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File No. 030137-0008

January 3, 2008

VIA FEDEX

CALIFORNIA ENERGY COMMISSION
Attn: Docket No. 06-AFC-9
1516 Ninth Street, MS-4
Sacramento, California 95814-5512

Re: Colusa Generating Station Project: Docket No. 06-AFC-9

Dear Sir/Madam:

Pursuant to California Code of Regulations, title 20, sections 1209, 1209.5, and 1210, enclosed herewith for filing please find Applicant's Prehearing Conference Statement regarding the above-referenced matter.

Please note that the enclosed submittal was filed today via electronic mail to your attention and to all parties on the CEC's current electronic proof of service list.

Very truly yours,

Paul E. Kihm
Senior Paralegal

Enclosure

cc: CEC 06-AFC-9 Proof of Service List (w/ encl. via e-mail)
Michael J. Carroll, Esq. (w/ encl.)

Michael J. Carroll
LATHAM & WATKINS LLP
Counsel to E&L Westcoast, LLC
650 Town Center Drive, Suite 2000
Costa Mesa, CA 92626
(714) 755-8105

Scott A. Galati
David L. Wiseman
GALATI & BLEK LLP
Counsel to Pacific Gas & Electric Company
555 Capital Mall Avenue, Suite 600
Sacramento, CA 95815
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STATE OF CALIFORNIA
ENERGY RESOURCES
CONSERVATION AND DEVELOPMENT COMMISSION

In the Matter of:	)	Docket No. 06-AFC-9
Application for Certification, for the COLUSA GENERATING STATION by E&L Westcoast, LLC	)	APPLICANT'S PREHEARING CONFERENCE STATEMENT

Pursuant to 20 CCR § 1718.5 and the Committee Order dated December 11,2007, as revised on December 27,2007, Applicant hereby submits its Prehearing Conference Statement. As the Committee is aware, a transfer of project ownership from E&L Westcoast, LLC to Pacific Gas & Electric Company ("PG&E") is pending, and may occur prior to the Prehearing Conference. Therefore, this Prehearing Conference Statement is being filed jointly by counsel to E&L Westcoast, LLC and PG&E.

STATUS SUMMARY BY TOPIC AREA

Applicant is prepared to proceed to evidentiary hearing on all topic areas. The following Table 1 presents a summary (by topic area) of:

- Whether there is a dispute or outstanding issue between the parties concerning the topic area, and the precise nature of the dispute or outstanding issue, if any;
- Identity of witnesses sponsored by Applicant, a brief summary of the testimony to be offered by each witness, and the time estimated to present direct testimony; and

- Topic areas upon which Applicant desires to cross-examine witnesses, and the time estimated for cross-examination.

Table 1 includes time estimates which assume that many topic areas can be submitted into the evidentiary record on declaration. In the event that other parties request live testimony on any of these topic areas, Applicant reserves the right to modify its Prehearing Conference Statement to include additional witnesses, and additional time for direct and cross-examination.

Appendix A to this Prehearing Conference Statement contains the qualifications of the witnesses sponsored by Applicant. Appendix B to this Prehearing Conference Statement identifies the tentative list of exhibits and declarations that Applicant intends to offer into evidence and the technical topics to which they apply. Since we have not yet prepared our final testimony, we reserve the right to add or delete exhibits and/or declarations.

Table 1

Topic Area	Disputes Between Parties	Witnesses	Testimony Summary	Direct Testimony Estimate	Cross-Examination Estimate
Project Ownership	No.	Andy Welch, E&L Westcoast, LLC; Jon Maring, Pacific Gas & Electric Company.	Discussion of project ownership and recent or pending changes ownership.	15 minutes.	None.
Project Description	No.	Andy Welch, E&L Westcoast, LLC.	Brief overview of project components.	20 minutes.	None.
Air Quality	No, but please see minor requested changes to Conditions of Certification discussed below.	Mark Strehlow, URS Corporation.	Declaration.	5 minutes.	None.
Biological Resources	No, but please see minor requested changes to Conditions of Certification discussed below.	Steve Leach, URS Corporation.	Declaration.	5 minutes.	None.
Cultural Resources	No.	Mark Hale, URS Corporation; Rand Herbert, JRP Historical Consulting.	Declarations.	5 minutes.	None.
Hazardous Materials	Yes. Applicant disagrees with staff's conclusion that the project will pose a significant unmitigated impact on the	John Lague, URS Corporation; Steve Royall, Pacific Gas & Electric.	Discussion of anticipated impacts of project on the Maxwell Fire Protection District and appropriate level of mitigation to	30 minutes.	30 minutes.

	Maxwell Fire Protection District. Please see further discussion, and requested changes to Conditions of Certification below.		address any such impacts.		
Land Use	No.	Alison Drury, URS Corporation; Mara Feeney, Mara Feeney & Associates.	Declarations.	5 minutes.	None.
Noise and Vibration	No.	Bob Green, URS Corporation.	Declaration.	5 minutes.	None.
Public Health	No.	Mark Strehlow, URS Corporation.	Declaration.	5 minutes.	None.
Socioeconomic Resources	Unclear. Please see requested changes to Conditions of Certification below. Applicant is unclear as to whether or not the proposed changes are acceptable to CEC staff.	Andy Welch, E&L Westcoast, LLC; Tammy Dorje, URS Corporation; Mara Feeney, Mara Feeney & Associates.	Discussion of Condition of Certification.	10 minutes.	10 minutes.
Soil and Water Resources	Unclear. Please see requested changes to Conditions of Certification below. Applicant is unclear as to whether or not the proposed changes are	Andy Welch, E&L Westcoast, LLC; Anne Connell, URS Corporation; Ray Rice, URS Corporation.	Discussion of Condition of Certification.	10 minutes.	10 minutes.

	acceptable to CEC staff.				
Traffic and Transportation	Unclear. Please see requested changes to Conditions of Certification below. Applicant is unclear as to whether or not the proposed changes are acceptable to CEC staff. Please see also below Applicant's response to December 19, 2007 communication from the County of Colusa Department of Public Works.	Andy Welch, E&L Westcoast, LLC; Nayan Amin, URS Corporation.	Discussion of Condition of Certification.	10 minutes.	10 minutes.
Transmission Line Safety and Nuisance	No.	Dave Larsen, Navigant Consulting.	Declaration.	5 minutes.	None.
Visual Resources	Unclear. Please see requested changes to Conditions of Certification below. Applicant is unclear as to whether or not the proposed changes are acceptable to CEC staff.	Andy Welch, E&L Westcoast, LLC; Richard Knox, URS Corporation.	Discussion of Condition of Certification.	10 minutes.	10 minutes.
Waste	No.	Erik Skov, URS	Declaration.	5 minutes.	None.

Management		Corporation.			
Worker Safety	Yes. Applicant disagrees with staff's conclusion that the project will pose a significant unmitigated impact on the Maxwell Fire Protection District. Please see further discussion, and requested changes to Conditions of Certification below.	Lisa Griggs, URS Corporation; Steve Royall, Pacific Gas & Electric.	Discussion of anticipated impacts of project on the Maxwell Fire Protection District and appropriate level of mitigation to address any such impacts.	30 minutes (concurrent with Hazardous Materials).	30 minutes (concurrent with Hazardous Materials).
Facility Design	Unclear. Please see requested changes to Conditions of Certification below. Applicant is unclear as to whether or not the proposed changes are acceptable to CEC staff.	Andy Welch, E&L Westcoast, LLC; Bruce Ritter, Bechtel Power Corporation.	Discussion of Condition of Certification.	10 minutes.	10 minutes.
Geology and Paleontology	No.	Ray Rice, URS Corporation; David Lawler, Lawler and Associates Applied Geosciences.	Declaration.	5 minutes.	None.
Efficiency	No.	Bruce Ritter, Bechtel Power Corporation.	Declaration.	5 minutes.	None.
Reliability	No.	Bruce Ritter, Bechtel Power	Declaration.	5 minutes.	None.

		Corporation			
Transmission System Engineering	No.	Dave Larsen, Navigant Consulting; Bruce Ritter, Bechtel Power Corporation.	Declaration.	5 minutes.	None.
Alternatives	No.	Dale Shileikis, URS Corporation.	Declaration.	5 minutes.	None.

DETAILED DISCUSSION BY TOPIC AREA

The following discussion provides additional details regarding disputes or outstanding issues identified in Table 1.

Air Quality

Proposed Condition of Certification AQ-SC7 refers to AQ-24 in three places, whereas it should refer to AQ-27. Applicant requests that the three references be changed from AQ-24 to AQ-27.

The table in AQ-27 is not consistent with Appendix A on page 4.1-75 since it is missing footnote (a) that appears in Appendix A. The word "days" is missing in the first sentence of the AQ-27 verification section. Footnote below should be added to the table in AQ-27 to make it consistent with Appendix A on page 4.1-75:

> *"a The quantities listed are the certificate totals. The total quantity required for offsetting may be less than the total for each pollutant shown above, and those remaining credits can be retained by the applicant at their discretion after surrendering the amounts required."*

In addition, "days" should be added after "30" in the first sentence of the verification section.

Biological Resources

In proposed Condition of Certification BIO-19, the reference to 1.28 acres should be changed to 1.25 acres.

Hazardous Materials

In proposed Condition of Certification HAZ-7, the route that hazmat vendors are to use is described incorrectly. The route is correctly described in Section 8.10.2.4 of the AFC.

See discussion below under Worker Safety regarding impacts on the Maxwell Fire Protection District ("MFPD").

Socioeconomics

The obligation imposed by proposed Condition of Certification SOCIO-1 should take into consideration whether or not locally available materials and supplies are competitively priced relative to materials and supplies available elsewhere. The Applicant requests that the condition be modified to read as follows, which will make the condition consistent with a similar obligation imposed on the Applicant in the Development Agreement entered into between the Applicant and the County of Colusa, approved by the Board of Supervisors on October 2, 2007:

> *"**SOCIO-1** The project owner and its contractors and subcontractors shall procure materials and supplies within Colusa*

and Glenn Counties unless the materials or supplies are not available at competitive prices."

The Verification for SOCIO-1 would remain as it appears in the Final Staff Assessment ("FSA").

Soil and Water Resources

Proposed Condition of Certification SOIL & WATER-4 requires the project owner to use raw surface water provided by the Glenn Colusa Irrigation District ("GCID") for all construction activities associated with the project, and that a Construction Water Agreement issued by the GCID for the sale and delivery of construction water shall be provided. This condition requires a separate Construction Water Agreement with GCID. However, sale and delivery of construction water is already addressed in the existing Conveyance Agreement with GCID. Article 6 of the Conveyance Agreement covers construction water with tariff based rates and terms to be applied. Therefore, Applicant requests that the requirement for a separate agreement be removed.

Traffic and Transportation

Proposed Condition of Certification TRANS-1 significantly delays project construction until late 2008 with resulting delays in the operational start date. These delays are due to the condition to not start plant construction until the bridge replacement work is completed. The bridge replacements are only required to accommodate heavy haul access which is not needed until several months after construction of the plant has begun. Since the bridge replacement work can only be done in the May 1 - October 1 time window to avoid impacts to giant garter snake and requires other permits, the bridge work can be planned and permitted concurrently while other plant construction can begin that does not require heavy haul access. Applicant requests that the text be changed from "*prior to construction*" to "*prior to heavy haul transport.*"

Condition of Certification TRANS-3 requires that a plan for mitigating construction impacts on Delevan Road, McDermott Road, and Dirks Road be submitted to the Colusa County Public Works and Planning Department, and the CPM, at least 90 days prior to the start of site mobilization. Applicant requests that the 90 day requirement be reduced to 30 days prior to start of mobilization.

On December 19, 2007 the Department of Public Works for the County of Colusa submitted a letter to the California Energy Commission expressing concerns regarding perceived recent changes to the heavy haul route for the project. The Department indicates that the proposed site of off-loading equipment delivered by rail had been changed from a rail siding at Delevan to a rail siding at Williams, and that potential impacts associated with the "new" route had not been analyzed. To the contrary, there have been no changes to the proposed route, the impacts of heavy haul traffic have been fully analyzed, and mitigation measures have been proposed that will address any potential impacts to local roadways.

The proposed haul route was identified in response to CEC Data Request No. 97, which was served on the County on February 12, 2007 and posted on the CEC's website on February 13, 2007. The CEC staff referred to the proposed route in its Preliminary Staff Assessment at page 4.10-4, using language that is virtually identical to the description of the proposed route in the

FSA at page 4.10-5. Thus, the proposed route has been identified for nearly 10 months, and no changes have been made since that time. The analysis conducted by the Applicant and by the CEC was based on this proposed route.

Furthermore, as the Department points out in its letter, pursuant to conditions imposed on the Tentative Parcel Map approved by the County, Applicant is obligated to repair damage to any roads adversely impacted by the project. The Department has requested that Condition of Certification TRANS-2 be modified to reflect the precise language of the Map conditions. While Applicant does not believe this is necessary, as Applicant must comply with the Map conditions whether or not they are reflected in the CEC conditions, Applicant is not opposed to the Department's request to modify TRANS-2.

Visual Resources

The Verification for Condition of Certification VIS-1 requires that the owner provide more specificity regarding surface treatment maintenance in the Annual Compliance Report. On other recently approved projects, such as Roseville Energy Park, the project owner is simply required to provide a status report on treatment maintenance. For the proposed project, the project owner will be required to report on: (1) the condition of the surfaces of all structures and buildings at the end of the reporting year; (2) maintenance activities that occurred during the reporting year; and (3) the schedule of maintenance activities for the next year. These requirements are more onerous than what has been required on past projects, and are seemingly unnecessary.

Condition of Certification VIS-3 pertains to landscape screening. The condition requires that the landscaping trees be installed during the first optimal planting season following site mobilization. Applicant recognizes that the staff wants to get the trees planted as early as possible to facilitate power plant screening. However, there is a strong likelihood the trees could be damaged during construction activities. Applicant requests that the condition be modified to require the Applicant to plant larger sized trees (15 gallons) after commercial operation.

Worker Safety

The FSA does not include, and the MFPD has never provided, any analysis in support of the proposition that additional funding of $230,000 per year is needed in order to effectively respond to potential incidents at the facility. As far as Applicant is aware, the amount has no relationship to additional demands that might be placed on the MFPD as a result of the project. Applicant engaged the services of an expert chosen by the MFPD to assess the potential impacts of the project on the MFPD. That expert, The McMullen Company, Inc., issued its report and recommendations on April 11, 2007. The report has been docketed. While the report did not include a cost estimate for implementing the recommendations contained therein, the cost is unquestionably far below the $230,000 per year figure sought by the MFPD.

In the absence of any information to support the amount of funding requested, Applicant does not believe that it is appropriate for the staff to propose, or the Commission to impose, a specific mitigation amount. Further, Applicant believes that the burden is on MFPD to provide support for its requested funding, which it has failed to do. Therefore, Applicant is prepared to engage in

additional discussions with MFPD, and CEC staff, including the commissioning of an additional study, if necessary, to determine the appropriate amount necessary, if any, to mitigate any potential impacts on the MFPD. Applicant therefore recommends that WS-6 Condition of Certification be revised to read as follows:

> *"**WS-6** Prior to construction of structures on the project site, the project owner and the Maxwell Fire Protection District (MFPD), in consultation with third party experts retained at project owner's expense, if necessary, shall mutually determine the amount of money to be provided to the MFPD to ensure adequacy of fire protection services."*

Facility Design

Condition of Certification GEN-1 contains the following text: "the CBSC in effect for the General Electric-supplied equipment shall be the 2001 CBSC" in the first paragraph of the condition. The condition as written currently requires compliance with the 2001 California Building Standards Code (CBSC) or the CBSC in effect at the time initial design plans are submitted to the CBO for review and approval (2007 CBSC). While we appreciate Staff's addition of the exception for GE equipment to accommodate that GE equipment would not be required to comply with the 2007 CBSC, the version of GEN-1 contained in the Presiding Member's Proposed Decision recently published for the Panoche Energy Center more clearly captures the exception for GE equipment, and therefore, we request it be included in the Decision for the CGS as follows:

> *"**GEN-1** The project owner shall design, construct and inspect the project in accordance with the 2007 California Building Standards Code (CBSC) (also known as Title 24, California Code of Regulations), which encompasses the California Building Code (CBC), California Building Standards Administrative Code, California Electrical Code, California Mechanical Code, California Plumbing Code, California Energy Code, California Fire Code, California Code for Building Conservation, California Reference Standards Code, and all other applicable engineering LORS in effect at the time initial design plans are submitted to the CBO for review and approval, except that the CBSC applicable to the General Electric supplied equipment shall be the 2001 CBSC. (The CBSC in effect is that edition that has been adopted by the California Building Standards Commission and published at least 180 days previously.) The project owner shall insure that all the provisions of the above applicable codes be enforced during any construction, addition, alteration, moving, demolition, repair, or maintenance of the completed facility [2007 CBC, Section 101.3, Scope]. All transmission facilities (lines, switchyards, switching stations and substations) are handled in Conditions of Certification in the TRANSMISSION SYSTEM ENGINEERING*

section of this document. In the event that the initial engineering designs are submitted to the CBO when a successor to the 2007 CBSC is in effect, the 2007 CBSC provisions identified herein shall be replaced with the applicable successor provisions. Where, in any specific case, different sections of the code specify different materials, methods of construction or other requirements, the most restrictive shall govern. Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall govern. The project owner shall insure that all contracts with contractors, subcontractors and suppliers shall clearly specify that all work performed and materials supplied on this project comply with the codes listed above.

***Verification**: Within 30 days after receipt of the Certificate of Occupancy, the project owner shall submit to the Compliance Project Manager (CPM) a statement of verification, signed by the responsible design engineer, attesting that all designs, construction, installation and inspection requirements of the applicable LORS and the Energy Commission's Decision have been met in the area of facility design. The project owner shall provide the CPM a copy of the Certificate of Occupancy within 30 days of receipt from the CBO [2007 CBC, Section 109 – Certificate of Occupancy]. Once the Certificate of Occupancy has been issued, the project owner shall inform the CPM at least 30 days prior to any construction, addition, alteration, moving, demolition, repair, or maintenance to be performed on any portion(s) of the completed facility which may require CBO approval for the purpose of complying with the above stated codes. The CPM will then determine the necessity of CBO approval on the work to be performed."*

SCHEDULE

Applicant believes that the evidentiary hearing can be completed on January 23, 2008, as proposed. Applicant requests that the Committee schedule one round of briefs, if necessary, to be filed within two weeks of the availability of the transcript of the evidentiary hearing. Applicant is not aware of any other matter that would affect the proposed schedule.

DATED: January 3, 2008

Respectfully submitted,

Michael J. Carroll
LATHAM & WATKINS LLP
Counsel to E&L Westcoast, LLC

David L. Wiseman
David L.Wiseman
GALATI & BLEK LLP
Counsel to Pacific Gas & Electric Company

APPENDIX A
WITNESS QUALIFICATIONS

URS

Nayan Amin, T.E.

Traffic and Transportation

Areas of Expertise

Traffic Operations
Transportation Planning
Intelligent Transportation System Planning
Design and Construction Oversight
Freeway and Arterial Management
Traffic Signal Systems
Signal Coordination
Signing and Striping
Traffic Control

Education

M.S./Civil Engineer/1998/San Jose State University
B.S./Civil Engineer/1990/Saurashtra University, India

Registration/Certification

Registration/California/TE 2290

Overview

Nayan Amin has over 17 years of both public and private sector experience in the areas of transportation planning, traffic impact studies, transportation management plans, construction scheduling, construction area signs, signing and striping, traffic signal coordination, traffic operations, transit priority, traffic signal systems, freeway and arterial management studies, intelligent transportation systems planning and design, and construction oversight. He specializes in macro and microscopic model development and application for analysis of traffic impacts. His projects range from traffic studies for developments, specific plans, general plans, corridor studies, area-wide studies to long-term planning studies. Studies also include multi-modal operations, light-rail, bus rapid transit, pedestrian, bicyclists, and traffic safety and operations.

Project Specific Experience

Task Leader, Colusa Power Plant, Reliant Energy. Responsible for the analysis of the traffic impacts of proposed power plant to be located in Colusa County. Levels of service analyses were conducted for study intersections, freeway and roadway segments. Traffic impacts at the study intersections and roadway segments during construction, and future conditions from the additional traffic projected from the development were evaluated. Recommendations were provided to mitigate level of service deficiencies resulting from the impact of traffic generated from the proposed expansion. Access and driveway analysis was also conducted to ensure safe traffic operating conditions on surface streets and recommendations were provided for access point locations.

Task Leader, San Martin Transfer Station, County of Santa Clara. Responsible for the analysis of the traffic impacts of proposed expansion of a San Martin Transfer Station located in Santa Clara County. Levels of service analyses were conducted for signalized and unsignalized intersections, freeway and roadway segments. Recommendations were provided to mitigate level of service deficiencies resulting from the impact of traffic generated from the proposed expansion. Recommendations consisted of lane geometries, number of lanes, traffic control, and parking requirements. Access and driveway analysis was also conducted to ensure safe traffic operating conditions on surface streets and recommendations were provided for access point locations. The traffic study was required to satisfy the NEPA and CEQA requirements.

Task Leader, Nanakuli Landfill Traffic Operations Study, Leeward Land, LLC. Conducted traffic impacts and operational analysis to determine the impacts of additional traffic generated from the proposed expansion of the landfill along Farrington Highway in the City of Nanakuli. Levels of service analyses were conducted for signalized and

unsignalized intersections, freeway, and roadway segments. Recommendations were provided to mitigate level of service deficiencies resulting from the impact of traffic generated from the proposed expansion. Recommendations consisted of lane geometries, number of lanes, traffic control, and parking requirements. Access and driveway analysis was also conducted to ensure safe traffic operating conditions on surface streets and recommendations were provided for access point locations. The traffic study was required to satisfy the environmental requirements.

Task Leader, Highway 59 Landfill Traffic Operations Study, County of Merced. Conducted traffic impacts and operational analysis to determine the impacts of additional traffic generated from the proposed expansion of the landfill along Highway 59. Conducted accident analysis at the existing entrance to the landfill and provided recommendations to improve the safety in the vicinity of the project. Evaluated traffic impacts at the study intersections and roadway segments and provide recommendations to mitigate unacceptable levels of service.

Project Manager, Long Range Development Plan EIR, University of California, Merced. Evaluated traffic impacts of the proposed development of the tenth campus of the University of California from the beginning of the planning process. Prepared the transportation element of the Statewide Site Selection Study EIR and was a key participant in preparation of the Long Range Development Plan, as well as the EIR for the Plan. Key components of the Long Range Development Plan work included: identifying transportation opportunities and constraints in the context of an environmentally-sensitive site; developing appropriate goals and policies to describe a long-range vision for the campus while maintaining flexibility for modes to evolve over time; determining the appropriate phasing of transportation improvements; and formulating transportation design guidelines. The overall theme of the University of California, Merced Long Range Development Plan circulation element was to integrate land use and transportation to minimize reliance on the automobile and impacts to adjoining land uses, while maintaining high levels of accessibility and personal mobility. The project also analyzed and documented the potential impacts of the Long Range Development Plan on the regional transportation system through the EIR process.

Task Leader, Traffic Impact Analysis EIR, San Francisco State University. Conducted analysis on the existing transportation systems that serve the San Francisco State University campus and evaluated the impacts associated with the implementation of a proposed Campus Master Plan on the transportation systems, including local streets, arterials, transit (shuttle, bus, local and regional buses, and light rail), pedestrian and bicycle facilities, and parking. The analysis years included existing and future (year 2020). Each of these years was analyzed for with and without project conditions. Conducted level of service analysis using SYNCHRO and Traffix.

URS

Nayan Amin, T.E.

Project Manager, West Davis Street Specific Plan, City of San Leandro. Evaluated the redevelopment of an older industrial area on the nearby street system. Four scenarios were addressed to determine the traffic impacts of the redevelopment of the land use within the area covered by the West Davis Street Specific Plan. The traffic study was used by the staff to assess the potential impacts of redevelopment, and to guide project planning to ensure that the traffic circulation and safety of local residents and merchants were not adversely affected. The project also involved recommendations for improving traffic operations at study intersections and roadway segments.

URS

Anne Connell, P.E.

Project Manager – Contra Costa Power Plant/Water Resources Analyses

Areas of Expertise

Project Management
Hydrology/Hydraulics
Water Quality
Flood Plains and Drainage
Storm Water Permitting
Hydroelectricity
Contaminant Transport Analysis

Education

M.S./Civil Engineering, Hydrology/1980/Stanford University
B.Sc./Hydrology/1979/McGill University

Registration/Certification

1982/Civil Engineer/ California/No. C34494

Specialized Training

2005/URS Project Manager Certification
2004/Critical Transitions in Water and Environmental Resources Management/ASCE and EWRI
2001/Chevron EPDEP Knowledge Transfer
1996/ 8-hour Supervisor's Course, Hazardous Waste Operations and Emergency Response Training
1988/ 40-hour OSHA Hazardous Waste Operations and Emergency Response Training

Overview

Anne Connell is a seasoned engineer with over 20 years experience in project management and a specialty in water quality and hydrology. Her extensive experience covers a wide range of projects, including power plants, site development, airports, hazardous waste sites, mining operations, irrigation, and hydroelectricity. She has been responsible for environmental impact evaluations, peer review of hydrologic analyses, remedial investigations, water rights negotiations, permit applications, determination of design storms and floods, backwater studies, flood routings, reservoir operation studies, the collection and analysis of hydrologic and hydrogeologic data, and site characterization, modeling, contaminant transport analysis, groundwater classification, dewatering analyses, and assessment of remedial alternatives. She also has extensive experience in computer applications to hydrologic challenges.

Project Specific Experience

Project Manager, San Gabriel Generating Station Application for Certification, San Gabriel Power Generation, LLC. Responsible for Application for Certification preparation, budget and schedule control, and coordination of work activities for an Application for Certification for the proposed 656 megawatt combined-cycle natural gas power plant. The plant would use primarily recycled water and dry cooling technology. In addition to project management, project responsibilities included the preparation of the water resources section of the application.

Senior Project Engineer, CPV Sentinel Energy Project Application for Certification, CPV Sentinel, LLC. Evaluated environmental setting, impacts, and mitigation with respect to water resource-related issues, and prepared the section on water resources for an Application for Certification under the California Energy Commission's licensing process for large power plants. Managed a detailed groundwater modeling program and groundwater test well program for the cooling water source to be used for the project. The proposed 800 megawatt simple cycle plant would utilize a zero-liquid discharge wastewater system.

Senior Project Engineer, Water Resources, Colusa Generating Station Application for Certification, E&L Westcoast, LLC. Evaluated environmental setting, impacts, and mitigation with respect to water resource-related issues, and prepared the section on water resources for an Application for Certification under the California Energy Commission's fast-track licensing process for large power plants. The proposed 660 megawatt combined cycle plant would utilize an air cooled condenser to reduce consumptive water use and a zero-liquid discharge wastewater system.

Senior Project Engineer, Bridgeview Power Plant Application for Certification, TransCanada Pipeline. Responsible for evaluating the environmental setting, regulatory setting, and potential project impacts to water resources for a proposed 360 megawatt simple cycle power plant to be built on a reclaimed Brownfield site. Prepared the water resources section for an Application for Certification that subsequently was not submitted to the California Energy Commission.

Senior Project Engineer, Contra Costa Power Plant Application for Certification, Mirant Corporation. Provided technical support related to hydrologic issues in preparation for expansion of the power plant. Evaluated potential impacts and prepared responses to comments related to hydrologic and water quality issues. Responded to requests from the California Energy Commission and other interested groups for additional information and clarification regarding hydrologic and water quality issues. Also updated and prepared the draft Storm Water Pollution Prevention Plan, the Erosion and Sedimentation Control Plan, and the Spill Prevention Control and Countermeasure Plan.

Senior Project Engineer, Potrero Power Plant Application for Certification, Mirant Corporation. Provided technical support related to hydrologic issues in preparation for expansion of the power plant. Evaluated potential impacts and prepared responses to comments related to hydrologic and water quality issues. Responded to requests from the California Energy Commission and other interested groups for additional information and clarification regarding hydrologic and water quality issues. Also updated and prepared the draft Storm Water Pollution Prevention Plan, the Erosion and Sedimentation Control Plan, and the Spill Prevention Control and Countermeasure Plan.

Senior Project Engineer, El Centro Generating Station Project, Imperial Irrigation District. Prepared the water resources section for a Small Power Plant Exemption Application for the construction and operation of the El Centro Generating Station Unit 3 Repower Project. This project would increase the Unit 3 generating capacity by 84 megawatt. Also assisted with the preparation of a U.S. Environmental Protection Agency's Underground Injection Control permit application to install new deep injection wells at the plant to be used for injection and disposal of the plant's wastewater.

Senior Project Engineer, Colusa Power Plant Application for Certification, Reliant Energy. Reliant Energy proposed to construction a nominal 500 megawatt combined cycle gas fired power plant in rural Colusa County. The Application for Certification is the California Energy Commission's CEQA-equivalent document requiring more stringent information regarding power plant efficiency, reliability, and related issues. The Application for Certification was completed on time and on budget in 3½ months, and was deemed complete within 30 days. Significant issues included air quality, public health, biological resources, impacts on a rural community, and changes in land use. The project also entailed the preparation of all permits and responses to comments from the California

Energy Commission. Project responsibilities included an evaluation of the environmental setting and project impacts, the development of mitigation measures for site water resources, preparation of the section on water resources, assistance with permit applications, including an application for a permit to transport water from a canal managed by the Bureau of Reclamation, and a Notice of Intent for Low Threat Discharge to Surface Waters.

Senior Project Engineer, Hydroelectric Facility Re-Licensing, Pacific Gas & Electric Company. Reviewed and developed water and power studies, project hydrology, and economic analyses for the re-licensing of several hydroelectric projects in the Mokelumne and Kings River basins, including the Mokelumne River, Kings River, DeSabla-Centerville, and Narrows hydroelectric systems. Assisted in negotiation with outside agencies regarding water rights and prepared exhibits for FERC license applications. Also conducted dam safety analyses for an existing dam, which included determining the probable maximum flood, modeling a hypothetical dam failure, and assessing the resulting inundation downstream.

Deputy Project Manager, Offshore LNG Terminal and Pipeline FERC 7c Certificate of Application, Confidential Client. Assisted with the management of a large multi-disciplinary team assessing site locations and technologies, conducting environmental studies, and preparing Resource Reports and permit applications for a FERC Certificate Application.

Senior Project Engineer, Title 22 Evaluation, Confidential Client. Responsible for technical support related to water resources. Support included evaluation of Title 22 water reuse and design of disposal system, hydrologic analysis to evaluate the storm water management system, including identification of best management practices, and review of the storm water pollution prevention plans. Also providing assistance with the preparation of the NPDES permit application for discharge of treated effluent to surface waters, including preparation of supporting technical studies and documentation.

Project Manager and Principal Hydrologist, Iron Mountain Mine Superfund Site, Stauffer Management Company. Managed the budget, technical support, and coordination of project activities. The project entailed various remedial actions to help reduce the mass discharge of heavy metals from acid mine drainage, which consists of low pH sulfuric acid solution with elevated concentrations of metals, in particular copper and zinc. Remedial actions included the consolidation and isolation of priority waste rock piles in an engineered disposal cell; engineering of an 11,600-foot-long pipeline to transfer the acid mine drainage from the mine workings to the existing aerated simple mix lime treatment plant; design of a 150-foot-high earth embankment for use as a retention pond to temporarily store the acid mine drainage prior to treatment; site drainage improvements; the use of storage tanks; and improvements to an on-site tunnel. Project work included field

investigations (geotechnical and water quality sampling), assessment of remedial alternatives, design, cost estimates, preparation of construction bid documents, litigation support, and assistance with negotiations with regulatory agencies.

Deputy Project Manager, McColl Superfund Project, The McColl Site Group. The McColl Superfund site is a 22-acre inactive disposal facility for refinery waste – primarily acidic sludge waste generated during the refining process for high-octane aviation fuel during the 1940s. The site houses twelve waste sumps that contain about 97,100 cubic yards of contaminated refinery waste and drilling mud. Assisted with management of the project, litigation support, technical support, the assessment of remedial alternatives, and negotiations with regulatory agencies. Also prepared sampling and analysis plans for field investigations, treatability evaluations, and geotechnical testing.

Project and Task Manager, Richmond Refinery No. 1 Oxidation Pond and Channel, ChevronTexaco. Managed the site characterization efforts, including topographic surveys, extensive drilling, sampling, and geotechnical testing. Provided technical support for corrective action projects, including the assessment of remedial alternatives, feasibility analyses, regulatory and permitting review, development of strategies for effective remediation, and the evaluation of storm water management and floodplain issues. Prepared the summary report that presented the site characterization, corrective action work plan, and corrective action plan for submittal to the Regional Water Quality Control Board.

Senior Project Engineer, 250-Foot Channel at Richmond Refinery, ChevronTexaco. Developed the Sampling and Analysis Plan for an extensive site characterization performed to provide information to understand the complex nature of the site and to support the selection and design of a corrective action alternative for the 250-Foot Channel. Site characterization efforts included topographic surveys, extensive underwater drilling and sampling in the Channel from a barge, geotechnical testing, admixture testing and installation and monitoring of piezometers. Also provided technical support for corrective action at the Channel, including assessment of remedial alternatives, feasibility analysis, chemical flux modeling to assess the performance of cap alternatives, regulatory and permitting review, strategy development and evaluation of storm water issues. Prepared characterization summary report, corrective action work plan, and corrective action plan submitted and approved by the Regional Water Quality Control Board. The Regional Water Quality Control Board was designated as the lead agency for purposes of Resource Conservation and Recovery Act corrective action at the Richmond Refinery.

Hydrologist, Uranium Mill Tailings Remedial Action Program, U.S. Department of Energy. For the UMTRA Program, prepared NPDES permit applications for surface water control systems, performed seepage and transient drainage analyses, and prepared floodplain maps at multiple project sites. Projects included (1) an NPDES permit application for a

surface water control system in Texas; (2) seepage analyses, including sensitivity studies to assess the impact of material placement, for a tailings impoundment at a rifle site in Colorado; (3) transient drainage analyses, including development of material properties, construction of a two-dimensional flow model, and analysis of saturated/unsaturated flow conditions, for a tailings disposal cell in Colorado; (4) preparation of floodplain maps for both existing and post-reclamation floodplain conditions as part of the remedial action design and permitting process for the Naturita site in Colorado; and (5) review and analysis of pumping and laboratory test data to determine hydrological parameters; evaluation of the effectiveness of the dewatering system, which included pumping and monitoring wells, well pints, a toe trench, and an evaporation pond; and preparation of status reports at the Durango site in Colorado.

Hydrologist, North Fork Tolt River Water Supply and Hydroelectric Project, Seattle Water Department. Developed stream flow data using historical data, correlation and regional regression analyses, evaluated industrial and municipal water supply, and estimated energy production for alternative hydroelectric schemes.

Staff Hydrologist, Swan Falls Hydroelectric Project, Idaho Power Company. Performed reservoir operation studies and backwater studies to assess proposed improvements to the dam and power plant located on the Snake River. The dam was built in 1901.

Senior Project Engineer, San Joaquin Pipeline No. 4 Environmental Analysis Services, San Francisco Public Utilities Commission. Responsible for peer review of issues related to water resources and the EIR section on water resources for the San Joaquin Pipeline No. 4 project, which entails maintenance for the existing 47-mile-long pipeline and construction of a new pipeline to ensure the long-term reliability, operational flexibility, and redundancy of the City's water transmission system. Project approach focuses on integration of the environmental review process with the entire San Francisco Public Utilities Commission planning, design, and operations team to maximize use of existing information, tiering off of the Programmatic EIR, and providing a project-specific environmental document that will allow for flexibility in future project phases – permitting, final design, construction and mitigation monitoring, and environmental management during operations and maintenance.

Project Manager, Salado Creek Floodplain Map Revision, KB Home. Prepared an application to the Federal Emergency Management Agency for a floodplain map revision to incorporate recently completed modifications to Salado Creek. Prepared a Letter of Map Revision and coordinated with FEMA staff during the review and approval process.

Senior Project Engineer, Riolo Vineyards Specific Plan EIR, County of Placer. The proposed Riolo Vineyards Specific Plan area is located within the Dry Creek West Placer Community Plan, surrounded by Dry Creek on the north and south, and existing and planned development on

the west, south, and east. The Specific Plan consists of fifteen parcels totaling about 527.5 acres proposed for residential development (837 dwelling units), parks and open space, and an expansion of the Roseville Cemetery. Extension of water and wastewater service to service the site is required. The project would require the approval of Large Lot Vesting Tentative Maps and various permits, including conditional land use permits, tree removal permits, and a floodplain development permit. Issues include development in the floodplain; traffic, including internal circulation; substantial planned growth in the area; and extension of infrastructure to the site. Project responsibilities include analyses of potential impacts related to increases in stormwater runoff, floodplain modifications, flooding at bridges and culverts, regional flooding, and degradation of water quality. Also responsible for the preparation of the hydrology, groundwater, and water quality section of the environmental document.

Publications

Connell, Anne and Tom Sweet. Sustainable Site Design Case Study at UC Berkeley. AWRA 2005 Annual Water Resources Conference, Seattle WA. November 7-10, 2005.

Connell, Anne, Dan Wanket, Gary R. Mass, Alberto Pujol, and Al Christiansen. "Resistance of Concrete to Acidic Water." AML 2000 Conference, September 2000.

Wesley, M.L., A.C. Connell, and J.P. Powers. "Remedial Action Contractor Responsiveness: Dewatering and the IPS During Construction at the Durango Disposal Cell." Waste Management '91, February 1991.

Forrest, M.P., A.C. Connell, and J. Scheuring. "Reclamation Planning of a Tailings Impoundment." 1990 Symposium on Safety and Reclamation of Tailings Dams, Australia National Committee on Large Dams (ANCOLD), May 1990.

Johnson, K., A.C. Connell, P. Patchin, and F. Myers. "Hydrological and Geochemical Controls Limiting Contaminant Transport in Groundwater at Weldon Spring, Missouri." In *Superfund '89 Proceedings of the 10th National Conference*, November 27-29, 1989, Washington, D.C.

URS

Tammy Dorje

Environmental Planner

Areas of Expertise

Socioeconomics
Environmental Justice
Environmental Planning
Transportation Planning

Education

B.A./ Economics and Environmental Studies/2005/University of California, Santa Barbara

Overview

Ms. Dorje is an environmental planner who assists with the preparation of CEQA and NEPA documents for various types of projects, including infrastructure, land development, surface and air transportation, and industrial development. She has functioned as the project coordinator and technical lead of environmental documents prepared to meet the requirements of the California Environmental Quality Act (CEQA), National Environmental Policy Act (NEPA). She specializes in socioeconomic and environmental justice issues.

Project Specific Experience

Transportation

Environmental Task Leader, Transbay Terminal Replacement Program, Transbay Joint Powers Authority. An aging bus terminal in the Financial District of San Francisco, the Transbay Terminal serves as a terminus for numerous suburban, local, and long distance bus operators. URS is providing program management and program controls services for the 10-year-long, $2 billion program to replace the existing Terminal. The program will also add a rail component to accommodate existing commuter rail service that currently terminates about a mile south of the Financial District, as well as a planned California High Speed Rail Authority service. A third component of the program is implementation of a Redevelopment Area Plan with related development projects, including transit-oriented development on publicly owned land in the vicinity of the new multi-modal Terminal. Environmental services include preparation of environmental documentation for NEPA and CEQA that may be required as the program proceeds through final design, implementation of extensive cultural resources mitigation measures, and monitoring of and reporting on the Mitigation Monitoring and Reporting Program for the project. Currently preparing environmental documentation related to project modifications, including an assessment of the redesign and construction phasing for the Terminal building and for proposed development projects in the surrounding Redevelopment Area.

Transportation Planner, Rail Transportation Economic Impact Evaluation and Planning Feasibility Study, Western Nevada, Nevada, Nye County, January 2007 - Ongoing, $150,000: This feasibility study focuses on the potential commercial shared use of Nevada Rail on behalf of counties traversed by the proposed Caliente and Mina rail corridors. The proposed rail would serve the geologic repository for spent nuclear fuel at Yucca Mountain in Nye County, Nevada. The study also includes estimating the potential commercial freight traffic that could travel along a southern rail extension, from the repository to the Union Pacific and/or the Burlington Northern Santa Fe lines. Project responsibilities

include identifying and interviewing potential rail shippers, developing preliminary traffic volume estimates and preparing a benefit cost analysis.

Socioeconomics Technical Lead, Berkeley/Albany Ferry Terminal Study and Environmental Document, San Francisco Bay Area Water Transit Authority. Project entailed an alternatives analysis and environmental review for the development of a multi-modal ferry terminal on the waterfront in the East Bay that will increase the opportunities for the public to use trans-Bay travel and reduce automobile traffic in the highly congested I-80 and trans-Bay corridor. Three possible terminal locations are under consideration – one in the City of Albany at the foot of Buchanan Street, and two in the City of Berkeley, one at the foot of Gilman Street and one at the foot of University Avenue. The scope of work includes liaison with multiple regulatory agencies and institutional stakeholders. A highly contentious project, the scope of work also includes an extensive public outreach program to help bring disparate groups to consensus. Project responsibilities included preparing the socioeconomics and environmental justice section.

Socioeconomics Technical Lead, Waterfront Streetcar Extension EIS, National Park Service. The National Park Service and other agencies have begun the preparation of an EIS to identify and study alternative routes for the extension of the San Francisco Municipal Railway's historic streetcar service from the existing F-Line terminus on Jones Street in Fisherman's Wharf to the San Francisco Maritime National Historical Park and the Fort Mason Center in the Golden Gate National Recreation Area. The EIS will evaluate the environmental impacts of the historic streetcar extension to the businesses and residents along the proposed routes and to the natural, cultural, and recreational resources in the National Parks that will be served by the rail extension. The study corridor includes three National Historic Landmark Districts – Ghirardelli Square, Fort Mason, and Aquatic Park. Most of the proposed routes feature the use of the historic railroad tunnel beneath Fort Mason. The extension of the historic streetcar service, which currently carries some 20,000 riders daily on The Embarcadero and Market Street, will greatly assist the National Park Service in its efforts to reduce the need for automobile-based trips to national parks by offering a mass transit option to the 3.5 million visitors per year to San Francisco Maritime National Historic Park and the 1.8 million visitors per year who attend the 15,000 annual programs hosted by Fort Mason's 40 non-profit organizations. Project responsibilities included preparing the socioeconomics and environmental justice section.

Environmental Planner, Elk-Grove-Rancho Cordova-El Dorado Connector Environmental Phase 1, Sacramento and El Dorado Counties, California, Sacramento Area Council of Governments, T&M, 2006 - Ongoing, $580,000: The Sacramento Area Council of Governments has been evaluating the potential for development of a regional transportation facility to accommodate growth in travel demand in southeastern Sacramento County and eastern El Dorado County. The proposed connector would provide multi-modal linkage among residential

areas and employment centers along a 40-mile-long corridor that would connect Elk Grove, Rancho Cordova, Folsom, and western El Dorado County. The connector would help bolster the Agency's efforts to establish and maintain sustainable communities by relieving congestion on three of the region's principal freeways – I-5, State Route 99, and US 50 – by contributing to regional initiatives to preserve open space and wildlife habitat, by improving air quality, and by improving access to employment centers in the region. As a precursor to a formal environmental process, the Phase 1 work will develop a draft purpose and need statement, prepare functional guidelines for the corridor, develop screening criteria, perform a fatal flaw environmental analysis of conceptual alternatives, perform transportation and conceptual engineering, assess funding opportunities and define funding strategies, and prepare a report that would set the stage for the next phases in the project. Issues include growth inducement, collaboration among several jurisdictions, and processing of a corridor-level evaluation in the face of aggressive development plans and concurrent processing of individual project components. Project responsibilities include the production of technical memoranda for environmental screening criteria and baseline resource data.

Deputy Project Manager, PFE Road Initial Study and EIR, Placer County, California, Placer County Department of Public Works, T&M, 2006 - Ongoing, $256,000: Since the Dry Creek West Placer Community Plan was adopted in 1990, the 9,200 acres to which it applies has experienced tremendous growth. Traffic along the PFE Road, which lies in the Community Plan area, has exceeded 5,000 vehicles per day – the trigger level for closing the road as directed by the Plan. The area's changing conditions, including planned changes to the roadway network and many approved/proposed development plans in the surrounding community, however, warrant further analysis and a determination of whether the road should be closed. The Initial Study will summarize information about the proposed changes to the roadway network and approved/proposed development plans in the surrounding community, and will focus out non-controversial environmental topics. This process will focus the content of the Environmental Impact Report on only those topics that have been identified as having a potentially significant effect on the community. Concurrent with the preparation of the focused Environmental Impact Report, the Transportation Element of the Community Plan will be updated. The update will include revisions to the Transportation Element's goals and policies to reflect the current community environment as well as their applicability to future conditions, and modifications to the Community Plan's Capital Improvement Program for recommended roadway improvement projects. Project responsibilities include assistance with the preparation of several sections of the environmental document, including the Land Use, Mineral Resources, Population and Housing, Public Services, and Utilities and Transportation.

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Water/Wastewater

Contract Manager, As-Needed Services for the Capital Improvement Program, San Francisco, California, San Francisco Public Utilities Commission, As-Needed, 2005 - Ongoing, $950,000: As the primary consultant on a joint venture agreement, URS is managing a team of 21 subconsultants for the provision of as-needed environmental services for implementation of the Public Utilities Commission's $3.6 billion Capital Improvement Program. Services include environmental analyses and technical studies; regulatory analyses and permit applications; and specialized natural resources, environmental, and planning services for the rehabilitation of the regional water and local water systems. Task orders have included helping the Commission with the development of a water supply alternative to meet future increased demands through the year 2030 through conservation, recycled water, and renewable groundwater programs. This task entails extensive computer modeling of more than 100 conservation measures, the identification of potential renewable groundwater sources in the Commission's service area, and the identification of potential funding mechanisms. Project responsibilities include liaison and coordination with the Commission, the preparation of invoices and supporting documentation, supervision of the quality control process, and checking project deliverables before submittal to the Commission to ensure compliance with technical requirements.

Air Transportation

Project Coordinator, Fresno Yosemite International Airport Master Plan EA/EIR, Fresno, California, City of Fresno, Lump Sum, 2002 - Ongoing, $1.5 million: Project entails preparation of the environmental documentation for a 20-year Master Plan for the Airport, which historically has functioned as a regional airport serving California's Central Valley primarily with 30-passenger turboprop aircraft. The Master Plan included a review of development scenarios to address airspace, airfield, terminal, and ground access issues. After gaining Federal Aviation Administration approval on the aviation forecast, existing facilities were evaluated for their ability to accommodate the future passenger and cargo growth. Capacity and demand studies were conducted of the airspace, airfield, terminal facilities, baggage system, rental car facilities, and parking and ground transportation facilities. After determining the capital improvement program and completing a financial feasibility study and cost/benefit analysis, an Airport Layout Plan was submitted to the Federal Aviation Administration for approval. The environmental study will review the preferred development alternative along with a range of other alternatives to acquire NEPA and CEQA approvals. This will enable the Federal Aviation Administration to approve the Airport Layout Plan and the City of Fresno to adopt the Master Plan. Project responsibilities include assistance with the preparation of several sections of the environmental document, including socioeconomics, environmental justice, the safety of children in the project vicinity, land use and community services, parks and recreation, visual and aesthetic and light emissions, wild and scenic rivers, farmlands, and traffic.

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Project Coordinator, Del Norte County Airport On-Call Planning, Environmental, and Engineering Services, Crescent City, California, County of Del Norte. As part of the California Aviation System Plan, the Del Norte County Airport is one of only two primary commercial non-hub airports within the North coast Region that have scheduled passenger service. The Airport is implementing a development plan that will allow for expansion of the facility and an eventual increase in commercial and passenger service using larger aircraft. Mrs. Dorje is the project coordinator and the technical lead for the socioeconomics, land use, parks and recreation, and coastal resources sections on an EA/EIR for a new terminal and related projects.

Socioeconomics and Land Use Technical Lead, Sacramento International Airport Master Plan Development EIS and EIR, Sacramento, California, County of Sacramento: This EIS/EIR analyzes future projects anticipated for the next 20 years in compliance with NEPA and CEQA. This project involves understanding the General Plan and other planning documentation and projects that will occur over the next 20 years. Mrs. Dorje jointly prepared the socioeconomic and land use sections on the EIS/EIR.

Evacuation Planning

Project Coordinator, Alameda County Evacuation Plan Template, Alameda County, California: Developed a guidance template for the Alameda County Sheriff's Department to provide to incorporate communities for use in developing evacuation plans. Project responsibilities included development an assessment of existing evacuation work in the United States, collaboration with a community working group, and development of a template for local jurisdictions and agencies to utilize in the process of preparing local evacuation plans.

Power Plants

Socioeconomics Technical Lead, Colusa Generating Station Application for Certification, Colusa County, California, Competitive Power Ventures, T&M. Prepared the socioeconomics section for the Application for Certification (CEQA-equivalent document) for submittal to the California Energy Commission for construction and operation of a 640 MW combined cycle power plant. Project responsibilities included Socioeconomics and environmental justice technical evaluations, IMPLAN analysis; communication and coordination with the client, regulatory agencies, and project team.

Land Use Technical Lead, Sentinel Power Plant Application for Certification, Riverside County, California, Competitive Power Ventures, T&M. Prepared the land use section for the Application for Certification (CEQA-equivalent document) for submittal to the California Energy Commission for construction and operation of a combined 850 MW cycle power plant. Project responsibilities included preparation of the land use section, IMPLAN analysis; communication and coordination with the client, regulatory agencies, and project team.

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Land Use Plans

Environmental Planner, General Plan Update, Goleta, California, City of Goleta: Project entailed the development of a general plan for a newly incorporated city. Project responsibilities included an assessment of habitat and reproduction patterns of the California red-legged frog population in Santa Barbara County. The results of the assessment were used to revise the biological resources section of the General Plan. Other responsibilities included conducting research for and updating the visual and historic resources sections of the General Plan.

Professional Societies/Affiliates

Association of Environmental Professionals: Vice President of Social Programs

Leadership San Francisco: Class of 2008

Urban Land Institute

San Francisco Planning and Urban Redevelopment

Contact Information

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Alison Drury, AICP

Senior Environmental Planner

Areas of Expertise

Environmental Planning
Transportation Planning
NEPA/CEQA Documentation

Years of Experience

With URS: 1 Year
With Other Firms: 7 Years

Education

M.A./Urban Planning/2003/New York University
Specialist/NAFTA Young Leaders Fellowship Program/1999/The Washington Center
B.A. (honors)/Political Studies/ 1999/Queen's University

Registration/Certification

2006/American Institute of Certified Planners (AICP)/ #020431

Overview

Ms. Drury is a senior environmental planner who assists with the preparation of CEQA and NEPA documents for various types of projects, including infrastructure, land development, surface and air transportation, and industrial development. She has experience in planning and regulatory permitting assistance for the oil and gas, utility, and power industry. She has played key analytical and project management/coordination roles in planning projects for public agencies, private clients, and non-profit organizations. Ms. Drury's LNG experience includes site selection studies, alternatives analyses, research on current technologies, and permitting processes.

Project Specific Experience

Senior Environmental Planner, LNG Terminal Siting, Permitting Feasibility and Impact Assessment, North American West Coast (confidential client). Siting analyses and permitting feasibility for multiple offshore LNG terminal locations along the North American West Coast. Included GIS database development and the preparation of Environmental Impact Assessments for multiple LNG terminal locations in California, Washington and Oregon.

Senior Environmental Planner, Bradwood Landing LNG Terminal. Preparation of the alternatives analysis for the Federal Energy Regulatory Commission Certificate Application for the proposed Bradwood Landing LNG Terminal located on the Columbia River, Oregon.

Senior Environmental Planner, LNG Terminal Siting and Technology Assessment, North American West Coast (Chevron). Review of coastal areas for the siting of potential offshore and coastal zone LNG terminals and associated pipeline facilities; development of a permitting strategy and feasibility analysis, and a detailed evaluation of potential LNG terminal types and vaporization technology alternatives.

Senior Environmental Planner, CPV Sentinel Application for Certification, Competitive Power Ventures. Assisted with the preparation of the Application for Certification submitted to the California Energy Commission. The project consists of constructing and operating an 850 megawatt quick-start peaking electrical generating facility in Riverside County, California.

Senior Environmental Planner, Colusa Generating Station Application for Certification, E&L West Coast, LLC. Assisted with the preparation of the Application for Certification submitted to the California Energy Commission. Project consists of constructing and operating a 660 megawatt combined cycle power plant in Colusa County, California. Project responsibilities included preparation of the land use

permit applications; and preparation of the land use impact assessment submittal.

Senior Environmental Planner, San Joaquin Pipeline System, Bay Area, California, San Francisco Public Utilities Commission (SFPUC). Aided in the environmental review process and preparation of environmental documentation for the San Joaquin Pipeline No. 4 project, which entails maintenance for the existing 47-mile-long pipeline and construction of a new pipeline to ensure the long-term reliability, operational flexibility, and redundancy of the City's water transmission system. Project approach focuses on integration of the environmental review process with the entire SFPUC planning, design, and operations team to maximize use of existing information, tiering off of the Programmatic Environmental Impact Report, and providing a project-specific environmental document that will allow for flexibility in future project phases – permitting, final design, construction and mitigation monitoring, and environmental management during operations and maintenance.

Environmental Planner, No. 7 Subway Extension – Hudson Yards Rezoning and Development Program Final Environmental Impact Statement (EIS), New York, New York, City of New York City Planning Commission/Metropolitan Transportation Authority. Responsibilities include project management of the final EIS, and providing client support. Assisted in the preparation of technical chapters, including construction, shadows, historic resources, and waterfront revitalization. Organized the response to comments chapter and appendix based on the public hearing and subsequent comment period.

Deputy Project Manager, World Trade Center Generic Environmental Impact Statement (EIS), New York, New York, US Department of Housing and Urban Development/Lower Manhattan Development Corporation, Cost Plus Contract, 1.5 years, $1.2 million: Responsibilities include analysis of the cumulative effects of construction for the environmental impact statement and supporting documentation; coordinating day-to-day activities within the technical staff; ensuring deliverables and deadlines were met; providing client support and support to the project manager and technical director; author of the Infrastructure and Coastal Zone chapters; assisted in the preparation of the technical chapters of the EIS, specifically floodplain, environmental justice, and construction. A key aspect of the analysis was the assessment of the cumulative impact of simultaneous redevelopment of the World Trade Center and other recovery projects in Lower Manhattan. The analysis of environmental impacts also included an evaluation of the Route 9A Short Bypass, the Fulton Street Transit Center, the permanent PATH Terminal, and the new Metropolitan Transportation Agency's South Ferry Station.

Environmental Planner, Elmhurst Hospital Center Environmental Assessment, Elmhurst, New York, Dormitory Authority of the State of New York. Wrote the Environmental Assessment document for the

proposed expansion of the hospital. The project included a new ambulatory care facility and cancer ward. Project responsibilities included land use analysis, hazardous materials analysis, and preparation of the environmental assessment.

Management System Coordinator and Educator, Sunnybrook and Women's College Health Sciences Center, Toronto, Canada. Set up an Access database system to track and manage instrumentation for the tri-campus hospital, the largest in Canada. Additional responsibilities included educating employees on the hospital's management system, and consulting for Sunnybrook in the United States and Canada regarding hospital data archival and management systems.

Environmental Planner, Fulton Street Transit Center, New York, New York, Metropolitan Transportation Agency and New York City Transit Authority. Assisted the project manager with the preparation of the environmental document and Section 4(f) for a $750 million transit center in Lower Manhattan – the first major post 9/11 Lower Manhattan redevelopment project. Responsibilities include quality assurance and editing of the Environmental Impact Statement (EIS), technical writing of construction and cumulative effects analysis; providing supporting documentation and graphics. A key aspect of the analysis was the assessment of cumulative impact of the transit center and other recovery projects in Lower Manhattan planned for simultaneous construction. The EIS won the 2005 American Council Engineering Companies diamond award for content and clarity.

Senior Environmental Planner, Placer Parkway Environmental Impact Statement/Environmental Impact Report (EIS/EIR), Placer County, California, Placer County Transportation Planning Agency. Assisting the project manager with preparation of a Tier I EIS/EIR for preservation of a new 17-mile-long parkway corridor linking Highway 65 in Placer County to SR 70/99 in Sutter County. Early phases of the project entail identification of alternatives to be studied in the EIS/EIR, compiling environmental surveys into a GIS database used to evaluate potential impacts, traffic engineering, and a robust public outreach program, including three advisory committees. Issues include coordination with various federal, state, and local regulatory agencies, planned Habitat Conservation Plans in both counties, and development pressures within the study area, which is notable for its vernal pool complexes and agricultural values. The project includes development of mitigation strategies for focused Tier 2 studies; a modified NEPA/404 process with the U.S. Environmental Protection Agency and the U.S. Army Corps of Engineers.

Environmental Planner, 130 Liberty Street Building Asbestos Inspection and Dust and Mold Characterization Study, New York, New York, Lower Manhattan Development Corporation. Responsibilities include the creation of a database consisting of over 7,000 cross-referenced entries; oversight of field data input, editing and quality assurance of final report.

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Senior Environmental Planner, Placer Parkway EIS/EIR, Placer County, California, Placer County Transportation Planning Agency. Assisting the project manager with preparation of a Tier I EIS/EIR for preservation of a new 17-mile-long parkway corridor linking Highway 65 in Placer County to SR 70/99 in Sutter County. Early phases of the project entail identification of alternatives to be studied in the EIS/EIR, compiling environmental surveys into a GIS database used to evaluate potential impacts, traffic engineering, and a robust public outreach program, including three advisory committees. Issues include coordination with various federal, state, and local regulatory agencies, planned Habitat Conservation Plans in both counties, and development pressures within the study area, which is notable for its vernal pool complexes and agricultural values. The project includes development of mitigation strategies for focused Tier 2 studies; a modified NEPA/404 process with the U.S. Environmental Protection Agency and the U.S. Army Corps of Engineers.

Environmental Planner, Chapin Addition to Reed's Basket Willow Swamp Park Development Potential Assessment Staten Island, New York, New York City Department of Law. Responsibilities include site observations, floodplain and wetland considerations, land use and zoning, street access, utilities, comparable properties, potential reasonable development scenario and an estimate of site development costs and approval process for a proposed site plan.

Transportation Planner, Sacramento Intermodal Transportation Facility, Sacramento, California, City of Sacramento. The project is a three-phase redevelopment of a historic transit depot and adjacent rail yards with the intent of connecting passenger rail, light rail, bus and future high speed rail. Tasks include providing consulting support and advice to the client for the environmental process.

Transportation Planner, Transit Sustainability Plan Service Design Guidelines, Santa Clara, California, Santa Clara Valley Transportation Authority. Responsibilities include writing an existing conditions report, and developing a transit plan for various transit modes.

Transportation Planner, TransLink Transit Priority Plan and Implementation Strategy, Vancouver, British Columbia, TransLink. The project is a prioritization plan and implementation strategy for the greater Vancouver region. Responsibilities include developing a case study report of ten international cities with transit priority measures in use.

Transportation Planner, Treasure Island Development, San Francisco, California, Lennar Corporation. Tasks include advising the client on transportation planning and sustainability strategies for mixed use development. Responsibilities include developing the Transportation Plan for the project and developing a matrix outlining transportation program commitments.

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Alison B. Drury, AICP

Transportation Planner, Hunters Point Development, San Francisco, California, Lennar Corporation & Bayview Hunters Point Partners. The project is the redevelopment of the former shipyard. Responsibilities include preparation of a transportation overview of connections to the surrounding community as well as advice on internal traffic circulation

Transportation Planner, Access BART, San Francisco, California, Bay Area Rapid Transit. The project entails developing a corridor-wide access and development strategy to attract new riders to BART. Responsibilities include providing consulting support to the client for the upcoming environmental process.

Environmental Planner, Downtown Alliance Streetscape Program Categorical Exclusion, New York, New York, HUD/LMDC. Wrote Categorical Exclusion Document focusing on compliance with NEPA, CEQR and HUD regulations, especially in areas of: land use, hazardous materials analysis, historical resources and floodplain management.

Professional Societies/Affiliates

American Planning Association (APA), Member

American Institute of Certified Planners (AICP), Member

Women in Transportation Seminar (WTS), Programs Committee, Member

San Francisco Planning and Urban Research Association (SPUR) Association, Young Urbanist Member

Awards

None

Languages

English

Working knowledge of French

Specialized Training

1999/NAFTA Specialist Fellowship

Security Clearance

None

Publications

Solar Power: The Utilization of Photovoltaics as a Distributed Supplemental Energy Source in New York City, Institute for Civil Infrastructure Systems, for the National Science Foundation, June 2003.

RESUME OF MARA FEENEY

EDUCATION

University of British Columbia: M.A. in Community and Regional Planning, 1977
Bryn Mawr College: A.B. with Honors in Anthropology, 1973

PROFESSIONAL HISTORY

Mara Feeney & Associates, Principal, 1983-present
Woodward-Clyde Consultants, Senior Staff Scientist, 1980-1983
Sonoma State University, Instructor in Environmental Impact Reporting, Spring Semester, 1982
Strong, Hall and Associates, Senior Socioeconomist, 1978-1980
Independent Socioeconomic and Cultural Impact Consultant, 1975-1978

REPRESENTATIVE EXPERIENCE

Mara Feeney is a Planner with thirty years of professional experience in socioeconomic impact analysis, land use compatibility analysis, environmental justice analysis, public involvement and relocation studies. Her assignments have included evaluation of potential impacts to land use, regional employment and income, population and demographic characteristics, public finance, adopted local plans and policies, farmland, housing, community infrastructure and services, recreation, environmental justice and quality of life.

Ms. Feeney is thoroughly familiar with the requirements of NEPA and CEQA for growth inducement, policy consistency, land use compatibility and socioeconomic impact analysis. In 1982, she was an Instructor in Environmental Impact Reporting at Sonoma State University. In addition, Ms. Feeney has extensive recent experience in socioeconomic and land use analysis for major public works, resource development and urban redevelopment proposals and projects throughout California, as well as community relations experience in many northern California communities. Relevant project experience is summarized below.

For the San Francisco Public Utilities Commission, she evaluated impacts to agricultural and recreational resources associated with the Water System Improvement Project.

For the SFPUC Water Department, she managed public participation activities for the environmental review process for the Chloramine Conversion project. This required publication of notices and conducting of public meetings in both rural and urban locations potentially affected by the project.

For the San Francisco Housing Authority, Ms. Feeney prepared the Public Participation Plan for site remediation required at the Bernal Dwellings housing redevelopment site on Cesar Chavez. She also drafted two fact sheets that were published in both English and Spanish for distribution to interested parties and area residents.

RESUME OF MARA FEENEY

For the City and County of San Francisco Department of Public Works, she provided community outreach services for the cleanup of a former MUNI maintenance facility located near the San Francisco General Hospital. Services included drafting and distributing fact sheets (in both English and Spanish), developing a project mailing list, and coordinating and facilitating a community meeting.

For the San Francisco Department of the Environment and Department of Public Works, she helped design and implement public information and community outreach to evaluate alternative measures to address beach and bluff erosion at Ocean Beach to protect key City infrastructure, including the treatment plan and outfall.

For Mirant Corporation, she provided peer review services for the socioeconomic and Environmental Justice analyses for the proposed Potrero Power Plant in San Francisco and served as an expert witness at CEC evidentiary hearings for this controversial project.

For Reliant Energy Company, she analyzed land use plans and policies consistency, and prepared the land use compatability and farmland impact sections for the Application for Certification for a proposed 500 MW power plant in a rural agricultural area of Colusa County, California. She also peer reviewed the socio-economic and environmental justice analyses for this proposed project.

For the City of San Jose and Raisch Engineering, she prepared a Community Outreach Plan to keep a Hispanic community informed during the removal of a ring levee containing asbestos.

For San Francisco's Municipal Railway, she oversaw completion of the land use, Socioeconomic, growth inducement and Environmental Justice analyses for the Proposed Third Street Light Rail line in San Francisco.

For the Bureau of Land Management and La Sal Pipeline Company, she was Task Leader for the assessment of socioeconomic impacts for a shale oil pipeline proposed for construction through six counties in Colorado and Wyoming.

For the Emeryville Redevelopment Agency, Ms. Feeney provided public participation consulting services for a U.S. Environmental Protection Agency Brownfields Pilot project grant aimed at developing a regional approach to groundwater monitoring that would facilitate the City's reuse of abandoned and underutilized industrial properties.

For the San Francisco Public Utilities Commission, she evaluated impacts to land use, agriculture, recreational resources, population, employment, and housing

associated with the Water System Improvement Project.

For the City of Emeryville and Sherwin-Williams Paint Company, she provided community outreach and risk communication services to inform artists in a live-work loft development, as well as other nearby residents, about very high levels of arsenic and lead found adjacent to their homes and gardens. At City Council's request, a voluntary blood and urine sampling program for adults and children was conducted to test for potential human exposure to lead and arsenic.

For West County Landfill, Inc., she revised and is helping DTSC to implement the Public Participation Plan for RCRA closure of the Hazardous Waste Management Facility at the West County Landfill located in North Richmond, California. She was invited to be an Expert Witness in CERCLA and RCRA public participation requirements for the cost recovery suit associated with closure of this hazardous waste landfill.

For the East Bay Municipal Utility District, she provided community outreach consulting services for a major construction program involving disruption to a neighborhood park and adjacent school and residences for over 2 years. This project involves preparing a series of flyers to keep the public informed about site activities, as well as coordinating a children's mural project and media relations.

On behalf of major landowners in American Canyon, she participated in a community outreach process aimed at determining whether or not the city should delineate certain areas as Redevelopment Project Areas.

For Caltrans and the Duffey Company, she completed the socioeconomic and land use impact analyses, as well as the conceptual relocation plan, for site selection of the proposed CalTrain Peninsula Commute Service Rail Maintenance facility. Four potential sites were evaluated--in Brisbane, Santa Clara, San Jose and Gilroy.

For the U.S. Navy and the City of San Francisco, Ms. Feeney was responsible for analyzing the social and economic impacts associated with the proposed reuse alternatives being considered for both the Hunters Point Shipyard and Treasure Island.

For the Port of Oakland, she completed socioeconomic, land use and growth inducement analyses for the proposed 42-foot deep dredging project aimed at keeping the Port of Oakland competitive in international container shipping.

For Santa Fe Pacific Pipeline Company, she provided emergency communications services after a pipeline break that resulted in community sewer and water systems being affected by jet fuel and other petroleum products.

RESUME OF MARA FEENEY

For the Bureau of Land Management and Frontier Pipeline Company, she was Task Leader for the assessment of socioeconomic impacts for a crude oil pipeline proposed for construction through five counties in Wyoming.

For Pacific Refining Company, she analyzed the potential local economic benefits (tax revenues, local purchasing, employment and income) associated with planned modifications to a refinery in Hercules, California.

For more than fifty private Responding Parties, she revised and assisted with the implemention of the Public Participation Plan for remediation of the Bay Area Drum State Superfund Site, located in the Bayview-Hunters Point community of San Francisco.

For Catellus Development Corporation, Ms. Feeney has provided consultant services in the preparation of a Public Participation Plan for the Mission Bay project, as well as outreach services to the environmental community. She has drafted fact sheets about site investigation and remediation activities for the Mission Bay property, and has arranged several informal meetings with affected community groups.

For Southern Pacific Transportation Company, she developed and implemented a Community Relations Plan required by a DHS Consent Order for the remedial investigation of an abandoned rail yard in Brisbane. She conducted interviews and held community meetings in the Visitacion Valley and Little Hollywood neighborhoods of San Francisco, since these were the closest residences to the site.

For the U.S. Navy, she completed a detailed housing market analysis in Monterey County, in order to evaluate the ability of private sector resources within commute distance of the Monterey Peninsula to meet the housing needs of those attending the U.S. Navy Postgraduate School.

For Caltrans and the Fresno County Transportation Authority, she completed socioeconomic and land use impact analyses for construction of State Route 168 through urban neighborhoods in Fresno, California. She also completed relocation impact reports for the project, which would displace over 900 households.

For the Bay Area Rapid Transit District, she analyzed the potential land use and socioeconomic impacts associated with the proposed heavy rail extension to Dublin and Pleasanton.

For Caltrans and the Fresno County Transportation Authority, she was responsible for socioeconomic impact analysis, farmland impact rating and relocation studies

RESUME OF MARA FEENEY

for proposed improvements to State Route 180 east of the city of Fresno.

In Cortez, Colorado, she mediated a conflict between Shell Oil Company and local human services agencies concerning community impacts that might result from a proposed CO^2 wellfield development, then facilitated local acceptance of an appropriate mitigation package.

For Pacific Gas & Electric Company, she was community relations consultant for two site remediation projects affecting portions of Daly City and Brisbane, as well as the Visitacion Valley neighborhood of San Francisco. Carcinogenic manufactured gas plant residues were found in soils adjacent to a public park, a daycare center and a public housing project with minority residents.

For Caltrans and the Duffey Company, she completed the land use and socioeconomic analysis for proposed widening of State Highway 156 through the community of San Juan Bautista in San Benito County.

For the State of California Department of Health Services and Brown and Caldwell Engineers, she was community relations consultant for the Hillview-Porter Regional Site, where groundwater underlying a residential neighborhood is contaminated with volatile organic compounds.

For the U.S. Navy, she completed housing market analyses for facilities and personnel stationed at Naval Air Station Moffett Field and at a Naval Air Station located in Fallon, Nevada. The purpose of the studies was to determine whether or not private real estate market resources could meet the housing needs of Navy personnel stationed at these facilities.

For American High Speed Rail and Woodward-Clyde Consultants, she prepared a workplan for analysis of socioeconomic and land use impacts associated with the proposed Los Angeles to San Diego "bullet train."

For the California Regional Water Quality Control Board and Rhone-Poulenc Inc., she developed and implemented a Community Relations Plan for the investigation and remediation of an arsenic-contaminated site in East Palo Alto, California.

For Del Norte County, California, she provided advice on the development and implementation of a public outreach program to enhance citizen involvement in assessing the potential environmental effects of a controversial nickel mine.

RESUME OF MARA FEENEY

For the Sander Resource Recovery Facility in San Diego County, she provided

demographic projections vital to the health risk assessment prepared for the local Air Pollution Control District.

AFFILIATIONS

Association of Environmental Professionals
International Association for Impact Assessment
International Association for Public Participation
San Francisco Planning and Urban Research Association

URS

Lisa Griggs, CIH

Worker Safety

Areas of Expertise

Industrial Hygiene
Environmental and Safety Compliance Audits
Environmental Health and Safety Training
Project Safety Plans
Environmental Regulatory Compliance
Environmental Permitting
Safety program development

Education

B.S./Biological Science/Environmental Biology/San Jose State University

Registration/Certification

American Board of Industrial Hygiene/ No. CP 9199

Overview

Lisa Griggs has extensive experience in environmental and safety compliance audits, hazard analysis, program development and training development. Projects include environmental and safety project planning, computer based training development, environmental and safety audits, industrial hygiene services, job hazard analysis, support and oversight activities in many different settings for a large variety of clients. Ms. Griggs has developed and presented classes in environmental, health and safety for such clients as the United States Postal Service, Travis Air Force Base, the Solid Waste Association of North America, industrial emergency response teams, municipal fire departments, private industry maintenance, production, management and administrative personnel. Additional experience includes hazardous waste classification and disposal, site remediation, Phase I and Phase II Environmental Assessments, file review, interaction with agency representatives, emergency response, environmental permitting, wildlife surveys, site closures, and environmental sampling.

Project Specific Experience

Wrote Worker Safety section for Application for Certification on proposed power plants. The most recent Application for Certification incorporated the updates to the Worker Safety section outlined in the Rules of Practice and Procedure and Power Plant Site Certification Regulations dated April 2007. This section includes providing a hazard analysis for both the construction and operation phases of the new power plant, safety program outlines, and an analysis of all applicable laws, ordinances and regulations as well as discussion with local regulatory agencies.

Performed environmental compliance audits for clients including the National Parks Service, NASA, Stanford Linear Accelerator, Rockwell, Travis Air Force Base, Elan Pharmaceuticals, and United Technologies Chemical Systems Division.

Provided safety support for URS field projects including geotechnical and environmental investigation work. Develop of Health and Safety Plans, Safe Work Plans, field audits and general safety consultation. Clients include City of San Jose, Mineta San Jose International Airport, Chevron Richmond Refinery, Hollister Test Facility, and San Jose Redevelopment Agency.

Served as Area Environmental Compliance Specialist for Water Quality Management for the United States Postal Service Pacific Area Environmental Unit. This position covers all postal facilities in California, Nevada, Arizona, and Hawaii.

URS

Lisa Griggs, CIH

Safety and environmental program development and implementation for research and development facility. Included providing all on site support for areas such as chemical hygiene program, respiratory protection, and hazardous waste management.

Developed and presented training on Storm Water Pollution Prevention to United States Postal Service facilities throughout California. Instructor led training includes the use of a power point presentation with imbedded video clips shot at the client's site. Course design included production of video modules for use in mid-season training when an instructor is not available. Second phase of this project included development of computer based training with accompanying student manual. 2001 to present

Developed recycling training program for Travis Air Force Base including modules with content for industrial, housing, construction and demolition and children. Finished product delivered as computer based training on HTML platform with video clips shot at client's site.

Developed safety-training materials for Solid Waste Association of North America. The course targets job specific hazards for workers in garbage collection, transfer station and recycle facility operation. This project was funded and reviewed by OSHA. The program included PowerPoint presentations, an instructor manual, and student manuals.

Provided onsite support for Stanford Linear Accelerator Safety Department. Duties included accident investigation, performing Area Hazard Analyses, setting up an onsite ladder inspection program, writing a Blood Borne Pathogens Program and providing safety assistance to operations as needed. Worked with SLAC staff and URS IT programmer and developed a database to track safety and environmental incidents. Assisted in updates to SLAC EHS Manual.

Worked at Chevron Texaco Richmond Refinery as Health and Safety Manager for URS environmental remediation projects. Duties included development of Health and Safety Plans for field projects, acted as liaison with client Safety representatives, performed internal safety audits, tracked training, and managed drug testing program for URS project personnel.

Provided on site support for Travis Air Force Base Hazardous Waste Program. Duties included updating the Hazardous Waste Management Plan, providing internal compliance audits, analysis of waste streams to identify waste minimization opportunities, and classification and profiling of waste streams.

Provided environmental health and safety services for landfills including development of a Spill Prevention Countermeasure and Control Plan, Health and Safety Plans for specific clean up projects and new landfill development and review of Storm Water Pollution Prevention Plan.

Lisa Griggs, CIH

Developed and provided HAZWOPER 40 hour initial and eight-hour refresher training for diverse clients.

Provided in-house industrial hygiene services for Integrated Device Technologies including indoor air monitoring, and wipe sampling.

Developed and presented courses for a variety of clients including Integrated Device Technologies, Read Rite, Mattson Technologies, National Park Service, United Technologies, and Komag. Courses include hearing protection, lockout tagout, robotics, hazardous waste handling, chemical awareness, respiratory protection, confined space rescue, asbestos awareness, fall protection, and equipment decontamination.

Wrote and updated safety programs for various clients including Komag, Seagate, 3 COM and Integrated Device Technologies, Mattson Technologies. Programs include Injury and Illness Prevention Plan, Hazardous Communication Written Plan, Small Spills and Sharps Handling, Chemical Hygiene, Ergonomics, and Hydrofluoric Acid Safety. Developed training materials for many of these programs.

Performed anthrax sampling for West Coast USPS facilities.

Performed Phase I Environmental Site Assessments at a variety of sites, including heavy industrial, commercial and residential.

Coordinated and completed Phase II environmental investigation work including soil and groundwater sampling and reporting at sites including Stockton Cogeneration Plant and CP Shades in Richmond.

Provided on site support for site closures including report writing, sampling, waste shipments and oversight of contractors. Clients include VA Hospital in Palo Alto and PureEtch in Salinas.

Assisted clients with permit development and application activities. Specific projects include BAAQMD and waste water discharge permitting for a new facility in Milpitas.

Wrote Storm Water Pollution Prevention Plan for multiple clients including Winstar Communications and Burke Industries.

Coordinated, developed and performed ergonomics assessments.

Monitored groundwater extraction systems.

Performed nesting bird and burrowing owl survey for Santa Clara County Fairgrounds and biological surveys for Chevron Texaco.

Researched and wrote SB14 Plan, Report and Summary for Pirelli Tire and Pirelli Cable.

URS

Mark Hale

Cultural Resources

Overview

Mark Hale is responsible for directing cultural resources projects throughout the western United States and Pacific Islands. His professional experience spans nearly 20 years and includes more than 100 surveying, testing, and data recovery projects conducted within various Pacific states and territories. Mr. Hale also has extensive experience conducting Section 106 and/or NEPA-related projects for private developments as well as for federal agencies, including the Federal Emergency Management Agency, National Park Service, Bureau of Land Management, Forest Service, U.S. Army Corps of Engineers, Department of Energy, Postal Service, and various branches of the Department of Defense.

Areas of Expertise

Archaeology
Cultural Resources

Education

M.A./Cultural Resources Management/Sonoma State University
B.A./Anthropology/1983/University of California, Berkeley

Specialized Training

OSHA Hazardous Waste Operations (40-Hour), Ecologics Training Institute
OSHA Hazardous Waste Operations Supervisor (8-Hour)
Introduction to Federal Projects and Historic Preservation Law, the Advisory Council on Historic Preservation

Project-Specific Experience

Project Archaeologist, Colusa Power Plant Application for Certification, Reliant Energy Corporation/Competitive Power Ventures. Reliant Energy proposed to construct a nominal 50 megawatts combined cycle gas fired power plant in rural Colusa County. The Application for Certification is the California Energy Commission's CEQA-equivalent document requiring more stringent information regarding power plant efficiency, reliability, and related issues. The Application for Certification was completed on time and on budget in 3 ½ months, and was deemed complete within 30 days. Significant issues included air quality, public health, biological resources, impacts on a rural community, and changes in land use. The project was withdrawn by Reliant in 2002, the day before the Preliminary Staff Report was to be published. Project responsibilities included a record search, an archaeological survey, and preparation of the technical section of the environmental document.

Cultural Resources Task Leader, Elk Grove-Rancho Cordova-El Dorado Connector Phase I Environmental Study, Sacramento Area Council of Governments. Project entails planning, engineering, and environmental services for development of a connector that will link residential areas and employment centers and provide multi-modal options for travel within the corridor, including transit, bicycle, and pedestrian facilities. The connector will relieve congestion on the overcrowded existing two-lane roadway that currently serves the corridor. Responsibilities include preparation of the cultural resources section of the environmental document.

Project Archaeologist, Placer Parkway Corridor Preservation Tier 1 EIS/EIR, Placer County Transportation Planning Agency. Project entails preparation of environmental documentation for preservation of a new 17-mile-long parkway corridor linking Highway 65 in Placer County to SR 70/99 in Sutter County. Early phases of the project entail identification of alternatives to be studies in the EIS/EIR, compiling

environmental surveys into a GIS database used to evaluate potential impacts, traffic engineering, and a robust public outreach program, including three advisory committees. Issues include coordination with various federal, state, and local regulatory agencies, planned Habitat Conservation Plans in both counties, and development pressures within the study area, which is notable for its vernal pool complexes and agricultural values. The project includes development of mitigation strategies for focused Tier 2 studies and a modified NEPA/404 process with the U.S. Environmental Protection Agency and the U.S. Army Corps of Engineers. Currently conducting record searches, Native American consultation, and fatal flaw analysis. Responsibilities include preparation of the archaeology section of the environmental document.

Project Archaeologist, Placer Ranch Specific Plan Processing and EIR, County of Placer. As a subcontractor, URS is assisting with the processing of a development application for a 2,200-acre mixed use Specific Plan. The project includes a Sacramento State University campus with a projected future enrollment of 25,000 students, as well as residential, commercial, and industrial components. Project responsibilities included a record search, Native American consultation, archaeology survey, and preparation of an Archaeology Survey Report.

Project Archaeologist, Bickford Ranch Specific Plan EIR, County of Placer. Project entailed the preparation of environmental documentation for a controversial residential and limited mixed-use development featuring 1,950 residential dwelling units and limited mixed-use development on 2,000 acres of relatively undisturbed property in the Sierra Foothills. As aspects of site development were considered, including community services such as schools and parks, on- and off-site roadway improvements; and off-site improvements needed for access to potable water, wastewater treatment, and electrical and gas providers. Key environmental issues included conversion of this rural area to a more suburban environment, significant loss of biological resources, groundwater quality, sewage, disposal, and visual quality in the affected area. Project responsibilities included preparation of the cultural resources section of the environmental document.

Project Archaeologist, Home Depot Dewitt Center EIR, County of Placer. Project entailed the preparation of environmental documentation for a very controversial Home Depot store on Placer county property next to the DeWitt Center Government Offices, and adjacent to the crowded SR 49 corridor. Issues included land use compatibility, use of government property for a "big box" development, traffic, health issues related to diesel trucks in proximity to sensitive receptors, and impacts on local businesses. Project responsibilities included a record search, Native American consultation, archaeological survey, and preparation of the archaeological section of the environmental document.

Project Archaeologist, Highland Reserve North Specific Plan EIR, City of Roseville. Project entailed the development of environmental documentation for an amendment to the North Central Roseville Specific

Plan to provide project-level CEQA review of 615 acres that were designated as Urban Reserve in the Specific Plan, the only portion of the Plan that was not entitled. The actions included a General Plan Amendment; dwelling unit transfer; and rezone planned for residential, community, and regional commercial and public uses. Issues included air quality, noise during construction, biological resources, and the conversion of an urban reserve are to development. Project responsibilities included an assessment of archaeological resources in the project area and preparation of the cultural resources section of the environmental document.

Project Archaeologist, Atkinson Street Bridge Replacement Project PS&E and Environmental Assessment/Initial Study, City of Roseville. Project entailed the preparation of both the engineering plans and specifications and the environmental documents for replacement of the structurally deficient four-span, two-lane steel girder bridge over Dry Creek with a new five-lane bridge. The project also entailed widening and realignment of the 1.3-mile-long approach roadway. URS prepared an Environmental Assessment/Initial Study, in which three alternatives were analyzed, and technical studies including a Floodplain Encroachment Evaluation and Location Hydraulic Study, Water Quality Study, Natural Environment Study and Wetlands Study, Air Quality and Noise studies, an Archaeology Survey Report, an Historic Architectural Survey Report, and an Historic Properties Survey Report were prepared. The Historic Architectural Survey Report evaluated seven properties for eligibility in the National Register of Historic Places, one of which was determined to eligible for listing. Responsibilities included a record search, an archaeological survey, and preparation of a technical report.

Archaeologist, Del Webb Specific Plan EIR, City of Roseville. Project entailed the fast-track preparation of environmental documentation for a 1,200-acre mixed-use development. Issues included floodplains, wetlands, vernal pools, and resource preservation. The Del Webb project included 3,500 dwelling units, two community commercial centers, three golf courses, recreational centers, and public parks and a park preserve area in a previously undeveloped area in the City's Urban Reserve Area. The project required extension of City services, including water, wastewater and electricity, and new roadways. Project responsibilities included peer review of cultural resource reports prepared by the Applicant's consultant; impact assessment and preparation of mitigation plans; and preparation of the cultural resources section of the environmental document.

Project Archaeologist, Antonio Mountain Ranch Specific Plan EIR, County of Placer. As a subconsultant, URS is assisting with the preparation of a specific plan that provides for the development of 800 acres within the 8,800-acre Sunset Industrial Area in southwestern Placer County. The Specific Plan calls for the development of 452 acres of land used for industrial purposes, including warehousing, distribution, manufacturing and processing, professional offices, and research and development. The Plan also calls for the preservation of 338 acres of open

URS

John Lague

Air Quality Analysis/Public Health/Hazardous Materials Handling

Areas of Expertise

Air Quality Permitting/Compliance
Greenhouse Gas Studies
Applied Research and Policy Development
Meteorological Analysis
Air Quality Impact and Health Risk Assessment
Air Quality and Meteorological Measurements

Education

M.S./Meteorology/1973/ Massachusetts Institute of Technology
B.S./Physical Sciences/ 1970/University of California, Davis

Overview

John Lague has worked continuously in the air quality consulting field since 1971. His technical specialties include permitting and compliance support for government and industrial facilities, air quality impact assessments, air toxics evaluations, greenhouse gas emissions studies and air quality and meteorological monitoring, and applied research programs. Mr. Lague's practice has focused on permitting and compliance work for industrial and public facilities in the United States and abroad. The principal elements of most permitting and compliance efforts have typically included the development of permitting strategies consistent with client objectives and regulatory constraints, negotiations with responsible regulatory agencies, participation in project design to identify opportunities to minimize pollutant emissions, preparation of permit applications and supporting technical materials, operation of pre-construction and post- permit monitoring and compliance programs, and presentation of expert witness testimony at hearings, workshops, legal proceedings and public information meetings. Since 1997, he has completed numerous projects to quantify greenhouse gas emissions from power generation and petroleum industry facilities.

Project Specific Experience

Senior Technica Consultant, Salton Sea Unit 6 Geothermal Power Palant, CalEnergy. Provided technical oversight and review of the air quality and public health sections of the Application for Certification to the California Energy Commission for this new geothermal development project.

Senior Technical Consultant, Carrizo Energy Solar Farm, AUSRA. Provided technical oversight and review of the air quality and public health sections of the Application for Certification to the California Energy Commission for this new solar energy development project.. Both construction and operational phase emissions and impacts were addressed.

Senior Technical Consultant, Potrero and Contra Costa Power Plants Application for Certification, Mirant. Consulted for air quality and public health issues associated with California Energy Commission licensing for two separate 500 megawatt combined cycle units to be added to Mirant's Potrero and Contra Costa power plants, and served as the lead consultant for the Hazardous Materials Management aspects of both licensing efforts. Also assisted Mirant in identifying and documenting emissions offsets for these projects and managed Bay Area Air Quality Management District permitting for low NOx burner and SCR retrofit projects at the Potrero, Contra Costa, and Pittsburg plants, as well as risk management plans for the aqueous ammonia unloading, storage and handling systems associated with these retrofits.

John Lague

Task Manager, Site Development, Mirant. Conducted regulatory reconnaissance analyses to determine air quality constraints that would affect permitting of new power plants at several sites in Nevada and California that were being considered for potential development.

Task Manager, CPV Sentinel Energy Project Application for Certification, Competitive Power Ventures. Currently managing preparation of the air quality and public health sections for an Application for Certification to the California Energy Commission and Permit to Construct/Permit to Operate application to South Coast Air Quality Management District in support of an 815 megawatt LMS100 peaker project near Palm Springs, California. The power plant consists of eight General Electric LMS100 combustion turbine generators.

Task Manager, San Gabriel Generating Station Application for Certification, Reliant Energy. Prepared Air Quality and Public Health sections analyses in support of an Application for Certification to the California Energy Commission and prepared the Permit to Construct/Permit to Operate application to the South Coast Air Quality Management District for the San Gabriel Generating Station, a 650 combined cycle addition to the existing Etiwanda Generating Station in Rancho Cucamonga, California.

Task Manager, Ocotillo Power Plant Application for Certification, InterGen. Prepared the Air Quality and Public Health Sections for two Applications for Certification to the California Energy Commission and managed air quality permitting activities (South Coast Air Quality Management District) associated with two new generating facilities proposed by InterGen North America near Palm Springs, California. These projects included a 135 megawatt peaking plant based on simple cycle General Electric LM6000 turbines and a second facility comprising three General Electric Frame 7AF turbines, first in simple cycle mode to provide 456 megawatt of short-term power, and later in combined cycle mode with duct burning to provide nearly 900 megawatts.

Task Manager, Colusa Generating Station Application for Certification, Competitive Power Ventures. Managed preparation of the Hazardous Materials Handling section of the Application for Certification for the Colusa Generating Station, a 600 megawatt combined cycle gas turbine power plant proposed by Competitive Power Ventures in Colusa County in Northern California.

Task Manager, Panoche Energy Center Application for Certification, San Joaquin Valley Air Pollution Control District. Prepared the Air Quality and Public Health analyses in support of an Application for Certification to the California Energy Commission and the air quality permit application to the San Joaquin Valley Air Pollution Control District for the Panoche Energy Center, a new 400 megawatt peaking generating station near Firebaugh, California.

John Lague

Task Manager, Bullard Energy Center Application for Certification, San Joaquin Valley Air Pollution Control District. Prepared the Air Quality and Public Health analyses in support of an Application for Certification to the California Energy Commission and the air quality permit application to the San Joaquin Valley Air Pollution Control District for the Bullard Energy Center, a new 200 megawatt peaking generating station in Fresno, California.

Task Manager, Starwood Midway Project Application for Certification, Starwood Energy. Prepared the Air Quality, Public Health and Hazardous Materials Handling analyses in support of an Application for Certification to the California Energy Commission and the air quality permit application to the San Joaquin Valley Air Pollution Control District for the Starwood Midway Project, a new 120 megawatt peaking generating station near Firebaugh, California.

Task Manager, Salton Sea Unit 6 Geothermal Project, CalEnergy. Provided oversight for staff conducting air toxics health risk assessment for the license application to the California Energy Commission for the proposed Salton Sea Unit 6 Geothermal Project in Imperial County, California.

Task Manager, Small Power Plant Exemption, Imperial Irrigation District. Prepared air quality, public health, and hazardous materials management analyses in support of a Small Power Plant Exemption to the California Energy Commission. Also prepared the air quality permit application to the Imperial County Air Pollution Control District for a new 90 megawatt peaking generating station in Niland, California.

Task Manager, El Centro Generating Station, Imperial Irrigation District. For the Imperial Irrigation District, prepared Air Quality, Public Health and Hazardous Materials Management analyses in support of a Small Power Plant Exemption to the California Energy Commission and prepared the air quality permit application to the Imperial County Air Pollution Control District for the Unit 3 Repower project at the El Centro Generating Station in El Centro, California.

Task Manager, Meadow Valley Project, Pacific Gas and Electric Managed air quality permitting for the proposed Meadow Valley Project, a 900 megawatt combined cycle power generation project north of Las Vegas, Nevada.

Task Manager, Hawaii Refinery, Chevron. Managed preparation of an application to the Hawaii Department of Health, Clean Air Branch, for a major modification to a covered source for an energy project to add one new cogeneration unit and two new steam boilers to the Chevron Hawaii Refinery on Oahu.

Lead Air Quality Consultant, New Mill and Cogeneration Facility, Hawaii Electric Light Company. Obtained an Initial Covered Source Permit from the Hawaii Department of Health, Clean Air Branch, for a

NAVIGANT
CONSULTING

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Professional History

- Navigant Consulting, Inc. (1986 - Present) Director
- Arizona Electric Power Cooperative, Inc. (1975 - 1986) Supervisor of System Planning

Education

- B.S., Electrical Engineering, South Dakota State University, Brookings, 1970

Professional Associations

- Institute of Electrical and Electronics Engineers
- National Honorary Electrical Engineering Society

Mr. Larsen has over 35 years of experience in transmission and resource planning and the development and negotiation of power contracts. At Navigant Consulting, he oversees the evaluation and planning of transmission projects and provides technical support in the evaluation and negotiation of power contracts and the performance of power marketing analyses. Mr. Larsen has performed or supervised interconnection and system impact assessments for proposed thermal generating projects in 25 states and for numerous wind energy projects in the western United States. He has also participated in the planning of several major electric transmission projects. He has represented one of Navigant Consulting's major transmission owner clients on the Western Electricity Coordinating Council's Planning Coordination Committee.

Prior to joining Navigant Consulting, Inc., Mr. Larsen was employed by the Arizona Electric Power Cooperative and was actively involved in resource and transmission planning in the Desert Southwest. Mr. Larsen was one of the original members of the Southwest Area Transmission Planning Committee, which was responsible for the performance of coordinated powerflow and transient stability evaluations of the interconnected system (500-kV, 345-kV, and 230-kV) in the Desert Southwest and served as chairman of the Committee.

Professional Experience

» **Impact of Thermal Unit Retirements, California Energy Commission, California.** In its 2005 Integrated Energy Policy Report (2005 IEPR), the Energy Commission adopted a policy that the aging fossil-fueled power plants in California should be retired or repowered by 2012. As part of the development of the 2007 IEPR Navigant Consulting, Inc. (NCI) was retained by the Energy Commission to undertake a study which examined the implications of a retirement by 2012 of the majority of such power plants in the Southern California Edison (SCE) service area. This study examined how the need for replacement capacity and transmission system upgrades might be different under three broad scenarios of future resource development: (1) a build-out satisfying current energy efficiency and renewables policies, (2) the current policy goals plus an expansion of savings from energy efficiency, and (3) the current policy goals plus a much larger emphasis of renewables. The results of the studies revealed that: (1) significant transmission upgrades would be required by 2012 to replace Aged Plants located on the western side of the SCE service area with replacement capacity on the eastern side of the service area: and (2) there are differences in associated transmission upgrades depending upon the resource build-out strategy and that additional transmission upgrades would be needed beyond 2012 due to load growth. The study also suggests that close coordination is needed among the pertinent parties with respect to power plant retirement, the planning and development of replacement resources, and the planning and development of the required transmission line upgrades.

» **Combined Cycle Project System Impact Study, E&L Westcoast, LLC, Northern California.** Managed and was actively involved in the powerflow, transient stability, and post-transient studies performed by NCI to assess impacts on the system in northern California due to the proposed interconnection of a 700 MW (nominal) combined-cycle power project with the Pacific Gas & Electric system. These studies were performed as part of the development of the system impact study (SIS) for the project and were coordinated with PG&E and the California ISO. The SIS was completed and approved by both PG&E and the ISO in August of 2005. Subsequently worked with the Sacramento Municipal Utility District and the Western Area Power Administration to identify options for mitigating Project-related impacts of their systems. Also provided technical assistance with respect to the development and filing of the Application for Certification (AFC) for the Project with the California Energy Commission (Energy Commission).

» **Magnolia Power Project, Southern California Public Power Authority, Southern California.** Managed and was actively involved in the powerflow, transient stability, post-transient, and short circuit studies performed by NCI on behalf of the Project participants to assess impacts on the City of Burbank 69-kV system, to which the project will be connected, and on the 500-kV and 230-kV grid in the Los Angeles Basin. Also coordinated Project-related technical studies with the Los Angeles Department of Water and Power (LADWP) and with Southern California Edison (SCE). Developed documents for use in the Application for Certification (AFC) submitted to the California Energy Commission and provided technical support to the Project manager in various discussions with LADWP and SCE regarding the replacement of circuit breakers on the LADWP and SCE systems. In addition, performed studies assessing incremental losses on the Burbank system for various load levels and dispatch levels for the MPP and the existing Burbank generation and assessing system impacts if the normally open ties between Burbank and the City of Glendale were closed.

» **Malburg Power Project, City of Vernon, Southern California. 2002.** Managed and was actively involved in the powerflow and short circuit studies performed by NCI on behalf of the City of Vernon to assess impacts on the City's 66-kV system, to which the project will be connected, and on the 500-kV and 230-kV grid in the Los Angeles Basin. Also coordinated Project-related technical studies with the Los Angeles Department of Water and Power (LADWP) and with Southern California Edison (SCE). Developed documents for use in the AFC submitted to the California Energy Commission and provided technical support to the Project manager in various discussions with LADWP and SCE regarding the replacement of circuit breakers on the LADWP and SCE systems.

» **Preliminary Feasibility Assessments for Thermal/Solar Combined Cycle Projects, Inland Energy, Inc, Southern California.** Inland Energy and two cities in Southern California are pursuing the development of two 570 MW (nominal) combined cycle generators that would be interconnected with the ISO-controlled grid. Both of the projects will include a solar component which will provide thermal energy to the steam generators and provide approximately 50 MW of their net capacity. Both projects would be located in portions of the system which are subject to transmission constraints and in which significant amounts of renewable energy capacity is being proposed. NCI has provided support to Inland Energy during its assessment of the technical feasibility of both projects and, subsequently, during the California ISO (CAISO) interconnection study process and by preparing pertinent portions of the Applications for Certification for the projects that were submitted to the California Energy Commission. Specific services have included: (i) the performance of powerflow and transient stability studies to assess the system impacts of the proposed projects; (ii) preparing preliminary cost estimates for the interconnection and system upgrades required for each project; (iii) developing the generator interconnection requests for each project for submittal to the CAISO and the local utility; and (iv) participating in the scoping meetings with the CAISO and the utility for the two projects.

» **Conceptual Wind Energy Delivery System, Confidential Client, California.** Utilized information in various planning documents prepared by Southern California Edison for the California Public Utilities Commission and the California ISO to prepare powerflow data sets which modeled the 500-kV facilities required to deliver up to 4,000 MW of wind capacity from the Tehachapi area in south-central California to load centers in Northern and Southern California. Also developed preliminary cost estimates for the specified facilities.

» **California-Oregon Transmission Project. Transmission Agency of Northern California. Southern Oregon to Central California.** Supervised and was actively involved in the performance of powerflow, transient stability, and post-transient stability evaluations of the interconnected system in the western United States as part of the planning and operations of the California-Oregon Transmission Project (COTP), a 340-mile, 500-kV transmission line between Oregon and California which was placed in service in March of 1993. Also provided written direct and rebuttal testimony relative to ratings, losses, and use by the owners of the COTP for a FERC hearing in 1992-1993 and was cross-examined on these issues during the hearings. As part of these efforts, alternative methods of determining losses were developed and included in the testimony. In addition, assisted in: (1) preparing discovery; (2) developing responses to discovery; (3) developing testimony and; (4) lines of questioning for the hearings. Since 1993 have represented the owners of the COTP on various Western Electricity Coordinating Council (WECC) work groups, study groups, and committees associated with both system planning and seasonal operating studies.

» **500-kV Expansion Plan, Transmission Administrator of Alberta, Alberta, Canada.** Provided management oversight for the performance of technical analyses undertaken to assist the Transmission Administrator of Alberta in the development of a long-range expansion plan for a 500-kV grid in Alberta. This plan identified the new facilities required to deliver varying amounts of new, remote generation to load centers in the Province and conceptual facilities required to export up to 3,000 MW of power to the United States.

» **Assessment of Transmission Options for Coal-Fired Generation Plants, Confidential Client, WECC Area.** A client of NCI was considering the acquisition of capacity from proposed coal-fired power plants in Wyoming, Utah, and New Mexico and retained NCI to identify and assess potential transmission options to deliver the output of these plants to trading hubs in southern Nevada and central Arizona. Activities undertaken by NCI included: (1) identifying potential transmission paths between each of the four projects and the desired trading hubs and reviewing OASIS information to identify amounts of available transmission capacity over these paths; (2) performing technical studies to identify and assess facilities that could increase the capabilities of constrained paths; (3) developing estimates of transmission costs and losses for existing paths and of capital costs and operating costs for new facilities; and (4) performing NPV calculations to identify the overall transmission-related costs (on a dollars per kilowatt-delivered basis).

LAWLER AND ASSOCIATES APPLIED GEOSCIENCE

483 KENTUCKY AVE. BERKELEY, CALIFORNIA 94707
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DAVID LAWLER
PALEONTOLOGIST/GEOLOGIST

EDUCATION

B.A. (1974) and M.S. (1979) in Paleontology, University of California, Berkeley
Thesis: ``Osteological variation in the Phytosaur Rutiodon tenuius from Ghost Ranch, New Mexico"

David Lawler has provided Paleontological services throughout the western USA for over 30 years to a variety of environmental and industry firms. He is a specialist in the California region. Regional offices and laboratory facilities are maintained in Berkeley, Sacramento, and Grass Valley.

PALEONTOLOGICAL/GEOLOGICAL PROFESSIONAL EXPERIENCE

PLACER COUNTY, CALIFORNIA

2/03 – 12/06 Placer Parkway Corridor Preservation Tier I EIS/IER
Paleontologic survey and evaluation of proposed 15-mile-long east-west Parkway to connect Sate Route 65 and State Route 70/99.

8/04 - 9/04 Placer Ranch Specific Plan, Roseville, California
Paleontologic survey and evaluation of proposed development plan area. Tasks included site survey of Tertiary and Quaternary age rock units exposed in project area for Paleontological resources.

7/03 - 11/03 Reason Farms Retention Basin, Roseville, California
Paleontologic survey and evaluation of proposed water retention basin development area. Tasks included site survey of Tertiary and Quaternary age rock units exposed in project area for Paleontological resources.

3/95 - 6/95 Douglas Ranch Subdivision Project, Roseville, California
Paleontologic survey and evaluation of proposed subdivision site. Tasks included site survey of Cretaceous age Chico Formation and Eocene age Ione Formation rock units exposed in project area.

3/94 - 6/94 Treelake-Unit 7C Subdivsion Project, Roseville, California
Paleontologic evaluation activities: Survey of proposed subdivision site, culminating in salvage of paleontologic specimens from the Cretaceous age Chico Formation sediments.

1/94 - 3/94 Granite Bay Subdivision/Golf Course Project, Roseville, California
Paleontologic survey and evaluation of proposed golf course/ subdivision site. Tasks included site survey of both Cretaceous age Chico Formation and Eocene age Ione Formation rock units exposed in the project area and salvage of paleontologic specimens.

POWER PLANT DEVELOPMENT PROJECTS

5/01-7/01 **Roseville Power Project, Placer/Colusa Counties, California**
Scientific literature review, pre-construction field surveys, and technical report compilation for proposed power generation project in the Roseville District of Placer and Colusa Counties, California. Pre construction monitoring includes inspection proposed power facility transmission line and pipeline ROW routes. Duties include compilation of technical reports, supplemental reports, and AFC report sections pertaining to paleontological resources.

REFERENCES

1) Noel Gonzales – Environmental Compliance Manager
Pastoria Energy Facility
Calpine Corporation
38789 Edmunston Pumping Plant Rd.
Lebec, CA 93243-0860
661-654-8007

2) Kim Williams – Environmental Compliance Manager
Sunrise Power Company
SW China Grade Loop
Bakersfield, CA 93308
661-392-2630

3) Mark Kehoe – Environmental Compliance Manager
GWF Power Systems
4300 Railroad Ave.
Pittsburg, CA 94565
925-431-1440

INSURANCE

David Lawler/Lawler Associates Geoscience maintains business liability insurance requirements for coverage of all professional services provided. Insurance bonding has been maintained with Hartford Insurance Company, since 1995.

AFFIRMATIVE ACTION

Lawler Associates Geoscience is a sole-proprietor based company, with no employees.

URS

Steve Leach

Biology

Areas of Expertise

Biological Resources Assessment
Watershed Planning
Habitat Restoration
Wetland Delineation

Education

M.A./Vegetation Ecology/
1992/University of California, Davis
B.S./Physical Geography/
1990/University of California, Davis

Registration/Certification

1997/ESA Recovery Permit for listed vernal pool branchiopods/U.S. Fish and Wildlife Services/No. TE-820301/renewed 2006

Overview

Steve Leach is a biologist with more than 16 years of experience managing and implementing biological resource projects for clients throughout California and western Nevada. His areas of expertise include evaluating impacts to special status species and wetlands, developing mitigation and monitoring plans, conducting rare plant surveys, and acquiring project approvals from state and federal resource agencies. Mr. Leach works frequently with agency personnel from the U.S. Army Corps of Engineers, the California Department of Fish and Game, the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, and the Regional Water Quality Control Boards. He possesses an in-depth understanding of the state and federal laws pertaining to special status species and wetlands and the associated permitting processes. Mr. Leach has extensive project experience in the use and integration of URS' state-of-the-art global positioning system receivers and geographic information system (GIS) software for projects that require mapping and analysis of resource data.

Project Specific Experience

Biology Task Manager, Colusa Generating Station Application for Certification, E&L Westcoast, LLC. Managed the biological resource surveys and preparation of the biology sections of the California Energy Commission Application for Certification. Assisted with preparation of the U.S. Fish and Wildlife Services Biological Assessment, the U.S. Army Corps of Engineers 404 permit application, and the California Department of Fish and Game Streambed Alteration Agreement notification. Managed and implemented focused surveys for rare plants, amphibians, wetland delineations, and habitat mapping. Worked with agency personnel from the California Energy Commission, U.S. Fish and Wildlife Services, and U.S. Army Corps of Engineers. Developed mitigation plans for potential biological resource impacts.

Task Manager, Roseville Energy Facility Application for Certification, Roseville Energy, LLP. Coordinated and managed preparation of the biology sections of the California Energy Commission Application for Certification (CEQA-equivalent process), the U.S. Fish and Wildlife Services Biological Assessment, the U.S. Army Corps of Engineers 404 permit application, the California Department of Fish and Game Streambed Alteration Agreement application, and supplemental filings. Managed and implemented focused surveys for rare plants, amphibians, wetland delineations, and habitat mapping. Evaluated potential impacts to special status species, wetlands, and sensitive habitats for more than 100 miles of linear facilities and a 400 acre plant site. Worked with agency personnel from U.S. Fish and Wildlife Services, U.S. Army Corps of Engineers, California Department of Fish and Game, California Energy Commission, and National Marine Fisheries Service to identify and resolve biological resource issues. Developed mitigation plans for potential biological resource impacts.

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Steve Leach

Task Leader, Pittsburg Energy Facility Application for Certification, Enron. Managed preparation of the biology sections of the California Energy Commission Application for Certification (CEQA-equivalent process). Managed and implemented focused surveys for wetland delineations, special status species, and habitat mapping. Evaluated potential impacts to special status species, wetlands, and sensitive habitats for linear facilities and the proposed plant site.

Biology Task Manager, Bridgeview Power Plant Application for Certification, TransCanada Pipeline USA. Managed the biological resource surveys and analyses. Supervised focused surveys for vernal pool fairy shrimp, tadpole shrimp, rare plants, wetland delineations, and habitat mapping.

Task Manager, Biological Assessment of Routine Facility Maintenance, Western Area Power Administration. Managed and conducted an assessment of biological resources affected by routine maintenance along approximately 300 miles of linear facilities in the northern Central Valley. Habitats included vernal pools, freshwater marsh, grasslands, blue oak woodlands, lower montane forests, and riparian forests. Coordinated consultation with U.S. Fish and Wildlife Service and prepared a biological assessment that addressed more than 20 rare, threatened, and endangered wildlife and plant species. Developed a habitat management manual and an environmental awareness-training program for Western maintenance personnel. Implemented environmental awareness training for Western maintenance personnel.

Task Manager, Biological Resource Evaluation of the Alturas Transmission Line Project, California Public Utilities Commission. Coordinated and implemented surveys for more than 80 special status plants, 5 significant natural plant communities, and unique wetland resources within a 270-mile-long, 330-foot-wide corridor between Reno, Nevada and Alturas, California. Delineated wetlands using the methods described in the 1987 Corps of Engineers Wetland Delineation Manual. Mapped biological resources using Global Positioning System devices that yielded 1-3 meter accuracy. Differentially corrected location data for more than 300 resource locations and incorporated these into a GIS database for the project. Prepared a biological assessment for 20 rare plant species and developed conceptual mitigation for potential impacts.

Task Manager, Natural Gas Pipeline Post-Construction Restoration, Sacramento Municipal Utility District. Developed and implemented riparian habitat restoration plans for nine sites affected during construction of a natural gas pipeline in the Central Valley. Plans were developed in coordination with the California Department of Fish and Game and the California Energy Commission. Implementation included collection and propagation of plant material, planting, and monitoring performance of the plantings.

Steve Leach

Project Manager, Environmental Inspection for Construction of the Concord to Sacramento Pipeline Project, Kinder Morgan Energy Partners, L.L.P. Managed the environmental inspection and compliance for a new 70-mile-long petroleum products pipeline between Concord and West Sacramento, California.

Task Leader, Biological Resource Evaluation and Permitting for the Concord to Sacramento Pipeline Project, Kinder Morgan Energy Partners, L.L.P. Managed the biological resource evaluation and permitting for a new 70-mile-long petroleum products pipeline between Concord and West Sacramento, California. Significant issues included vernal pool fairy shrimp, vernal pool tadpole shrimp, California red-legged frog, giant garter snake, salt marsh harvest mouse, California clapper rail, California black rail, burrowing owls, and Swainson's hawks. Conducted U.S. Fish and Wildlife Services protocol surveys of more than 600 vernal pools and seasonal wetlands. Coordinated all aspects of the Section 7 consultation with the U.S. Fish and Wildlife Services and NOAA Fisheries and all permitting with the U.S. Army Corps of Engineers, California Department of Fish and Game, Regional Water Quality Control Board, the State Water Resources Control Board, and the San Francisco Bay Conservation and Development Commission. Developed a detailed plan for mitigation and monitoring. Managed the implementation of biological resource monitoring and restoration during and after construction.

Task Manager, Biological Resource Evaluation of the Proposed Line 800 Lodi Gas Field Extension, Sacramento Municipal Utility District. Managed a biological review of a proposed 10-mile-long natural gas pipeline in Sacramento and San Joaquin counties. Reviewed existing data and conducted a field review to identify sensitive biological resources within a 30-square-mile study area. Developed a resource ranking system and evaluated the feasibility of three route alignments and additional route segments. Key issues include vernal pool fairy shrimp, vernal pool tadpole shrimp, seasonal wetlands, riparian habitats, and nesting raptors.

Project Manger, On-Call Biological Resource Compliance, Kinder-Morgan Energy Partners. Evaluated potential impacts to listed species, wetlands, and riparian habitat associated with pipeline repairs in California and western Nevada. Projects have included development of mitigation and monitoring plans for listed species, and acquiring permits from the Corps of Engineers, State Water Quality Control Board, California Department of Fish and Game, and the Bay Conservation Development Commission. Conducted formal consultation with U.S. Fish and Wildlife Service and National Marine Fisheries Service. Developed detailed revegetation and erosion control plans. Developed programmatic biological assessments and mitigation banks for routine maintenance and repair activities. Monitored construction and implementation of off-site compensation measures to assess the effectiveness.

Task Leader, Natural Gas Pipeline, Sacramento Municipal Utility District. Managed and conducted an assessment of biological resources for a 64-mile-long natural gas pipeline in northern California. Developed and implemented field surveys for wildlife, wetlands, plants, and sensitive

natural communities. Specific issues included three vernal pool invertebrates, three rare plants, giant garter snake, Swainson's hawk, burrowing owls, and northern harrier. Analyzed potential biological impacts of the project according to CEQA guidelines and prepared a detailed mitigation and monitoring plan to satisfy federal and state resource agencies.

Environmental Compliance Coordinator, Natural Gas Pipeline, Sacramento Municipal Utility District. Coordinated environmental monitoring during construction of a 64-mile-long natural gas pipeline in northern California. Monitoring was conducted for nesting Swainson's hawks, giant garter snake, a rare plant species, wetlands, cultural resources, paleontological resources, and implementation of erosion control measures at more than 25 stream crossings. Erosion control measures were implemented according to the California Department of Fish and Game Streambed Alteration Agreement conditions and the U.S. Army Corps of Engineers Nationwide Permit conditions. Prepared monitoring reports for California Department of Fish and Game and the California Energy Commission.

Professional Societies/Affiliates

California Botanical Society
Society of Wetland Scientists
California Native Plant Society

Jon Maring
Director, New Fossil Construction
Pacific Gas & Electric

Experience
35 Years in Power Generation
35 Years in Development, Engineering and Construction

Pacific Gas and Electric Company

August 2005 to Present **Director, New Fossil Construction**
Responsible for management and oversight for construction of PG&E new fossil generation projects. Projects include latest technology gas fired combined cycle and reciprocating engine power plants within PG&E service territory.

Calpine Corporation

August 2001 to August 2005 **Director, Power Plant Construction**
Responsible for management oversight for Calpine's power plant construction projects in California, including "F" technology combined cycle merchant plants and simple cycle peaking stations. Responsible projects included over $1.7 billion in generation assets for Calpine.

August 1999 to August 2001 **Senior Project Manager/ Program Manager**
Project Manager for the Delta Energy Center in Pittsburg CA, an 880 MW F technology combined cycle power plant. Program Manager for three Projects in the Pittsburg area including the Delta Energy Center, the Los Medanos Energy Center (a 550 MW F technology Cogeneration Facility), and an $80M Linears project that included gas transmission, electrical transmission, recycled water treatment plant, a public road, ball park, and a new City park.

September 1998 to August 1999 **Project Manager**
Project Manager for Sutter Power Plant, Yuba City, CA. The Sutter Power Plant was the first 550MW, F technology combined cycle merchant plant built in California.

Sacramento Municipal Utility District (SMUD)
April 1992 to September 1998 **Senior Project Manager**
Owner's Project and Construction Manager for SMUD's 100MW combined cycle Carson Ice-Gen cogeneration plant and the 160MW Campbell Soup combined cycle cogeneration facility in the Sacramento area.

General Electric - Projects Engineering Operations
1971-1992
Performed various engineering and project engineering tasks for over 75 power plant projects, both domestic and international, as part on GE's in-house architect-engineering department for turnkey projects.

Education and Registration
Architectural Design Dutchess College, Poughkeepsie, NY
Mechanical Engineering Union College, Schenectady, NY
Registered Professional Engineer, California
Project Management UC Davis Extension

URS

Raymond H. Rice, P.G., C.E.G.

Senior Geologist

Areas of Expertise

Engineering Geology
Geologic Hazard Assessment
Contamination Assessment
Environmental Impact Analysis

Years of Experience

With URS: 40 Years
With Other Firms: 0 Years

Education

M.A./Geology/1967/Rice University
A.B./Geology/1964/Lafayette College
B.S./Civil Engineering/1964/ Lafayette College

Registration/Certification

1970/Professional Geologist/ California/#2039
1970/Certified Engineering Geologist/California/#631

Overview

Mr. Rice has over 40 years of experience on engineering geology projects and geologic hazard evaluations involving siting studies; landslide investigations, including design and construction of corrective measures; fault hazard assessments; natural and cut slope stability; and construction considerations ranging from construction material availability and suitability to ease of excavation. His experience includes geologic hazards and soils analysis for Applications for Certification for three power plants in northern California. He has also worked on highways, tunnels, dams, high-rise structures, nuclear power plants, and other major engineering projects, including use of geophysical and remote sensing techniques. Mr. Rice is also responsible for Remedial Investigations for contaminated sites. Such investigations include development of work plans, site characterization from a geologic/geohydrologic standpoint, field exploration and laboratory testing programs, and development of conceptual remediation alternatives.

Project Specific Experience

Surface Transportation

Task Manager, Elk Grove-Rancho Cordova-El Dorado Connector Environmental Phase 1, Sacramento, California, Sacramento Area Council of Governments, Type of Contract, 2005-2006, $600,000: The Sacramento Area Council of Governments has been evaluating the potential for development of a regional transportation facility to accommodate growth in travel demand in southeastern Sacramento County and western El Dorado County. The proposed connector would provide multi-modal linkage among residential areas and employment centers along a 40-mile-long corridor that would connect Elk Grove, Rancho Cordova, Folsom, and western El Dorado County. The connector would help bolster the Agency's efforts to establish and maintain sustainable communities by relieving congestion on three of the region's principal freeways – I-F, State Route 99, and US 50 – by contributing to regional initiatives to preserve open space and wildlife habitat, by improving air quality, and by improving access to employment centers in the region. As a precursor to a formal environmental process, the Phase I work will develop a draft purpose and need statement, prepare functional guidelines for the corridor, develop screening criteria, and perform a fatal flaw environmental analysis of conceptual alternatives, perform transportation and conceptual engineering, assess funding opportunities and define funding strategies, and prepare a report that would set the stage for the next phase in the project. Issues include growth inducement, collaboration among several jurisdictions, and processing of a corridor-level evaluation in the face of aggressive development plans and concurrent processing of individual project components. Project responsibilities include an assessment of existing conditions for soils, geology, and geology hazards.

Raymond H. Rice, P.G., C.E.G.

Principal Investigator, Route 12 EA/IS, California, Caltrans, Type of Contract, 2004, Cost: Responsible for hazardous materials assessment as well as geology, soils and seismicity portions of the document. Issues involved soft soil conditions along part of the alignment in addition to previous hazardous materials discharges along right-of-way.

Task Manger, Placer Parkway Corridor Preservation Tier 1 EIS/EIR, Placer County, California, Placer County Transportation Agency, Type of Contract, 2003-2006, $3.5 million: Managing the soils, geology and seismicity, and hazardous materials tasks for the proposed new 17-mile-long transportation facility connecting industrial/commercial areas in SR 65 corridor in Placer County to SR 70/00 in Sutter County. The project entails the development of alternatives, the preparation of an Initial Site Assessment (Caltrans-equivalent to a Phase 1 ESA), and preparation of a Tier 1 EIS/EIR. Also prepared soils and hazardous materials/waste maps for the entire study area.

Principal Investigator, State Route 1 EIS/EIR, California, Caltrans, Type of Contract, 1994, $1,600: Responsible for hazardous materials and geology, soils and seismicity portions of environmental document. Issues included ground surface displacements, particularly effects of liquefaction associated with the 1989 Loma Prieta Earthquake.

Principal Investigator, Highway 50 Improvements Environmental Study, Placerville, California, City of Placerville, Type of Contract, 1993, Cost: Responsible for hazardous materials, geology, soils and seismicity sections of environmental document. Main issue was related to slope stability and construction methodology for excavation of steep slopes in fractured and weathered metamorphic rocks.

Principal Investigator, Route 41 Tier 1 Route Adoption EIS/EIR and Tier 2 EA/IS, California, Caltrans, Type of Contract, 1991-1995, $18 million: Managed preparation of the geology, soils and seismicity, as well as hazardous materials portions of environmental document. Issues included presence of hazardous materials due to leaking underground storage tanks and use of pesticides in agricultural activities along project alignment.

Principal Investigator, Benicia-Martinez Bridge EIS/EIR, California, Caltrans, Type of Contract, 1991, 1995, 2000, $2.173, $2.428, $1 million respectively: Evaluated the presence of hazardous materials within the project alignment based on file review and site reconnaissance; reviewed subconsultants' reports of investigations and remedial activities, as well as regulatory agency actions along project right-of-way, and prioritized sites with respect to potential impacts on construction.

Role, Golden Gate Bridge EIR, San Francisco, California, Highway and Transportation District, Type of Contract, Years, Cost: Geologic

hazards portion of EIR for Golden Gate Bridge. Highway and Transportation District associated with purchase of the Northwestern Pacific Railroad right-of-way, northern California

Task Manager, Engineering Geology Aspects of Pulgas Tunnel Evaluation, San Francisco, San Francisco Public Utilities Commission, Type of Contract, Years, Cost: Directed geologic reconnaissance, air photo interpretation and review of available documentation relative to the 1920s era Pulgas Tunnel in connection with its possible rehabilitation.

Task Manager, Engineering Geology Aspects of the Review of the Arch Bridge of the Sunol Aqueduct, Fremont, California, San Francisco Public Utilities Commission, Type of Contract, Years, Cost: Directed engineering geology studies, including geologic mapping and stability analysis of the vicinity of a 1920s era reinforced concrete arch bridge associated with its possible demolition. Evaluated possible effects of demolition on natural slopes and residential area.

Role, Project, Oakland, California, City of Oakland, Department of Public Works, Type of Contract, Years, Cost: Geological Study, Including fault trenching, Golf Links Road.

Industrial and Power Facilities

Principal Investigator, Colusa Power Plant Application for Certification (CEQA Equivalent), Colusa County, California, Reliant Energy, Type of Contract, 2001-2002, $1.6 million: Responsible for soils, geology, geologic hazards, and groundwater portions for a proposed grass-roots power plant, including preparation of AFC submittal.

Task Manager, Potrero Power Plant Unit 7 Project Application for Certification, San Francisco, California, Mirant Corporation, Type of Contract, 2000-2003, $4 million: The project entailed the preparation of an Application for Certification (a CEQA-equivalent document) for a 540 MW natural gas-fired combined-cycle power plant located in the central waterfront area adjacent to San Francisco Bay on the site of an existing power plant. The site will house several generators, including two combustion turbines, one steam turbine, and two heat recovery steam generators equipped with selective catalytic reduction. As current configured, the design of the Unit 7 power plant features once through cooling using water from the Bay. Project responsibilities included preparation of the geologic and soils-related aspects of the environmental document. The major issue was soil and groundwater contamination from previous on-site industrial activities. Included testimony before the California Energy Commission. The application was eventually withdrawn.

Task Manager, Contra Costa Power Plant Proposed Expansion Application for Certification, Contra Costa County, California, Mirant Corporation, Type of Contract, 1999-2001, Cost: The project entailed the preparation of an Application for Certification for a 530 MW

natural gas-fired combined cycle power plant located on the site of an existing power plant in Antioch. The project site will house several generators, including two combustion, one steam turbine, and two heat recovery steam generators equipped with selective catalytic reduction; a wet cooling tower; and other ancillary facilities. Project responsibilities included preparation of the geologic and soil-related aspects of the environmental document. The major issue was the effects of arsenic-contaminated groundwater on construction. Included testimony before the California Energy Commission.

Role, Project, Matagorda County, Texas, Client, Type of Contract, Years, Cost: Technical Review, geology and seismology, Comanche Peak Nuclear Power Plant, Texas and South Texas Project.

Role, Project, California, Client, Type of Contract, Years, Cost: Geologic studies for siting of the Superconducting Super Collider (SSC) as part of the State of California's proposal.

Principal Investigator, Preliminary Safety Analysis Report (PSAR), Texas, Houston Lighting and Power, Type of Contract, Years, Cost: Regional and site geology/seismology studies, Preliminary Safety Analysis Report (PSAR), proposed Allens' Creek Nuclear Generating Stations (ACNGS), on the Texas Gulf Coast, for Houston Lighting and Power

Role, Morro Bay Power Plant, Morro Bay, California, Pacific Gas and Electric, Type of Contract, Years, Cost: Consultation, landsliding associated with roadway tank farm, Pacific Gas and Electric Company, Morro Bay, California power plant.

Role, Moss Landing Power Plant, Moss Landing, California, Pacific Gas and Electric, Type of Contract, Years, Cost: Groundwater Availability Assessment, including Deep Test Well, Pacific Gas and Electric Company, Moss Landing, California power plant.

Project Manager, Project, San Jose, California, Pacific Gas and Electric, Type of Contract, Years, Cost: Site characterization of a former manufactured gas plant (MGP) site in San Jose, California for Pacific Gas and Electric Company.

Project Manager, Project, XXXX, California, Southern California Edison, Type of Contract, Years, Cost: Technical Feasibility, Carbon Dioxide Sequestration Options, Mohave Generating Station, for Southern California Edison.

Role, Project, Maryland, Potomac Electric Power Company (PEPCO), Type of Contract, Years, Cost: Fault hazard assessment, including trenching, proposed Douglas Point Nuclear Power Plant, Maryland, for Potomac Electric Power Company (PEPCO).

Raymond H. Rice, P.G., C.E.G.

Oil and Gas

Task Manager, LNG Terminal Adentro de Baja Mexico Environmental Impact Assessment and Eco-Risk Study, Baja, California, ChevronTexaco, Type of Contract, 2002-2004, $2 million: The project entailed the preparation of comprehensive environmental documentation for a proposed offshore LNG regasification terminal located 13 kilometers off the coast of Tijuana and an offshore submarine pipeline system. With the capacity to store 250,000 cubic meters of LNG, the terminal will be situated in about 20 meters of water on a fixed concrete structure known as a Gravity Based Structure. As currently configured, the facility features the use of open rack vaporization with submerged combustion vaporization as a back up. Responsibilities included air photo interpretation, geologic reconnaissance, drilling, logging, sampling a series of geotechnical borings, and preparation of preliminary geotechnical recommendations.

Task Manager, Estero Bay Deep Water Terminal and Estero Bay to Richmond Pipeline EIR, Estero Bay, San Luis Obispo County to Richmond, Contra Costa County, California, Standard Oil Company of California, Type of Contract, 1973, $60,000: Prepared Appendix O, Preliminary Geotechnical Review and Reconnaissance, and Appendix R, Route Alignment Summary Sheets. Project entailed a review of published and unpublished geologic mapping and reports, air photo interpretation, a flyover of the 280-mile-long pipeline alignment, and surface geologic reconnaissance of selected locations. The geologic hazard analysis emphasized static and dynamic slope stability, potential liquefaction, and construction considerations.

Task Manager, Richmond Refinery Site Characterization and Geologic Hazards Assessment Projects, Richmond, California, Chevron, Type of Contract, Years, Cost: Participated on numerous projects at the Richmond Refinery over a 10-year period. Representative projects include site characterization for a refinery-wide groundwater contamination assessment, waste discharge orders for various sites on the refinery, and a groundwater protection system; geologic hazards assessments at tank sites and for roadways on the refinery complex; geotechnical input to several Spill Prevention, Control, and Countermeasure studies, for 13 surface impoundments, and a hazardous waste treatment and storage facility; and slope stability analyses for a quarry and pipeline alignment.

Role, Project, Martinez, California, TOSCO, Type of Contract, Years, Cost: Work Plan, contamination assessment, Avon (Martinez, California) Refinery, for TOSCO.

Role, Hydrological Assessments, Benicia, California, Exxon Corporation, Type of Contract, Years, Cost: Hydrological assessment, wastewater treatment ponds, Benicia, California refinery for Exxon Corporation.

Role, Crude Oil Pipeline, California, Chevron, Type of Contract, Years, Cost: Geotechnical and geologic hazards studies for an environmental report along proposed crude oil pipeline in central California, for Chevron USA.

Role, West Coast LNG Sites, Location, El Paso Natural Gas, Type of Contract, Years, Cost: Geologic hazards assessments, proposed West Coast LNG terminal sites, for El Paso Natural Gas.

Role, TransEcuadorean Pipeline, Ecuador, Client, Type of Contract, Years, Cost: Post-earthquake studies along TransEcuadorean Pipeline, Ecuador, related to mudflow damage.

Role, Project, Hassi R'Mel, Algeria, SONATRACH, Type of Contract, Years, Cost: Foundation investigation, proposed compressor station sites, Hassi R'Mel, Algeria, for SONATRACH (Algerian National Oil Company).

Role, Project, Gaviota, California, Chevron, Type of Contract, Years, Cost: Geotechnical investigation, proposed onshore oil and gas processing facility, Gaviota, California, for Chevron USA.

Project Manager, J.C. Penney Gasoline Stations, Various Sites, California, J.C. Penney, Type of Contract, Years, Cost: Soil and groundwater contamination studies including design and implementation of remedial activities at former gasoline stations for the J.C. Penney Company at sites in San Jose, Salinas, Cupertino and Concord, California.

Facilities

Principal Investigator, Home Depot DeWitt Center Project EIR, Placer County, California, County of Placer, Type of Contract, 2002-2004, $500,000: Project entailed the preparation of environmental documentation for development of a very controversial Home Depot store on Placer County property next to the DeWitt Center Government Offices, and adjacent to the crowded SR 49 corridor. Issues included land use compatibility, use of government property for a "big box" development, traffic, health issues related to diesel trucks in close proximity to sensitive receptors, and impacts on local businesses. Project responsibilities included the preparation of an Existing Conditions Report for hazardous materials, geology, soils, and seismicity, and input to the Initial Study.

Role, Manenggon Hills Resort, Guam, USA, MDI Guam, Inc., Type of Contract, 1990-1996, Years, Cost: Geologic hazard and engineering geology studies for a 1,300-acre multi-use development in Guam.

Project Manager, Project, San Ramon, California, Eastman Kodak Facility, Type of Contract, Years, Cost: Investigation of a petroleum hydrocarbon release in soil and groundwater.

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Project Manager, Project, Pittsburg, California, Triangle PWC manufacturing Facility, Type of Contract, Years, Cost: Investigation of heavy metals release and remediation.

Project Manager, Valley Wood Studies, Turlock, California, Central Valley Regional Water Quality Control Board, Type of Contract, Years, Cost: Managed the soil and groundwater contamination studies at the Valley Wood Preserving facility – a state Superfund site in Turlock, California. Project entailed drilling and sampling of test borings as well as analytical testing of soil and groundwater samples.

Principal Investigator, DeWitt Government Center Project EIR, Placer County, California, County of Placer, Type of Contract, Years, Cost: Prepared Existing Conditions Report for hazardous materials, geology, soils, and seismicity for the DeWitt Center, governmental complex. Also provided input to Initial Study for proposed new buildings (Auburn Justice Center and Land Development Building) (in progress).

Principal Investigator, Project, Phoenix, Arizona, Motorola, Inc., Type of Contract, Years, Cost: RI for a solvent release in a fractured bedrock acquifier in the Southwest Parking Lot (SWPL) of a Motorola manufacturing facility.

Role, Recreational Development, California, Client, Type of Contract, Years, Cost: Feasibility and engineering geology studies for housing and recreational developments in northern California.

Role, Project, Oakland, California, Holy Redeemer College, Type of Contract, Years, Cost: Geologic hazard assessment for property along trace of Hayward Fault.

Role, Project, Sonoma County, California, Santa Rosa Memorial Hospital, Type of Contract, Years, Cost: Geologic Hazard Assessments, including trenching across projection of Rodgers Creek Fault.

Role, Project, Subic Bay, Republic of Philippines, Client, Type of Contract, Years, Cost: Geological Hazard Studies for proposed Naval housing at Subic Bay, Republic of Philippines.

Role, Project, Location, California, Client, Type of Contract, Years, Cost: Geologic hazard studies for hospital and school sites in seismically active portions of California.

Principal Investigator, Veronica Meadows EIR, Santa Barbara, California, Veronica Meadows Subdivision, Type of Contract, Years, Cost: Geology portion of Draft Environmental Impact Report for proposed Veronica Meadows subdivision, Santa Barbara. Particular emphasis on existing landslides and their stabilization with respect to the proposed development.

Consultant, Consultation, Los Angeles, California, Bel Air Bay Club/Edgewater Towers, Type of Contract, Years, Cost: Consultation, Bel Air Bay Club and Edgewater Towers projects, Los Angeles; evaluated stabilization alternatives with emphasis on dewatering systems.

Manager, Project, Palo Alto, California, Hewlett-Packard, Type of Contract, Years, Cost: Remedial Investigation Report, Hewlett-Packard 1501 Page Mill Road facility, Palo Alto, California.

Peer Reviewer, Buck Center Geological Report, XXXXX, California, County of Marin, Type of Contract, Years, Cost: Reviewed geological investigation at site of highly controversial Buck Center for Research. Project involved interpretation of complex geology and potential slope instability associated with major construction project. Appeared before Executive Committee of the Board of Directors of the Buck Fund.

Project manager, Steel Fabricating Facility, San Francisco, California, Client, Type of Contract, Years, Cost: RI for Industrial Indemnity Financial Corporation for a 180-acre former steel fabricating facility on shore of San Francisco Bay.

Role, Project, Location, University of California, Berkeley, Type of Contract, Years, Cost: Peer review, assessment of Louderback Trace of the Hayward Fault for proposed student housing.

Role, Project, Los Gatos, California, Loma Prieta Joint Union Elementary School District, Type of Contract, Years, Cost: Geological studies, including fault trenching, proposed Clarence T. English School.

Role, Project, Reno Nevada, Harrah's, Type of Contract, Years, Cost: Geological Hazards Assessment, including fault trenching, proposed hotel/casino complex.

Geologist, Positron-Electron Project, Palo Alto, California, Energy Research and Development Administration, Type of Contract, Years, Cost: Geotechnical studies for tunneling and earthwork portions at Stanford Linear Accelerator Center.

Landslide/Slope Stabilization

Project Engineering Geologist, Landslide Stabilization, Santa Clara Tunnel Landslide Project, for the Santa Clara Valley Water District, Santa Clara, California, Type of Contract, Years, Cost: Work included review of historic data, subsurface exploration, design and implementation of a landslide stabilization program conducted in an environmentally sensitive area.

Geologist, Ocean Manor Landslide Evaluation, San Diego, California, County of San Diego, Type of Contract, Years, Cost: Conducted forensic evaluation of a major deep landslide at the Oceanside Manor Subdivision. Developed and implemented stabilization system and

dewatering tunnel for homeowners association. Provided expert witness testimony.

Geologist, Ancient Landslide Evaluation, Laguna Niguel, California, County of Orange, Type of Contract, Years, Cost: Provided geologic expertise during litigation related to damage incurred from two landslides, one at a condominium development and one at an apartment complex. Evaluated ancient landslide and its effects on siting and construction.

Geologist, Sea View Hills Townhouse Landslide Stabilization Project, Ventura, California, County of Ventura, Type of Contract, Years, Cost: Represented the Bank of America in reconstruction and stabilization of property damaged by a landslide. Evaluated landslide mechanism, reconstruction of retaining walls, underground utilities, pavement, landscaping, and long-term monitoring.

Role, Slide Projects, Various Locations, Various Clients, Type of Contract, Years, Cost: Miscellaneous slide projects for Bay Area jurisdictions involving investigation/stabilization, e.g., Chelton Drive slide (City of Oakland); East Avenue slide (Alameda County); San Pablo Dam Road slides (Contra Costa County).

Geologist, On-Call Contract, San Francisco, California, City and County of San Francisco, Department of Public Works, Type of Contract, Years, Cost: Projects ranged from small rockfalls to design and construction of tied back retaining wall and drainage gallery; rock bolting on Telegraph Hill; and expert witness testimony.

Principal Investigator, Via de las Olas Landslide, Pacific Palisades, Los Angeles, California, Occidental Petroleum, Type of Contract, Years, Cost: Represented Occidental Petroleum in controversial project at proposed drill site along Pacific Coast Highway; included testimony before L.A. Planning Commission, L.A. City Council, and the California Coastal Commission.

Principal Investigator, Las Flores Canyon Landslide Mitigation Study, Malibu, California, Los Angeles County, Department of Public Works, Type of Contract, Years, Cost: Evaluated various mitigation alternatives related to access to more than 400 homes jeopardized by Rambla Pacifico slide and continued erosion of toe by Las Flores Canyon Creek. Selection of preferred concept was based on technical issues, cost considerations, and environmental issues.

Role, Slope Stabilization, San Francisco, California, City and County of San Francisco, Department of Public Works, Type of Contract, Years, Cost: Provided consultation regarding stabilization of failed slopes at Sutro heights Park above Point Labos Avenue, and at the Cliff House.

Role, Landsliding Review Valencia, California, U.S. Postal service, Type of Contract, Years, Cost: Independent review of sitting/landslide

stabilization project for the U.S. Postal service Valencia; involved consideration of major grading in landslide- susceptible environment.

Geologist, Love Creek Slide Evaluation, Santa Cruz, California, City of Santa Cruz, Type of Contract, Years, Cost: Represented insurance company for landowner of massive slide triggered by unprecedented rains of January 1982 resulting in 11 fatalities. Provided witness expert testimony.

Water/Wastewater

Senior Reviewer, San Joaquin Pipeline No. 4 Project Environmental Analysis Services, San Joaquin County, California, San Francisco Public Utilities Commission, T&M Not to Exceed, 2006-ongoing, $2.2 million: Provided technical oversight to geologic aspects of the EIR, a joint venture between URS and ATS.

Role, Lubet Frog Habitat, San Mateo County, California, San Francisco Public Utilities Commission, As-Needed, 2002-ongoing, $396,000: Geological and geohydrological aspects of design and permitting services, creation of red-legged frog ponds for mitigation of various projects, Lubet property, San Mateo County, California, for SFPUC.

Task Manager, Baylands Recovery Project, San Francisco, California, San Francisco Public Utilities Commission, Type of Contract, Years, Cost: Managed the engineering geology and geotechnical investigation for remediation of property along the Hetch Hetchy right-of-way in Menlo Park that was leased by the Peninsula Sportsman's Club from 1939 to 1994 for use as a trap and skeet-shooting range. Shooting activities resulted in the deposition of clay pigeon debris, spent shotgun shell casings, lead shot across the northern portion of the property and on an adjacent levee and salt evaporation pond, and significant concentrations of residual lead. The project entailed compliance with a Regional Water Quality Control Board order to remediate the upland, levee, and salt pond areas; development of a cost-effective engineering approach to remediate the contaminated areas; development of risk-based remediation goals; sediment chemical data collection; review of a geotechnical study; constructability studies; permitting; and extensive coordination with regulatory agencies, including the California Department of Fish and Game, the U.S. Fish and Wildlife Service, and the Regional Water Quality Control Board.

Project Geologist, Geologic Hazard Assessment, Hayward, California, City of Hayward Water Distribution System, Type of Contract, Years, Cost: Work included air photo interpretation, site geologic reconnaissance, review of existing subsurface data, and prioritization of hazards associated with storage tanks, pump stations, and pipelines in areas affected by landslides, fault displacements, and potential liquefaction.

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Role, San Jose Airport, San Jose, California, ARCS, Type of Contract, Years, Cost: Leaking underground storage tank investigation, San Jose Airport, for ARCS.

Role, Dynamic Response Analysis, Sonoma, California, U.S. Army, Corps of Engineers, Type of Contract, Years, Cost: Field, laboratory, and engineering studies for seismic stability evaluation of Warm Springs Dam, a major earth fill embankment in Sonoma County, California (U.S. Army, Corps of Engineers, San Francisco District);

Role, Betania Dam, Magdalena River, Colombia, Instituto de Energia Electrica (ICEL), Type of Contract, Years, Cost: Fault studies and seismic risk assessment for Betania Dam, a major earth-fill structure on Magdalena River, Colombia.

Senior Technical Reviewer, Project, Richmond, California, Chevron, Type of Contract, Years, Cost: Waste Discharge Order Project for Chevron, USA at the Richmond, California refinery.

Role, Groundwater Contamination Studies, San Francisco, California, Client, Type of Contract, Years, Cost: Groundwater contamination studies for organic solvents, fertilizers, pesticides and petroleum products in San Francisco Bay Area for industrial clients.

Task Manager, Review and Completion of General Seismic Requirements for Design of New Facilities and Upgrade of Existing Facilities, San Francisco, California, San Francisco Public Utilities Commission, Type of Contract, Years, Cost: Supervised presentation of available geologic mapping showing areas of landsliding and liquefaction susceptibility within the area of the Hetch Hetchy water distribution system. Edited text related to landsliding and liquefaction.

Role, Pamo Dam and Reservoir, San Diego, California, San Diego County Water Authority, Type of Contract, Years, Cost: Comparative feasibility and cost analysis study of alternate dam types, including earthfill, rockfill and concrete. Investigated the site and potential borrow areas for Pamo Dam and Reservoir in San Diego County, California.

Task Manager, TOFC Remediation System, Location, Port of Oakland, Type of Contract, Years, Cost: Managed the engineering geology and geotechnical investigation for remedial design, construction oversight, system startup, and operations and maintenance services for a free-product groundwater recovery system to remediate THP contamination at a former railroad fuelling area at the Port of Oakland. To maximize the recovery of free-product, the remedial design included extraction trenches and sumps with programmable logic controller-driven, variable speed groundwater pumps, and fixed-weir skimmers. The remedial design also featured a SCADA system to reduce operations and maintenance costs and provide operational flexibility.

Raymond H. Rice, P.G., C.E.G.

Technical Reviewer, Engineering Geology Investigation Aspects of Proposed New Plymouth Reservoir Project for the City of Plymouth, Amador County, California, City of Plymouth, Type of Contract, Years, Cost: The project involved engineering geology and geotechnical investigations for an earth-fill embankment dam, two saddle or berm dams, a spillway, two diversion structures, and appurtenant facilities. Because the reservoir is situated in a former gold mining area, the handling of arsenic-contaminated spoil was an issue. The project included test pits to identify the depth to bedrock and potential borrow sources, as well as geotechnical test borings for foundation characterization. Seismic refraction surveys were conducted to define the bedrock surface. Chemical analyses of all mine spoil piles was conducted to evaluate potential issues regarding arsenic.

Project Engineering Geologist, Pardee Dam Supplementary Flood Evaluation, Amador and Calaveras Counties, California, East Bay Municipal Utility District, Type of Contract, Years, Cost: This study was conducted at the request of the FERC to evaluate the sliding stability of the concrete gravity dam under the Probable Maximum Flood (PMF) condition. The work involved a detailed review of existing data from the foundation and abutments, including obtaining rock structural discontinuities using downhole video logging techniques followed by 3-D stability analysis.

Project Manager, Terminus Dam Spillway Enlargement Project, Lake Kaweah, Tulare County, California, U.S. Army Corps of Engineers, Type of Contract, Years, Cost: The enlargement of the spillway was required to increase the flow capacity and accommodate a fuse gate structure to allow increased reservoir capacity. The work involved: characterization of the rock mass; design of a rock anchor support system for each abutment and a wet well structure, in addition to hold-down anchors for the fuse gate structure; and Quality Assurance support during the construction period.

Project Manager, Priest Reservoir Bypass Tunnel Site Investigation, Tuolumne County, California, San Francisco Public Utilities Commission, Type of Contract, Years, Cost: The work involved siting studies and subsurface exploration for the construction of a bypass tunnel, connecting the Mountain Tunnel to the Power Tunnel above the Moccasin Powerhouse. Techniques included continuous rock coring, packer testing, marine geophysics, and laboratory testing of representative rock cores.

Role, Project, Newark, California, Borden, Type of Contract, Years, Cost: Soil and groundwater contamination assessment, industrial property, Newark, California, for Borden.

Various assignments for the Marin Municipal Water District, including: evaluation of landslide hazard along Southern Marin Pipeline Road; geologic evaluation of Phoenix Bypass Pipeline; geotechnical study of Ross Reservoir.

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Principal Geologist, Preliminary Groundwater Resource Assessment, Location, Oak Valley Company, Type of Contract, Years, Cost: Evaluated the groundwater resource for a proposed 1,500-acre multi-use property in the northern portion of San Benito County, California. Included acquisition and review of geologic, hydrogeologic, geophysical, and groundwater quality data; air photo interpretation; geologic mapping; and the installation and testing of two test production wells to depths of 480 and 600 feet.

Role, Point Labos Viaduct, Location, National Park Service, GGNRA, Type of Contract, Years, Cost: Evaluated wave erosion effects on stability of the Point Labos Viaduct.

Role, Project, Location, Client, Type of Contract, Years, Cost: Leakage and stability evaluations of major hazardous waste surface impoundments for Part B permit applications.

Role, Land Reclamation, Panama Bay, Republic of Panama, Client, Type of Contract, Years, Cost: Preliminary engineering studies for proposed major land reclamation project in Panama Bay, Republic of Panama.

Role, Project, Palo Alto, California, Client, Type of Contract, Years, Cost: Regional geologic studies and development of hydrogeologic model associated with major RI/FS at an industrial facility in Palo Alto, California.

Principal Investigator, Project, Arizona, Confidential Client, Type of Contract, Years, Cost: Engineering Geology for a proposed diversion project involving site selection and preliminary design considerations for dams and tunnels in complex geological setting including granitics, volcanics, Paleozoic sediments; included comparison of Tunnel Boring Machine (TBM)vs. Drill, Blast and Muck (DBM) technologies.

Land Use Plans

Task Manager, Riolo Vineyards Specific Plan, Placer County, California, County of Placer, Type of Contract, 2005-2006, $479,000: The proposed Riolo Vineyards Specific Plan area is located within the Dry Creek/West Placer Community Plan, surrounded by Dry Creek on the north and south, and existing and planned development on the west, south, and east. The Specific Plan consists of fifteen parcels totaling about 527.5 acres proposed for residential development (837 dwelling units), parks and open space, and an expansion of the Roseville Cemetery. Extension of water and wastewater service to service the site is required. The Applicant proposes residential and a small commercial area. The project would require the approval of Large Lot Vesting Tentative Maps and various permits, including conditional land use permits, tree removal permits, and a floodplain development permit. Issues included development in the floodplain; traffic, including internal circulation; substantial planned growth in the area; and extension of infrastructure to

the site. Project responsibilities included preparation of the soils, geology, and geologic hazards sections of the environmental document.

Task Manger, Antonio Mountain Ranch Specific Plan EIR, Placer County, California, County of Placer, Type of Contract, 2000-present, Cost: Soils, Geology and Seismicity Task Manager and the Hazardous Materials Task Manager for this proposed Specific Plan located within Placer County's Sunset Industrial Area. The Plan Area consists of 2,200 acres of undeveloped lands proposed for a mix of industrial, commercial, residential and university uses. The project is in its initial processing phases. Performed peer reviews on the Applicant's Phase 1 ESA and Preliminary Geotechnical Reports. He will be responsible for preparing the Soils, Geology and Seismicity and the Hazardous Materials and Waste chapters of the EIR.

Task Manger, Placer Ranch Specific Plan Processing and EIR, Placer County, California, County of Placer, Type of Contract, Years, Cost: Soils, Geology and Seismicity Task Manager and the Hazardous Materials Task Manager for this proposed Specific Plan located within Placer County's Sunset Industrial Area. The Plan Area consists of 2,200 acres of undeveloped lands proposed for a mix of industrial, commercial, residential and university uses. The project is in its initial processing phases. Project responsibilities include peer review of the Applicant's Phase 1 ESA and Preliminary Geotechnical Reports, and preparation of the soils, geology and seismicity and the hazardous materials and waste chapters of the environmental document.

Task Manager, Sierra Vista Specific Plan and Annexation EIR, Roseville, California, City of Roseville, Type of Contract, Years, Cost: Project entails the preparation of environmental documentation for a 2,000-acre Specific Plan within the City of Roseville's sphere of influence. Development issues include a rapidly growing area in which several other specific plans are also being proposed; site constraints, including wetlands and other Waters of the United States; traffic, relationship to neighboring land uses, including nearby residential areas and public facilities; availability of water; capacity of water and wastewater infrastructure; and recycled water. The scope of work includes peer review of a series of master plans related to infrastructure, preparation of an historic architecture survey, a paleontological report, a traffic report, and complete documentation required for the environmental document. The City is currently assessing whether to re-scope the project for an EIS/EIR due to the significant federal permitting issues on the site. Project responsibilities include preparation of the soils, geology, and geologic hazards sections of the environmental document.

Task Manager, Urban Growth Management Plan Geologic Hazards Assessment, Tracy, California, City of Tracy, Type of Contract, Years, Cost: Reviewed published and unpublished technical data, prepared report text and graphical representations of the following geologic hazards/issues: surface fault rupture; liquefaction; seismic settlement; landslides and slope failures; compressible soils; expansive

soils; collapsible soils; erosion; subsidence; and aggregate potential. The report included a discussion of the following factors: physiography, stratigraphy, soils, structural geology, seismicity and faulting, and groundwater.

Mass Transit/Rail

Role, Pacific Railroad, California, Client, Type of Contract, Years, Cost: Geologic studies for the Environmental Impact Assessment of proposed abandonment of Northwestern Pacific Railroad Eel River Line in Northern California.

Air Transportation

Role, Airport Studies, Chek Lap Kok, Hong Kong, Client, Type of Contract, Years, Cost: Engineering geology studies for proposed replacement airport at Chek Lap Kok, Hong Kong.

Role, Runway Expansion, Honolulu, Client, Type of Contract, Years, Cost: Geotechnical studies for Reef runway expansion at Honolulu International Airport.

Landfills

Task Manager, Presidio Trust Landfills 8 and 10, The Presidio, California, The Presidio Trust, Type of Contract, Years, Cost: Managed the geotechnical investigations of two abandoned landfills at the Presidio of San Francisco. The landfills were used for the disposal of building demolition rubble, clean soil, and vegetative waste. The project entailed the development of a comprehensive sampling and analysis plan for the field investigation of both landfills. Sixteen test pits were excavated in Landfill 8 to confirm the boundaries of the landfill as previously delineated, to estimate the landfill volume, investigate the potential boundary between fill and native soil, and to evaluate whether the landfill posed a threat to shallow groundwater. Soil samples were collected form selected test pits and analyzed for metals, semi-volatile organic compounds, pesticides, and PCBs to characterize landfill waste. The field program for Landfill 10 consisted of test borings and test pits to provide samples for laboratory evaluation, primarily of natural materials, as well as visual observation of landfill material. Representative cross sections through the site were prepared based on the results of the field investigation, and engineering properties were assigned to the various site materials.

Principal investigator, Gravel Quarry, Mexico City, Mexico, Client, Type of Contract, Years, Cost: Geologic studies associated with closure of a municipal landfill located in a former sand and gravel quarry, Mexico City.

Project Type

Role, Project, San Francisco, California, Client, Type of Contract, Years, Cost: Fault hazard assessments within Alquist-Priolo Special Studies Zones, San Francisco Bay Area.

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Role, Guatemalan Reconnaissance, Guatemala, Client, Type of Contract, Years, Cost: Part of EERI Reconnaissance Team after 1976 Guatemalan earthquake.

Role, Subsurface Mapping and Measuring, Various Locations, Client, Type of Contract, Years, Cost: Measurement and mapping of surface exposures in Pennsylvania and New York and subsurface mapping in Texas coastal plain. Included application of gamma-neutron and E-log correlation methods.

Role, Pulgas Valve Lot Vaults, San Francisco, California, San Francisco Public Utilities Commission, Type of Contract, Years, Cost: Engineering geology portion of Pulgas Valve Lot Vaults Geotechnical Investigation, SFPUC.

Role, Project, Managua, Nicaragua, Vice Ministry of Urban Planning, Type of Contract, Years, Cost: Fault rupture and volcanic hazard assessment for six cities in Managua, Nicaragua metropolitan area; performed for zoning purposes for Vice Ministry of Urban Planning.

Role, Mission del Rio, Gilroy, California, CSY Investments, Type of Contract, Years, Cost: Geologic hazards assessment, including fault rupture analysis along Sargent fault zone Mission Del Rio project near Gilroy, Santa Clara County, California.

Role, Project, Millbrae, California, City of Millbrae, Type of Contract, Years, Cost: Geologic hazards evaluation, various storage tanks, for the City of Millbrae.

Role, Project, Palo Alto, California, Stanford University, Type of Contract, Years, Cost: Evaluation of deformation potential across the stock farm monocline, Palo Alto, California, for Stanford University.

Role, EIR, Gasquet, California, California Nickel Company, Type of Contract, Years, Cost: Geology portion of EIR for California Nickel Company, proposed nickel mine, Gasquet, Del Norte County, California.

Professional Societies/Affiliates

Member, Association of Engineering Geologists

Member, Earthquake Engineering Research Institute

Awards

[Click **here** and type Year/Award Name/Awarded by]

Languages

English, Basic Spanish

URS

Raymond H. Rice, P.G., C.E.G.

Specialized Training

[Click **here** and type Year/Training Course]

Security Clearance

[Click **here** and type Security Clearance Level]

Publications

Roth, W.H., Rice, R.H., Liu, D.T., and Cobarrubias, J., 1992, "Hydraugers at the Via de las Olas Landslide," in Proceedings, Stability and Performance of Slopes and Embankments, II, Berkeley, California, June 21 – July 1.

"Observations and Impressions, Guatemala, February 6-12, 1976," in The Guatemala Earthquake – February 4, 1976, published by the Earthquake Engineering Research Institute.

Roberts, G.D., and Rice, R.H., 1971, "Urban Geologic Handicaps," in Environmental Planning and Geology, U.S. Geological Survey, Department of the Interior and U.S. Department of Commerce, Housing and Urban Development.

Chronology

1999 - Present: URS, San Francisco, CA

1966 - 1999: Dames & Moore, San Francisco, CA

Summer 1965: Pan American Petroleum, Houston, TX

Summers 1963 & 1964: Tenneco Oil Company, Pittsburgh, PA

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Bruce T. Ritter, PE

Project Engineer

Bechtel Power Corporation
Frederick, Maryland

Experience Summary

2004 – Present	Project Engineer
2002 – 2004	Engineering Manager
2000 – 2002	Project Engineer
1986 – 2000	Electrical Supervisor
1982 – 1986	Assistant Electrical Supervisor
1981 – 1982	Staff Engineer
1972 – 1981	Group Supervisor/Senior Engineer/ Design Engineer

Technical Qualifications

- Registered Professional Electrical Engineer in Maryland, Florida, and California
- Senior Member, Institute of Electrical and Electronics Engineers
- Member, Power Engineering Society
- Member, Industrial Applications Society
- Former RPE Member, Society of American Value Engineers

Education

- BS, Electrical Engineering, The Pennsylvania State University

Strengths and Reasons for Selection

Mr. Ritter has 35 years of engineering and engineering management experience on various fossil and nuclear power generation projects worldwide. His experience also encompasses work related to CO_2 gas capture as well as research laboratory and vaccine production facility projects. His past 3-1/2 years as a project engineer followed a 2-year assignment as an engineering manager, preceded by 30 years of increasing responsibility in project engineering, electrical engineering, and engineering supervisory roles.

Work History—Detailed Contributions

- **Project Engineer**
  Mr. Ritter is assigned to Bechtel's Fossil Technology Group (FTG) as a Business Development (BD) project engineer responsible for directing engineering disciplines and specialty technical groups in performing conceptual engineering and design in support of project/job proposals and cost estimates. He also directs work in support of clients for air permitting and design/construction permitting. His responsibilities encompass work schedules and engineering budgets; engineering execution strategy; permitting; performance guarantees; noise, environmental, and geotechnical assessments; engineering technical excellence; BD support; and client technical interface.

  Mr. Ritter was concurrently responsible for completing a study contracted by the Norwegian government (NVE) regarding capture of CO_2 gas present in the flue gas from a 420 MW combined cycle power plant using state-of-the-art designer amine technology. This study was performed jointly with Hydrogen Technologies Corporation (HTC Purenergy).

  From June 2004 to March 2005, while assigned to the Bechtel National Engineering Management Staff, Mr. Ritter supported the Iraqi Infrastructure Reconstruction Program – Phase II effort in designing and building the Mansuria Power Plant in Iraq, a two-unit simple cycle gas turbine plant located 100 km NW of Baghdad, for the US Agency for International Development. He supervised the electrical discipline and served as project engineer of the 44-person multidisciplinary design team performing project conceptual engineering and detailed design. Responsibilities included development of work schedule, engineering budget, and engineering execution strategy; staffing; engineering technical excellence; and client interface for technical issue clarifications and resolutions.

- **Engineering Manager**
  Mr. Ritter was assigned to a Bechtel project at the National Cancer Institute (NCI) at Ft. Detrick, Maryland, as an engineering manager seconded to the contractor, Science Applications International Corporation (SAIC). He managed a multidisciplinary engineering team of 22 SAIC and Bechtel engineers, designers, and drafters. The effort involved the design of new buildings and design renovations of existing research laboratories and buildings in support of cancer research. The designs were for general and biomedical research laboratories, animal care facilities, and vaccine production facilities, along with the supporting utility infrastructures and systems. Duties encompassed all aspects of engineering labor and budgeting; staffing, interviewing, and hiring; task assignment; personnel performance evaluation; technical direction, oversight, and review; employee training and development; and architect/engineer outsourcing assignments, management, and evaluations.

WORK HISTORY—DETAILED CONTRIBUTIONS (CONT.)

- **Project Engineer**
  From November 2001 to January 2002, Mr. Ritter was assigned to the 630 MW Colusa combined cycle (CC) project in California. He managed the FTG design team responsible for project conceptual engineering and design in support of the cost estimate. His duties related to the work schedule and engineering budget; engineering execution strategy; permitting, guarantees, and noise assessments; BD support; and client interfaces. The project was suspended in January 2002.

  From May to November 2001, Mr. Ritter was assigned to the 600 MW Metcalf CC project in California. He managed the multidisciplinary project design team of 65 engineers and designers responsible for conceptual and detailed engineering and design. His responsibilities included the work schedule and engineering budget for 65 engineers and designers, engineering execution strategy and personnel planning, engineering procedure, and client engineering and startup interfaces.

  From October 2000 to April 2001, Mr. Ritter was assigned to the 540 MW Sutter CC project in California. He managed the design team responsible for completing the project and for providing construction and startup support from the home office and at the job site. He supervised engineers and designers at the site.

- **Electrical Supervisor**
  Assigned to the Sutter CC project from December 1998 to September 2000, Mr. Ritter supervised the groups responsible for conceptual power system design, plant layout, and instrumentation and controls design. He was responsible for the work schedule and discipline budget for 15 engineers and designers, personnel planning and work assignments, and client interface. He was also the California Registered Engineer of Record for the project.

  From December 1997 to November 1998, Mr. Ritter was assigned to the 210 MW Exxon Baton Rouge CC/cogeneration plant in Louisiana. He supervised 28 engineers and designers and was responsible for work scope definition and assignments; schedule and budget; and client, owner, and construction interfaces.

  For the 370 MW Renca CC project in Chile, from October 1995 to November 1997, Mr. Ritter's duties included conceptual power system design, plant layout, and instrumentation and controls design. He was responsible for work schedule and discipline budget for 10 engineers and designers, personnel planning and work assignments, and client interface.

  From December 1993 to September 1995, for the 670 MW Dabhol CC project in India, Mr. Ritter supervised preparation of the conceptual, preliminary, and final detailed designs. His duties encompassed conceptual power system design, plant and switchyard layout, work schedule and budget for 12 engineers and designers, personnel planning and work assignments, and client interface.

  Assigned to the FTG from November 1992 to November 1993, Mr. Ritter prepared conceptual plant designs and cost estimates in support of BD and proposals. He also participated in the development of Bechtel's first low capital cost standard plant LCCSP.

  From November 1989 to October 1992, Mr. Ritter was responsible for the conceptual, preliminary, and final detailed designs for the 450 MW Martin Units 3 and 4 coal gasification/CC plants for Florida Power & Light Company (FPL). His duties included conceptual power system design, plant and switchyard layout, preparation of work schedule and discipline budget for 28 engineers and designers, personnel planning and work assignments, and client interface. He was the Registered Electrical Engineer of Record. He was involved in studies for FPL for the repowering of Riveria Unit 1, reactivation of Unit 2, and a life extension study for Unit 3. He also performed a system integration and repowering study for the Nelson Industrial Steam Company (NISCO) for the repowering of the Roy S. Nelson Units 1 and 2 in Louisiana.

  From June 1986 to October 1989, Mr. Ritter supervised 23 multidisciplinary engineers preparing design criteria and system descriptions for the 900 MW Davis-Besse PWR nuclear power plant. His responsibilities included group budget, personnel planning, work scheduling and assignments, and client interface. He also developed and taught the electrical power distribution systems module for a technology transfer program.

- **Assistant Electrical Supervisor**
  From May 1984 to May 1986, Mr. Ritter was assigned to Scott Paper Company's 70 MW Circulating Fluidized Bed (CFB) culm fired Chester cogeneration project. He was responsible for the conceptual electrical system design, electrical discipline work budget, personnel planning and scheduling, and client interface. His responsibilities also included onsite inspection and supervision of construction and startup personnel.

  While assigned to the 1,300 MW Grand Gulf Unit 2 BWR nuclear plant from May 1982 to April 1984, Mr. Ritter was responsible for electrical distribution system design and for preparation of related documents. He also prepared the electrical discipline personnel budget and work schedules.

- **Staff Engineer**
  In 1981 and 1982 was assigned to the Chief Electrical Engineer's Staff. Mr. Ritter reviewed project documents, kept abreast of NRC rules and regulations, assisted with nuclear licensing activities, coordinated nuclear equipment qualification efforts, organized and participated in the Bechtel Equipment Qualification training program, and prepared and maintained Bechtel Electrical Design Standards and Guides.

- **Group Supervisor/Senior Engineer/Design Engineer**
  From 1972 to 1981, Mr. Ritter was assigned to the Baltimore Gas and Electric's 800 MW Calvert Cliffs PWR nuclear power plant.

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Kathy Rushmore

Deputy Project Manager

Areas of Expertise

Power Plant Licensing
CEQA/NEPA Documentation
Environmental Planning and Permitting
Hazardous Materials and Waste Management

Education

M.S./Environmental Science/2000/Macquarie University
B.A./Environmental Analysis and Design/1995/University of California at Irvine

Registration/Certification

2004/Registered Environmental Assessor I/California Environmental Protection Agency, Department of Toxic Substances Control/REA-07858

Specialized Training

2001/40-hour Hazardous Waste Operations and Emergency Response
2001/8-hour Supervisor of Hazardous Waste Workers

Overview

Kathy Rushmore has 10 years of experience in managing the preparation of environmental documents for power plant, industrial facilities, surface transportation, water resources, and land use projects. She has been the project manager, technical lead, and author of environmental documents prepared to meet the requirements of the California Environmental Quality Act (CEQA), National Environmental Policy Act (NEPA), as well as the California Energy Commission Power Plant Site Certification Regulations. She has also directed numerous resource agency permit applications and approvals and supporting analyses for air quality, water resources, and biological resources. Her experience also includes Phase I and II investigations, natural resource investigations, and the evaluation of hazardous materials and hazardous waste management practices.

Project Specific Experience

Deputy Project Manager and Technical Lead, CPV Sentinel Application for Certification, Competitive Power Ventures. Managed the preparation of the Application for Certification (CEQA-equivalent document) submitted to the California Energy Commission in June 2007 and technical lead for the Land Use section of the Application for Certification. Project proposes to construct and operate an 850 megawatt quick-start peaking electrical generating facility in Riverside County, California. Project responsibilities included ensuring compliance with the California Energy Commission's newly adopted siting regulations, oversight and coordination of entire project team, attendance at California Energy Commission Business Meetings, communication with the client and California Energy Commission's technical staff, preparation of docketed submittals, including responses to the California Energy Commission's Data Adequacy Recommendations.

Deputy Project Manager and Technical Lead, Colusa Generating Station Application for Certification, Competitive Power Ventures. Managed the preparation of the Application for Certification submitted to the California Energy Commission in November 2006 and served as the technical lead for the Land Use section of the application. Project proposes to construct and operate a 660 megawatt combined cycle power plant in Colusa County, California. Project responsibilities have included ensuring compliance with the California Energy Commission's siting regulations; preparation of the Land Use chapter of the Application for Certification and land use permit applications (General Plan and Zoning amendments, Tentative Parcel Map); oversight and coordination of entire project team; extensive communication with California Energy Commission staff, Colusa County Planning Department, and regulatory agencies; coordination of the Issues Resolution Workshop and associated site visit; preparation of numerous docketed submittals, including responses and comments on the California Energy Commission's Data

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Adequacy Recommendations, Data Requests, and Preliminary Staff Assessment.

Technical Lead/Task Manager, Trans Bay Cable Project EIR, City of Pittsburg. Project entails the installation of a 59-mile-long fiber optic cable from the City of Pittsburg to San Francisco, and the development of two onshore converter stations (one in Pittsburg and one in San Francisco), onshore cable installations, and sub-sea cable installation in San Francisco Bay. The project transects more than 10 local jurisdictions. Project responsibilities include preparation of the Land Use and Recreation and Public Services and Utilities sections of the environmental document; extensive research into zoning and land use plans and policies for each jurisdiction; and liaison with local regulatory agencies.

Project Manager, Station A Demolition EIR, City and County of San Francisco Major Environmental Analysis Division. Managed the preparation of environmental documentation for the demolition of historic structures situated at the Potrero Power Plant in the central waterfront district of San Francisco. Project responsibilities included the preparation of the project description; coordination with the client, regulatory agencies, and the project team; and preparation of summaries regarding legal testimony from previous Application for Certification evidentiary hearings.

Project Manager, Transportation System Capital Improvements Program Update Subsequent EIR, City of Roseville. The City of Roseville routinely updates its Capital Improvement Program to respond to changing conditions. In 2000, an EIR was prepared for the 2015 Capital Improvement Program Update, and in 2002, a Supplemental EIR was prepared to evaluate the 2020 Capital Improvement Program Update. The purpose of the Subsequent EIR is to evaluate a new update to the Capital Improvement Program that will address (1) new intersections that may fall below acceptable LOS C levels not identified in the 2020 Plan, (2) additional intersections that have reached unacceptable levels of service due to significant development in the City and may change from LOS C to LOS D, LOD D to LOS E, or from LOS E to LOS F, and (3) evaluate the widening of new intersections or roadways that were not identified in the 2020 Capital Improvement Plan. Project responsibilities include ongoing communication and coordination with the client and project team; preparation of the Notice of Preparation; preparation of the project description and specific technical sections of the Initial Study; and technical review of the Subsequent EIR.

Task Leader, Elk Grove-Rancho Cordova-El Dorado Connector Phase I Environmental Study, Sacramento Area Council of Governments. Project entails planning, engineering, and environmental services for development of a connector that will link residential areas and employment centers and provide multi-modal options for travel within the corridor, including transit, bicycle, and pedestrian facilities. The connector will relieve congestion on the overcrowded existing two-lane roadway that currently serves the corridor. The Phase I environmental

study, which precedes preparation of a subsequent EIS/EIR, involves preparation of a project definition, purpose and need statement, project goals and objectives; development of evaluation criteria; identification of alternatives at a sufficient level of details to support further analysis; environmental and engineering studies; preliminary cost estimates; and preparation of an alternatives comparison and study report that defines the scope, costs, and schedule for the next phase of project development. Responsibilities include community impact assessment during preparation of the Phase I environmental study and the subsequent EIS/EIR.

Deputy Project Manager, Terrace Avenue/Highway One Signalization EIR, Caltrans. Proposed project entailed the addition of a traffic signal and widening of Highway 1. Project responsibilities included researching Caltrans' requirements for highway widening projects, in particular Noise Assessments for Type I projects, Visual Assessments, and Natural Environmental Studies.

Technical Reviewer, Route 29 Improvements EIR/EA, Caltrans. Project entailed roadway improvements along State Route 29 in Lake County. Three alternatives were evaluated, including road widening along a 7-mile-long corridor. Project responsibilities included the review of reports and the Community Impact Assessment, Air Quality, Hazardous Waste and Materials, and Land Use sections of the environmental document; assessing the adequacy of the technical evaluations; and requesting additional data as required.

Technical Lead, Railway Restoration Project Environmental Assessment, Inyo County Planning Department. Prepared the physical environment sections of the environmental document that addressed Noise, Air, and Hazards impacts associated with the restoration of a railway located between Laws and Bishop in accordance with Caltrans' requirements.

Deputy Project Manager, Public Works Plan Phase I EIR, Montara Water and Sanitary District. Assisted with the management of the project team developing the environmental document for a public works project in California Coastal Zone. Oversaw the development of an extensive Biological and Hydrological Monitoring and Mitigation Plan to monitor potential impacts from groundwater extraction. Project responsibilities included significant liaison with regulatory agencies, including the California Department of Fish and Game, the U.S. Fish and Wildlife Service, and the National Oceanic and Atmospheric Administration.

Technical Lead, Pipeline Maintenance Programmatic EIR, Santa Clara Valley Water District. Public works project developed to establish best management practices for ongoing maintenance activities conducted for 23 pipelines throughout the County. Project responsibilities included preparation of the Hazards, Recreation, and Geology sections of the environmental document.

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Task Manager, Storm Water Zoning Ordinance Amendments, Redwood City Planning Department. Assisted with the preparation of amendments to the Redwood City Zoning Ordinance, including revisions to landscape, open space, parking lot, permeable area, and creek setback requirements.

Deputy Project Manager, Sierra Vista Specific Plan EIR and EIS, City of Roseville and U.S. Army Corps of Engineers. Assisting with the management of the project team preparing an EIR for a 2,000-acare Specific Plan within the County of Roseville's sphere of influence. Development issues include a rapidly growing area in which several other specific plans are also being proposed; site constraints, including wetlands and other Waters of the United States; traffic; relationship to neighboring land uses, including nearby residential areas and public facilities; availability of water; capacity of water and wastewater infrastructure; and recycled water. The scope of work includes peer review of a series of master plans related to biological resources and infrastructure; preparation of an historic architecture survey, a traffic report, and biological resource assessment; and complete documentation required for the environmental documents. The scope of work also includes a public outreach component. Due to the significant federal permitting issues on the site, a separate EIS will also be prepared for the project, with the U.S. Army Corps of Engineers as the federal lead agency. Project responsibilities include review of technical reports and coordination with the client, applicant, and project team.

Deputy Project Manager/Technical Coordinator, Placer Ranch Specific Plan EIR, Placer County Planning Department. Assisting with the management of the project team and preparing the environmental documentation for a 2,300-acre Specific Plan within Placer County. Project site is located next to an existing large municipal solid waste landfill. One chapter of the environmental document was dedicated to the evaluation of air quality (including odor), noise, traffic, landfill gas, and groundwater impacts associated with placing such a development next to a landfill. Project responsibilities also included the preparation of the Landfill chapter, which included a summary and evaluation of technical memoranda for incorporation into the environmental document, coordination with the project team, and interview with property owners.

Contract Planner, Evaluation of Permit Applications, San Mateo County Planning Department. Prepared staff reports evaluating coastal development permit applications for projects in San Mateo County and the California Coastal Zone.

Project Manager, Biological Assessments for Development Projects, Various Clients. Managed the preparation of biological assessments for compliance with the San Mateo County Local Coastal Program. Representative projects included bridge construction over creeks and tree removal on a site located in the California Coastal Zone. Project responsibilities included the assessment of regulatory requirements and

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Kathy Rushmore

the development of mitigating plans for special status plant and animal species.

Professional Societies/Affiliates

Association of Environmental Professionals

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Dale Shileikis

Program Manager/Project Manager

Areas of Expertise

Energy Development Siting, Planning, and Assessment
NEPA/CEQA Environmental Impact Assessment
California Energy Commission Siting Regulations
Regulatory Permitting and Compliance
Land Use and Transportation Planning

Education

Graduate Studies/Environmental Planning and Biology/San Francisco State University and University of California, Berkeley
B.S./Biology/1978/San Francisco State University

Overview

Dale Shileikis has more than 25 years of experience providing project direction and management, environmental analysis under NEPA, CEQA or CEQA equivalent (CEC siting regulations), mitigation planning, and regulatory permitting assistance for power plant, industrial and oil and gas development projects worldwide. His specialty includes the direction and management of environmental documentation for large, multidisciplinary, multi-jurisdictional projects, particularly involving complex engineering design and scientific components; site selection; alternatives analyses; mitigation development; public presentation; and expert testimony. He has managed more than 200 multidisciplinary impact assessments (EIS and joint EIR/EIS).

The majority of his project profile features the siting, feasibility, and environmental assessment of energy development projects. Such projects require an intimate knowledge of federal and state regulatory requirements promulgated by the California Energy Commission, California Public Utilities Commission Federal Energy Regulation Commission, Mineral Management Service, U.S. Coast Guard, California State Lands Commission, and the California Coastal Commission. He is a veteran California Energy Commission and CEQA expert and has provided siting and permitting strategy on many controversial projects. A typical project entails the development of strategic and creative solutions for project development and mitigation design involving the cooperation of engineers, scientists, planners, and managers from project applicants, regulatory agencies, and consultants.

Project-Specific Experience

Project Manager, CPV Sentinel Application for Certification, Competitive Power Ventures. Managed the preparation of the Application for Certification that was determined Data Adequate by the California Energy Commission in the summer of 2007. The project consists of constructing and operating an 850 megawatt quick-start peaking electrical generating facility in Riverside County, California. Project responsibilities included ensuring compliance with the California Energy Commission's newly adopted siting regulations, oversight and coordination of entire project team, attendance at California Energy Commission Business Meetings, workshops and hearings, communication with the client and California Energy Commission's technical staff, preparation of docketed submittals, including responses to the California Energy Commission's Data Adequacy Recommendations.

Project Manager, Colusa Generating Station Application for Certification, E&L West Coast, LLC. Managed the preparation of the Application for Certification submitted to the California Energy Commission in 2006. Project consists of constructing and operating a

660 megawatt combined cycle power plant in Colusa County, California. Project responsibilities have included ensuring compliance with the California Energy Commission's siting regulations; preparation of the land use permit applications (General Plan and Zoning amendments, Tentative Parcel Map); oversight and coordination of entire project team; extensive communication with California Energy Commission staff, Colusa County Planning Department, and regulatory agencies; coordination of the Issues Resolution Workshop and associated site visit; preparation of numerous docketed submittals, including responses and comments on the California Energy Commission's Data Adequacy Recommendations, Data Requests, and California Energy Commission Preliminary Staff Assessment.

Application for Certification Siting Regulations Consultation, Gateway Power Project (formerly Contra Costa Unit 8, Pacific Gas and Electric Company. Provided consultation to Pacific Gas and Electric on developing an Application for Certification under the requirements of the California Energy Commissions siting regulations. Included the development of permitting strategy, alternative cooling technologies and the availability of sources of water to be considered for power plant cooling. Provided peer review during the development of a revised Application for Certification.

Project Manager, Diablo Canyon Nuclear Power Plant Steam Generator Replacement Project Environmental Assessment. Prepared proponents environmental assessment for a California Public Utilities Commission filing to replace eight steam generators inside two nuclear reactor facilities at the power plant. The environmental assessment involved determining the potential impacts from project activities in compliance with CEQA, the regulations of the Nuclear Regulatory Commission, and other regulatory standards. Several options for transport, delivery, staging, and installation activities were analyzed to determine the best process for replacement of the generators while minimizing the environmental effects.

Peer Review Manager, Colusa Power Plant Application for Certification, Reliant Energy. Managed and conducted a peer review of an Application for Certification for a 500 megawatt power plant proposed to be located in Colusa County, California.

Project Manager, Potrero Power Plant Unit 7 Application for Certification, Mirant Corporation. Managed preparation of an Application for Certification (a CEQA-equivalent document) for a 540 megawatt natural gas-fired combined-cycle power plant located in the central waterfront area adjacent to San Francisco Bay on the site of an existing power plant. The site will house several generators, including two combustion turbines, one steam turbine, and two heat recovery steam generators equipped with selective catalytic reduction. As currently configured, the design of the Unit 7 power plant features once through cooling using water from the Bay. Oversaw preparation of the environmental documentation, including detailed studies for sixteen disciplines; preparation of permit applications; site planning and

engineering feasibility studies; marine biological surveys, including Clean Water Act 316 (a and b) studies; and a NPDES Section 7 consultation. Key issues included air quality, public health, environmental justice, soil contamination, and potential effects on the biological resources in the Bay. Project entailed an extensive 18-month-long marine biological survey program to develop data to support the 316 (a and b) resource assessment and for preparation of a biological assessment under Section 7 of the federal Endangered Species Act. Responsibilities also included participation in California Energy Commission evidentiary hearings and workshops, and an extensive public outreach program.

Project Director, Contra Costa Power Plant Project Application for Certification, Mirant Corporation. Managed preparation for an Application for Certification (a CEQA-equivalent document) for a 530 megawatt natural gas- fired combined cycle power plant located on the site of an existing power plant. The project site will house several generators, including two combustion, one steam turbine, and two heat recovery steam generators equipped with selective catalytic reduction; a wet cooling tower; and other ancillary facilities. Oversaw preparation of all environmental documentation, including detailed technical studies, extensive stack and cooling tower plume modeling and simulations, and detailed analyses of cooling alternatives; and the preparation of permit applications. Key issues included air quality, emission reduction credits, visual impacts, effects on water resources and the San Joaquin River, and environmental justice. Responsibilities also included participation in California Energy Commission evidentiary hearings and workshops, and an extensive public outreach program.

Project Manager, Power Plant Selective Catalytic Reduction Systems, Environmental Analysis, Southern Energy California (Mirant). Managed the preparation of environmental documentation and air quality permit applications for the installation of selective catalytic reduction systems at the Contra Costa and Pittsburg power plants.

Project Manager, Project Description and Resource Reports, FERC Certificate Application, Bradwood Landing LNG Terminal, Northern Star Natural Gas. Managed the technical preparation of the Project Description and other Resource Reports required for a FERC Certificate Application for the Bradwood landing LNG Terminal located on the Columbia River in Oregon.

Project Manager, Power Plant Permitting, Duke Energy. Managed preparation of environmental documentation, air and coastal development permitting, and strategic planning for implementation of NO_X retrofit controls (SCR catalytic reduction) and power plant expansion in Monterey County.

Program Manager, LNG Terminal Site and Technology Assessment, Confidential Client. Responsible for the review of coastal areas in California, Oregon, and Washington for potential sites for energy facilities offshore and in the coastal zone, development of permitting

strategies, feasibility assessments, and evaluations of possible technological alternatives.

Regulatory Affairs Manager, Energy Project Development and Permitting, Confidential Client. Provided internal direction, strategies for environmental permitting, and feasibility assessments to a leadership team for the development of energy projects along the West Coast.

Project Manager, Natural Gas Terminal and Pipeline Applications, Confidential Client. Managed a large multidisciplinary team preparing federal (FERC) and state (California State Lands Commission) certificate applications, environmental studies, and permits for a natural gas terminal and alternative pipeline distribution system routes.

Project Manager, LNG Vaporization Technology Assessment, Confidential Client. As part of a multidisciplinary team, conducted an assessment of various LNG vaporization technologies, including open rack, submerged combustion, shell and tube, and intermediate fluid vaporization for onshore and offshore locations in the United States. The assessment included an assessment of the feasibility of obtaining permits through FERC, the U.S. Coast Guard, and various state regulatory agencies throughout the United States.

Project Manager, LNG Terminal Mar Adentro de Baja Mexico Environmental Impact Assessment and Eco-Risk Study, ChevronTexaco. Managed preparation of a comprehensive Environmental Impact Assessment for a proposed offshore LNG regasification terminal located 13 kilometers off the coast of Tijuana and an offshore submarine pipeline system. With the capacity to store 250,000 cubic meters of LNG, the terminal will be situated in about 20 meters of water on a fixed concrete structure known as a Gravity Based Structure. As currently configured, the facility features the use of open rack vaporization with submerged combustion vaporization as a backup. The EIA evaluated air quality impacts and control technologies (to U.S. Environmental Protection Agency and California standards), including both stationary and mobile source, water intake and discharge impacts (to U.S. Clean Water Act, NPDES requirements), and marine biological resource impacts. The eco-risk study evaluated issues associated with the transport, offloading, and vaporization of the LNG.

Program Manager, Pearl Crossing Deepwater Port Application, Offshore LNG Terminal Environmental Assessment, and FERC Application, ExxonMobil. Managing multidisciplinary team preparing Resource Reports, environmental studies, a U.S. Coast Guard Deepwater Port Act Application, and permits for Coast Guard and supporting FERC 7c Certificate Application for an offshore LNG terminal designed to process 2 billion cubic feet/day of natural gas and a submarine pipeline. An Environmental Report for the offshore terminal and pipeline, and a separate Environmental Report for construction of a graving dock, were prepared simultaneously. FERC Resource Reports were prepared for a 50- to 60-mile-long onshore pipeline. Key issues include the assessment

of impacts to various sensitive receptors, including wetlands along various pipeline route alternatives, commercial oyster beds, marine resources such as sea turtles and sea grass beds, and the effects of dredging.

Program Manager, Vista del Sol LNG Terminal Environmental Assessment and FERC Application, ExxonMobil. Directing a multidisciplinary team responsible for conducting an environmental assessment and preparation of a FERC application for an LNG terminal on a 371-acre site and a 25- to 50-mile-long gas pipeline. Working under the FERC pre-filing process, the project entails the preparation of Resource Reports, field surveys, and permit applications. Three existing pipeline rights-of-way cross the site, all of which may require relocation to allow for development of the LNG berthing channel and docking facilities. The LNG terminal will be constructed in two phases. In Phase 1, which will provide storage capacity for 1 billion cubic feet of LNG, storage tanks and offloading facilities will be developed for one tanker. Phase 2 entails the development of similar facilities for a second tanker. Resource Reports are being prepared in accordance with FERC's procedures for implanting NEPA compliance and for granting Certificates of Public Convenience and Necessity under Section 3 and 7(c) of the Natural Gas Act. Responsibilities also include extensive coordination with federal, state, and local regulatory agencies.

Project Manager, Chad Cameroon Export Pipeline and Marine Terminal Environmental Impact Assessment, Esso Exploration and Production Company. Managed a 4-year study in support of environmental documentation for a major oil field development and a 170-kilometers-long export pipeline in Chad. The environmental documentation was prepared according to the guidelines of the Word Bank and the International Finance Corporation.

Project Manager, Biological Field Program, Esso Exploration and Management Company. Managed a year long detailed supplemental biological field program to support the development of and Environmental Management Plan for an oil field and pipelines transportation system.

Project Manager, Pipeline and Offshore Storage Facility Environmental Impact Assessment, Cameroon Oil Transportation Company. Managed a 4-year study and preparation of environmental documentation for an 880-kilometers-long pipeline and offshore storage and offloading facility. The environmental documentation was prepared according to the guidelines of the World Bank and the International Finance Corporation.

Project Manager, Power Plant Site Environmental Assessment, World Bank and International Finance Corporation. Managed the preparation of environmental documentation for a 100 megawatt power plant, oil field development, and export pipeline. Project entailed the management of all resource studies and field work, development of the project description, impact analyses, and presentation to the World Bank.

Dale Shileikis

Project Manager, Pacific Refinery Clean Fuels Project, Coastal Corporation. Managed the preparation of environmental documentation and a land use permit application for the modernization and clean fuels project at the Pacific Refinery in Hercules, California.

Project Manager, McKittrick Permitting and Compliance Plan, Texaco. Managed the preparation of a regulatory compliance, permitting feasibility, and environmental management plan for an oil development and mining project in McKittrick, California.

Project Manager, Watson Refinery Expansion Project Environmental Impact Report, ARCO. Managed the preparation of environmental documentation for the modernization and expansion of the refinery in Southern California.

Project Manager, Sedigi-Seerat Oil and Electric Power Development Project, Exxon Company International. Managed environmental assessment and planning for a project located near Lake Chad.

Project Manager, Emergency Contingency Plan, Chevron. Managed the preparation of an oil spill and emergency contingency plan for several platforms in the Santa Barbara Channel, including platforms Hope, Heidi, Hilda, and Hazel.

Project Manager, Platform Harvest Permit Compliance Plan, Texaco. Managed the preparation of a permit compliance plan for platform Harvest in the Santa Barbara Channel.

Project Manager, Onshore Petroleum Base Environmental Studies, Confidential Client. Managed marine biology surveys and the preparation of a permit feasibility study for an onshore support base for the petroleum industry. Primary focus was the potential effects on water quality and local commercial fisheries.

Project Manager, Todos Santos Environmental Analyses and Mitigation Plan, California Conoco, Inc. Managed the preparation of environmental resource sensitivity analyses, an environmental assessment, and mitigation plan for oil and gas exploration and development at the Todos Santos leasehold on the Vandenberg Air Force Base.

Project Manager, Environmental Assessment, Northern Michigan Exploration Company. Managed the preparation of environmental documentation for an oil and gas development project.

Project Manager, Moss Landing Power Plant Permit Application, Pacific Gas & Electric Company. Managed the preparation of an environmental study and permit application to satisfy California coastal Commission requirements through the local Coastal Plan.

Dale Shileikis

Senior Peer Reviewer, Bayside Cogeneration Facility EIR, Port of San Diego. Conducted the CEQA compliance peer review for the cogeneration facility.

Project Manager, On-Call Biological Services, Caltrans District 9. Managed a 2-year-long contract for on-call biological services in the counties of Inyo, Mono, Kern, and San Bernardino. Task orders included wetland delineations, botanical surveys, listed species surveys, and coordination with regulatory agencies. Studies were prepared in accordance with the guidelines of both Caltrans and the Federal Highway Administration, and to meet the requirements of CEQA and NEPA and responsible regulatory agencies.

Expert Witness, Pollutant Loading In San Francisco Bay, California Water Resources Control Board. Provided expert witness testimony on pollutant loading in San Francisco Bay during the San Francisco Bay/Delta hearings.

Professional Societies/Affiliates

California Association of Environmental Professionals
National Association of Environmental Professionals
International Association of Impact Assessment

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Erik Skov, P.G., C.H.G.

Geologic Hazards and Resources/Waste Management

Areas of Expertise

Site Characterization and Remediation
Engineering Geology
Remedial Action Plan Preparation
Remedial Investigations at State Superfund Sites
Subsurface Soil/Groundwater Investigations
Due Diligence/Auditing

Education

B.A./Geology/1988/Humboldt State University

Registration/Certification

California State Registered Geologist/No.7470
California State Certified Hydrogeologist/No. HG 892

Specialized Training

40-Hour Hazardous Waste Operations Training
8-Hour Annual Review
8-Hour Supervisors Training Course
First Aid/CPR

Overview

Erik Skov has more than 18 years of experience providing due diligence and hazardous waste management services, including subsurface investigations involving extensive soil and groundwater sampling, monitoring well design and installation, aquifer testing, data interpretation, reporting, and remedial action plan preparation and implementation. He also participates in engineering geology studies, including siting investigations for hospitals, municipal landfills, and natural gas pipelines, and provides data input for slope stability investigations.

Project-Specific Experience

Task Leader, San Gabriel Generating Station Application for Certification, Reliant Energy. Managed the data collection and preparation of the Waste Handling section of an Application for Certification (CEQA-equivalent document) for an approximate 650 megawatt gas-fired combined-cycle generation facility in San Bernardino County. Responsibilities included identifying and quantifying potential waste streams associated with the construction and operation of the power plant, determining the applicable laws, ordinances, regulations, and standards governing waste generated at the facility, and evaluating the potential impacts and mitigation measures to be implemented during construction and management activities.

Task Leader, Colusa County Power Plant Project Application for Certification, Mirant Corporation. Managed the data collection and preparation of the Waste Handling section of an Application for Certification (CEQA-equivalent document) for a 500 megawatt gas-fired combined-cycle generation facility in Colusa County. Responsibilities included identifying and quantifying potential waste streams associated with the construction and operation of the power plant, determining the applicable laws, ordnances, regulations, and standards governing waste generated at the facility, and evaluating the potential impacts and mitigation measures to be implemented during construction and management activities.

Task Leader, Sentinel Power Plant Project Application for Certification, Competitive Power Ventures. Managed the data collection and preparation of the Waste Handling section of an Application for Certification (CEQA-equivalent document) for a 850 megawatt gas-fired simple cycle generation facility in Riverside County, California. Responsibilities included identifying and quantifying potential waste streams associated with the construction and operation of the power plant, determining the applicable laws, ordnances, regulations, and standards governing waste generated at the facility, and evaluating the potential impacts and mitigation measures to be implemented during construction and management activities.

Technical Support, Potrero Power Plant Application for Certification, Mirant Corporation. Provided technical support for topics such as waste management, hazardous materials generation and handling, site investigation, and compliance with regulatory standards for a 540-megawatt natural gas-fired combined-cycle power plant. URS' services included the preparation of environmental documentation; permitting; site planning and engineering feasibility studies; onshore and offshore geotechnical engineering; and marine biological surveys, including Clean Water Act Section 316a and b studies and NPDES permitting. Key issues for the project included air quality, public health, environmental justice, soil contamination, and potential effects to biological resources of San Francisco Bay.

Team Member and Technical Lead, Cogeneration Plant EIS, U.S./Australian Energy Consortium. A project team preparing an Environmental Impact Statement for the construction of a gas-fired cogeneration plant on a hazardous waste site in Botany, New South Wales. Prepared the geology, hydrogeology, and environmental construction management and mitigation sections of the environmental document. Issues included the impact of the power plant construction on the distribution of subsurface contamination and the mitigation measures to be implemented to address the impacts. Subsequent to the submission of the EIS, presented with a panel of other experts at a Commission of Inquiry called by the Minister for Urban Development, in support of the Development Application for the construction of the cogeneration plant.

Lead Reviewer, Hunters Point Naval Ship Yard Due Diligence, Lennar Homes. Lead reviewer for a major due diligence effort at the Hunters Point Naval Ship Yard. Project entailed excavation and off-site disposal of 100,000 tons of contaminated soil from more than 80 discrete locations, removal of fuel and asbestos-wrapped steam lines, sampling, installation of monitoring wells, air monitoring, import of backfill material via barge, out-of-state material transfer via railcar, and groundwater monitoring. Responsibilities included reviewing existing environmental documents related to soil and groundwater contamination for Parcels A-C to assess potential liabilities associated with the presence of soil and groundwater contamination.

Independent Reviewer, Mare Island Remedial Action Plans, Weyerhaeuser Realty Investors. Responsible for a major due diligence effort at the Mare Island Naval Shipyard. Reviewed environmental documents associated with the Eastern Early Transfer Parcel (Investigation Areas A through D), including site identification memoranda, remedial investigation reports, remedial action plans. Also assessed the status of ongoing remedial work.

Project Manager and Technical Lead, Rincon Park Redevelopment, The GAP, Inc. Responsible for the preparation of a City and County of San Francisco Article 22 A study and development and implementation of a Site Mitigation Plan for the redevelopment of a former Port of San

Francisco property into a public park along the Embarcadero Roadway in San Francisco.

Project Manager and Task Leader, Richmond Parkway Project, City of Richmond. Responsible for technical work to address environmental issues along the Parkway alignment. Developed the scope for environmental sampling, generated schedules and budgets, tracked monthly project costs, managed project staff and equipment, reviewed and interpreted data, prepared reports, and interacted with regulatory agencies.

Principal-in-Charge, Site Investigation and Remediation Oversight of the Former Flint Ink Manufacturing Plant, City of Berkeley. URS was responsible for construction oversight throughout the site remediation. Kept daily logs of all construction activity; tracked volumes of soil and groundwater removed; confirmed sampling; and the compared results to the site cleanup criteria. Soil in the targeted areas was excavated to the depth of groundwater. In areas where contaminants were in the shallow fill, the removal of the fill material and underlying impacted natural soil did not expose the groundwater surface. At completion of the remedial activities, approximately 19,744 tons of soil and concrete had been excavated and disposed of off site, 377,000 gallons of contaminated water was removed during dewatering activities, six underground storage tanks were excavated and removed, and two large underground storage tanks were abandoned. URS documented the activities for each site in Corrective Action Completion Reports and submitted them to the City of Berkeley.

Project Manager, Facility Closure, Crown Cork & Seal Company. Managed work for closure of two facilities – a two-piece beverage cans manufacturing (wet operation) facility, and a sanitary food cans (dry operation) facility. The wet operation used atomized petroleum and synthetic hydrocarbons for cooling and lubrication. Work included preparation of a Facility Closure Plan, including compilation of an operation history of the facility; decontamination of the building interior, decontamination and removal of excess equipment, and reuse or disposal of all hazardous materials and hazardous wastes at the site. Prepared a Post-Closure Report. For the dry operation, prepared a Facility Closure Plan, which included abatement of asbestos from drying ovens. Prepared a Post Closure Report for the removal of the ovens, equipment, and hazardous waste and materials. The data from the facility closure investigation was used to conduct an impact assessment and prepare a Remedial Action Plan.

Task Manager, Refinery Sediment Sampling Program, Tosco Avon. Project entailed a sediment-sampling program to support the Human Health and Ecological Risk Assessment for this refinery located in Martinez, California. Tasks included interfacing with the ecological risk assessor to identify sampling locations at appropriate areas based on initial environmental data, planning sampling activities, and supervising and

participating in the sampling effort under the oversight of the U.S. Environmental Protection agency.

Technical Lead, Port Costa Refinery, ChevronTexaco. Conducted a data compilation and review of existing data at a former port oil terminal to evaluate current site conditions and plan additional characterization work to develop an exit strategy. The former Port Costa oil storage and shipping terminal included above ground storage tanks, a wharf, a railcar loading rack and a drainage pond. Petroleum hydrocarbons were observed discharging into the Carquinez Strait from a storm water culvert, prompting the U.S. Environmental Protection Agency to issue a Unilateral Order.

Project Manager, Golden Eagle Refinery Groundwater Investigation, Phillips Petroleum. Conducted groundwater characterization activities for a major release of pure MTBE from an underground pipeline at the refinery. Project responsibilities also included operation and maintenance of the groundwater extraction and treatment system used during the cleanup.

Task Manager and Lead Geologist, Chevron Pascagoula Refinery. Updated the geologic site model for the refinery for inclusion in the site-wide RFI for the refinery. Data from all previous geotechnical and environmental site investigations, along with current RFIs, were combined to develop the updated geologic site model.

Analyst, Superfund Sites Remedial Investigations, Cal-EPA Department of Toxic Substances Control. Conducted remedial investigations for several Superfund sites in California. Work included extensive soil and groundwater sampling, monitoring well installation, aquifer testing, data reduction and interpretation, and report preparation.

Project Manager and Technical Lead, Site Characterization, ICI Paints. Managed site characterization of a former paint manufacturing facility. Prepared an investigation work plan for regulatory agency approval, formulated a remedial strategy, and developed site mitigation plan. Subsequent to approval of the site mitigation plan, developed a detailed design for construction of a clean fill cap and issued bid package to potential construction contractors.

Project Manager, Automobile Manufacturing Plant Site Remediation, Ford Motor Company. Responsible for oversight of field excavation and remediation activities on a site in Australia containing soils contaminated with hydrocarbons. Performed QA/QC of excavation, soil remediation, validation sampling, and laboratory results. Reviewed and interpreted data. Monitored project costs. Interfaced with regulatory agencies in New South Wales.

Project Manager and Technical Lead, Pharmaceutical Manufacturing Plant Remedial Action Plan, International Division of Merck. Project involved the excavation and bioremediation of

10,000 m^3 of soil contaminated with dichlorobenzenes at a manufacturing plant in Sydney, Australia. Oversaw field activities, QA/QC of field validation sampling and laboratory analytical results, managed and updated budgets and schedules, monthly cost tracking, data review and interpretation, client contact, and interaction with New South Wales Environment Protection Authority and local Council.

Project Manager, Sydney Harbor Casino, Leighton Contractors. Project entailed environmental surveillance for a major excavation at a former coal-fired power station for construction of the casino. Coordinated onsite environmental surveillance and monitoring activities, liaison with construction mangers, subcontractors, third party consultants and regulatory agencies. Developed recommendations for waste handling and disposal to minimize potential impacts to schedule, prepare reports detailing results of monitoring and surveillance activities. Participated in monthly environmental management meetings with contractors and state and local regulatory agencies.

Senior Geologist, George's River Pipeline Project, Australian Gas and Light Company. Conducted a geologic investigation for the siting and installation of a natural gas pipeline beneath the George's River in Sydney, New South Wales. The study was conducted to determine if any of the structural features present in the rock formation would inhibit the use of directional drilling techniques.

URS

Mark A. Strehlow, P.E.

Senior Project Manager

Areas of Expertise

Process Engineering and Design
Emission Abatement
Permit Acquisition
Regulatory Compliance

Years of Experience

With URS: 17 Years
With Other Firms: 16 Years

Education

BS/Chemical Engineering/1974/
University of Wisconsin

Registration/Certification

1980/Registered Professional Chemical Engineer/California/#CH3756/
9-30-08
1982/Registered Professional Chemical Engineer/Arizona/#23880/6-30-09

Overview

Mr. Strehlow is a Senior Project Manager and has over 33 years of experience in chemical engineering in the SF Bay Area with particular emphasis on managing air quality related environmental projects including extensive experience with the local regulatory agencies. He has directed projects including: preparation of the Air Quality and Public Health sections of Applications For Certification to the California Energy Commission for numerous power plants in California including two in the SF Bay area. He has also led the development of the air quality section for the Environmental Impact Report for a power transmission project in the Bay Area.

Project Specific Experience

Air Quality and Public Health Technical Lead, Colusa Generating Station Application for Certification, Competitive Power Ventures. Managed preparation of the Air Quality and Public Health sections of the Application for Certification (a CEQA-equivalent document) for a 640 MW natural gas-fired combined cycle intermediate generation power plant located on a greenfield site. The project site will house several generators, including two combustion, one steam turbine, and two heat recovery steam generators equipped with selective catalytic reduction; a dry cooling tower; and other ancillary facilities. Key issues included air quality impacts to agricultural resources, procurement of emission reduction credits, and visual impacts in nearby wilderness areas. Prepared a stand-alone Authority to Construct permit application to the Colusa County Air Pollution Control District and a Prevention of Significant Deterioration (PSD) permit application to the U.S. Environmental Protection agency. Responsibilities also included participation in California Energy Commission workshops and meetings with the two air agencies.

Air Quality Technical Lead, Trans Bay Cable LLC, Contra Costa and San Francisco Counties, CA. Managed the preparation of the air quality section of the Environmental Impact Report (EIR) for a power transmission project in San Francisco Bay. Project location would be a linear transmission corridor 57 miles in length under the Bay floor from Pittsburg to San Francisco. Analyses included preparation of air pollutant emissions inventory for both the construction and operation phases of the project. Construction activities analyzed included onshore and marine portions of the project including traffic and equipment deliveries. Met with regulatory agency personnel, identified permits required, determined environmental constraints, participated in technology option analysis, and supervised the preparation and submittal of permit applications.

Air Quality and Public Health Technical Lead, Potrero Power Plant Unit 7 Application for Certification, Mirant Corporation. Managed preparation of the Air Quality and Public Health sections of the

Mark A. Strehlow, P.E.

Application for Certification (a CEQA-equivalent document) for a 540 MW natural gas-fired combined-cycle power plant located in the central waterfront area adjacent to San Francisco Bay on the site of an existing power plant. The site will house several generators, including two combustion turbines, one steam turbine, and two heat recovery steam generators equipped with selective catalytic reduction. As currently configured, the design of the Unit 7 power plant features once through cooling using water from the Bay. Key issues included air quality, public health, and environmental justice. Prepared a stand-alone Authority to Construct permit application to the Bay Area Air Quality Management District. This also covered the Prevention of Significant Deterioration (PSD) permit requirements. Responsibilities also included participation in California Energy Commission evidentiary hearings and workshops, and an extensive public outreach program.

Air Quality and Public Health Technical Lead, Contra Costa Power Plant Project Application for Certification, Mirant Corporation. Managed preparation of the Air Quality and Public Health sections of the Application for Certification (a CEQA-equivalent document) for a 530 MW natural gas- fired combined cycle power plant located on the site of an existing power plant. The project site will house several generators, including two combustion, one steam turbine, and two heat recovery steam generators equipped with selective catalytic reduction; a wet cooling tower; and other ancillary facilities. Key issues included air quality, emission reduction credits, visual impacts, effects on water resources and the San Joaquin River, and environmental justice. Prepared a stand-alone Authority to Construct permit application to the Bay Area Air Quality Management District. This also covered the Prevention of Significant Deterioration (PSD) permit requirements. Responsibilities also included participation in California Energy Commission evidentiary hearings and workshops, and an extensive public outreach program.

Air Quality and Public Health Technical Lead, Colusa Power Plant Application for Certification, Reliant Energy. Managed preparation of the Air Quality and Public Health sections of the Application for Certification (a CEQA-equivalent document) for a 600 MW natural gas-fired combined cycle intermediate generation power plant located on a greenfield site. The project site will house several generators, including two combustion, one steam turbine, and two heat recovery steam generators equipped with selective catalytic reduction; a dry cooling tower; and other ancillary facilities. Key issues included air quality impacts to agricultural resources, procurement of emission reduction credits, and visual impacts in nearby wilderness areas. Prepared a stand-alone Authority to Construct permit application to the Colusa County Air Pollution Control District and a Prevention of Significant Deterioration (PSD) permit application to the U.S. Environmental Protection agency. Responsibilities also included participation in California Energy Commission workshops and meetings with the two air agencies.

Professional Societies/Affiliates

AIChE

URS

Mark A. Strehlow, P.E.

Chronology

9/90 - Present: URS Corporation, Senior Project Manager, Oakland, CA
8/74 - 9/90: ICF Kaiser, Manager Env. Dept., Oakland, CA

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mark_strehlow@urscorp.com

URS

Richard Stuhan

Visual Resources

Areas of Expertise

Visual Assessment
Visual Impact Analysis
Internet Map Services
GIS Data Management
Cartographic Design
Overlay Analysis
Dynamic Segmentation Analysis

Education

B.S./Applied Geography/ Geographic Information Management/Remote Sensing/ 1998/Northern Arizona University

Specialized Training

MCSE

Overview

Richard Stuhan has 9 years of professional GIS experience with private, municipal, and state agencies with specialization in overlay analysis, implementation of complex models, and data summary reporting for regional impact modeling as well as linear corridor studies. He has extensive project experience in dynamic segmentation for visual impact modeling and view-shed analysis on both a local and regional scale in support of highway, transmission line, and power plant siting. Mr. Stuhan has implemented visual assessments and studies, including impact modeling, utilizing both Bureau of Land Management and U.S. Forrest Service visual methodologies in support of federal, state, and local requirements. Mr. Stuhan has supported Application for Certification in California and California Energy Commission applications in Arizona.

Project Specific Experience

Visual Resource Specialist, CPV Sentinel Application for Certification, CPV Sentinel, LLC. As visual resources lead, performed initial visual assessment, collection of sensitive view points, impact modeling and report generation in support of filing a California Application for Certification for the proposed power plant.

Visual Resource Specialist, Colusa Power Plant Application for Certification, Reliant. As visual resources lead, performed visual assessment, impact modeling, and report generation in support of filing a California Application for Certification for the proposed power plant.

GIS and Visual Resource Specialist, Sithe Desert Rock Energy EIS, Bureau of Indian Affairs. Responsible for the visual resources development of an EIS supporting a 1500 megawatt coal-fired power plant in the Four Corners area of New Mexico. The proposed power plant would be situated entirely on the Navajo Nation. The Bureau of Indian Affairs has assumed the lead Federal agency role with cooperating agencies, including Office of Surface Mining, U.S. Army Corps of Engineers, U.S. Environmental Protection Agency (Region 9), and U.S. Fish and Wildlife Service.

GIS Lead, Recreation and Aesthetic Technical Report, Maricopa County Flood Control District. GIS lead for data management, cartographic layout, and analytical process. Inventoried and assessed the existing scenic conditions for the Recreation Data Collection and Analysis report in support of the El Rio Watercourse Master Plan and Area Drainage Master Plan.

GIS Lead, 765kV Siting Project, American Electric Power. Provided visual resource impact model implementation, impact assessment, impact mapping, 3D modeling, and cartographic design. Analysis included the use of digital evaluation models, aerial photography, overlay and linear analysis, and quality control.

URS

Richard Stuhan

GIS Lead, Juneau Access Improvement Project EIS, Alaska Department of Transportation. Responsible for visual resource impact model implementation, impact assessment, impact mapping, 3D modeling, and cartographic design, in support of a highway-siting project. Analysis included the use of digital evaluation models, aerial photography, overlay and linear analysis, and quality control.

GIS Analyst, Sonoran Desert National Monument Resource Management Plans/EIS, Bureau of Land Management. Provided visual resources for an EIS in compliance with NEPA. Completed a visual resource inventory using GIS as a tool for the two planning areas (approximately 8.8 million acres), in compliance with Bureau of Land Management Manual 8400 and Technical Note 407.

GIS Analyst, Ironwood Forest National Monument Resource Management Plan and EIS, Bureau of Land Management. Responsible for visual resources for an EIS in compliance with NEPA. Completed a Visual Resource Inventory using GIS as an analytical tool in compliance with Bureau of Land Management Manual 8400 and Technical Note 407. Produced a supporting "white paper".

GIS Lead, West Valley-North Power Line and Substation Project, Arizona Public Service. Responsible for project efforts, including cartographic design, impact assessment, alternatives evaluation, map production, and quality control. The project included a siting study of a proposed 230kV system option and substation sites in the northwest valley.

GIS Lead, West Valley-South Power Line and Substation Project, Arizona Public Service. Responsible for cartographic design, impact assessment, alternatives evaluation, map production, and quality control. The project included siting studies of a proposed 230kV system option and substation sites with associated 69kV alternatives in the West Valley.

GIS Lead, US160, Junction 89 to Four Corners Environmental Overview, Arizona Department of Transportation. Responsible for environmental overview including spatial database design, cartographic design, linear analysis, and management of GIS efforts for resource area support. An investigation for improving safety and operational capacity for US160 in northern Arizona was conducted.

GIS Analyst, Northeast Phoenix Transmission Line Project, Phoenix, Arizona Public Service. Responsible for GIS data management, coordination, visual impact analysis, map production, and AML programming. Analysis involved detailed land use, visual inventories, digitizing data, quality control, and overlay and linear analysis.

Publications

"ArcGIS Tool for BFE Placement after Vertical Datum Conversion," Andrew MacLeod, *ESRI International User Conference Proceedings*, 2006

Andrew Welch
Vice President,
Competitive Power Ventures
8403 Colesville Road, Suite 915
Silver Spring, MD 20910

Mr. Welch has served as the Project Manger for the Colusa Generating Station since September of 2005. He has led the team of consultants, engineers, and attorneys in the contracting, permitting, and development of the project.

Prior to joining CPV, Mr. Welch lived for over a decade in California. He has provided consulting services to various clients and has led development on several projects within the state. He was a Vice President of Astrum Inland Management Services, a development company focused on creating generating assets for public agencies and municipalities in Southern California. He served as the project manager for a proposed hybrid gas/solar power plant. He also has provided strategic planning and consulting to clients trying to deal with the aftermath of the California energy crisis and its subsequent restructuring.

Previously, Mr. Welch was the Project Director for Constellation Power on the High Desert Power Project. That plant, in Victorville, CA, was recognized by POWER magazine as the "Plant of the Year" in 2003 based on the innovative water and air emissions solutions he was integral in developing and the strong support of the local population that he helped create during the development period. Mr. Welch served as a Manager, Business Development for Mitsubishi's Diamond Energy and as a Project Manager for Cogeneration Partners of America. He has also managed development on plants of varying size and technology, including wind and cogeneration. He has completed project financing on projects with traditional bank financing as well as tax-exempt bonds. He has represented the owners reviewing all aspects of design, construction, and operation of power plants.

Mr. Welch has a Bachelors of Science degree in Mechanical Engineering for Rutgers University, and holds a Professional Engineering license in New Jersey.

APPENDIX B
TENTATIVE EXHIBIT AND DECLARATION LIST

APPLICANT'S TENTATIVE EXHIBIT AND DECLARATION LIST

COLUSA GENERATING STATION PROJECT
Docket No. 06-AFC-09
(as of 1/3/07)

Exhibit No.	CEC Log No.	Date	Description	Topic Area	Sponsoring Party	Pages
1	38511	11/06/06	AFC Section 1.0 - Introduction	Project Description	E&L, LLC / A. Welch	12
2	38511	11/06/06	AFC Section 2.0 - Demand Conformance	Project Description	E&L, LLC / A. Welch	2
3	38511	11/06/06	AFC Section 3.0 - Facility Description and Location	Project Description	E&L, LLC / A. Welch	76
4	38511	11/06/06	AFC Section 4.0 - Facility Closure	Project Description	E&L, LLC / A. Welch	3
5	38511	11/06/06	AFC Section 5.0 - Transmission Facilities	Project Description	Navigant / Dave Larsen	12
6	38511	11/06/06	AFC Section 6.0 - Natural Gas Supply	Project Description	E&L, LLC / A. Welch	3
7	38511	11/06/06	AFC Section 7.0 - Water Supply	Project Description	E&L, LLC / A. Welch	6
8	38511	11/06/06	AFC Section 8.1 - Air Quality	Air Quality	URS / M. Strehlow	63
9	38511	11/06/06	AFC Section 8.2 - Biological Resources	Biological Resources	URS / S. Leach	88
10	38511	11/06/06	AFC Section 8.3 - Cultural Resources	Cultural Resources	URS / M. Hale	34
11	38511	11/06/06	AFC Section 8.4 - Land Use	Land Use	URS / A. Drury	20
12	38511	11/06/06	AFC Section 8.5 - Noise	Noise	URS / B. Green	25
13	38511	11/06/06	AFC Section 8.6 - Public Health	Public Health	URS / M. Strehlow	18
14	38511	11/06/06	AFC Section 8.7 - Worker Safety & Health	Worker Safety & Health	URS / L. Griggs	29
15	38511	11/06/06	AFC Section 8.8 - Socioeconomics	Socioeconomics	URS / T. Dorje	40
16	38511	11/06/06	AFC Section 8.9 - Agricultural Resources	Soil & Water Resources	URS / R.Rice	15
17	38511	11/06/06	AFC Section 8.10 - Traffic and Transportation	Traffic and Transportation	URS / N. Amin	20
18	38511	11/06/06	AFC Section 8.11 - Visual Resources	Visual Resources	URS / R. Knox	33
19	38511	11/06/06	AFC Section 8.12 - Hazardous Materials Handling	Hazardous Materials	URS / J. Lague	22
20	38511	11/06/06	AFC Section 8.13 - Waste Management	Waste Management	URS / E. Skov	21
21	38511	11/06/06	AFC Section 8.14 - Water Resources	Water Resources	URS / A. Connell	50
22	38511	11/06/06	AFC Section 8.15 - Geologic Hazards and Resources	Geology & Paleontology	URS / R. Rice	30
23	38511	11/06/06	AFC Section 8.16 - Paleontological Resources	Geology & Paleontology	URS / R. Rice	14

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Exhibit No.	CEC Log No.	Date	Description	Topic Area	Sponsoring Party	Pages
24	38511	11/06/06	AFC Section 9.0 - Alternatives	Alternatives	URS / Dale Shileikis	12
25	38511	11/06/06	AFC Section 10.0 - List of Contributors	N/A	URS / Dale Shileikis	3
26	38511	11/06/06	AFC Appendix A - Civil Engineering Design Criteria	Facility Design	Bechtel / B. Ritter	10
27	38511	11/06/06	AFC Appendix B - Structural Engineering Design Criteria	Facility Design	Bechtel / B. Ritter	9
28	38511	11/06/06	AFC Appendix C - Mechanical Engineering Design Criteria	Facility Design	Bechtel / B. Ritter	15
29	38511	11/06/06	AFC Appendix D - Control Systems Engineering Design Criteria	Facility Design	Bechtel / B. Ritter	10
30	38511	11/06/06	AFC Appendix E - Electrical Engineering Design Criteria	Facility Design	Bechtel / B. Ritter	25
31	38511	11/06/06	AFC Appendix F - Systems Impact Study, Facilities Study Report, LGIA	Facility Design	Bechtel / B. Ritter	586
32	38511	11/06/06	AFC Appendix G - Air Quality Data and Modeling Protocol	Air Quality	URS / M. Strehlow	81
33	38511	11/06/06	AFC Appendix H - Biological Resources Forms	Biological Resources	URS / S. Leach	102
34	38511	11/06/06	AFC Appendix I - Cultural Resources Consultation	Cultural Resources	URS / M. Hale	13
35	38511	11/06/06	AFC Appendix J - Historic Architecture Report	Cultural Resources	URS / M. Hale	128
36	38511	11/06/06	AFC Appendix K - Land Use	Land Use	URS / A. Drury	68
37	38511	11/06/06	AFC Appendix L - Public Health Data	Public Health	URS / M. Strehlow	5
38	38511	11/06/06	AFC Appendix M - Roadway Analyses	Traffic and Transportation	URS / N. Amin	43
39	38511	11/06/06	AFC Appendix N - Phase I Environmental Site Assessment	Soil & Water Resources	URS / R. Rice	249
40	38511	11/06/06	AFC Appendix O - Groundwater Investigation	Soil & Water Resources	URS / A. Connell	13
41	38511	11/06/06	AFC Appendix P - Percolation Tests	Soil & Water Resources	URS / A. Connell	9
42	38511	11/06/06	AFC Appendix Q - Geologic Hazard Study; Geotechnical Information	Geology & Paleontology	URS / R. Rice	25

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Exhibit No.	CEC Log No.	Date	Description	Topic Area	Sponsoring Party	Pages
43	38511	11/06/06	AFC Appendix R – Paleontological Resources Technical Report	Geology & Paleontology	URS / R. Rice	46
42	38372	11/08/06	Air Quality and Public Health Modeling Files	Air Quality and Public Health	URS / M. Strehlow	3 dvds
43	38617	12/11/06	Supplement in response to the CEC Data adequacy review	Various	URS / A. Walsh	109
44	38733	12/20/06	Application for Confidential Designation and Files - Emissions Offset Strategy Options Agreements	Air Quality	URS / M. Strehlow	260
45	38742	11/18/06	Application for confidential designation for Appendix R for Colusa AFC	Geology & Paleontology	URS / R. Rice	4
46	38761	12/21/06	Submittal of Application for Prevention of Significant Deterioration (PSD) Review and Biological Assessment - Biological Assessment	Biological Resources	URS / S. Leach	73
47	38763	12/21/06	Submittal of Application for Prevention of Significant Deterioration (PSD) Review and Biological Assessment - Prevention of Significant Deterioration	Air Quality	URS / M. Strehlow	123
48	39011	1/22/07	Applicant's Inability to provide responses (Applicant's Response to Data Request 1 - 116)	Various	URS / D. Shileikis	3
49	39036	1/23/07	Applicants response to issues identification report	Various	URS / D. Shileikis	9
50	39171	2/01/07	Draft jurisdictional delineation, transmittal / cover page docketed	Biological Resources	URS / S. Leach	129
51	39247	2/12/07	Data Responses to data requests, 1-116	Various	URS / D. Shileikis	198
52	39434	2/28/07	General Plan Amendment and Zoning Amendment Application Packet	Land Use	URS / D. Shileikis	500
53	39435	2/28/07	Major Use Permit Application Packet	Land Use	URS / D. Shileikis	500
54	39436	2/28/07	Tentative Parcel Map Application Packet	Land Use	URS / D. Shileikis	500

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Exhibit No.	CEC Log No.	Date	Description	Topic Area	Sponsoring Party	Pages
55	39765	3/23/07	Responses to Questions from 2-21-07 Workshop & Responses to Emerald Farms 2-21-07 Petition to Intervene	Various	URS / D. Shileikis	215
56	39922	4/05/07	Draft Jurisdictional Delineation, April 2007 and Draft US Army Corps of Engineers Permit Application, April 2007	Biological Resources	URS / S. Leach	189
57	40067	4/24/07	URS Revised Tables to Data Response #36 Dated 2/12/07	Air Quality	URS Corp	7
58	40671	5/30/07	Colusa Generating Station Fire Service Impact Study	Hazardous Materials and Worker Safety	E&L / A. Welch	13
59	40673	5/30/07	Resolution 2007-10, Butte County Air Quality Management District (E-POS attached)	Air Quality	URS / M. Strehlow	7
60	40683	5/31/07	Letter from URS to U.S. Army Corps of Engineering re: Colusa Project Jurisdictional Delineation Report Revised Table and Figures	Biological Resources	URS / S. Leach	7
61	40896	6/06/07	Application for Confidentiality Designation - Option Agreement for Purchase & Sale Emission Reduction Credits	Air Quality	E&L / A. Welch	2
62	41014	6/15/07	Responses to CEC Data Requests 117-125 regarding the Shasta-Flanagan-Keswick Reconsductoring Project	Various	URS / D. Shileikis	132
63	41044	6/07/07	Letter of Completeness for General Plan Amendment & Zoning Amendment, Tentative Parcel Map, and Use Permit applications	Land Use	URS / D. Shileikis	1
64	41078	6/15/07	E&L CGS Confidential - Response to Data Requests 117-125 regarding Figures	Transmission System Engineering	URS / D. Shileikis	132
65	41451	6/15/07	Letter of Completeness for the General Plan Amendment & Zoning Amendment, Tentative Parcel Map, and Use Permit Application	Land Use	URS / D. Shileikis	2
66	41891	8/10/07	Recommendation Letter of Adoption of Statutory Exemption	Land Use	URS / D. Shileikis	2

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Exhibit No.	CEC Log No.	Date	Description	Topic Area	Sponsoring Party	Pages
67	41907	8/10/07	Recommendation of a Statutory Exemption be Adopted	Land Use	URS / D. Shileikis	2
68	41959	8/17/07	Comments on the Preliminary Staff Assessment & Proposed Modifications to Glenn-Colusa Canal Bridge Design	Various	URS / D. Shileikis	43
69	41969	8/20/07	Colusa Generating Station / Comments on Preliminary Staff Assessment	Various	URS / D. Shileikis	43
70	41975	8/20/07	Staff Reports provided by the County of Colusa	Land Use	URS / D. Shileikis	56
71	42170	8/28/07	SPK-200600897 Update to 404 Permit Application	Biological Resources	URS / S. Leach	6
72	42172	8/24/07	Supplement to the Biological Assessment	Biological Resources	URS / S. Leach	39
73	42308	9/14/07	Responses to Data Requests 126 through 129 - AFC for Colusa	Various	URS / D. Shileikis	13
74	42356	9/19/07	Applicant's Supplemental Information on Water Agreement and MFPD	Various	URS / D. Shileikis	23
75	42811	10/12/07	Responses to Data Request 130-136	Various	URS / D. Shileikis	23
76	42812	10/12/07	Streambed Alteration Agreement Application for Colusa Generating Station	Biological Resources	URS / S. Leach	33
77	43370	11/15/07	Letter to J. Caswell from Latham & Watkins Regarding Preliminary Staff Assessment Request	N/A	E&L / A. Welch	1
78	43493	10/19/07	Revised Biological Assessment	Biological Resources	URS / S. Leach	119
79	43662	12/07/07	Water Quality Certification Application	Water Resources	URS / A. Connell	25
80	43746	12/14/07	Applicant's comments on the Final Staff Assessment	Various	URS / D. Shileikis	13
81	43836	12/19/07	Supplemental Information for the 1600 Lake and Streambed Alteration Agreement	Biological Resources	URS / S. Leach	31
82	N/A	1/9/07	Declaration of Mark Strehlow, URS	Air Quality and Public Health	URS / M. Strehlow	TBD
83	N/A	1/9/07	Declaration of Steve Leach, URS	Biological Resources	URS / S. Leach	TBD

APPLICANT'S TENTATIVE EXHIBIT AND DECLARATION LIST

COLUSA GENERATING STATION PROJECT
Docket No. 06-AFC-09
(as of 1/3/07)

Exhibit No.	CEC Log No.	Date	Description	Topic Area	Sponsoring Party	Pages
84	N/A	1/9/07	Declaration of Mark Hale, URS	Cultural Resources	URS / M. Hale	TBD
85	N/A	1/9/07	Declaration of Allison Drury, URS	Land Use	URS / A. Drury	TBD
86	N/A	1/9/07	Declaration of Bob Green, URS	Noise and Vibration	URS / B. Green	TBD
87	N/A	1/9/07	Declaration of Dave Larsen, Navigant	Transmission Line Safety & Nuisance and Transmission Line Engineering	Navigant / D/ Larsen	TBD
88	N/A	1/9/07	Declaration of Erik Skov, URS	Waste Management	URS / E. Skov	TBD
89	N/A	1/9/07	Declaration of Ray Rice, URS	Geology and Paleontology	URS / R. Rice	TBD
90	N/A	1/9/07	Declaration of Bruce Ritter, Bechtel Power Corporation	Facility Design, Efficiency, Reliability, Transmission System Engineering	Bechtel / B. Ritter	TBD
91	N/A	1/9/07	Declaration of Dale Shileikis, URS	Alternatives	URS / D. Shileikis	TBD
92	N/A	1/9/07	Declaration of Rand Herbert, JRP Historical Consulting	Cultural Resources	JRP / R. Herbert	TBD
93	N/A	1/9/07	Declaration of John Lague, URS	Hazardous Materials	URS / J. Lague	TBD
94	N/A	1/9/07	Declaration of Mara Feeney, Mara Feeney & Associates	Land Use and Socioeconomics	Mara Feeney & Assoc. / M. Feeney	TBD
95	N/A	1/9/07	Declaration of Tammy Dorje, URS	Socioeconomics	URS / T. Dorje	TBD
96	N/A	1/9/07	Declaration of Anne Connell, URS	Soil and Water Resources	URS / A. Connell	TBD
97	N/A	1/9/07	Declaration of Ray Rice, URS	Soil and Water Resources	URS / R. Rice	TBD
98	N/A	1/9/07	Declaration of N. Amin, URS	Traffic & Transportation	URS / N. Amin	TBD
99	N/A	1/9/07	Declaration of Richard Knox, URS	Visual Resources	URS / R. Knox	TBD
100	N/A	1/9/07	Declaration of Lisa Griggs, URS	Worker Safety	URS / L. Griggs	TBD
101	N/A	1/9/07	Declaration of David Lawler, Lawler and Associates	Paleontology	Lawler & Assoc. / D. Lawler	TBD

STATE OF CALIFORNIA
ENERGY RESOURCES
CONSERVATION AND DEVELOPMENT COMMISSION

In the Matter of:	)	Docket No. 06-AFC-9
	)	
Application for Certification,	)	**ELECTRONIC PROOF OF SERVICE**
for the COLUSA GENERATING STATION	)	**LIST**
by E&L Westcoast, LLC	)	
	)	**(revised August 22, 2007)**
	)	
	)	

☒ Transmission via electronic mail and by depositing one original signed document with FedEx overnight mail delivery service at Costa Mesa, California with delivery fees thereon fully prepaid and addressed to the following:

DOCKET UNIT

CALIFORNIA ENERGY COMMISSION
Attn: DOCKET NO. 06-AFC-9
1516 Ninth Street, MS-4
Sacramento, California 95814-5512
docket@energy.state.ca.us

☒ Transmission via electronic mail addressed to the following:

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DECLARATION OF SERVICE

I, Paul Kihm, declare that on January 3, 2008, I deposited a copy of the attached:

APPLICANT'S PREHEARING CONFERENCE STATEMENT

with FedEx overnight mail delivery service at Costa Mesa, California with delivery fees thereon fully prepaid and addressed to the California Energy Commission. I further declare that transmission via electronic mail was consistent with the requirements of California Code of Regulations, title 20, sections 1209, 1209.5, and 1210. All electronic copies were sent to all those identified on the Proof of Service List above.

I declare under penalty of perjury that the foregoing is true and correct. Executed on January 3, 2008, at Costa Mesa, California.

Paul Kihm