HISTORIC PRESERVATION:***

**January 2020 to Present: Energy Analyst, California Energy Commission, Siting, Transmission and Environmental Protection Division.** Participate in analyses and assist in the preparation of assessments in the area of cultural resources, and more specifically built environment, ethnographic, and prehistoric archaeological analyses for energy facility siting cases (Notice of Intention, Applications for Certification, Small Power Plant Exemptions, and Commission Reports). Identify, collect, organize, enter, describe, and analyze cultural resource data related to electrical energy production facilities, alternative energy technologies, energy research and development and Commission programs and policies. This entails project lead responsibilities for the Cultural Resources Unit Inventory System (GRUIS), such duties include staff instruction, upkeep of the GRUIS operational manual, and maintaining knowledge of GRUIS related software. Prepare correspondence for their supervisor's distribution to cultural resource protection and management agencies, tribal governments, environmental organizations, universities, and special interest groups to ensure their input into Commission programs.

**2016-2019: Student Assistant, California Energy Commission.** Analyze and inputting cultural resource data into a cultural resource database using GIS software, archive cultural resource files, assist cultural resource staff with projects, manage the Tribal Program's tribal contact database, draft and send letters to California Native American tribal governments. In this position, I also helped develop the Cultural Resources Unit's inventory system (CRUIS) processes and procedures, wrote the CRUIS manual, and led CRUIS training workshops.

#### ***Relevant Trainings:***

**Tribal Sovereignty, Tribal Cultural Resources and CEQA, and Implementation of AB52**  
Training through CalEPA Webinar. November 2019.

**Native American Sacred Sites and the Federal Government**  
Training through the United States Department of Justice Website. October 2019.

**Early Coordination with Indian Tribes for Infrastructure Projects**  
Training through the Advisory Council on Historic Preservation. September 30, 2019.

**Basics of NEPA and Section 106 Integration**  
Training through the Advisory Council on Historic Preservation. August 26, 2019.

**Coordinating NEPA and Section 106**  
Training through the Advisory Council on Historic Preservation. August 26, 2019.

**Governor's Tribal Advisor Tribal Training Program**  
Training through the CalEPA. June 13, 2017.



**DECLARATION OF**  
**Carol Watson**

I, Carol Watson, declare as follows:

1. I am employed by the California Energy Commission as a Planner II.
2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.
3. I prepared the staff testimony on **Biological Resources** for the **SAN JOSE DATA CENTER** based on my independent analysis of the Application for Small Power Plant Exemption and supplements hereto, data from reliable documents and sources, and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issues addressed therein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: Carol Watson Signed: 3-7-2022

At: Sacramento, California



**CAROL WATSON  
STAFF BIOLOGIST / PLANNER II**

**Education, Certification & Associations**

- Bachelor of Science, Biology, Western Michigan University (1998)
- M.S. Zoology, Eastern Illinois University (2000)
- Renewable Energy Action Team (REAT) Raven Management Advisory Member
- Technical Advisory Committee (TAC) Scientist for Argonne Labs, Avian Machine-Learning Study
- Expert Witness Legal Training: California Energy Commission (2015, 2017, 2021)

**Experience/Representative Projects**

**California Energy Commission (CEC) – from 2/2010 to present**

*Staff Biologist*

Regulatory Responsibilities: Analyze power plants over 50MW, including solar thermal, concentrating solar (power tower and parabolic trough), geothermal, natural gas, and coal technologies. Analyze applications to permit, construct, and operate new projects, conduct CEQA-certified regulatory program under the Warren-Alquist Act. The Energy Commission has authority to usurp the role of the California Department of Fish and Wildlife (CDFW) in processing and issuing 1600 and 2081 permits; therefore Ms. Watson is experienced in analyzing and mitigating these impacts on behalf of associated relevant state agencies. Assess compliance with US Fish and Wildlife Service (USFWS) Section 7 process and/or Section 10 process, and US Army Corps (Corps) 404 permits. Ms. Watson has extensive experience working on large scale permitting projects in the Mojave and Colorado Deserts, with a particular emphasis on avian impacts. These projects involved extensive CDFG code 1600 and 2081 permitting, and coordination with the BLM, CDFW, and USFWS; along with development of appropriate mitigation.

Compliance Responsibilities: Provide compliance oversight for permitted projects during all stages: construction, operation, and closure, and ensure proper implementation of mitigation and resolve biological-related construction issues such as nesting birds and/or trapped wildlife, and revegetation efforts. Synthesize developing regulations (REAT agency, DRECP Sec. 10 process among others) and relevant legislation to ensure Energy Commission compliance. Coordinate with— and negotiate— solutions with diverse entities such as BLM, USFWS, Water Quality Control Board, US Army Corps of Engineers, Governor’s Office liaisons to the Energy Commission, private interest groups, and solicitors working on behalf of these

interests. Representative projects span solar thermal, coal/diesel/natural gas-fired transmission line siting, geothermal, parabolic trough, and Small Project Permit Exemptions such as data centers, which may constitute a thermal power plant under CEC jurisdiction.

Expert Witness for the State: Responsible for testifying before the Commission on active Siting and Compliance projects, including preparation and delivery of testimony, rebuttal testimony, and post-hearing briefings as specifically requested by the Commission-appointed Committee. Ms. Watson has provided expert witness testimony for the Hidden Hills Solar Electric System, Blythe Solar Electric Project, Palen Solar Power Project, and the Puente Power Project.

### **Parsons Corporation – from 10/2004 to 12/2010**

#### *Principal Scientist*

Principal scientist from 11/2008 to 2/2010. Worked in-house with client, the Southern Nevada Water Authority, for the Southern Nevada Water Authority Pipeline Project. Prepared Endangered Species Act Section 7 Permit. Species included desert tortoise, desert pupfish, and other threatened and endangered aquatic and upland species in Mojave and Great Basin habitat ranging from southern to northern Nevada. Field work conducted in support of the Biological Assessment included: general site surveys, threatened spring snail (*Pyrgolopsis* spp.) counts, conducted sage grouse telemetry, mist netting for bats, Amargosa toad surveys in Death Valley, Nevada, and assisting the Nevada Department of Wildlife with bat telemetry studies.

Project Scientist from 2004-2007. Served as project scientist in Pasadena, California. Duties included mapping riverbank vegetation of the Virgin River, from the lower reach in Nevada through the confluence with Lake Mead. Ground-truthed plant assemblages based on aerial imagery and 3-dimensional (stereoscopic) views of vegetation. Ms. Watson is familiar with cadastral and rastral imagery analysis.

From 9/2005-11/2008 served on consultant basis from Ann Arbor, Michigan. Prepared EIS/EIR analysis for impacts to peregrine falcon and special status bat species from the Gerald Desmond Bridge Project, in the Port of Long Beach, California.

### **Enercon – from 9/2006 to 11/2008**

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#### *Project Biologist*

Fulltime from 7/2008-11/2008, consulting status from 9/2006 to 11/2007. Served as project biologist, performing a range of work from baseline surveys for the Oklahoma Department of Transportation, preparing NEPA documents, preparing and responding to Requests for Proposals and Requests for Qualifications. Representative

projects include coordination of environmental studies and preparation of an Environmental Assessment for the Federal Highway Administration, on behalf of Kellogg Engineering, in Rogers County, Oklahoma. Conducted public scoping and agency solicitation, attending county plenary sessions as technical environmental consultant. Prepared an Environmental Information Document for the Environmental Protection Agency for the expansion of the Rural Water District #3 Tacora Water Treatment plant in Rogers County, OK. Conduct protocol surveys for the federally endangered American burying beetle on behalf of clients such as Chesapeake Operating Systems, OKDOT, and Panther Energy Company. Surveyed new pipeline routes from Oklahoma through northern Texas for OG&E.

Other representative project includes City of Moreno Valley, Riverside Co., California. Ms. Watson prepared Caltrans' Natural Environment Study for improvements to SR-60 at the Moreno Beach Drive and Nason Street interchanges. Studies included oversight of a jurisdictional delineation of wetlands and waters of the U.S., and coordination with project engineers to determine project boundaries and impacts. Developed mitigation in conformance with the Western Riverside County Multiple Species Habitat Conservation Plan.

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### **Bonterra Consulting – from 2/2004 to 10/2004**

#### *Wildlife Biologist*

Prepared draft RFQ/RFP, perform general biological surveys on behalf of public and private sector clients, and prepare CEQA/NEPA documentation. Representative Project: Plum Canyon Development, Los Angeles Co., California. Ms. Watson conducted salvage (pitfall trapping & grubbing salvage) and relocation of sensitive and local populations of reptiles and amphibians. Species handled included Western spadefoot toad, coastal western whiptail, and silvery legless lizard. Coordinated with CDFG regarding species of special concern, drafting relocation plans, and assisted with developing a protocol to simulate and force spring emergence and subsequent relocation of spadefoot toads prior to grubbing.

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### **Sapphos Environmental, Inc. – from 12/2000 to 2/2003**

#### *Wildlife Biologist*

Responsible for all phases of project management and biological technical work. Responded to and prepared RFP/RFQs, designed and conducted environmental study sufficient to project details (*i.e.* determination and development of appropriate ESA, NEPA, CEQA, Clean Water Act permits); and prepared environmental documentation. Prepared and conducted all public noticing and scoping per regulations, and performed as technical consultant before the county and city and planning committees of Ventura and Los Angeles.

Representative Project: Ahmanson Ranch, Ventura County, California. Ms. Watson conducted long-term monitoring of a population of California red-legged frog with detailed notes as to location, behavior, and conditions. Assisted permitted biologists in placing passive integrated transponders, or PIT tags, as part of a radio telemetry study designed to aid understanding of habitat use and foraging distances. Assisted with the preparation of a Biological Assessment for an Endangered Species Act Section 7 consultation. Managed the design and creation of enclosed habitat and a captive breeding program, and associated USFWS Safe Harbor Agreement. Prepared monthly status reports, and conducted various studies at the Ahmanson Ranch, including state-endangered San Fernando Valley spineflower introduction studies, seed counts and collections, and oak tree surveys and assessments.

**DECLARATION OF  
Lisa Worrall**

I, Lisa Worrall, declare as follows:

1. I am employed by the California Energy Commission as a Senior Environmental Planner.
2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.
3. I collaborated on the staff testimony on **Alternatives** for the **SAN JOSE DATA CENTER** based on my independent analysis of the Application for Small Power Plant Exemption and supplements hereto, data from reliable documents and sources, and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issues addressed therein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: \_\_\_\_\_ Signed: \_\_\_\_\_

At: Sacramento, California

*Summary*

- Seasoned project manager and environmental analyst with experience navigating through projects with varying levels of complexity while under budgetary pressure and very demanding schedules.
- Adept at making complex projects and concepts clear and easy to understand.
- Accuracy and detail are among my many strengths, although the larger picture is not lost.

*Achievements*

- Received four awards for superior accomplishment (2012, 2013, 2017, and 2019).

*Employment Experience*

**California Energy Commission** Sacramento, CA  
**Senior Environmental Planner** January 2020 to Present

- Serve as project manager and point person for guiding complex energy facility projects through the licensing process (Application for Certification), or Small Power Plant Exemption process from submittal of the application through hearings and the Commission decision.
- Manage the preparation of environmental documents consistent with the California Environmental Quality Act (CEQA), Warren Alquist Act, the California Energy Commission siting regulations, and federal, state and local laws, ordinances, regulations, and standards.
- Coordinate with state and local agencies during the development of the environmental document.
- Review and edit staff technical sections that form the environmental document.

**Planner II** January 2010 to January 2020

- Manage complex energy facility projects from the preparation of the technical sections to the publication of the environmental document and participation in hearing proceedings.
- Bring a wide array of technical staff together to solve problems as soon as they arise.
- Review technical sections, ensuring clarity, consistency, and accuracy.
- Ensure project quality control while managing project scheduling.
- Prepare an independent analysis of environmental impacts from electric facilities as a deep subject matter expert in the technical areas of agriculture/forestry, land use and planning, public services, recreation, transportation, and environmental justice (disadvantaged communities).
- Contribute technical analysis to the alternatives analysis section in environmental documents.
- Develop mitigation measures for energy facility projects.

- Evaluate projects in accordance with CEQA, Warren Alquist Act, the California Energy Commission siting regulations, and federal, state and local laws, ordinances, regulations, and standards.
- Review information provided by the project applicant and research other resources to assess the environmental effects of energy facility proposals.
- Testify in hearings during project license proceedings as a subject matter expert in addition to presenting during project workshops for the public.
- Contribute deep subject matter expertise to policy and planning documents.
- Mentor new staff and collaborate with colleagues with a variety of technical expertise.
- Consistently and routinely go above and beyond what is asked of me as supported by the four awards I received for superior accomplishment.
- Selected as part of a project development team tasked with improving existing and creating new procedures that promote the division.

**Sacramento County Planning & Environmental Review** Sacramento, CA  
**Associate Environmental Analyst** April, 2006 – May, 2009

- Prepared a variety of environmental documents in compliance with CEQA, National Environmental Policy Act (NEPA) and other federal, state, and local LORS.
- Conducted project site assessments, reviewed engineering plans, and researched and interpreted scientific data for project impact analysis.
- Managed multiple public works and private development projects with a variety of environmental concerns and overlapping deadlines.
- Maintained effective relationships with other Sacramento County departments, agencies, and service providers to ensure comments and recommended conditions of project approval were obtained and any associated environmental impacts assessed.

**Analytical Environmental Services** Sacramento, CA  
**Associate** April, 2004 – October, 2005

- Interpreted highly technical traffic impact studies, utilizing the information to develop a traffic impact assessment chapter for use in a variety of environmental documents complying with CEQA, NEPA, and county and city transportation policies and codes.
- Managed the preparation of traffic studies, including developing the scope of study, securing the contract, and reviewing the work product.
- Managed multiple private development projects simultaneously under tight deadlines. Clients included Native American tribes and cities.
- Coordinated with state, county and city officials in the development of traffic study methodology, parameters and assumptions for proposed projects.
- Worked closely with transportation engineers to understand the complexities of each project's specific traffic impacts.



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**California Department of Transportation (Caltrans)** Fresno, CA  
**Associate Environmental Planner** March, 2003 – March, 2004  
**Environmental Planner** August, 2000 – March, 2003

- Prepared all levels of environmental documentation for transportation projects in compliance with CEQA and NEPA.
- Coordinated and interpreted environmental technical studies for incorporation into the environmental document and for explanation to other team members, agencies, and the public.
- Managed and represented environmental concerns with other functional units.
- Led and participated in public outreach events.
- Coordinated project development with other Caltrans departments, agencies and the public.

*Education*

**California State University, Northridge** Northridge, CA  
Bachelor of Arts in Geography May, 2000

*References*

Professional:

Steven Kerr 916-651-0483

Paul Marshall 916-654-4059

Personal:

Tiffany Chen 916-471-8631

Cathi Slaminski 916-220-4229

Carol Hofmeister 916-295-0610