

DOCKETED

Docket Number:	07-AFC-06C
Project Title:	Carlsbad Energy Center - Compliance
TN #:	203811
Document Title:	Project Owner's Written Testimony
Description:	N/A
Filer:	Dee Hutchinson
Organization:	Locke Lord LLP
Submitter Role:	Applicant Representative
Submission Date:	3/10/2015 4:24:46 PM
Docketed Date:	3/10/2015

**STATE OF CALIFORNIA
Energy Resources Conservation
and Development Commission**

In the Matter of:

**Petitions to Amend The
CARLSBAD ENERGY CENTER PROJECT**

DOCKET NO. 07-AFC-06C

**CARLSBAD ENERGY CENTER LLC'S
WRITTEN TESTIMONY**

March 10, 2015

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Air Quality

Testimony of Gary Rubenstein

The air quality baselines established by the San Diego Air Pollution Control District (District) for regulatory purposes, and by the Commission staff under CEQA, are reasonable, appropriate, and supported by the record.

The phrase “emissions baseline” is a common one in the air quality field; however, it is a term of art that has specific definitions in various regulatory programs. With respect to the Amended Carlsbad Energy Center Project (ACECP), this phrase is used within two distinct regulatory contexts:

- SDAPCD New Source Review
- Federal PSD program applicability

The correct baseline periods were used as follows:

SDAPCD New Source Review

Under SDAPCD NSR rules (Rule 20.1.d.2), the baseline period to establish the actual emissions for existing units is the most representative two-year period during the five years preceding the filing of a permit application with the SDAPCD. The rule’s language is as follows:

Actual emissions are calculated based on the actual operating history of the emission unit.

(i) Time Period for Calculation

(A) Actual emissions of an existing emission unit shall be calculated on an operating hour, day and year basis averaged over the most representative two consecutive years within the five years preceding the receipt date of an application, as determined by the Air Pollution Control Officer.

(B) For emission units which have not been operated for a consecutive two-year period which is representative of actual operations within the five years preceding the receipt date of the application, the calculation of actual emissions shall be based on the average of any two one-year operating periods determined by the Air Pollution Control Officer to be representative within that five-year period. If a representative two-year operating time period does not exist, the calculation of actual emissions shall be based on the average of the total operational time period within that five-year period.

San Diego APCD Rule 20.1.d.2, last amended 12/17/1998.

The existing Encina units operate as dispatched by the California Independent System Operator (CA-ISO). The dispatch of a unit by CA-ISO is scheduled based on a number of factors, including the need for energy within the region where the unit is located; the unit’s cost of producing energy; and the need for specific characteristics in the region where the unit is located

(such as fast start, fast ramping; voltage support; VAR support).¹ Variables that impacted the operation of the Encina units during the five years preceding the date of the permit application include:

- Increases in intermittent energy production by solar and wind resources
- Changes in gas-fired resources available within Southern California
- Normal variations in weather patterns
- Retirement of the San Onofre Generating Station

The first two of these variables are part of a continuum of change as California continues to integrate renewable resources into the generation mix, and repowers older steam boilers with new turbine-based units that have different capabilities and features. The third of these variables involves natural weather patterns. Only the fourth variable in this five year period – the retirement of San Onofre – can be characterized as a one-time change that could impact the dispatch of the five Encina Power Station boilers.

The San Diego APCD chose the last two years preceding the filing of the permit application (2012 and 2013) as the most representative two-year period within the five year window.² The District’s selection of this baseline period was based, in part, on the fact that the retirement of San Onofre –an irreversible, one-time change – occurred during the end of this five year window, and that years which reflect the retirement of San Onofre are most representative of baseline conditions at the time the permit application was filed.³ For the reasons stated above, I agree.

Federal PSD program applicability

The District performed an assessment of ACECP for conformance with the federal PSD requirements.⁴ As part of this assessment, the District concluded that ACECP would not be subject to federal PSD review for two independent reasons:

- The ACECP, upon commencement of operation, would have maximum allowable emissions of less than 250 tons per year for all PSD pollutants, with the exception of GHG emissions. As a result, ACECP would not trigger PSD review.⁵

¹ See, e.g., FSA (TN-203696) at p. 4.2-4, 5.4-2, AQ1-1.

² PDOC (TN-203441), p. 14.

³ PDOC (TN-203441), p. 14.

⁴ PDOC (TN-203441), pp. 18-19

⁵ PDOC (TN-203441), p. 18.

- The net emissions increase associated with the construction and operation of ACECP would not constitute a major modification of the existing major stationary source – the Encina Power Station.⁶

The issue of the appropriate baseline for the existing Encina Power Station is relevant only to the second rationale. Under the first rationale, regardless of the baseline selected, upon commencement of operation ACECP would not be a major stationary source subject to PSD review.

With respect to the second rationale, under the federal PSD regulations (40 CFR 52.21.b.48.1), the baseline period to establish the actual emissions for existing units is any consecutive 24-month period within the 5-year period preceding when actual construction of a new project begins. The EPA does *allow* the use of a different lookback period to calculate actual emissions if it is more representative of normal operation. The language in the federal PSD regulation is as follows:

(48) Baseline actual emissions means the rate of emissions, in tons per year, of a regulated NSR pollutant, as determined in accordance with paragraphs (b)(48)(i) through (iv) of this section.

*(i) For any existing electric utility steam generating unit, baseline actual emissions means the average rate, in tons per year, at which the unit actually emitted the pollutant **during any consecutive 24-month period selected by the owner or operator within the 5-year period** immediately preceding when the owner or operator begins actual construction of the project. The Administrator shall allow the use of a different time period upon a determination that it is more representative of normal source operation. 40 CFR 52.21(b)(48). Emphasis added.*

The determination of representativeness of the baseline for PSD purposes is similar to that discussed above for the District's nonattainment new source review program. However, in contrast with the District's definition of actual emissions (baseline), EPA's regulation requires an assessment of the representative of the baseline only in the event that the owner or operator seeks the use of an alternative baseline period. The baseline period is defined as *any* consecutive 24-month period *selected by the owner or operator* within the five year window. Since the owner of ACECP selected as a baseline the last two years immediately preceding the filing of the permit application, no alternative baseline period is sought or needed, and no assessment of representativeness is required for PSD purposes.

Conclusions

- The baseline period used by the Project Owner and the District for purposes of assessing the applicability of District new source review requirements is correct, and is representative of baseline conditions under District rules.

⁶ PDOC (TN-203441), p. 19.

- A determination of a baseline period is not required to support the conclusion that ACECP is not subject to federal PSD review.
- Even if a determination of a baseline period was, in fact, required to determine the applicability of federal PSD review, a representativeness assessment is not required under federal PSD rules.
- Even if an assessment of representativeness of the baseline was required to determine the applicability of federal PSD review, the two years immediately preceding the date of filing the application would be representative, for the same reasons discussed above in the context of the District's new source review program.

Project Owner incorporates, by reference, the following documents as evidence on the baseline:

Transaction Number	Date Docketed	Document
TN-202287-2	May 2, 2014	CECP Petition to Amend
TN-203441	December 12, 2014	Preliminary Determination of Compliance, San Diego Air Pollution Control District
TN-203608	February 5, 2015	Applicant's Analysis of Baseline Period Chosen for CECP
TN-203696	February 17, 2015	CECP Amendment, Final Staff Assessment

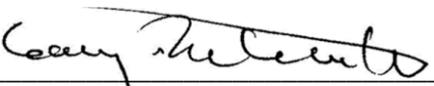
**DECLARATION OF
Gary Rubenstein**

I, Gary Rubenstein, declare as follows:

1. I am presently employed by Sierra Research, as a Senior Partner.
2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.
3. My testimony in the area of Air Quality and the related areas of Greenhouse Gas Emissions and Public Health, is based on my independent analysis of the Petition to Amend, Petition to Remove, the 2012 Commission Decision for the Carlsbad Energy Center Project (CECP), and supplements hereto, the Final Staff Assessment, data from reliable documents and sources, and my professional experience and knowledge.
4. I attest to the accuracy of my testimony, and support its conclusions, findings and recommendations hereto.
5. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issues addressed therein.
6. 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 10, 2015



Gary Rubenstein

At: Paris, France



**sierra
research**

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Résumé

Gary S. Rubenstein

Education

1973, B.S., Engineering, California Institute of Technology

Professional Experience

8/81 to present Senior Partner
Sierra Research

As one of the founding partners of Sierra Research, responsibilities include project management and technical and strategy analysis in all aspects of air quality planning and strategy development; project licensing and impact analysis; emission control system design and evaluation; rulemaking development and analysis; vehicle inspection and maintenance program design and analysis; and automotive emission control design, from the initial design of control systems to the development of methods to assess their performance in customer service. As the Partner principally responsible for Sierra Research's activities related to stationary sources, he has supervised the preparation of control technology assessments, environmental impact reports and permit applications for numerous industrial and other development projects.

While with Sierra, Mr. Rubenstein has managed and worked on numerous projects, including preparation of nonattainment plans; preparation and review of emission inventories and control strategies; preparation of the air quality portions of environmental review documents for controversial transportation, energy, mineral industry and landfill projects; preparation of screening health risk assessments and supporting analyses; and the development of air quality mitigation programs. Mr. Rubenstein has managed the preparation of air quality licensing applications for over 16,000 megawatts of generating capacity before the California Energy Commission, and has managed air quality analyses for over 28,000 megawatts of generating capacity in a variety of jurisdictions.

Mr. Rubenstein has presented testimony and served as a technical expert witness before numerous state and local regulatory agencies, including the U.S. Environmental Protection Agency, California State Legislative Committees, the California Air Resources Board, the California Energy Commission, the California Public Utilities Commission, numerous California air pollution control districts, the Connecticut Department of Environmental Protection, the Hawaii Department of Health, and the Alabama Department of Environmental Management. Mr. Rubenstein has also served as

a technical expert on behalf of the California Attorney General and Alaska Department of Law, and has provided expert witness testimony in a variety of administrative and judicial proceedings.

6/79 to 7/81 Deputy Executive Officer
California Air Resources Board

Responsibilities included policy management and oversight of the technical work of ARB divisions employing over 200 professional engineers and specialists; final review of technical reports and correspondence prepared by all ARB divisions prior to publication, covering such diverse areas as motor vehicle emission standards and test procedures, motor vehicle inspection and maintenance, and air pollution control techniques for sources such as oil refineries, power plants, gasoline service stations and dry cleaners; review of program budget and planning efforts of all technical divisions at ARB; policy-level negotiations with officials from other government agencies and private industry regarding technical, legal, and legislative issues before the Board; representing the California Air Resources Board in public meetings and hearings before the California State Legislature, the California Energy Commission, the California Public Utilities Commission, the Environmental Protection Agency, numerous local government agencies, and the news media on a broad range of technical and policy issues; and assisting in the supervision of over 500 full-time employees through the use of standard principles of personnel management and motivation, organization, and problem solving.

7/78 – 7/79 Chief, Energy Project Evaluation Branch
Stationary Source Control Division
California Air Resources Board

Responsibilities included supervision of ten professional engineers and specialists, including the use of personnel management and motivation techniques; preparation of a major overhaul of ARB's industrial source siting policy; conduct of negotiations with local officials and project proponents on requirements and conditions for siting such diverse projects as offshore oil production platforms, coal-fired power plants, marine terminal facilities, and almond-hull burning boilers.

During this period, Mr. Rubenstein was responsible for the successful negotiation of California's first air pollution permit agreements governing a liquefied natural gas terminal, coal-fired power plant, and several offshore oil production facilities.

10/73 to 7/78 Staff Engineer, Vehicle Emissions Control Division
California Air Resources Board

Responsibilities included design and execution of test programs to evaluate the deterioration of emissions on new and low-mileage vehicles; detailed analysis of the

effect of California emission standards on model availability and fuel economy; analysis of proposed federal emission control regulations and California legislation; evaluation of the cost-effectiveness of vehicle emission control strategies; evaluation of vehicle inspection and maintenance programs, and preparation of associated legislation, regulations and budgets; and preparation of detailed legal and technical regulations regarding all aspects of motor vehicle pollution control. Further duties included preparation and presentation of testimony before the California Legislature and the U.S. Environmental Protection Agency; preparation of division and project budgets; and creation and supervision of the Special Projects Section, a small group of highly trained and motivated individuals responsible for policy proposals and support in both technical and administrative areas (May 1976 to July 1978).

Credentials and Memberships

Air & Waste Management Association (Past Chair, Board of Directors, Golden West Section; Member, Board of Directors, Mother Lode Chapter)

American Society of Mechanical Engineers

Qualified Environmental Professional, Institute of Professional Environmental Practice, 1994

NOISE AND VIBRATION

Testimony of Scott Seipel

NOISE-6 is a condition that is intended to limit “noisy construction work” to certain hours of the day and put limitations on haul trucks and engine-powered equipment that will be used during construction.

As written, the condition does not provide a workable framework for determining what constitutes “noisy construction work.” Noisy construction work is defined as any project-related work that draws a noise complaint caused by construction or demolition activities associated with the CECP as verified by the CPM. The condition, however, does not lay out a process by which the CPM could “verify” a complaint. Accordingly, the condition does not provide sufficient clarity for effective project management. The condition is further muddled by the inclusion of a definition for the term “project-related noise complaint” in NOISE-6. The term “project-related noise complaint” does not appear anywhere else in the condition and it is unclear what significance it has in the context of NOISE-6.

In order to effectively manage this project, and to ensure compliance with the conditions of certification, Project Owner suggests that NOISE-6 be modified for clarity. First, Project Owner proposes removing the extraneous definition of “project-related noise complaint.” Second, Project Owner suggests changing the phrase “as verified by the CPM” to “as determined by the CPM pursuant to NOISE-2.” Project Owner believes that the internal reference to NOISE-2, which sets forth the procedure for investigating a noise complaint, is the most effective way of managing compliance.

Project Owner’s proposed change:

NOISE-6

Noisy construction and demolition work relating to any project features shall be restricted to the times of day delineated below:

Weekdays	7:00 a.m. to 6:00 p.m.
Saturdays	8:00 a.m. to 6:00 p.m.

Haul trucks and other engine-powered equipment shall be equipped with mufflers that meet all applicable regulations. Haul trucks shall be operated in accordance with posted speed limits. Truck engine exhaust brake use shall be limited to emergencies.

For purposes of this condition, “noisy construction work” shall be defined as any project-related work that draws a noise complaint caused by the construction or demolition activities associated with the CECP, as opposed to another source, as ~~verified~~ **determined** by the CPM **pursuant to NOISE-2**. ~~A project-related noise complaint constitutes either: a violation by the project of any noise condition of certification, which is documented by an individual or entity affected by such noise or vibration; or a complaint that is confirmed by the CPM, the project owner, or any local or state agency that would, but for the exclusive jurisdiction of the Energy Commission, otherwise have the responsibility for investigating noise complaints or enforcing noise mitigation.~~

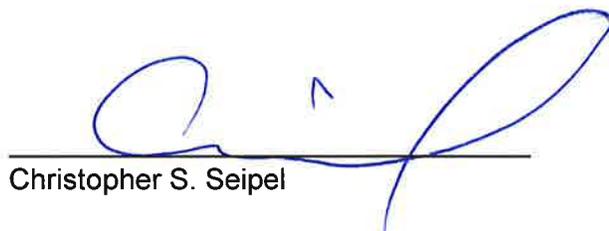
DECLARATION OF
CHRISTOPHER SCOTT SEIPEL

I, Christopher Scott Seipel, declare as follows:

1. I am presently employed by The Source Group, Inc., as a Principal Hydrogeologist.
2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.
3. My testimony in the area of Condition of Certification NOISE-6, is based on my independent analysis of the Petition to Amend, Petition to Remove, the 2012 Commission Decision for the Carlsbad Energy Center Project (CECP), and supplements hereto, the Final Staff Assessment, data from reliable documents and sources, and my professional experience and knowledge.
4. I attest to the accuracy of my testimony, and support its conclusions, findings and recommendations hereto.
5. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issues addressed therein.
6. 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: 3-10-15



Christopher S. Seipel

At: Carlsbad, California

Christopher “Scott” Seipel

The Source Group, Inc.

1962 Freeman Avenue
Signal Hill, California 90755
Phone 909-648-5008
E-mail: sseipel@thesourcegroup.net

Education

BS, Geology, California State University at San Bernardino; 1995

Additional Training:

40-Hour Occupational Safety and Health Administration (OSHA), Hazardous Waste and Emergency Response (HAZWOPER) Training (refresher 2005)
OSHA 10-Hour Construction Safety and Health; 2004
OSHA 8-Hour Management/Supervisory Training; 2004

Registrations/Certifications

Certified Hydrogeologist: 2005, California, No. 823, expires 12/2015
Professional Geologist: 2001, California, No. 7353, expires 12/2015
Radiation Safety Certified: 1996, California, no expiration date
Certified 24-hour Storm Water Pollution Prevention Plan Workshop 2006
Certified Industrial Storm Water Monitoring & Sampling 2009
Qualified Storm Water Developer (QSD) 2012

Professional Qualifications

Mr. Seipel is a California Professional Geologist (PG) and Certified Hydrogeologist (CHG) with fifteen years of environmental geology experience and has managed various environmental projects, report preparation, quality assurance/quality control programs, and regulatory permitting and compliance projects. His experience includes field demolition and construction management, construction permit training, coordination, scoping investigations, mitigation and remediation of sites impacted by petroleum hydrocarbons, polycyclic aromatic hydrocarbons, volatile organic compounds, chlorinated compounds, and metals. Remediation experience includes developing and managing operations, and installation and refurbishing of a large groundwater and vapor extraction, air sparging, and bioventing remediation systems. As part of the reporting requirements for several sites, Mr. Seipel regularly interacts with the California Energy Commission staff, Los Angeles Region Water Quality Control Board, and the Department of Toxic Substances Control (DTSC). Site investigation and monitoring experience includes groundwater monitoring for hydraulic, chemistry, and intrinsic biological parameters, and compliance monitoring and reporting for groundwater and storm water discharge under National Pollution Discharge Elimination System (NPDES) permits. Mr. Seipel has managed the permitting process for industrial, general, and storm water NPDES permits. Mr. Seipel has assisted a Southern California law firm, and city engineering department negotiate various environmental land development issues.

Mr. Seipel has supported permitting efforts for 850 megawatts (MWs) of simple cycle, and 1000 (MW) combined cycle power plants. Mr. Seipel has also successfully managed a Voluntary Cleanup Agreement, Risk Assessment project, and achieved No Further Action from the DTSC in Southern California.

Mr. Seipel currently serves as a principal hydrogeologist for The Source Group, Inc., Signal Hill office managing projects.

Experience and Background

2007 - 2015

PG, CHG, The Source Group, Inc., Signal Hill, California

Electric Generating Utility, El Segundo, California, Remediation Manager.

- Environmental coordinator during demolition and construction of the El Segundo Energy Center Redevelopment project (2010 to 2014).
- Develop contractor site training program.
- Manage Biological, Cultural, Paleontological, Storm Water Compliance, Noise, and Air Emissions monitoring contractors.
- Manage NPDES permit applications for industrial discharge, construction storm water discharge, hydro-test wastewater discharge, and construction dewatering discharge.
- Professional Geologist as Remedial Manager Approved by California Energy Commission for power plant redevelopment Condition of Certification WASTE-4
- Developed site wide assessment compliant with DTSC requirements.
- Supported PCB cleanup under EPA TSCA Regional Administrator Oversight.
- Manage Hazardous Waste disposal during demolition, remediation, and construction.
- Support South Coast Air Quality Management District permit monitoring of visual emissions.
- Support Intellex reporting for ESEC California Energy Commission license and Title V permit.
- Prepare quarterly and annual California Energy Commission reports.

Electric Generating Utility, Carlsbad, California, Remediation Manager.

- Onsite compliance manager coordinating demolition contractor compliance activities.
- Coordinate communication with the City of Carlsbad.
- Responsible monthly compliance reporting to the California Energy Commission compliance manager.
- Assist with petition to amend permit application.
- Assist with NPDES permit application.

Electric Generating Utility, Long Beach, California, Project Coordinator.

- Manage soil investigation of gas compressor lube oil system.
- Provide oversight of contractors for Gerald Desmond Bridge demolition and dewatering well installation project.
- Conduct ammonia treatment feasibility study.

Electric Generating Utility, Mandalay, California, Project Coordinator.

- Support NPDES permit renewal application.

TSDF RCRA Program, Compton, California, Project Manager.

- Manage overall implementation of RCRA work plans, site assessment, DTSC coordination.
- Manage soil gas investigations, quarterly and annual groundwater monitoring reporting, off-site assessments of soil gas and groundwater.
- Develop plume capture modeling.

Federal Fuel Support Client, San Pedro, California, Technical Lead.

- Manage NPDES permitting and compliance, program for tank farm and fuel pier.
- Managed preparation of Industrial Storm Water Pollution Prevention Plan (SWPPP) at a major fuel depot and marine terminal.
- Manage multi-media compliance project.

Refinery, Wilmington, California, Project Manager.

- NPDES permitting for above ground tank farm.
- Los Angeles County Sanitation District Reporting.
- Annual Stormwater Reporting for Refinery.
- Evaluate SWPPP for refinery and tank farm facilities.

Aerospace Parts Manufacturer, Long Beach, California, Project Manager.

- Manage assessment and groundwater monitoring of PCE, TCE plume under Los Angeles Regional Water Quality Control Board Corrective Action Order.

Port Facility, Los Angeles, California, Technical Lead.

- Aquifer test, sanitary sewer permitting and NPDES permitting for dewater project. Project located with the Harbor District of Los Angeles, California.

Law Firm, San Bernardino, California, Project Manager.

- Provide expert witness testimony related to lead and ASTM – E-1527 -05 Phase I standard protocol procedures.

Experience and Background Cont.

2000 - 2007

PG, CHG, Shaw Environmental, Inc., Irvine, California

Electric Generating Utility, Carlsbad, California, Project Manager.

- EPA RULE 316(b) Proposal for Information Collection report. Coordinate Shaw's 316(b) resources and NRG marine biology consultants for preparation of power plant compliance report and fish sampling plan for submittal to RWQCB. 316(b) compliance for reduction in impingement and entrainment of fish and larval fish.
- Manage the preparation and submittal of Flood Plain Special Use Permit with the City of Carlsbad for dredging operations.
- Assisted with Reasonable Potential Analysis (RPA) for the elimination of monitoring parameters from NPDES permit. (Approved by State)

Electric Generating Utility, El Segundo, California, Project Coordinator.

- Coordinate California Energy Commission (CEC) Petition To Amend for approved Application for Certification (AFC) permit.

- Professional Geologist as Remedial Manager for power plant redevelopment
- Developed site wide Remedial Investigation compliant with DTSC Corrective Action Consent Agreement requirements.
- Developed Soils Management Plan (SMP) compliant with DTSC guidance.
- Environmental Protection Agency (EPA) RULE 316(b) Proposal for Information Collection report. Coordinate Shaw's 316(b) resources and marine biology consultants for preparation of power plant compliance report and fish sampling plan for submittal to Regional Water Quality Control Board (RWQCB). 316(b) compliance for reduction in impingement and entrainment of fish and larval fish.

Electric Generating Utility, Long Beach, California, Project Coordinator.

- NPDES renewal application (Individual Permit) submittal and approval, dewatering study, and combined soil and groundwater treatment feasibility study.
- NPDES permit application (General Permit) (Approved)
- Supported Harbor Development Permit applications for geotechnical, power plant refurbishment (250 MW).
- Prepared California Accidental Release Program (CalARP) Program 1 Risk Management Plan (RMP) for aqueous ammonia system (agency approved).
- Developed Soils Management Plan (SMP) compliant with DTSC guidance.

Slauson-Central Retail Plaza, Los Angeles, California, for the Community Redevelopment Agency, Project Manager.

- Prepare final Preliminary Endangerment Assessment (PEA) work plan preparation and response to comments from DTSC. Managed site investigation. TPH, Metals, and VOC impacted site.

Law Firm, San Bernardino, California, Project Manager.

- File for Voluntary Cleanup Agreement with DTSC, prepare site characterization work plan, conduct site investigation. Former metals foundry with metals, Poly Chlorinated Biphenyls (PCBs), and Polycyclic Aromatic Hydrocarbons (PAH) contamination in soil.
- Managed Risk Assessment, Received NFA 2007.
- Developed SMP compliant with DTSC guidance. (DTSC Approved)

Law Firm, San Bernardino, California, Project Manager.

- Provide testimony related to ASTM – E-1527 -05 Phase I and II standard protocol procedures.

Experience and Background Cont.

Law Firm, Blythe Site, California, Project Manager.

- Provide third party oversight for site investigation, remediation. Site is under DTSC regulatory agency. Future site development for large retail center. Former flight strip contaminated with pesticides.

Department of Defense, Bridgeport, California, Senior Task Manager.

- 2001 to 2005. Semiannual reporting of quarterly groundwater monitoring. Various site closure reports. Responsible for optimization of existing remediation systems, selection of
- alternative remediation techniques. Received Closure on various sites. Diesel, Gasoline, and un-permitted Landfill impacted sites.

Solvent Recovery Refinery, Azusa, California, Senior Task Manager.

- 2003 to 2004. Responsible for field work oversight during groundwater and soil vapor sampling. Responsible for logging and installation of deep FLUTE® wells on site. Volatile organic Compounds (VOCs), and Perchlorate impacted site

Newport Avenue and Irvine Boulevard Intersection Enhancement Project, Tustin, California. Project Manager.

- 2003 to 2005. Conducting oversight for the City of Tustin for environmental issues related to street and utility realignment near former gas station and petroleum pipeline release site. Jet Fuel, Gasoline, and VOC impacted sites.

Federal Fuel Support Client, Norwalk, California, Senior Task Manager.

- 2000 to 2003. Responsible for tank farm quarterly and semiannual sampling and report preparation. Ongoing site investigation and remediation system enhancement. Manage remediation system operation and maintenance, NPDES permitting and compliance, Air Quality Management District (AQMD) permit compliance. Attend Restoration Advisory Board (RAB) meetings. Correspond with Los Angeles RWQCB and Santa Ana RWQCB. Jet Fuel, Gasoline, Diesel, PAH impacted site.

Former Wood Treatment Site, Alhambra, California, Project Manager.

- Managed sampling effort for soil removal action. Responsible for site investigation and field coordination following remedial action plan (RAP) work plan. Assisted in report preparation of draft RAP. Correspond with DTSC. PAH and VOC impacted site.

Manufactured Gas Plant Site, Colton, California, Project Manager.

- Responsible for site investigation activities under remedial action work plan (RAW), with supervision from California EPA, and DTSC. PAH impacted site.

SOIL & WATER

Testimony of Robert Mason

The Project Owner agrees with CEC Staff's findings and conclusions for Soil & Water in the Final Staff Assessment (February 2015). The Project Owner also accepts CEC Staff's proposed changes to the Conditions of Certifications (COCs) for Soil & Water with the exception of a sentence contained in Soil&Water-6.

As currently proposed by CEC Staff, COC Soil&Water-6 states that "Recycled water shall also be used for EPS demolition." (last sentence, first paragraph). This sentence, however, can be interpreted to be in conflict with the more detailed requirements for the use of recycled water that are found in COCs Soil&Water-2 and Soil&Water-5. Both Soil&Water-2 and Soil&Water-5 specify that non-potable water shall be used for construction and demolition if a non-potable water source is available and provide a mechanism for determining when or how non-potable sources are available for use. The problematic sentence in Soil&Water-6, however, simply states that recycled water "shall also be used EPS demolition."

Soil&Water-6 can thus be interpreted to be in conflict with the detailed requirements of Soil&Water-2 and Soil&Water-5. Further, the reference to recycled water in Soil&Water-6 is redundant and duplicative. For these reasons, this sentence should be removed. The following presentation of Soil&Water-6 documents the proposed modification.

SOIL&WATER-6 (as proposed by Project Owner)

During normal operation the project shall use no more than three acre-feet per year of potable water for drinking, sanitary, and fire protection testing purposes. The project shall use recycled water for all industrial and landscape irrigation purposes during operation of the CECP, unless potable water is needed for emergency backup use. For the purpose of this condition, the term emergency shall mean the inability of the CECP to take, or for the city of Carlsbad to deliver, recycled water to the CECP in a quantity sufficient to meet CECP demand due to Acts of God, natural disaster, and other circumstances beyond the control of the project owner, including interruption of recycled water service and it is necessary for the CECP to prepare to or continue to operate to serve a peaking load. If potable water is needed during operation for more than just an emergency use, the owner shall be required to file a formal petition to amend the project. ~~Recycled water shall also be used for EPS demolition.~~

WASTE MANAGEMENT
Testimony of Robert Mason

WASTE-5 is a condition that requires the Project Owner to prepare a Demolition and Construction Waste Management Plan that governs how wastes generated during construction and demolition activities are to be managed. As part of the plan, Project Owner must develop a construction and demolition debris recycling / reuse plan that exceeds California's waste diversion goals established by the Integrated Waste Management Compliance Act (Pub. Resources Code, § 41780 et seq.) and CALGreen Title 24, California Code of Regulations, Part 11. Project Owner agrees that it will comply with, and exceed, the state standard for construction and demolition debris waste diversion.

However, Project Owner does not agree with the language in the Verification requirement of WASTE-5 that requires the Project Owner to submit copies of receipts from a construction and demolition recycling facility certified by the city of San Diego.¹ Certification by the city of San Diego simply affects which facilities construction projects within the city limits of San Diego can send their debris to for recycling. A construction project in the city of Carlsbad should not be bound by the certification process of the city of San Diego.

There are a number of facilities located in counties and cities across California that would enable this project to comply with the diversion and documentation requirements of CalGreen. Some of those facilities are better suited than the facilities certified by the city of San Diego to handle the volume of construction and demolition debris that Project Owner will need to recycle over the course of construction and demolition.

In order to effectively manage this project, and ensure compliance with statewide statutory and regulatory waste diversion standards, Project owner suggests a modification to WASTE-5. Rather than require receipts from a facility certified by the City of San Diego, Project Owner proposes that the Verification language requires Project Owner to submit the documentation required by CALGreen Title 24, California Code of Regulations, Part 11 section 5.408.1.4. This documentation would demonstrate to the CPM that Project Owner is in compliance with statewide construction and demolition debris diversion standards throughout the construction and demolition activities associated with the amended CECP.

Project Owner's proposed change:

WASTE-5

Verification: The Project Owner shall submit the demolition section of the Demolition and Construction Waste Management Plan to the CPM for approval at least 30 days prior

¹ Project Owner recognizes that it did not raise this as an issue in its comments on the Preliminary Staff Assessment. This particular language does not exist in the licensed CECP project. It was added to the amended CECP COCs, but, inadvertently, it was not marked as new language. Accordingly, Project Owner did not notice the new language until the FSA was released.

to the initiation of demolition and/or construction activities at the site. The Project Owner shall submit to the CPM **copies of the documentation required by CALGreen Title 24, California Code of Regulations, Part 11 section 5.408.1.4.** ~~CPM copies of receipts from a construction and demolition recycling facility certified by the city of San Diego.~~

TRAFFIC & TRANSPORTATION

Testimony of Robert Mason

Project Owner is in agreement with most of the findings made by and conditions proposed by CEC staff in the FSA. The only major disagreement relates to a new, as of the FSA, traffic restriction inserted into condition of certification TRANS-1.

The project owner does not agree with the new requirement proposed by CEC staff to prohibit large vehicles with eight wheels or more from exiting via the SDG&E Service Gate to travel east on Cannon Road. Instead, the project owner should be required to include an evaluation of the safety considerations of making such a turn. There is no evidence in the record that such turns are inherently dangerous, only one anecdotal story of an alleged incident that the Project Owner has not been able to verify. There is ample evidence of many large trucks safely making that turn currently during the construction of the desalinization facility. Banning such a turn would also force more traffic to exit the site using the other routes, none of which are necessarily any more or less dangerous or safe. For all these reasons, the correct requirement should be to modify the requirement for the traffic plan required in TRANS-1 to specify that the safety considerations related to the exit and railroad crossing be evaluated.

The full proposed modified COC is presented below.

TRANS-1

The project owner shall consult with the city of Carlsbad and prepare and submit to the city of Carlsbad for review and comment and the Compliance Project Manager (CPM) for approval a construction/demolition traffic control plan. The plan shall be implemented during all phases of construction/demolition and shall address the following issues:

- timing of heavy equipment and building materials deliveries
- redirecting construction traffic with a flag person
- signing, lighting, and traffic control device placement if required
- need for construction work hours and arrival/departure times outside peak traffic periods
- ensurance of access for emergency vehicles to the project site
- temporary closure of travel lanes
- access to adjacent residential and commercial property during the construction of all pipelines
- specification of construction-related haul routes
- **safety considerations related to** ~~specification that large vehicles with eight wheels or more, such as semi-trailer trucks, use the Avenida Encinas exit, not exiting via~~ the SDG&E Service Gate exit, ~~when exiting the site to travel east on Cannon Road to avoid possible blockage of the railroad tracks~~
- identification of safety procedures for exiting and entering the site access gate

Verification: At least 30 days prior to tank demolition, the project owner shall provide the traffic control plan to the city of Carlsbad for review and comment and to the CPM for review and approval.

WORKER SAFETY

Testimony of Robert Mason

The Project Owner agrees with CEC Staff's findings and conclusions regarding Worker Safety in the Final Staff Assessment (February 2015). The Project Owner also accepts, most of CEC Staff's proposed changes to the Conditions of Certification (COCs). Project Owner, however, requires verification language changes to three COCs, Worker Safety 6, 7 and 9.

Worker Safety-6 Timing Issue

The Project Owner agrees with CEC Staff in principal regarding Worker Safety-6. However, timing language creates an issue because it would have the Project Owner submit information before it will be possible to do so. In Worker Safety-6, the Project Owner would be required to submit a final set of blueprints for the construction of the CECP site 30 days prior to the start of tank demolition. In Worker Safety-9, the Project Owner would be required to submit a copy of final plans for maintaining an access road through the life of the project 30 days prior to tank demolition. The problem in this timing language is timing triggers off of Phase I, Tank Demolition, instead of Phase II, CECP Construction. It will not be possible to complete these plans until many of the other sequential filings are made that complete the exact engineering of the facility. For these reasons, the Project Owner proposes the following changes to the verification language of Worker Safety-6 and Worker Safety-9.

WORKER SAFETY -6 (as proposed by Project Owner)

The project owner shall ensure that the below-grade site fire lanes, access points, and ramps (with no more than a ten percent grade) are constructed so that at least two access points through the site perimeter and into the below-grade power plant site are available to the CFD and other emergency response providers. The access roads, below-grade perimeter road, and ramps shall be no less than 28 feet wide. The project owner shall guarantee that the two fire access ramps down into the project site, the upper rim-road, and the fire lane around the perimeter of the below-grade site, are free and clear of all vehicles, equipment, or any other object (mobile or stationary) at all times and that the boundaries or curbs of the ramps and lanes are painted red and contain signage to indicate that they are fire roads and lanes on which parking is not allowed. The final blueprints for the site shall be submitted at least 30 days prior to the start of **CECP Construction** ~~site mobilization~~ to the Carlsbad Fire Department for review and comment and to the CPM for review and approval. Any requested changes in the fire lanes, upper rim road, ramps, and access points shall be made in writing to the CPM and the CBO for review and approval after obtaining comments from the CFD.

Verification: At least 30 days prior to the start of **Phase II, CECP Construction** ~~tank demolition site mobilization~~, the project owner shall submit a copy of the final site blueprints to the Carlsbad Fire Department for review and comment and to the CPM for review and approval. The project owner shall also submit to the CPM a copy of the transmittal letter to the CFD.

At least 60 days prior to the start of commissioning or the arrival on-site of any liquid fuel, natural gas, or hazardous material, whichever occurs first, the project owner shall submit to the CBO for information, to the Carlsbad Fire Department for review and comment, and to the

CPM for review and approval, a signed declaration along with photographic evidence that the access ramps and fire lanes are guaranteed to always be clear and unobstructed and that signs and red paint have been placed in the appropriate locations.

Worker Safety-7 Timing Issue

Worker Safety-7 requires the Project Owner to install a traffic safety barrier if and when Caltrans encroaches onto the project site with I-5 widening. The timing for this should be connected to the timing of I-5 widening. However, the verification language of the COC ties completion of such plans to “tank demolition site mobilization.” For this reason, Project Owner proposes the following change to Worker Safety-7.

WORKER SAFETY-7 (as proposed by Project Owner)

The project owner shall place a barrier of sufficient strength and height at the eastern fence line of the project at the widened I-5 Right-of-Way so as to prevent a runaway car or semi-trailer truck from piercing the barrier and going over the edge and down into the power plant site. This barrier shall also serve to prevent line-of-sight viewing of the power plant site from the shoulder of I-5. In designing this barrier, the project owner shall consult with Caltrans and then submit a final plan to the CPM for review and approval. The project owner may also negotiate cost-sharing of this barrier with Caltrans and, if the project owner chooses to do so, the cost-sharing contract with Caltrans shall be submitted to the CPM for review and approval.

Verification: At least 60 days prior to the start of I-5 widening activities that encroach onto the project site ~~tank demolition site mobilization~~, the project owner shall submit a copy of the final plans for the barrier and any cost-sharing contract to the CPM for review and approval.

Worker Safety-9 Timing Issue

The Project Owner agrees with CEC Staff in principal regarding Worker Safety-9. However, timing language creates an issue because it would have the Project Owner submit information before it will be possible to do so. In Worker Safety-9, the Project Owner would be required to submit a copy of final plans for maintaining an access road through the life of the project 30 days prior to tank demolition. The problem in this timing language is that timing triggers off of Phase I, Tank Demolition, instead of Phase II, CECP Construction. It will not be possible to complete finalization of these plans until many of the other sequential filings are made that complete the exact engineering of the facility. For these reasons, the Project Owner proposes the following changes to the verification language of Worker Safety-9.

WORKER SAFETY-9 (as proposed by Project Owner)

The project owner shall maintain the current dirt access road located on the western perimeter fence line in a sufficient state so as to serve as an emergency response road. In no event shall the project owner grant or dedicate an easement for the Coastal Rail Trail east of the Rail Corridor on the CECP site.

Verification: At least 30 days prior to the start of Phase II, CECP Construction, ~~tank demolition site mobilization~~, the project owner shall submit to the CPM for review and approval a copy of the final plans for maintaining this access road.

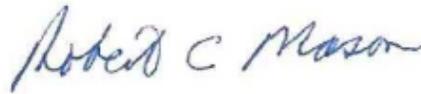
**DECLARATION OF
Robert C. Mason**

I, **Robert Mason**, declare as follows:

1. I am presently employed by CH2M HILL, as a Project Director for siting and licensing of industrial facilities include natural gas fired electrical generating facilities in California, including the preparation of the Application for Certification for the existing licensed Carlsbad Energy Center Project, and the Petition to Amend, Petition to Remove for the licensed Carlsbad Energy Center Project.
2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.
3. My testimony in the areas of Soil and Water Resources, Transportation, Waste Management, and Worker Safety is based on my independent analysis of the Petition to Amend, Petition to Remove, the 2012 Commission Decision for the Carlsbad Energy Center Project (CECP), and supplements hereto, the Final Staff Assessment, data from reliable documents and sources, and my professional experience and knowledge.
4. I attest to the accuracy of my testimony, and support its conclusions, findings and recommendations hereto.
5. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issues addressed therein.
6. 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 10, 2015



At: Santa Ana, California

Robert Mason

Project Director/Senior Consultant

Education

*M.A., Urban and Regional Studies,
University of Southern California*

*B.A., Urban and Regional Studies,
California State University at
Northridge*

Qualifications

*Expert in the strategic
implementation of the California
Environmental Quality Act
(CEQA) and the National
Environmental Policy Act
(NEPA) for complex projects*

*Extensive experience for the licensing
and permitting of natural gas-
fired power plants, including
direct experience with the
California Energy Commission
(CEC); and permitting and
environmental compliance
during demolition of power
plants*

*Experienced in environmental
permitting process and permit
acquisition, and compliance from
federal, state and local regulatory
agencies*

*Routinely interacts with local, state
and federal agencies, and public
interest groups during the
environmental analysis and
permitting process, and during
construction and demolition*

Mr. Mason has over 35 years of experience in program management for the planning, permitting, environmental analysis, and regulatory compliance for multi-million dollar industrial, energy, institutional and government projects. His experience includes management of multi-disciplinary technical teams for collection and analysis of data, preparation of supporting documents for construction and operation; and negotiation with regulatory agencies regarding permitting conditions. Mr. Mason's experience includes permitting and regulatory compliance for the demolition of natural gas-fired power plants, including compliance monitoring during demolition.

Mr. Mason has prepared and negotiated permits with a full range of federal, state and local agencies including, but not limited to: Air Pollution Control Districts and Air Quality Management Districts, California Regional Water Quality Control Boards (WDRs, NPDES, and construction SWPPPs, Section 401 Water Quality Certificates), California Energy Commission, California Coastal Commission, California Department of Fish and Wildlife (endangered species, streambed alteration agreements), U.S. Army Corps of Engineers (Section 404 permits), U.S. Fish and Wildlife Service (endangered species, habitat conservation plans), National Marine Fisheries, and local land use entitlement permits (CUPs, variances).

Project Experience

Energy Projects

Mr. Mason has 18 years of specific experience providing regulatory compliance and project management support for energy projects. He is one of the more experienced power plant licensing project managers in California providing overall direction and management of multi-disciplinary staff during preparation of Applications for Certifications (AFCs) and Petition to Amend (PTAs) and through the California Energy Commission (CEC) licensing process for more than 15 projects. He has also served as project manager for numerous other environmental analysis and permitting projects under various jurisdictions, directing multidisciplinary teams of planners, engineers, and scientists in helping to resolve complex environmental regulatory issues.

Application for Petition to Amend for the Carlsbad Energy Center Project – Carlsbad, California. Directing this ongoing project (began spring of 2014) for the preparation of a Petition to Amend (PTA) the CEC's license for NRG's Carlsbad Energy Center Project (CECP). The PTA changes generation technology from combined-cycle to simple-cycle to reflect NRG's negotiations with San Diego Gas & Electric (SDG&E) on generation requirements. Based on an agreement with the City of Carlsbad, the PTA also includes a full analysis of the demolition of the existing Encina Power Station.

Application for Petition to Amend for the El Segundo Energy Center– El Segundo, California. Directing this ongoing project (began summer of 2013) for the preparation of a Petition to Amend (PTA) for the CEC licensed NRG El Segundo Energy Center for the construction and operation of additional combine-cycle and simple cycle generation at this site.

Application for Certification for the Carlsbad Energy Center Project - Carlsbad, San Diego County, California. Directed the preparation of the Application for Certification (AFC) for the NRG Carlsbad Energy Center Project and permitting/licensing of the project with the California Energy Commission (CEC). This 540-megawatt (MW) combined-cycle, natural gas-fired will allow the retirement of three of the five units at the Encina Power Station through the replacement of 1960 technology with a state-of-the-art rapid response combined-cycle power plant. The AFC was filed with the CEC in September 2007 and the project was licensed by CEC in 2012. The AFC included the analysis of field study of the full range of environmental issues, including marine and terrestrial biology, land use, geology and soils, water resources, traffic, noise, air quality and health risk, cultural resources, hazardous materials management, waste management, workers safety and socioeconomics. Mr. Mason's directs a multi-disciplinary technical team through the preparation of the AFC, and the licensing hearings with the CEC.

Mr. Mason is CH2M HILL's Project Manager for the **Application of Certification for the recently licensed AES Huntington Beach Energy Center Project (HBEP) – Huntington Beach, California**, and he is the Project Manager for the pending Petition to Amend for the AES HBEP. Mr. Mason directed the preparation of the AFC for the HBEP and permitting/licensing of the project with the CEC. This project is located at the existing AES Huntington Beach Generating Station. This 939-megawatt (MW) combined-cycle, natural gas-fired was licensed by the CEC in October 2014. The AFC included the analysis of field study of the full range of environmental issues including biology, land use, geology and soils, water resources, traffic, noise, air quality and health risk, cultural resources, hazardous materials management, waste management, visual resources workers safety and socioeconomics. Mr. Mason's directs a multi-disciplinary technical team through the preparation of the AFC, and the licensing hearings with the CEC, including CH2M HILL's visual resource team that developed the architectural and landscaping concept for HBEP.

Application for Certification for the South Bay Power Plant Replacement Project, Port of San Diego. Directed the preparation of the Application for Certification (AFC) for the South Bay Power Plant Replacement Project and processing the project with the California Energy Commission (CEC). This project was to be a replacement of the existing South Bay Power Plant. While operated by LS Power, the South Bay Power Plant is owned by the Port of San Diego and the power plant is located on Port property. The AFC, which is a CEQA equivalent document under California regulation, included the analysis of field study of the full range of environmental issues, including marine and terrestrial biology, land use/Port operations, geology and soils, water resources, traffic, noise, air quality and health risk, cultural resources, hazardous materials management, waste management, workers safety and socioeconomics. Mr. Mason's directed a multi-disciplinary technical team through the preparation of the AFC, and during the processing of the project with the CEC. Prior to the project being licensed, LS Power withdrew the project from consideration.

Application for Certification for the Moss Landing Power Plant in Monterey County, California. Directed preparation of the Application for Certification (AFC) for the Energy Moss Landing Power Plant and permitting/licensing of the project through the California Energy Commission (CEC). This 1,200-megawatt (MW) combined-cycle, natural gas-fired expansion of the existing power plant at Moss Landing was licensed by the CEC in October 2000 with ground-breaking occurring in mid-November 2000. The project began commercial generation of power in June 2002. The AFC included the analysis of the full range of environmental issues, including marine and terrestrial biology, land use, geology and soils, water resources, traffic, noise, air quality and health risk, cultural resources, hazardous materials management, waste management, workers safety and socioeconomics. Mr. Mason's directed a multi-disciplinary technical team through the preparation of the AFC, and the licensing hearings with the CEC.

Application for Certification for the Morro Power Plant in San Luis Obispo County, California. Directed preparation of the Application for Certification (AFC) for the Energy Morro Bay Power Plant and permitting/licensing of the project through the California Energy Commission (CEC). The license for the 1,200 megawatt (MW) combined-cycle, natural gas-fired upgrade of the existing power plant at Morro Bay was completed through the CEC in 2004, though the Morro Bay Power Plant Modification Project was not constructed. The AFC included the analysis of field study of the full range of environmental issues, including marine and terrestrial biology, land use, geology and soils, water resources, traffic, noise, air quality and health risk, cultural resources, hazardous materials management, waste management, workers safety and socioeconomics. Mr. Mason's directed a multi-disciplinary technical team through the preparation of the AFC, and the licensing hearings with the CEC.

VISUAL RESOURCES
Testimony of Thomas Priestley

I sponsor the following documents that support my testimony on the visual resource issues associated with the amended Carlsbad Energy Center Project:

Transaction Number	Date Docketed	Document
TN- 202287-2	5/2/2014	PTA Visual Resources pp 275-314
TN- 203058	9/12/2014	POV Data Set #1 (1-5)
TN- 203084	9/19/2014	CEC DR Set 1 - Updated Responses to Requests 28 to 30
TN- 203311	11/4/2014	CEC Data Set #2 Request 58 (Visual)
TN- 203300	10/31/2014	CEC Data Set #3 (Requests 67-76)
TN- 203313	11/4/2014	CEC Data Set #3 Supplemental Request 74
TN- 203363	11/21/2014	CEC Data Set #4 (Requests 86-92)

I am familiar with the above-sponsored documents and, if called upon to testify, I can testify competently thereto.

I agree with the Staff's assessment that the Amended CECP will not create significant visual impacts. During the original licensing proceeding for the CECP, the CEC determined that the project's impacts on visual resources would be less than significant with mitigation. The Amended CECP has less impact on visual resources than the currently licensed project because it is lower in profile (90-foot tall exhaust stacks vs. 139 foot tall exhaust stacks for the licensed project, no HRSGs vs 80-foot HRSGS for the licensed project, and 48-foot tall gas inlet turbines vs 76-foot tall gas turbine inlets for the licensed project). Given the lower profile of the Amended CECP, and the fact that its power generation facilities are well screened by their location below grade in the excavated areas formerly occupied by fuel oil storage tanks and behind the berms and mature screening vegetation that surrounds the site, the Amended CECP's potential to create adverse visual impacts is even lower than that of the Licensed CECP.

The Amended CECP also differs from the Licensed CECP in a very important way. Unlike the Licensed CECP, the Amended CECP includes removal of the Encina Power Station (EPS) with its 400-foot tall exhaust stack and its 200-foot tall turbine enclosure building. As the FSA analysis points out, the EPS stack is the tallest structure in Carlsbad and is visible throughout the surrounding area. I am in full agreement with the FSA's assessment that "The removal of the EPS, in itself, would constitute a major beneficial change in the visual setting of the surrounding area, eliminating this dominant industrial feature from the coastal landscape." (FSA p. 4.13-7).

With removal of the EPS, overall, the visual impact of the project will be positive. Accordingly, because of the reduced visual impact of the project as a whole and the beneficial impacts of EPS removal, I agree with Staff's conclusion that the project will not create a significant impact on visual resources.

Although I agree with the findings of the Staff's Visual Resources analysis, I disagree with one of the provisions of Condition of Certification VIS-5. This CoC requires that, at the time Caltrans widens I-5, the project owner shall work with Caltrans to develop a mitigation plan that maintains visual screening of the CECP at acceptable levels. Overall, VIS-5 is reasonable and appropriate.

However, its specification that the mitigation plan "...shall include, at a minimum, a 20-foot wide or greater landscape planting buffer zone along the entire CECP/I-5 boundary" is arbitrary and unnecessarily specific. Staff presents no analysis or evidence to support the assumption implicit in this requirement that a 20-foot-wide buffer strip is essential for providing an adequate level of visual screening. The requirement that a 20-foot-wide buffer zone be maintained "along the entire CECP/I-5 boundary" could be burdensome, and in the end, there may be practical reasons why it cannot be achieved. The objective that is most important is provision of substantial visual screening of the taller features on the project site, not maintenance of a buffer strip of a specific dimension. I propose that VIS-5 be revised to remove the reference to the arbitrary 20-foot buffer zone, and instead specify "...a landscape planting buffer zone along the entire CECP/I-5 boundary, to accommodate replacement tree canopy of sufficient height and density as to provide substantial visual screening of the tall amended CECP features...". With this change, the requirement will be more like a performance measure and will preserve a higher degree of flexibility in achieving screening objectives at the time, 15 or more years in the future, when the specific plans are worked out for widening I-5 and for making up for any removal of berms or trees important for screening views toward the amended CECP facility.

With the proposed Modification, VIS-5 would read:

Cumulative Impact Buffer Zone, Coordination with Caltrans, and Mitigation Plan

VIS-5

In addition, the project owner shall work with Caltrans to develop a mitigation plan for accommodating the widening project while maintain visual screening of the CECP to acceptable levels over the long term following I-5 widening. This plan could include complete or partial avoidance of the CECP site, complete or partial berm retention or replacement, complete or partial retention of existing landscape screening, and replacement screening as needed. The objective of the plan shall be to accommodate the I-5 widening within the designated buffer zone to the extent that encroachment is unavoidable, while providing needed hazard protection and acceptable levels of visual screening of the power plant.

The mitigation plan shall include, ~~at a minimum, a 20-foot wide or greater~~ **a** landscape planting buffer zone along the entire CECP/I-5 boundary, to accommodate replacement tree canopy of sufficient height and density as to provide substantial visual screening of the tall amended CECP features, including exhaust stacks and transmission poles; and to substantially replace any existing tree canopy on the eastern CECP boundary lost to highway expansion. The landscape buffer may occupy portions of the CECP site, the Caltrans right-of-way, or both. The solution developed under Condition of Certification VIS-5 shall not preclude relocation or undergrounding of transmission poles or other features, if necessary to provide the stipulated visual buffer or achieve adequate long-term project screening.

**DECLARATION OF
Thomas Priestley**

I, Thomas Priestley, declare as follows:

1. I am presently employed by CH2M Hill, as a Senior Environmental Planner.
2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.
3. My testimony in the area of Visual Resources is based on my independent analysis of the Petition to Amend, Petition to Remove, the 2012 Commission Decision for the Carlsbad Energy Center Project (CECP), and supplements hereto, the Final Staff Assessment, data from reliable documents and sources, and my professional experience and knowledge.
4. I attest to the accuracy of my testimony, and support its conclusions, findings and recommendations hereto.
5. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issues addressed therein.
6. 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 10, 2015



Thomas J. Priestley

At: Los Angeles, California



Thomas Priestley, Ph.D., AICP/ASLA

Visual Resources Specialist, Senior Environmental Planner

Education

Ph.D., Environmental Planning, Department of Landscape Architecture, UC Berkeley, 1988

M.C.P., City Planning, Department of City and Regional Planning, UC Berkeley, 1976

M.L.A., Environmental Planning, Department of Landscape Architecture, UC Berkeley, 1974

B.U.P., Urban Planning, Department of Urban and Regional Planning, University of Illinois, 1969

Professional Registrations

American Institute of Certified Planners (Certified Planner No. 008919)

American Planning Association

American Society of Landscape Architects

Distinguishing Qualifications

- Over 30 years of professional experience as a professional urban/environmental planner, university professor, and researcher
- Visual assessment specialist with involvement in over 100 visual assessment efforts
- Skilled in scoping aesthetic and urban design issues and in developing and implementing the appropriate analyses
- Experienced in the preparation of analyses that meet the requirements of the National Environmental Policy Act (NEPA), California Environmental Quality Act (CEQA), Federal Highway Administration (FHWA), Bureau of Land Management (BLM), and U.S. Forest Service (USFS)
- Broad knowledge of methods used for siting electric generation, transmission, and substation facilities and mitigating their land use and aesthetic effects
- Has conducted widely cited research on the perceptions and property value impacts of electric transmission lines and has consulted on electric facility property value issues

Relevant Experience

Dr. Priestley has more than 30 years of professional experience in urban and environmental planning and visual resource assessment. He is known nationwide for his expertise in evaluating aesthetic, land use, property value, and public acceptance issues related to electric energy projects. His experience includes projecting community land use development trends to determine facility needs and optimal location; assessing land use and visual effects of proposed infrastructure facilities; conducting studies of public perceptions of project visual effects; evaluating the property value effects of electric transmission lines; and evaluating the shadow flicker effects of wind power projects. Through his project experience and research conducted for utility clients, Dr. Priestley has developed expertise in methods used for siting electric generation, transmission, and substation facilities and mitigating their land use, aesthetic, and other environmental effects. As editor or co-author, he has made major contributions to Edison Electric Institute (EEI) publications related to understanding and evaluating the environmental effects of electric facilities.

Representative Projects

Task Lead and Expert Witness; Various Clients; Visual Resource Impact Analyses of Gas-fired Power Plants, Various Locations, California. Evaluated potential visual resources impacts of more than 40 gas-fired power plants proposed for a variety of urban and rural settings in California. Identified visual issues, designed the analysis strategies, contributed to development of architectural and landscape treatments, prepared visual resources analyses for the AFCs for submittal to the CEC, and reviewed and critiqued relevant sections of the

Thomas Priestley, Ph.D., AICP/ASLA

Energy Commission's analyses of the projects. As an expert witness on visual resources, prepared written testimony and provided oral testimony in hearings before the CEC.

Technical Lead; Southern California Edison (SCE); Tehachapi Renewables Transmission Project; Southern California. Technical lead for the analysis the visual impacts of a proposed 190-mile, 500-kV transmission line. The route traversed a diverse and complex set of landscapes that include open lands in the Antelope Valley, National Forest lands in the San Gabriel Mountains valued for their recreational and scenic importance, and highly developed urban areas in the San Gabriel Valley. Designed the analysis strategy that was implemented by a team of five CH2M HILL visual resource specialists, who were supported by CH2M HILL planners and GIS, visual simulation, graphics, and report production staff.

Senior Technical Lead; Southline Transmission Project; Arizona and New Mexico. 2011-2013. Senior technical lead for the analysis of potential visual impacts from construction of a proposed new 345-kilovolt double-circuit transmission line (approximately 205 miles between New Mexico and Arizona) and the upgrade of an existing transmission line (approximately 120 miles in Arizona). Coordinated with Bureau of Land Management staff regarding design and implementation of the analysis to assure consistency with BLM Visual Resource Management system requirements. Directed the efforts of the CH2M HILL team in initial coordination with BLM staff, including conducting field work, documenting and selecting viewpoints for analysis, preparing visual simulations, analyzing impacts using BLM VRM worksheets, reviewing analysis results with BLM staff, and documenting the analysis in a technical report.

Technical Lead; Mountain States Transmission Intertie Project; Montana and Idaho. Technical lead for the visual resources impact and property value impact assessments of a 400-mile, 500 kV transmission line being proposed by Northwest Power. The client for the analysis was the Montana Department of Environmental Quality and the assessment was designed to fulfill the analytic requirements of the DEQ, the US Forest Service and the US Bureau of Land Management. As the technical lead for this task, designed the analysis strategy and directed its implementation by a team that included CH2M HILL staff and other team partners.

Technical Lead and Project Manager; International Electric Transmission Perception Project. Project Manager for a multi-year research program sponsored by Hydro-Québec, Electricité de France, BC Hydro, the Bonneville Power Administration, and Southern California Edison. Managed a team of planners and social scientists conducting research aimed at development and application of standardized methods for surveying the public's perceptions of the impacts of high-voltage transmission lines. Identified transmission line siting issues and information needs, summarized and evaluated existing research findings, participated in development of a conceptual framework for understanding the public's perceptions, and contributed to the development of a master plan and design for preparation and testing of standardized survey instruments.

Task Lead; Environmentally Sensitive Design of Transmission and Substation Equipment. For Hydro-Québec and Electricité de France, developed an inventory and assessment of the experience of U.S. utilities in developing new transmission and substation equipment designs to reduce aesthetic and other environmental impacts. Activities included literature review, survey of utility engineers and planners, interviews with utility personnel, and documentation and synthesis of findings.

Technical Consultant; Colusa County Transmission Line Element; Colusa County, California. Consultant to a team that developed an element for the Colusa County General Plan to guide the siting and design of new electric transmission lines. Summarized the literature on transmission line effects and on siting and design options for impact mitigation, developed an analysis framework, provided technical review of all final products, and prepared the chapter on aesthetic issues. The aesthetic work included survey and evaluation of the county's current landscape conditions and sensitivities, and development of siting and design guidelines.

**DECLARATION OF
Erik Hale**

I, Erik Hale, declare as follows:

1. I am presently employed by Power Engineers, as a Project Director.
2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.
3. My testimony in the area of Transmission Systems Engineering, is based on my independent analysis of the Petition to Amend, Petition to Remove, the 2012 Commission Decision for the Carlsbad Energy Center Project (CECP), and supplements hereto, the Final Staff Assessment, data from reliable documents and sources, and my professional experience and knowledge. I am sponsoring the following documents as evidence in this proceeding:

DOCUMENT	Pages	Date	Transaction Number
Petition to Amend, Part I	pp. 2-1 – 2-2, 3-1 – 3-8	5/2/2014	TN-202287-2
Petition to Amend, Part I	Figs. 2.0-1, 2.0-2, 2.1-2, 3.1-1, 3.1-2, 3.1-3, 3.1-4a, 3.1-4b, 3.1-4c, 3.1-4d, 3.1-4e, 3.1-5, 3.1-6, 3.1-7	5/2/2014	TN-202287-2
Petition to Amend PT2	pp. 2C-13 – 2C-14	5/2/2014	TN-202287-3
Data Response Set 1	pp. 26-30 and attached figures	8/15/2014	TN-202938
Data Response to POV Set 1	pp. 1-3 and attached figures	9/12/2014	TN-203058
Data Response Set 1 Supplement	pp. 1-4 and attached figures	9/19/2014	TN-203084

DOCUMENT	Pages	Date	Transaction Number
Project Owner's Response to Power of Vision Petition for Order Directing Responses to Data Requests 8, 9, and 11-13	pp. 1-9 and attached exhibit	11/26/2014	TN-203383
Data Response Set 3	pp. 7-22 (includes figures)	10/31/2014	TN-203300
Supplemental Response to Data Request 74	pp. 1-2 and attached figures	11/4/2014	TN-203313
Supplemental Response to Data Request 76	pp. 1-2 and attached figures	11/13/2014	TN-203327
Data Response Set 4	pp. 8-9 and attached figures	11/21/2014	TN-203363
Project Owner's Response to Committee Order & Supplemental Response to Data Request 3	pp. 1-5	1/12/2015	TN-203512

4. I attest to the accuracy of my testimony, and support its conclusions, findings and recommendations hereto.

5. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issues addressed therein.

6. I am personally familiar with the sponsored documents, 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 10, 2015



 Erik Hale

At: Portland, OR

ERIK HALE, P.E.

PROJECT DIRECTOR

YEARS OF EXPERIENCE

29

EDUCATION

- > B.S., Electrical Engineering, Auburn University, 1985
- > B.A., Geology, University of California-Santa Barbara, 1982

AREAS OF EXPERTISE

- > Project management for large capital projects
- > Substation electrical and physical design
- > Protection and control design
- > Equipment specification and procurement

LICENSING

- > P.E., Electrical: California
- > P.E., Electrical: Idaho

EXPERIENCE SUMMARY

Project Director

Mr. Hale has extensive experience with the high voltage transmission systems and capital investment programs of investor-owned utilities. As a Project Director he is responsible for the budgeting, planning, engineering, detailed design and construction of power delivery projects, including major additions to electrical transmission systems. Design expertise includes high voltage interconnections, system analysis, control and protection for power systems up to 500 kV; substation physical and electrical design; the specification and procurement of major equipment; and construction coordination and outage planning of transmission construction projects. Earlier in his career, he designed high voltage substations and distribution system components and developed expertise in installing high voltage shunt capacitor banks.

RELEVANT PROJECT EXPERIENCE

Southern California Edison, Colorado River Substation, California

Senior Project Manager responsible for the design of this innovative substation. The Colorado River Substation is a 500 kV greenfield bulk power substation recently constructed in a portion of Eastern Riverside County with a high potential for solar generation development. The ultimate design features four AA transformer banks with a total transformation capacity of approximately 4,400 MVA. The 500 kV switchrack will be capable of terminating up to ten transmission lines, and up to 16 lines can be terminated in the 230 kV switchrack. The design features an automation/SCADA system that incorporates many features of IEC-61850.

Multiple Solar Developers, PV Generation Interconnections, California

Project Manager and Substation Engineer for multiple interconnections into the California transmission grid. Support included conceptual design (load flow modeling, substation general arrangements, one-line diagrams, PLS-CAD modeling); review and interpretation of Phase 1 and Phase 2 studies; and execution plans.

SunPower Corporation, 25 MW McHenry Solar Farm, California

Project Manager responsible for the project design. The project is a 25 MW AC Solar Farm that interconnects into the Modesto Irrigation District sub-transmission system. The solar panels utilize single-axis horizontal tracker. As Owner's Engineer, POWER provided all drawings to construct the site and furnished the design for the two-breaker collection substation and for the utility three-breaker ring bus. POWER also worked with the utility on the interconnect, protection and SCADA system designs.

PREVIOUS PROJECT HISTORY

Southern California Edison, 500 kV Rancho Vista Substation, California

Project Manager for the design of the greenfield 500 kV substation featuring 2,200 MVA of transformation, GIS switchracks for the 500 kV and 220 kV and numerous innovations. The success of Mr. Hale's team on this project lead SCE to engage them in the Tehachapi Renewable Transmission Projects (TRTP) which features two greenfield 500 kV substations and the addition of a 500 kV switchyard and accompanying transformers to an existing 220 kV substation.

Southern California Edison, Serrano Substation 500 kV and 220 kV GIS Replacement, California

Project Manager and Project Engineer. Serrano Substation is one of SCE's 500 kV bulk power stations and is the largest GIS in the U.S. It features GIS breaker-and-a-half 500 kV and 220 kV switchracks. The goal of this project was the replacement of the original GIS switchracks, and included the addition of two 500 kV breakers, three 220 kV breakers and the permanent connection of a third 1,100 MVA transformer bank. The design team was responsible for station side control and relaying; physical design of the non-GIS portion of the project; coordination with the SCE and Mitsubishi project teams; and numerous station upgrades.

Pacific Gas & Electric, Modular Protection Automation and Control Buildings (MPAC), California

Project Manager responsible for all aspects of budget, schedule, quality and technical requirements for a series of more than two dozen "drop-in" control buildings that PG&E uses for complete upgrades to the control and relaying of its major transmission substations. These control buildings were designed to PG&E standard, then fabricated, tested and delivered to the substation.

Portland General Electric, St. Marys Substation, Oregon

Project Engineer. The St. Marys Substation project converted a 230 kV to 115 kV main-and-transfer bulk power substation into breaker-and-a-half on the 230 kV side and three separate ring buses on the 115 kV side. Responsibilities included the physical design, capacitor bank design and procurement, and coordination of construction sequence. Also included in this project were the installation of a 320 MVA transformer, three 115 kV capacitor banks, and all new control and relaying for the station (this included ten lines, three bulk power transformers and three capacitor banks). His work on the capacitor banks contributed to PGE's standard for the application of transmission voltage shunt capacitor banks. The project was completed on budget and ahead of schedule.

WRITTEN TESTIMONY APPENDIX: FSA ERRATA

Project Owner suggests the following changes to the Conditions of Certification in the Final Staff Assessment:

Air Quality

* AQ-SC12 – Change the phrase “Monthly Compliance R reports” in Verification to “Monthly Compliance Reports.”

Culture

Staff tried to make a global change to replace the term “tank removal” with “tank demolition.” In a few instances the term “tank removal” was not replaced. The terms are interchangeable. Project Owner suggests changing all instances of “tank removal” to “tank demolition” to avoid later compliance issues.

* CUL-1 – Replace “tank removal” with “tank demolition” in phrase “No ground disturbance, including tank removal and soil remediation, shall occur prior to CPM approval. . .”

* CUL-1 – Replace “tank removal” with “tank demolition” in phrase “the cultural resources tasks that must be addressed during ground disturbance, including tank removal. . .”

* CUL-1 – Replace “tank removal” with “tank demolition” in phrase “CRMs assigned to monitor during tank removal and soil remediation. . .”

* CUL-1 – Replace “tank removal” with “tank demolition” in Verification Item 1

* CUL-1 – Replace “tank removal” with “tank demolition” in Verification Item 5

* CUL-2 – Replace “tank removal” with “tank demolition” in phrase “No ground disturbance, including tank removal and soil remediation, shall occur prior to CPM approval. . .”

* CUL-2 – Replace “tank removal” with “tank demolition” in phrase “area(s) to be worked during the next week, until ground disturbance, including tank removal. . .”

* CUL-2 – Replace “tank removal” with “tank demolition” in Verification Item 2

* CUL-2 – Replace “tank removal” with “tank demolition” in Verification Item 4

* CUL-3 – Replace “tank removal” with “tank demolition” in phrase “No ground disturbance, including tank removal and soil remediation, shall occur prior to CPM approval. . .”

* CUL-3 – Replace “tank removal” with “tank demolition” in Verification Item 1

* CUL-5 – Replace “tank removal” with “tank demolition” in phrase “The training may be discontinued when ground disturbance, including tank removal. . .”

* CUL-6 – Replace “tank removal” with “tank demolition” in phrase “The CPM will either identify potential monitors or will allow ground disturbance, including tank removal. . .”

* CUL-6 – Replace “tank removal” with “tank demolition” in Verification

* CUL-7 – Replace “tank removal” with “tank demolition” in phrase “Redirection of ground disturbance, including tank removal. . .”

* CUL-5 – Correct numbering of Verification Items

* CUL-6 – Correct numbering of Verification Items

Visual Resources

Project owner made PSA comments on VIS-1 and VIS-2. In the FSA's Response to Project Owner's comments, the Staff noted that Project Owner had proposed changes to those conditions. Staff responded that they had no objection to the proposed changes. However, those changes were not incorporated into the FSA COCs.

* VIS-1 – Project Owner suggests, as proposed in PSA Comments, the following change:

Surface color treatment shall include painting of turbine inlet filters, and other features **that are lower in height** in a dark color and value to match the surrounding tree canopy; and painting of exhaust stacks of a light color and value to blend with the sky.

* VIS-2 – Project Owner suggests, as proposed in PSA Comments, the following change:

The project owner shall submit to the CPM for review and approval and simultaneously to the City of Carlsbad for review and comment a landscaping plan whose proper implementation will satisfy these requirements. The plan shall include:

a) A detailed landscape, grading, and irrigation plan, at a reasonable scale. The plan shall demonstrate how the requirements stated above shall be met. The plan shall provide a detailed installation schedule demonstrating installation of as much of the landscaping as early in the construction process as is feasible in coordination with project construction. **The plan shall also reflect any landscaping planned or being conducted in accordance with VIS-3.**

Waste Management

* WASTE-9 - Formatting is off, restore bullet points.

* WASTE-12 – Last paragraph is verification language. The paragraph should be properly identified as Verification.

Compliance

* COM-8 – It appears that the end of the paragraph has accidentally been cut off. Currently reads, "Any information deemed confidential pursuant to the regulations shall remain undisclosed, as provided in Title 20,". Project Owner suggests restoring to "Any information deemed confidential pursuant to the regulations shall remain undisclosed, as provided in Title 20, California Code of Regulations, section 2501."

* COM-13 - In COM-13, Project Owner is required to submit a detailed incident report "within one (1) week of the incident. . ." In Compliance Table 1: Summary of Compliance Conditions of Certification, COM-13's incident reporting requirement is to "submit a detailed incident report within 30 days." Project Owner requests that the inconsistency between Table and COC be resolved.