BEFORE THE
ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION
OF THE STATE OF CALIFORNIA

DOCKET
06-AFC-5
DATE
RECD.

IN THE MATTER OF:

APPLICATION FOR CERTIFICATION FOR THE PANOCHE ENERGY CENTER

DOCKET NO. 06-AFC-5

APPLICANT'S PREHEARING CONFERENCE STATEMENT

Applicant Panoche Energy, LLC ("PEC" or "Applicant")[1] filed its Application for Certification ("AFC") on August 2, 2006. The AFC was determined to be data adequate on November 8, 2006. Following two rounds of data requests from Commission Staff, and a number of workshops, Commission Staff issued its Preliminary Staff Assessment on July 27, 2007 and the subsequent Final Staff Assessment on September 17, 2007.

In accordance with the Notice of Prehearing Conference and Evidentiary Hearing issued on September 17, 2007 by the assigned Committee in this matter (Commissioners Jeffrey D. Byron and James D. Boyd), Applicant herein presents this Prehearing Conference Statement for the next phase of this siting case proceeding.

I.
ISSUE AREAS COMPLETE

A. Uncontested Issue Areas

Applicant intends to proffer witness testimony by declaration for all uncontested issue areas as discussed above in Section I.A. Below, Applicant has identified the witness and issue

[1] Energy Commission Staff incorrectly identifies the Applicant in the Preliminary and Final Staff Assessments as "Energy Investment Fund, LLC." The correct name for Applicant is Panoche Energy Center, LLC. This correction should be reflected in future Energy Commission documents.

area(s) to which that witness will proffer such testimony. Applicant has determined that the issue areas identified below are complete and ready to proceed to evidentiary hearing. Such issue areas will not require live witness testimony; therefore, testimony will be proffered solely by declaration. The résumé for each witness testifying by declaration is attached hereto as Exhibit A.

Uncontested issue areas include:

Air Quality
Alternatives
Biological Resources
Cultural Resources
Efficiency
Facility Design
Geological Resources
Hazardous Materials
Noise & Vibration
Paleontological Resources
Public Health
Reliability
Socioeconomics
Traffic & Transportation
Transmission System Engineering
Transmission Line Safety & Nuisance
Visual Resources
Waste Management
Worker Safety

Land Use is also virtually uncontested. Applicant seeks only a timing change to one condition in Land Use to revert the timing back to what was provided in the Preliminary Staff Assessment.

B. Contested Issue Areas

Applicant contests a proposed condition in Soil and Water Resources (Soil & Water -8), seeks a timing change to Land -1 and seeks clarification to GEN-1 in Facility Design. Of these, the only major issue is the disagreement over Soil & Water-8 and the underlying assumptions and analysis of CEC Staff regarding whether the Applicant's intended water supply plan violates any law, ordinance, regulation, or standard.

As mentioned above in Section I.A., Applicant also seeks a timing change to one condition in Land Use.

These issue areas are ready to proceed to evidentiary hearing. Only Soil & Water Resources will require testimony from live witnesses and such witnesses will present testimony

and be available for cross-examination at the October 10, 2007 evidentiary hearing. Résumés for witnesses providing live testimony are attached hereto as Exhibit B.

II.
ISSUE AREAS INCOMPLETE AND NOT READY TO PROCEED

Applicant believes all issue areas are complete and are ready to proceed to evidentiary hearing at this time.

III.
DISPUTED ISSUE AREAS REQUIRING ADJUDICATION

Applicant and Staff have not reached consensus regarding Applicant's intended water supply for the Panoche Energy Center. CEC Staff contends that use of the proposed water source violates an applicable law, ordinance, regulation, or standard. Applicant contends that its water supply plan is consistent with all laws, ordinances, regulations and standards and that it also offers generous enhancements and contributions.

Applicant has also identified one other discreet issue: returning the timing in condition of certification LAND -1 to the 30 day time period provided in the Preliminary Staff Assessment.

IV.
APPLICANT'S WITNESSES

A. Testimony by Declaration

Applicant intends to proffer witness testimony by declaration for all uncontested issue areas as discussed above in Section I.A. Below, Applicant has identified the witness and issue area(s) to which that witness will proffer such testimony.

Witness	Issue Area Sponsored
Noel Casil	Traffic & Transportation (Impacts)
Lanny Fisk	Paleontological Resources
Brian Hatoff	Cultural Resources
Lincoln Hulse	Biological Resources

Witness	Issue Area Sponsored
David Jenkins	Facility Design Land Use Socioeconomics (School Impact Fees) Visual Resources (Operation) Traffic & Transportation (Aerial Spraying)
Michael King	Facility Design Transmission System Engineering Transmission Line Safety & Nuisance Efficiency Reliability
John Lague	Air Quality Public Health Visual Resources (Plume Analysis)
Angela Leiba	Visual Resources (Project Impacts)
Ron Reeves	Noise
Stuart St. Clair	Waste Management (Soils Investigation)
Eric Vonberg	Agriculture & Soils Cumulative Impacts
Tricia Winterbauer	Hazardous Materials Handling Waste Management (Treatment/Disposal) Worker Safety
Jennifer Wu	Socioeconomics (Project Impacts; IMPLAN Calculation, Construction Workforce)

B. Written Testimony and Sponsoring Witnesses

Applicant intends to present written testimony in the areas of Facility Design, Geological Resources, Water Resources, and Alternatives. The list below identifies these areas and each sponsoring witness.

Sponsoring Witness	Issue Area
Stephen Garrett	Facility Design, Water Resources
Jason Moore	Water Resources and Geological Resources
Steve Ottemoeller	Water Resources (Policy and Aquifer Use)
Maggie Fitzgerald	Water Resources (Environmental Management Issues associated with Alternatives)
Gary Chandler	Water Resources (Alternative Feasibility) and Alternatives
Charles Fritz	Water Resources (Treatment Method Feasibility)
Joe Gruemmer	Water Resources (Treatment Method Feasibility)

C. Witnesses Available for Cross-Examination

The following list identifies those witnesses who will be available for cross-examination at the evidentiary hearing to commence on October 10, 2007, as well as a summary of each witness' sponsored issue area and estimated time needed for direct examination. As previously indicated, the qualifications and résumés for each witness identified below are attached in Exhibit A attached hereto.

Witness	Issue Area(s) Sponsored: Summary of Testimony	Time Estimated for Direct Examination
Jason Moore	Geologic Hazards/Water Resources: Mr. Moore will testify to the characteristics of the two aquifers underlying the project site.	10 Minutes
Steve Ottemoeller	Water Resources/Policy: Mr. Ottemoeller will testify regarding evaluation of aquifers under state policy and law and regarding the merits of the proposed use of the confined aquifer	10 Minutes
Maggie Fitzgerald	Water Resources/Environmental Management: Ms. Fitzgerald will testify to the time and environmental penalties associated with the use of each alternative proposed by CEC Staff in the Final Staff Assessment as related to the confined aquifer .	10 Minutes
Steve Garrett	Water Resources/Engineering: Mr. Garrett will testify related to the water treatment necessary to use water in the underlying aquifers.	10 Minutes
Charles Fritz	Water Resources/ Treatment Method Feasibility: Mr. Fritz will testify regarding treatment methods for high TDS water sources and the cost and engineering issues those methods.	10 Minutes
Joe Gruemmer	Water Resources/ Treatment Method Feasibility: Mr Gruemmer will testify to the engineering and cost barriers associated with CEC Staff's proposed treatment methods for the very high TDS semi-confined aquifer.	10 minutes
Gary Chandler	Water Resources/Alternatives: Mr. Chandler will testify as to the economic and timing infeasibility of Staff's proposed alternatives and offer an enhancement program contained in Applicant's proposed Soil & Water -8.	10 minutes

Charles Fritz is unable to travel due to personal, family health issues, however, his testimony is critical to the understanding of the infeasibility of CEC Staff's proposed treatment methods of the semi-confined aquifer. Thus, Applicant plans to proffer his live testimony and cross-examination, if any, by telephone.

V.
AREAS FOR WHICH APPLICANT WISHES TO CONDUCT CROSS-EXAMINATION

Applicant desires to cross-examine those CEC Staff witnesses who developed testimony for the area of Water Resources. Cross-examination will concentrate on the position Staff takes regarding the project's proposed water supply and on CEC Staff's proposed alternative water supply. Such cross-examination will include, but will not be limited to, Staff's position on state water policy and how it applies to the project, the cost of the alternative proposed by Staff, and the suitability of Applicant's preferred water source. Applicant notes that the Final Staff Assessment, Chapter 4.9 was prepared by four individuals: Somer Goulet, M.S.E.L.; Linda D. Bond, P.D.; John Kessler, P.E., and Richard Anderson. Applicant wishes to cross-examine each of these witnesses and estimates the total time needed for such cross-examinations will not exceed thirty (30) minutes.

VI.
APPLICANT'S LIST OF EXHIBITS AND DECLARATIONS

A list of Applicant's proposed exhibits is attached hereto as Exhibit C.

VII.
PROPOSED ADDITIONAL HEARING DATES

At this time, Applicant proposes no additional hearing dates and is ready to proceed to evidentiary hearings on October 10, 2007 at 2:00 p.m., as is currently scheduled.

VIII.
APPLICANT'S REVIEW OF CONDITIONS OF CERTIFICATION

Applicant has reviewed the conditions of certification contained in the Final Staff Assessment and has identified two conditions, besides Soils & Water-8, that have problematic language.

In Land Use, condition of certification LAND-1 requires payment 120 days prior to Site Mobilization. In the Preliminary Staff Assessment ("PSA") the time period had been 30 days, and Applicant seeks to have LAND-1 revised to reflect the 30 day period in the PSA.

In Facility Design, condition of certification GEN-1 provides language specifying when newly adopted building codes would apply to the project. Because engineering of the project is already underway, the Applicant seeks to use the 2001 California Building Standards Code.

IX.
CONCLUSION

The Applicant is confident that the Committee can adjudicate any outstanding issues based on the evidence presented at hearing. Applicant respectfully requests that the Committee prepare and publish the Presiding Member's Proposed Decision, pursuant to Title 20, California Code of Regulations, section 1726, as timely as possible so that the Applicant may proceed with the steps necessary to begin project construction milestones.

DATED: September 28, 2007

Respectfully submitted,

Allan D. Cook for John A. McKinsey

Allan Thompson, Law Offices of Allan Thompson
John A. McKinsey, Stoel Rives LLP
Attorneys for Applicant, Panoche Energy Center, LLC

APPLICANT'S PREHEARING CONFERENCE STATEMENT

RÉSUMÉS FOR WITNESSES
SPONSORING TESTIMONY BY DECLARATION

EXHIBIT A

PANOCHE ENERGY CENTER
06-AFC-5
APPLICATION FOR CERTIFICATION

NOEL CASIL

URS

Noel Casil, PE, TE, PTOE

Senior Traffic Engineer

Overview

Mr. Casil has over twenty years of civil and transportation engineering experience in California and overseas. He is actively involved in the field of traffic engineering, highway engineering and transportation planning. He has performed responsible office and field engineering work including surveys, data collection, traffic signal timing utilizing PASSER II and TRANSYT 7-F, signal timing, fine tuning of 170 controllers, traffic signal/detection system installation, cost estimates, ramp metering installation inspection, and design of freeway surveillance. In addition, Mr. Casil has extensive experience in transportation planning projects including impact studies utilizing TRAFFIX and HCM software. He has also served as traffic study task leader for the Application for Certification documentation of numerous power generation projects.

Areas of Expertise

Traffic Engineering

Transportation Planning

ITS Planning

Years of Experience

With URS: 6 Years

With Other Firms: 17 Years

Education

BS/1982/University of Santo Tomas/Civil Engineering

Registration/Certification

2003/Registered Professional Civil Engineer/CA/65179

2007/Registered Professional Traffic Engineer/CA/2391

2007/Certified Professional Traffic Operations Engineer/ITE

Project Specific Experience

Energy Sector Licensing and Support Services

- Otay Mesa Energy Center AFC (Calpine)
- Salton Sea Unit 6 Power Project AFC (CalEnergy)
- Colton Energy Facility (City of Colton)
- Magnolia Power Project (SCPPA- City of Burbank)
- Roseville Energy Facility AFC (Enron)
- Bighorn Generating Project – Primm Nevada (Reliant)
- Tracy Peaker Plant AFC (GWF Energy LLC)
- Niland Energy Center AFC (IID)
- El Centro Generating Center Expansion (IID)
- Kinder Morgan Carson Facility Expansion (Kinder Morgan)
- Tehachapi Renewables Transmission Project (SCE)
- Ocotillo Generating Station AFC
- Bullard Energy Center AFC
- Panoche Energy Center AFC
- Starwood Energy Center AFC
- Larkspur Energy Center AFC Amendment
- San Gabriel Generating Station AFC

Transportation Planning Projects

- City of Fullerton General Plan Update (City of Fullerton)
- Ontario Agricultural Preserve Sphere of Influence Study (City of Ontario)
- City of El Segundo Circulation Element Update (City of El Segundo)
- City of Santa Monica Master Environmental Assessment (City of Santa Monica)
- West Haven Specific Plan EIR (City of Ontario)
- City of Chico Growth Feasibility Study (City of Chico)
- Moonridge Corridor Specific Plan EIR (City of Big Bear Lake)
- Palmdale Airport Master Plan (LAWA)
- LAX/South (Orange County) High-Speed Ground Access Study (SCAG)
- Bakersfield Systems Study (Kern Council of Governments)
- Los Angeles County Park and Ride Master Plan (LACMTA)
- UCLA-Santa Monica Hospital EIR (UCLA Capital Improvements)
- Long Beach Naval Shipyard Reuse EIR (Port of Long Beach)
- Santa Monica Zoning EIR (City of Santa Monica)
- Arboretum EIR Analysis (Arboretum Development Partners)
- Metro Red Line Eastside Extension FEIS/FEIR (LACMTA)
- Santa Monica Bayside District EIR (City of Santa Monica)
- Los Angeles Zoo Master Plan EIR Traffic Study (City of Los Angeles)
- Griffith Observatory EIR (City of Los Angeles)
- Fullerton Impact Fee Study (City of Fullerton)
- House of Blues Traffic Study (City of West Hollywood)
- Los Amigos School EIR (Santa Monica-Malibu Unified School District)
- Ritter Ranch Specific Plan (Ritter Ranch Associates)
- Santa Monica/Doheny/Melrose Improvement Study (City of West Hollywood)
- TRAFFIX Modeling Training (various city staff)

Traffic Operations and Signal Systems

- Sacramento FETSIM Project (City of Sacramento)
- Hollister Corridor Signal Coordination Project (County of Santa Barbara)
- South Bay Traffic Signal Improvements and Communication Design (LACMTA)
- City of Mission Viejo Interconnect PS&E (City of Mission Viejo)
- Palmdale "On-Call" Signals (City of Palmdale)
- Fuel Efficient Traffic Signal Management (FETSIM) (City of Anaheim)
- "On-Call" Traffic Engineering, Ramp Metering/Surveillance (Caltrans, District 7)
- 15th Street Signals Progression (City of Lancaster)
- Olympic Boulevard Traffic Signals (City of Beverly Hills)

Traffic Engineering Projects

- I-5 Far North Widening (OCTA)
- Central County Corridor Study (OCTA)
- I-5/SR-134 Congestion Management Study (Cities of Burbank, Glendale, Los Angeles and Caltrans District 7)
- I-15/I-40 Interchange Reconstruction Project Report/PS&E (DMJM)
- Atlantic/Bandini/I-710 Interchange PSR (City of Vernon, Caltrans Dist. 7)
- Katella Avenue Superstreet Project Study (OCTC)
- SR-73/Moulton-La Paz Interchange Design (Transportation Corridor Agencies)

LANNY FISK

Resume of

Dr. LANNY H. FISK, PhD PG

Senior Paleontologist, Professional Geologist
PaleoResource Consultants
F & F GeoResource Associates, Inc.
5325 Elkhorn Boulevard, # 294, Sacramento, CA 95842
Office Phone: 888-887-9745, Mobile/Cell Phone: 916-947-9594
Fax: 530-885-9699, E-mail: Lanny@PaleoResource.com

Experience Summary

Over 25 years experience as a professional geologist and 20 years as a paleontological consultant doing paleontological resource impact assessments and surveys, preparing CEQA and NEPA environmental documents and mitigation measures, managing environmental compliance monitoring programs, and coordinating and consulting with state and federal resource agencies to resolve environmental concerns regarding paleontological resources. Supervised paleontological resource impact mitigation programs requiring monitoring of major earth-moving projects, recovery and collection of fossil remains and fossiliferous rock samples, supervision of field personnel, and preparation of progress and final reports. Projects involved extensive coordination and consultation with project sponsors, other consulting firms, and permitting agencies; adherence to strict delivery schedules; and completion within specified budget limits. Supervised paleontological monitoring and salvaging of fossils, evaluated fossiliferous rock samples to determine need for microfossil processing, and identified fossil remains as part of paleontological monitoring and resource recovery programs for such major projects as the Pacific Gas and Electric Company-Pacific Gas Transmission Company Pipeline Expansion Project from Alberta, Canada, to Southern California; 360networks Northern California Fiber Optic Cable Project; Los Angeles Metro Rail Project; Eastern Transportation Corridor Tollway Project; Foothills Transportation Corridor Oso Tollway Project; Kettleman Hills Landfill; Sutter Energy Center Project; Delta Energy Center Project; Los Medanos Energy Center Project; Blythe Energy Project; Gilroy Energy Center; Metcalf Energy Center; King City Energy Center; Pastoria Energy Facility; Otay Mesa Generating Project; Contra Costa Power Plant; Woodland Generating Station; Highway 41 Reef Ridge Project, and I-580/I-205 Truck Bypass Project. Extensive research in paleobotany, palynology, paleornithology, biostratigraphy, and paleoecology of Cretaceous and Tertiary formations of the western United States, including research in eight national parks and monuments. Research interests in and numerous scientific publications on fossil floras of the Western U. S. and Mexico. Developed laboratory research facilities at two universities for studying fossil floras, processing fossiliferous rock samples to recover plant microfossils, and interpreting age and paleoenvironment.

Experience Record

1982-present — Senior Paleontologist. F & F GeoResource Associates, Inc., *dba* PaleoResource Consultants, Sacramento, CA. Conducted geological investigations, natural resource assessments, and paleontological resource impact assessments and surveys for environmental, engineering, petroleum, mining, and manufacturing firms, and government agencies. Prepared and supervised paleontological monitoring and mitigation programs for such large projects as the Delta Energy Center, Los Medanos Energy Center, King City Energy Center, Gilroy Energy Center, Metcalf Energy Center, Pastoria Energy Facility, Otay Mesa Generating Project, Blythe Energy Project, Woodland Generating Station, Kettleman Hills Landfill, and 360networks Fiber Optic Cable Project. Identified fossils (including microfossils) and provided age and paleoenvironmental interpretations for Los Angeles Metro Rail Project, Los Angeles Metropolitan Water District Project, Santiago Canyon Estates Project, and Puente Landfill Project.

1991-present — Senior Paleontologist, Field Supervisor, and Project Paleontologist. Paleo Environmental Associates, Inc., Altadena, CA. Supervised paleontological monitoring, salvaging of fossils, and processing of rock samples; identified plant fossil remains, including plant microfossils and provided paleoenvironmental analyses and age interpretations; prepared stratigraphic columns of fossil-bearing strata, and prepared monthly and final reports as part of the paleontological impact mitigation programs for the PG&E-PGT Pipeline Expansion Project, Los Angeles Metro Rail Project, Eastern Transportation Corridor Tollway Project, Sutter Power Plant Project, Texaco Sunrise Cogeneration and Power Project, Prima Deshecha Landfill Project, Elk Hills Power Plant Project, Eagle Glen Development Project, and Amerige Heights Development Project.

1997-present — Adjunct Professor. Department of Earth Sciences, Science and Engineering Division, American River College, Sacramento, CA. Taught undergraduate courses in physical and historical geology, marine environment, and physical science.

1979-1989 — Associate Professor. Department of Geological Sciences, Loma Linda University, Loma Linda, California. Taught both undergraduate and graduate courses in paleontology, geology, and philosophy of science; directed undergraduate and graduate student research and theses; conducted research in paleobotany, paleopalynology, and stratigraphy and presented and published the results; administered the department (1980-1986), and served as president of the faculty (1987-1988).

1973-1979 — Assistant to Associate Professor. Department of Biological Sciences and School of Engineering, Walla Walla College, College Place, Washington. Taught both undergraduate and graduate courses in paleontology, physical and historical geology, environmental science, ecology, and philosophy of science; directed undergraduate and graduate student research and theses; conducted research in paleobotany, paleopalynology, and stratigraphy and presented and published the results. Also Visiting Professor 1996-97 teaching engineering geology, paleobotany, and environmental science.

1967-1969 — U. S. Army Medical Specialist. Pentagon, Washington, DC. Performed medical testing and administered medical services to White House and Pentagon staffs and visiting foreign dignitaries.

Education

B.A. with Honors, Biology, 1971, Andrews University, Berrien Springs, Michigan

Ph.D., Paleobiology, 1976, Loma Linda University, Loma Linda, California

Post-Doctoral Research and ABD in Geology, 1979-1986, Michigan State University, East Lansing, Michigan

Professional Registrations

Certified Professional Paleontologist, Orange County, California

Professional Geologist #6985, State of California

Registered Geologist #G1390, State of Oregon

Selected Professional Organizations

Paleontological Society

Society of Vertebrate Paleontology

Paleontological Research Institute

Society of Economic Paleontologists and Mineralogists (Rocky Mountain Section session chairman 1985)

Paleobotanical Section of the Botanical Society of America (convention session chairman 1981)

International Organization of Paleobotanists

American Association of Stratigraphic Palynologists (symposium organizer 1983; North American Paleontological Convention Committee 1986)

National Association of Geology Teachers

National Association of State Boards of Geology (National Examination Committee 1994-1999)

Geological Society of America (Central Oregon representative 1990-1995; Partners for Excellence 1992-1998)

American Association of Petroleum Geologists (Rocky Mountain Section field trip leader 1987, member of the House of Delegates 1990-1996)

Association of Environmental Professionals

Professional Activities

1994-2000	National Examination Committee, National Association of State Boards of Geology
1993-1998	Member and Vice Chairman, Oregon State Board of Geologist Examiners
1992-1999	Oregon State Geologic Mapping Advisory Committee
1990-1991	President, Northwest Energy Association
1983	Convener, Chairman, and Editor, Harry D. MacGinitie Symposium on Palynology of Tertiary Fossil Floras
1983-1985	Founding Member, Program Chairman, and Vice President, Inland Geological Society
1986	Representative to the Organizing Committee for North American Paleontological Convention IV

Scientific Publications

Summary:	Published Articles – 18	Book Reviews – 5
	Books/Dissertation – 3	Newsletters – 3
	Published Abstracts – 62	Unpublished Reports – 46

Total Publications - 136

BRIAN HATOFF

URS

Brian W. Hatoff, R.P.A.

Senior Project Scientist

Areas of Expertise

Cultural Resource Management
Section 106, NHPA Compliance
Prehistoric Archaeology

Years of Experience

With URS: 16 Years
With Other Firms: 16 Years

Education

MA/Anthropology/1974/University of California, Davis
BA/Anthropology/1971/University of California, Davis

Registration/Certification

1999/Registered Professional Archaeologist/California/2006

Overview

Mr. Hatoff has over 30 years of experience in the management of cultural resources with specialized expertise in the prehistoric archaeology and ecology of California and the Great Basin. He held primary responsibility for the management of cultural resources on 5.5 million acres of public lands in western Nevada and eastern California. In this role, he handled a wide array of undertakings including preparation of EIS/EA documentation, Section 106 compliance/evaluation/ review, Native American consultations pursuant to provisions of the American Indian Religious Freedom Act, cultural resource permitting, contract development and administration, preparation of cultural resource management plans for cultural and paleontological resources, and technical document preparation.

As a Senior Project Archaeologist in URS' cultural resources group Mr. Hatoff routinely manages major cultural resource studies in support of NEPA and CEQA-driven projects. Mr. Hatoff serves as the cultural resources lead for URS FEMA Region IX providing senior Section 106 compliance support for FEMA in California, Nevada, Hawaii and throughout the Pacific Basin. Representative project experience includes the following:

Project Specific Experience

Power Plants and Energy

Cultural Resources Specialist, Trans Bay Cable Project, Trans Bay Cable, LLC, Contra Costa and San Francisco Counties CA, 2005-Present, $3M+: Directed cultural resources component of CEQA analysis for 55 mile submarine cable in San Francisco bay and construction of converter stations in Pittsburg and San Francisco.

Cultural Resources Specialist, Sunrise II Power Project, Kern County, CA, Chevron-Texaco, 2001-Present, $1M+: Directed cultural and paleontological resources components of California Energy Commission Application for Certification (AFC). Served as designated Cultural Resources Specialist for the compliance phase of the project. Conducted field surveys, testing program and provided oversight for preparation of the cultural resources technical reports and cultural resources and paleontology AFC sections.

Cultural Resources Specialist, Henrietta Peaker Project, Kings County, CA, GWF Power Systems, 2002-2003, $650K: Directed cultural and paleontological resources components of California Energy Commission Application for Certification (AFC). Conducted field surveys and prepared cultural resources technical report and cultural resources and paleontology AFC sections. Directed construction compliance phase for cultural resources.

Brian W. Hatoff, R.P.A.

Cultural Resources Specialist, Pittsburg District Energy Facility Project, Pittsburg, CA, Confidential Client, 1998-2000, $750K: Directed cultural and paleontological resources components of California Energy Commission Application for Certification (AFC). Conducted field surveys and prepared cultural resources technical report and cultural resources and paleontology AFC sections.

Cultural Resources Specialist, La Paloma Generating Project, Buttonwillow, CA, La Paloma Generating Company, LLC, 1998-2001, $1M+: Directed cultural and paleontological resources components of California Energy Commission Application for Certification (AFC). Conducted field surveys and prepared cultural resources technical report and cultural resources and paleontology AFC sections.

Cultural Resources Specialist, Otay Mesa Generating Project, San Diego County, CA, Calpine Corporation, 1999 - Present, $500K+: Directed cultural and paleontological resources components of California Energy Commission Application for Certification (AFC). Prepared AFC sections and directed subcontractors on complex, multi-component project.

Water Resources

Cultural Resources Task Manager, Napa Salt Pond Restoration Project, Napa County, CA, California Department of Fish and Game, 2005- Present, $30K: Cultural resources task manager for salt pond restoration project - directed archaeological survey program and technical report preparation.

Cultural Resources Program Manager, Lower Guadalupe Flood Control Project, Santa Clara County, CA, Santa Clara Valley Water District, 2001-Present, $250K: Cultural resources program manager for levee enhancement project; directed archaeological survey program and identified testing requirements for project.

Project Manager, Littlerock Dam and Reservoir Restoration Project, Los Angeles County, CA, Littlerock Irrigation District, 1991-1992, $1.8M: EIS/EIR interim project manager, cultural resources task manager - responsible for all environmental permitting aspects of project including coordination of Section 404 requirements.

Cultural Resources Specialist, Los Vaqueros Reservoir Project, Contra Costa County, CA, Contra Costa County Water District, 1992, $40K: Special assistant to prime contractor, J.M. Montgomery Engineers. Assisted in successful preparation of multi-component document submitted to SHPO containing research design, site evaluations and findings of effect, and provide client technical guidance with Section 106 compliance issues.

Brian W. Hatoff, R.P.A.

Linear Facilities – Pipelines, Transmission Lines, Transportation Projects

Cultural Resources Task Manager, San Ardo Pipeline Project, Monterey and Fresno Counties, Chevron Pipeline, 2006 – Present $2.6M: Directed cultural resources technical studies and Native American consultation in support of a fuel pipeline project in Monterey and Fresno Counties.

Cultural Resources Task Manager, Jameson Canyon (Highway 12) Improvement Project, Caltrans District 4, 2003 – 2006, $200K: Directed cultural resources studies (ASR, HRER, HPSR) in support of a highway improvement project in Solano and Napa Counties.

Cultural Resources Task Manager, Route 4/I-680 Interchange Project, Contra Costa County, CA, Contra Costa Transportation Agency, 2003 – 2004, $1.3M: Directed cultural resources studies (ASR, HRER, HPSR) in support of a highway improvement project in Contra Costa County.

Cultural Resources Task Manager, Campus Parkway Project, Merced County, CA, Merced County Department of Public Works, 2001 – 2003, $1.4M: Directed cultural resources studies (ASR, HASR, HPSR) in support of a proposed road construction project in Merced County, CA under the aegis of Caltrans' Local Assistance Program.

Cultural Resources Specialist, Tasman Light Rail Corridor Project, Santa Clara County, CA, Santa Clara Valley Transportation Authority, 2000, $100K+: Directed archaeological excavations at archaeological site SCL-12; wrote 66 page interpretive book on archaeology and ethnohistory in Santa Clara County; direct archaeological monitoring program during Tasman Corridor construction.

Cultural Resources Specialist, Malin, Oregon to Round Mountain California Transmission Line and Access Road Maintenance Program - Western Area Power Administration (Western) Northeastern CA, 1995-1997, $100K: Directed cultural resources program for comprehensive Class I overview and Class III survey for over 100 miles of western-maintained facilities to ensure Section 106 compliance.

Cultural Resources Specialist, West Kern Water District Pipeline Projects, Kern County CA, West Kern Water District, 2002, $50K: Co-directed cultural resources surveys of proposed pipeline routes near Taft, CA. Provided oversight for preparation of the cultural resources technical reports.

Cultural Resources Asst. Task Manager, Mojave Pipeline Northward Expansion, Multiple Locations, California, Mojave Pipeline Company, CA, 1992-1994, $950K: Comprehensive Class I Cultural Resources Overview for proposed 560-mile natural gas pipeline (documents prepared for FERC, BLM, and responsible for preparation

and implementation of Class III technical report, California State Lands Commission, and California OHP).

Cultural Resources Asst. Task Manager, Topock Interconnect , Topock, Arizona, Enron Corporation, 1993, $200K: Preparation (and successful implementation) of Treatment and Monitoring Program for natural gas pipeline pursuant to FERC, BLM and Arizona SHPO requirements; Native American consultation with Colorado River Indian Tribes and Fort Mohave Indian Tribe.

Cultural Resources Task Leader, Alturas Transmission Line Project - CPUC and BLM, Northeastern, California and Western Nevada, California Public Utilities Commission, 1994 - 1995, $450K: Cultural resources task leader for Class III surveys of 270 miles of transmission line ROW in northeastern California and western Nevada and preparation of cultural resource sections of CEQA/NEPA documents.

Telecommunications

Cultural Resources Task Manager, Verizon Communications, Cell Towers, $200K: Directed cultural resources studies and preparation of technical and compliance documents in support of cell tower construction throughout California and southern Nevada. Section 106 compliance documents prepared in accordance with Programmatic Agreements in effect between the FCC and SHPO.

Federal Agencies

Cultural Resources Task Leader, Muliple Projects, Multiple Locations including California, Neveda, Hawaii, Guam, Federal States of Micronesia and American Somoa, Federal Emergency Management Agency, 1998 – Present, $750K+: Responsible for Section 106 compliance activities for hazard mitigation and technical assistance projects throughout California, Nevada and Pacific Basin including projects in Hawaii, American Samoa, Guam and the Federated States of Micronesia.

Cultural Resources Task Leader, Federal Aviation Administration; San Francisco Airport Runway Expansion Project, San Francisco, CA, Federal Aviation Administration, 2000-2002, $1.25M+: Responsible for Section 106 and CEQA compliance activities in support of a joint EIS/EIR for the SFO Runway Expansion project. Cultural resources component included a major marine survey of San Francisco Bay as well as upland areas at SFO and surrounding area.

Cultural Resources Asst. Task Leader, U.S. Army Corps of Engineers and National Park Service - Presidio of San Francisco, CA, 1994 – 1999, $1M+: Implementation of comprehensive archaeological monitoring program in hazmat setting, exploratory

archaeological excavations in conjunction with a ground-penetrating-radar study, extensive on-going agency consultation/coordination.

Cultural Resources Asst. Task Manager, McClellan AFB National Register District Revision, USACE, Sacramento District, CA, 1996, $75K: Provided technical oversight and coordination for review of McClellan AFB to incorporate WW II-era structures into a revised Historic District. Effort culminated in Final Report with recommendations to USACE.

Cultural Resources Task Manager, Project Archaeologist, Fallon NAS Cultural Resource Management Plan, Department of the Navy, 1994, $75K: Provided oversight for preparation of cultural resources management plan for Fallon NAS to guide their inventory and Section 106 compliance procedures.

Professional Societies/Affiliates

Register of Professional Archaeologists

Awards

2006/Special Recognition as a member of the NISTAC (consultants to FEMA) team for efforts related to Hurricanes of 2005.
1988/National Award for Volunteer Services Related to the Public Lands/Bureau of Land Management

Languages

French

Publications

Figures for Explanation: Scratched Petroglyphs at the Pistone Site in Western Nevada, with Eric. W. Ritter, In Archives of Great Basin Prehistory, No. 1, 1998. Coyote Press, Salinas, CA.

Archaeology and Ethnohistory in Santa Clara County, California: Cultural Resources Mitigation for the Tasman Corridor Light Rail Project, with Sally S. Morgan. Prepared for Santa Clara Valley Transportation Authority. 1998.

Book Review, Protecting the Past. George S. Smith and John Ehrenhard editors. CRC Press, Boca Raton, Florida, 1991. In, American Antiquity, Vol. 59, No. 2, 1994.

Archaeology and the Public: Future Directions, In Journal of California and Great Basin Anthropology, Vol. 14, No. 1, 1992.

A Prehistoric Bighorn Sheep Drive Complex, Clan Alpine Mountains, Central Nevada, with Kelly R. McGuire, In Journal of California and Great Basin Anthropology, Vol. 13, No. 1, 1991.

Brian W. Hatoff, R.P.A.

Archaeological Research in Churchill County. A Tale of Changing Perspectives, In Focus Vol. 1, No. 1. Churchill County Museum, Fallon. 1987.

The People of the Past/The Hidden Cave Experience with David Hurst Thomas, in Native American Annual, Vol. 1, No. 1. 1985a.

Management Objectives of the Hidden Cave Project, In Anthropological Papers of the American Museum of Natural History, Vol. 60. 1985b.
The Hidden Cave Archaeological Project: A Case Study in Creative Funding, In Contract Abstracts and CRM Archaeology, Vol. 2, No. 3. 1982.

Cultural Resources Management and the Public: A Case History, In American Society for Conservation Archaeology Report, Vol. 8, Nos. 5 and 6. 1981.

Sedimentological Analysis, In Guitarrero Cave, ed. Thomas Lynch, Academic Press, London, New York, San Francisco. 1980.

Cultural Resource Management at Grimes Point, in Nevada Archaeological Survey Reporter, Vol. 10, No. 2. 1977.

Late Pleistocene Pollen and Sediments: An Analysis of a Central California Locality, with Eric W. Ritter in The Texas Journal of Science, Vol. XXIX, Nos. 3 and 4.

The Mateo Ridge Site, with David Hurst Thomas, In Anthropological Papers of the America Museum of Natural History, Vol. 53, Part 3. 1976.

Chronological Placement of the Farmington Complex in Central California, with Eric W. Ritter and Louis A. Payen, In American Antiquity, Vol. 41, No. 3.

Archaeological Investigations in the BLM Battle Mountain District, in Nevada Archaeological Survey Reporter, Vol. 8, No. 1. 1975.

Geomorphology and Archaeology, with Eric W. Ritter, In Center for Archaeological Research at Davis Publication No. 4. 1974.

Chronology

02/91 - Present: URS Corporation, Senior Project Scientist, Oakland, CA
08/75 - 01/91: U.S. Department of Interior, Bureau of Land Management, District Archaeologist, Las Vegas and Carson City, Nevada

Contact Information

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URS

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LINCOLN HULSE

URS

Areas of Expertise

Wildlife Biology, CEQA/NEPA Compliance, Project Management

Years of Experience

With URS 7 Years

Education

B.S./1998/Environmental Sciences with emphasis in Biology/ Northern Arizona University

Registration/Certification

USFWS Recovery Permit No. TE-134334-0

- California Gnatcatcher
- San Bernardino Kangaroo Rat

Supplemental Education/Training

- 38-Hour Army Corps of Engineers Wetland Delineation & Management Training by the Wetland Training Institute (2006)
- Fairy Shrimp Identification by Mary Belk (2006)
- Southwestern Willow Flycatcher Identification Workshop by Southern Sierra Research Station (2006)
- CEQA Training workshop sponsored by AEP (2002 and 2005)
- San Diego Sensitive Butterflies Workshop: Focusing on Eight Local Species Conducted by David Faulkner and Michael Klein. San Diego Natural History Museum. (2002)
- Desert Tortoise surveying, monitoring, and handling workshop by the Desert Tortoise Council (November 2001)
- HAZWOPER 40 hour OSHA Training (2000-current)

Lincoln Hulse

Biologist

Overview

Mr. Hulse has an extensive background in field research, ecological studies and project management. As a biologist Mr. Hulse has participated in projects which include vegetation mapping, small mammal trapping, special status species identification and bird and plant surveys. He also has a strong knowledge of federal, state, and local environmental regulations and policies. He has prepared numerous biological reports, assessments, permit applications, and restoration plans to demonstrate compliance with the California Coastal Act, Clean Water Act (CWA), California Fish and Game Codes, federal and state Endangered Species Acts (ESA), California Environmental Quality Act (CEQA), National Environmental Policy Act (NEPA), and the California Energy Commission (CEC). The following describes Mr. Hulse's experience in greater detail.

Project Specific Experience

Panoche Energy Center Project, Fresno County, CA, Panoche Energy Center, LLC. Project Biologist for the Panoche Energy Center Application for Certification and subsequent Data Adequacy and Data Request responses. The Panoche Energy Center (PEC) is a proposed simple-cycle power generation project that consists of four (4) General Electric LMS100 natural gas-fired combustion turbine generators (CTGs). The total net generating capacity is 400MW with each CTG capable of generating 100MW. The proposed plant will be owned and operated by Panoche Energy Center, LLC. The electricity generated by this project would be in support of a contract with Pacific Gas and Electric (PG&E).

Panoche Energy Center, LLC is seeking approval from the California Energy Commission (CEC) to construct and operate a power generation facility within western Fresno County. The GE LMS100 is the first inter-cooled gas turbine system developed especially for the needs of the power generation industry. The LMS100 is designed for cyclic applications with 10-minute starts that provide flexible power generation for peaking and intermediate solutions.

Burlington Northern Santa Fe Railway Company (BNSF); Cajon Third Main Track Summit to Keenbrook Project. Prepared Biological Assessment and Biological Evaluation to document compliance with NEPA, CEQA, federal and state Endangered Species Acts for the new BNSF third main track through Cajon Pass. The project spans approximately 16 miles. Coordinated formal consultation with the USFWS pursuant to Section 7 of the Endangered Species Act of 1973 (as amended) and CDFG 2081 Take Permit. Developed restoration plans, field survey protocols, and mitigation packages in accordance with local and federal agency standards. The Cajon Pass is recognized as one of the most important landscape linkages in southern California as it connects two of the largest remaining blocks of

natural open space essential for long-term wildlife viability. August 2005-ongoing

Caltrans, State Route 805, Least Bell's Vireo (LBVI) surveys, San Diego, California. Participated in USFWS protocol presence/absence surveys for Least Bell's Vireo (*Vireo bellii pusillus*), at several locations along SR 805. Two Least Bell's Vireo pairs and territories identified. May- June 2006

FEMA, Santa Ana River, Least Bell's Vireo (LBVI) surveys, Riverside, California. Participated in USFWS protocol presence/absence surveys for Least Bell's Vireo (*Vireo bellii pusillus*), at one location along the Santa Ana River. One Least Bell's Vireo pair and territory identified. May-June 2006

Prima Deschecha Landfill Least Bell's Vireo (LBVI) surveys and construction monitoring. Managed monitoring crew during groundwater protection composite liner construction adjacent to occupied LBVI habitat. Multiple LBVI and CAGN detected during monitoring and surveys. August-October 2006.

San Bernardino Kangaroo Rat Trapping Project, Yucaipa, California. Participated in Presence/Absence USFWS protocol trapping project for San Bernardino Kangaroo Rat (federally listed endangered species) under supervision of Dr. Richard Friesen Permit # TE-775896. Field activities included setting and baiting traps, handling and identification of captured mammals. 375 trap nights July 2006

Biological Reconnaissance, Caltrans Clinton Keith Road Interchange and I-15, Riverside County, California. Participated in biological reconnaissance survey at I-15 and Clinton Keith Road interchange in Riverside County, California. Surveys included habitat characterization, flora and fauna inventory. Reports included NES-MI and MSHCP consistency report. March 2006

Gnatcatcher surveys, Dana Point Headlands Development Project, Dana Point, CA. Performed California gnatcatcher (*Polioptila californica californica*) nesting surveys for the Dana Point Headlands project. Multiple pairs and nests detected. March 2006- August 2006.

Desert Tortoise Surveys, Mojave Desert (west of Barstow), California. Performed pre-construction Desert Tortoise surveys for proposed nursery products facility project. Two tortoises and multiple tortoise sign detected. April 2006.

Desert Tortoise Surveys, Barstow, California. Performed pre-construction Desert Tortoise surveys and Desert Tortoise Monitoring for Horizon Wind Energy

Gnatcatcher Surveys, Rio Hondo College. Participated in USFWS protocol presence/absence surveys for California Gnatcatchers (*Polioptila californica californica*). June-August 2006

Biological Reconnaissance Oak Glen 80 – Cinnamon Forest Homes, Yucaipa, San Bernardino County. Conducted surveys on the 80-acre site proposed for development, to identify wildlife and vegetation communities and the distribution and relative abundance of general and sensitive wildlife habitats on the property. The surveys were conducted by walking the

property and recording plant and wildlife observations on standardized field data sheets. Plant communities on the project sites were identified and qualitatively described. Biological resources on the property were inventoried and the potential for the presence of sensitive plant and wildlife species and sensitive habitats was assessed; focusing on those species listed as threatened or endangered by the state and federal agencies. June 2006

Biological Reconnaissance, Narco channel, California. Participated in biological reconnaissance survey at the Narco channel. Surveys included habitat characterization, flora and fauna inventory. The channel is being reconfigured to increase flow capacity and to reduce bacteria and particulate levels through the use of biological filtration. Restoration is occurring within the City of Laguna Niguel in Narco Channel, a tributary to Sulphur Creek. The restored habitat will be monitored for 3 to 5 years

Los Angeles County Department of Public Works (LACDPW). Malibu road repair project, Los Angeles County, California. Preformed biological assessments and prepared necessary biological reports for LACDPW road repair projects at multiple sites in the Malibu Hills. Surveys included habitat characterization, flora and fauna inventory. July 2005-Ongoing

Prima Deschecha Landfill Least Bell's Vireo (LBVI) surveys and construction monitoring. Monitored noise levels and construction of large catch basin adjacent to occupied LBVI habitat. Multiple LBVI and CAGN detected during monitoring and surveys. August-September 2005.

Caltrans SR-52 Road Widening Project, San Diego County, California. Participated in USFWS protocol presence/absence surveys for Least Bell's Vireo (*Vireo bellii pusillus*), along SR-52. Eight Least Bell's Vireo pairs and territories identified. May- June 2005

Biological Monitor, Dana Point Headlands Development Project, Dana Point, CA. Served as a biological monitor during initial grading and vegetation removal activities at a residential development project. As per county requirements, a responsibility included flushing resident California gnatcatchers (*Polioptila californica californica*) from brush so as to minimize potential takes.

Biological Monitor, Mountain View Power Plant and Pipeline Project, San Bernardino, CA. Served as a biological monitor during construction of gas valve station associated with an upgraded power plant. Responsibilities included compliance oversight during construction activities. Small mammal exclusion fence for San Bernardino Kangaroo Rat (*Dipodomys merriami parvus*) was installed and maintained throughout the 5-month long project.

Los Angeles County Department of Public Works (LACDPW). Templin Highway repair project, Los Angeles County, California. Preformed a biological assessment and prepared necessary biological reports for LACDPW Templin Highway road repair project. Surveys included habitat characterization, flora and fauna inventory. July 2005

Biological Reconnaissance, Caltrans SR 74 Participated in biological reconnaissance surveys along SR 74 in Orange County, California. Surveys included habitat characterization, flora and fauna inventory, and identification of sensitive plant and wildlife species. June 2005

Biological Reconnaissance, Caltrans Clinton-Keith/I-215 Interchange, Riverside county, California. Participated in biological reconnaissance surveys along I-215 and Clinton/Keith road in Riverside County, California. Surveys included habitat characterization, flora and fauna inventory, July 2005

Kinder Morgan Energy Partners (KMEP), Emergency wash out Pre-construction and during construction monitoring for the repair of the Calnev pipeline within Cajon and Lytle Creek California. Preformed pre construction San Bernardino Kangaroo Rat (SBKR) surveys and during construction monitoring for KMEP. January- March 2005

Invasive Predator Control, Caltrans I-5 Freeway Biological Mitigation Project Widening Project, San Diego/Orange County Line, CA. Participated in invasive predator control surveys in San Mateo Creek/Lagoon, west of I-5, just south of San Clemente, CA. Targeted invasive predators included bullfrogs, crayfish, and mosquito fish. Protected species include Arroyo Toad (*Bufo californicus*) and Tidewater Goby (*Eucyclogobius newberryi*). March -September 2004 and March -September 2005

San Bernardino Kangaroo Rat Trapping and Monitoring Project, Mountain View Power Plant, San Bernardino County, California. Participated in Presence/Absence USFWS protocol trapping project for San Bernardino Kangaroo Rat (federally listed endangered species) under supervision of Dr. Richard Friesen, Permit # TE-775896. Field activities included setting and baiting traps, handling and identification of captured mammals. 200 trap nights September 2004

Delhi Sands Flower Loving Fly (DSFLF), Monitoring Project, Mountain View Power Plant Construction Project, Colton, California. Monitored pipeline construction through DSFLF (federally listed endangered species) habitat. October 2004-January 2005

Kinder Morgan Energy Partners (KMEP), Pre-Construction Surveys from Halloran Springs Road to KMEP Pump Station in Baker, California. Preformed pre construction Desert Tortoise surveys for KMEP from Halloran Springs Road to Baker, California. One Desert Tortoise detected during the surveys. September 2004

Biological Assessment, Metropolitan Water District (MWD) Habitat Conservation Plan, Riverside and San Bernardino Counties, CA. Participated in biological reconnaissance surveys along parcels managed by MWD in association with the Colorado River Aqueduct. Surveys included habitat characterization, flora and fauna inventory, and identification of sensitive plant and wildlife species. April 2004, March 2005- April 2005

Los Angeles Department of Water and Power (LADWP) Interset Tower replacement project, Kern County California. Preformed pre and during construction Desert Tortoise surveys and monitoring for LADWP linear tower replacement construction project from Mojave to Lone Pine California. October- December 2003

Kinder Morgan Energy Partners (KMEP), Emergency wash out repair Zzyzx road California. Preformed pre construction Desert Tortoise surveys for KMEP emergency pipeline repair near Zzyzx California. August 2003

Endangered Species Survey, Center for Natural Lands Management, March Air Force Base, Riverside County, CA. Participated in an initial population density survey for Stephens' Kangaroo Rat (SKR, *Dipodomys stephensi*) on lands managed as a reserve. Activities included live-mammal trapping within the reserve. 300 trap nights July 2003

Small Mammal Trapping, Dana Point Headlands Development Project, Dana Point, CA. Participated in protocol USFWS presence/absence trapping surveys for Pacific Pocket Mouse (*Perognathus longimembris pacificus*). 850 trap nights June 2003

Los Angeles Department of Water and Power (LADWP) Interset Tower replacement project, Kern County California. Preformed pre and during construction Desert Tortoise surveys and monitoring for LADWP linear tower replacement construction project near Indian Wells California. September 2002

Caltrans Pacific Pocket Mouse Trapping Project, I-5 Freeway, San Diego County California. Participated in Presence/Absence USFWS protocol trapping project for Pacific Pocket Mouse (federally listed endangered species) under supervision of Dr. Richard Friesen Permit # TE-775896. Field activities included setting and baiting traps, handling and identification of captured mammals. 1000 trap nights August-June 2003.

Otay Mesa River Wash Gnatcatcher nest surveys and construction monitoring. Monitored Drilling and preformed nest surveys for the endangered California Gnatcatcher within the Otay Mesa River Wash. Multiple pairs detected during the monitoring from February 2004 to April 2004.

Caltrans SR 7 Burrowing Owl Monitoring and Exclusion Project. Located and excluded approximately 50 California State sensitive Burrowing owls (*Athene cunicularia*) along State Route 7 near Calexico California. Project also included weekly Burrowing Owl construction monitoring. January 2004

Hill Canyon Wastewater Treatment Plant, Thousand Oaks California. Monitored construction of Treatment plant expansion and mitigated wetlands area. Monitoring included directing heavy equipment around sensitive species, vegetation identification, and water quality testing. July 2003- March 2004

Threatened and Endangered Species Survey, Caltrans SR-76 Road Widening Project, San Diego County, CA. Participated in USFWS protocol presence/absence surveys for Least Bell's Vireo (*Vireo bellii pusillus*), Arroyo Toad (*Bufo californicus*), and California Gnatcatchers (*Polioptila californica californica*) along SR-76 and adjoining San Luis Rey River. Six Least Bell's Vireo pairs and territories identified. June 2003

Caltrans Route 58 Bypass project Mojave, California. Performed pre-construction Desert Tortoise surveys and weekly Desert Tortoise Monitoring for Caltrans route 58-bypass construction project. May 2001-February 2004.

San Bernardino Kangaroo Rat Trapping Project, Redlands, California. Participated in Presence/Absence USFWS protocol trapping project for San Bernardino Kangaroo Rat (federally listed endangered species) under supervision of Dr. Richard Friesen Permit # TE-775896.

Field activities included setting and baiting traps, handling and identification of captured mammals. 1250 trap nights July-October 2002

Desert Tortoise Surveys, Nellis Air Force Base, Nevada. Performed focused surveys for the Desert Tortoise within two alternative sites for the proposed Nevada Training Initiative (NIT). Nellis AFB, Nevada: May-June 2002.

Pacific Pocket Mouse Trapping Project, Dana Point, California. Participated in Presence/Absence USFWS protocol trapping project for Pacific Pocket Mouse (federally listed endangered species) under supervision of Dr. Richard Friesen Permit # TE-775896. Field activities included setting and baiting traps, handling and identification of captured mammals. 1050 trap nights August-September 2002.

Migratory Bird Study, CalEnergy Company, Inc., Salton Sea, CA. Performed monthly shorebird surveys to determine the flight patterns of migratory birds in the area of proposed geothermal plants and associated transmission lines along the southeast end of California's Salton Sea. Surveys were conducted from October 2001 March 2002.

Desert Tortoise Surveys, Las Vegas, Nevada. Performed over 200 hours of supervised Desert Tortoise pre-construction species density surveys with permitted Biologist: Projects in Nevada associated with proposed power plant sites and miles of proposed power lines. July-Sept 2001

FEMA Gnatcatcher Surveys, San Bernardino County, California. Assisted permitted Biologist Rick Bailey with Presence/Absence surveys for the CA Gnatcatcher (federally listed endangered species). Surveys also included the endangered plant species Nevin's Barberry. June 2001.

San Bernardino Kangaroo Rat Habitat Surveys, Redlands, California. Participated in identifying and mapping habitats for the San Bernardino Kangaroo Rat (federally listed endangered species). Field activities include identification of heteromyidae diagnostic signs within various habitats (i.e., burrows, scat, runways, tracks, dust baths, etc.). Associated project responsibilities included plant identification, plant community mapping, and rare plant surveys. Nov 2001-Jan 2002.

Professional Societies/Affiliates

Wildlife Society 2002

Audubon Society 2003

DAVID JENKINS

David Jenkins Resume

BS in Chemistry, Purdue University
MBA, Indiana Wesleyan University

Consultant to *Energy Investors Funds*: project development.

Environmental Director, *Panoche Energy Center, LLC*: CEC permitting and compliance planning phase

Environmental Manager, *Cinergy Corp.*: power project due diligence, permitting, risk assessment, and planning

Environmental Scientist, *Cinergy Corp.*: active member of *Edison Electric Institute* and *Electric Power Research* Institute environmental committees; power plant permitting and compliance; DoE Clean Coal project (Wabash River Repowering and Coal Gasification Project): technical area - geochemistry and hydrology.

Chemical Supervisor, *Gibson Station*: managed laboratory and data, water systems chemistry, fuel and ash analysis, and environmental sampling & analysis.

20+ years of experience in environmental aspects of power plant development and operations, including program planning, permitting, compliance, rule-making, contract negotiation, due diligence and operations management.

MICHAEL KING

Michael P. King

Mr. King is President and Owner of Nextgen Development, LLC and has contracted exclusively with Panoche Energy Center, LLC and Bullard Energy Center, LLC to provide development services since August 2006. Mr. King led the technical development activities on the Panoche and Bullard projects since their initial development in the fall of 2004.

Mr. King has over 25 years experience in the electric utility industry in the areas of Project Development, Plant Operations, Performance Engineering and Testing. For the past seven years, he was responsible for the development and conceptual engineering of energy services projects, including combined heat and power projects and merchant power projects.

He was responsible for Business Development, Strategic Planning and Operations at one of the largest District Steam Systems in the United States from 1994 to 1999. Prior to that, he held various engineering related positions at two major regulated electric utility companies. His twenty-five plus years experience in the Power Industry includes system performance improvement and optimization analysis, business financial analysis and improvement, environmental compliance planning and project management.

B.S. Industrial Engineering, Purdue University
Cooperative Engineering Program

JOHN LAGUE

URS

John S. Lague

Senior Air Quality Consultant

Areas of Expertise

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

Education

MS/1973/Meteorology/Massachusetts Institute of Technology, Cambridge, Maassachusetts
BS/1970/Physical Sciences/University of California, Davis, California

Overview

Mr. Lague has worked continuously in the air quality consulting field since 1971. He is responsible for technical oversight of URS' air quality work and management of major projects. Mr. Lague's technical specialties include permitting and compliance support for government and industrial facilities, air quality impact assessments, air toxics evaluations, air quality and meteorological monitoring, and applied research programs.

Throughout his career, Mr. Lague has been involved primarily in permitting and compliance work for industrial facilities in the US and abroad. A large number of these projects have been conducted on behalf of the oil and gas, pulp and paper, mining and electric power generation industries. The principal elements of most permitting and compliance efforts have typically included: 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.

Project Experience

Industrial Air Quality Permitting and Compliance Support

For over eight years, managed all aspects of air quality permitting for major gas pipeline development project in Alaska. The project consists of a gas conditioning plant on the North Slope, an 800-mile buried and chilled natural gas pipeline with up to 10 large compressor stations along the route, and a LNG production facility and marine terminal near Valdez. Permitting activities for this development included consulting support and quality assurance audits for a system of multiple meteorological towers along the pipeline route, analysis of meteorological data to provide design conditions for project facilities, preparation of BACT analyses, air quality impact modeling analyses, and preparation of a successful PSD permit application for the proposed 15-million-metric-ton-per-year Anderson Bay natural gas liquefaction plant and marine terminal in Port Valdez. Other tasks included negotiations with regulatory agency staff, including U.S. EPA Region X, the Alaska Department of Environmental Conservation and the Federal Energy Regulatory Commission.

As part of a larger RACT assessment for four internal combustion engines driving refrigeration compressors at the Philadelphia Gas Works LNG plant, directed air quality dispersion modeling to evaluate impacts of the selected controls on ambient NO2 levels in the plant vicinity. Maximum short-term concentrations inside and

outside the LNG plant were estimated and compared with applicable health effects threshold levels. A detailed study protocol for the analysis was prepared and submitted to the City of Philadelphia Environmental Protection Division for approval before execution of the modeling. The results showed that the proposed controls would be adequate to prevent unhealthful exposure to NO2 inside and outside the facility boundaries.

Under contract to ARCO Qatar Inc. conducted a dispersion modeling study to determine design characteristics for a proposed natural gas processing plant adjacent to the Persian Gulf at Ras Laffan, Qatar. The principal objective of the study was to determine the level of sulfur recovery the plant would be required to achieve to avoid exceedances of the applicable ambient standards for sulfur dioxide resulting from emissions from two tail gas incinerators. Potential odor impacts associated with facility operations were also addressed. The project involved working with the project design engineering firm to develop emission parameters for all plant pollutant sources for different assumed feed gas compositions and sulfur removal efficiency scenarios.

On behalf of ARCO China Inc., conducted an air quality impact study to determine the compliance with local air quality standards for a new natural gas processing plant and marine terminal on Hainan Island in the Peoples' Republic of China. The facility was designed to receive gas and condensate from platforms in the South China Sea that are being operated jointly by ARCO and the Chinese government. Emissions data for all facility sources, including fugitives, were developed and an appropriate dispersion model was executed to determine reasonable maximum concentrations of sulfur dioxide, nitrogen dioxide, particulate matter and carbon monoxide for comparison with the applicable ambient standards. A key air quality issue was the project's ability to comply with the stringent ambient air quality standards that are applicable to a nearby recreation area being developed for tourism.

For Chevron Overseas Petroleum Inc., managed the air quality program for a joint venture with the government of the former Soviet Republic of Kazakhstan to develop a major oilfield adjacent to the northeastern Caspian Sea. The project involved evaluation of existing air quality data, researching the air quality regulations of the Republic of Kazakhstan and those of the former Soviet Union, and design of air quality monitoring and compliance programs for the partnership's ongoing development activities. Other specific activities included an evaluation and quality assurance audit for a 33-station air monitoring network, development of an emissions inventory for an entire oil field and processing complex, and preparation of a proposal to the Ministry of Ecology and Bioresources for new emissions standards for the project's pollutant sources. Also participated in analyses of a new demercaptanization project to remove odorous compounds from crude oil shipped to receiving refineries.

ld and refined CALMET/CALPUFF analyses for the far field.

For NRG Energy Systems, managed preparation of Risk Management Plans for the new ammonia storage and handling

systems required in support of Selective Catalytic Reduction retrofit projects for control of NO_x emissions from utility boilers at the Encina Power Station in Carlsbad, California and the El Segundo Generating Station in El Segundo, California.

Provided technical support in the preparation of Title V permit application sections on applicable regulatory requirements for oil production and processing facilities on the North Slope of Alaska. The principal focus of this work was in identification of Federal and Alaska air quality control requirements for numerous specific equipment types (flares, storage tanks, heaters, power turbines, boilers). These applicability analyses were prepared for facilities operated by ARCO, BP Alaska, and Alyeska during a period when substantial changes to the Alaska Department of Environmental Conservation air quality regulations were being proposed and enacted, so that substantial agency interaction was required to ensure the most current information was used.

Prepared the Authority to Construct permit for the Lodi Gas Storage project proposed by Western Hub Properties Inc. Emission sources associated with the proposed facilities include large compressor engines, glycol reboilers and an emergency generator engine. The application was prepared to meet the New Source Review requirements of the San Joaquin Valley Unified Air Pollution Control District.

Managed air quality permitting in support of a NO_x retrofit project to install Selective Catalytic Reduction on two 750-MW utility boilers at the Moss Landing Power Plant operated by Duke Power north of Monterey California. This project required preparation of an Authority to Construct permit for installation of the Selective Catalytic Reduction systems, as well as a risk evaluation for the onsite handling of aqueous ammonia used in large quantities for the SCR reagent and a transportation risk assessment for the transport of ammonia to the facility for this purpose.

Prepared an Authority to Construct application for a proposed new 25 MW combined cycle cogeneration plant to be located at the existing Central Utilities Plant on the campus of the University of California, San Diego. The proposed facilities included two Solar Titan 130S gas turbines with a combined net output power of 25.7 MW and two "Module" Style heat recovery steam generators. Emissions of criteria pollutants from the two turbine heat recovery steam generator trains will be reduced by the SCONOX/SCOSOX catalyst-based control system developed by Goal Line Environmental Technologies LLC. The Authority to Construct permit for the project was granted by the San Diego Air Pollution Control District.

For the Titanium Metals Corporation facility in Henderson, Nevada, conducted an air quality dispersion modeling study to evaluate impacts from a carbon monoxide burner unit that was installed to eliminate CO emissions in the exhaust of a fluidized bed furnace (chlorinator) that is used for production of titanium tetrachloride. Source testing showed that some conversion of the sulfides in the ore feedstock to sulfur dioxide and sulfuric acid occurred in

the exhaust stream of the CO burner. The Clark County Air Quality Control Division required this modeling to be included as part of the supporting information accompanying a permit application for the burner, pursuant to the federal Prevention of Significant Deterioration regulations. Additionally, Timet requested that the study also include an evaluation of onsite impacts to ensure that workers were not experiencing adverse SO or sulfuric acid exposures.

Managed preparation of the air quality impact analysis in support of the construction permit for a rock crusher and associated equipment to allow installation at the site of the existing West Hawaii Sanitary Landfill on the island of Hawaii. The project was conducted on behalf of Waste Management, Inc. of Hawaii and involved development of project emissions estimates and dispersion modeling to demonstrate compliance with applicable Federal and Hawaii ambient air quality standards. These products were submitted to the Hawaii Department of Health, Clean Air Branch, which granted the requested permit.

Managed a project for Texaco Exploration and Production Inc. to quantify fugitive hydrocarbon and particulate emissions that would be caused by excavation activities associated with proposed diatomaceous earth mining and subsequent oil extraction activities in the southern San Joaquin Valley. The project involved extensive field tests using isolation flux chambers to characterize the time dependence of VOC emissions from the disturbed mine face and from ore and waste stock piles. Field tests were also used to obtain quantitative data on dust particle size distributions for various areas within the proposed site, and to estimate the threshold wind speeds and full-scale project emissions of PM_{10} resulting from wind erosion. Analysis of the resulting field data provided emission factors and a complete emissions inventory to be used in the project permitting process for the proposed mining and solvent extraction processes. Of particular note, the time dependence of VOC emission rates after a disturbance of the mine face was found to closely follow a power law decay relationship.

Directed the air quality impact analysis required for Prevention of Significant Deterioration permitting of a boiler replacement project at the Port Townsend Paper Corporation mill in Washington state. The principal components of this effort included dispersion modeling to demonstrate the project's compliance with applicable state and federal ambient air quality standards, additional modeling to show compliance with Prevention of Significant Deterioration increment thresholds in adjacent Class II and Class I areas, assessment of the project's emissions and effects on ambient levels of toxic air contaminants, and an evaluation of other air quality impacts, including pollutant deposition in sensitive areas visibility impacts (including regional haze) and impacts to soils and vegetation.

Managed air quality permitting activities for Echo Bay's A-J gold mine project near Juneau Alaska. The proposed project involves reopening a large, previously developed mine within the mountain that

provides the backdrop for the City of Juneau and providing new crushing and milling facilities to be constructed within the mountain. The project will also require construction of a new 25 MW electrical generating plant to provide power that will supplement the output of the local grid. A 20-meter meteorological monitoring tower was installed at the project site to provide representative data for future modeling. Additionally, preliminary modeling was performed to determine the likely magnitude of impacts from the new power plant as part of an overall assessment of power generation options for the project.

Power Plant Licensing and Permitting

Managed preparation of air quality permitting materials in support of the Units 3 and 4 Retool project at the Huntington Beach Generating Station operated by AES. This project involved the refurbishment of two previously retired 250 MW boiler generating units to provide critical electric power during the energy crisis of 2000/2001 in California. Because the permits for the units had been allowed to expire by the previous plant owner, refurbishment of the boilers was treated by regulatory agencies as a new source subject to New Source Review, BACT and emissions offset requirements. The project included fast-track licensing of the new units with the California Energy Commission and obtaining a Permit to Construct/Permit to Operate from the South Coast Air Quality Management District.

Managed air quality permitting activities associated with two new generating facilities proposed by InterGen North America near Palm Springs, California. Fast-track licensing by the California Energy Commissioning and permitting by the South Coast Air Quality Management District were required in each case. The first project was a 135 MW peaking plant based on simple cycle General Electric LM6000 turbines. The second development project would occur in two phases and would include three GE Frame 7AF turbines, first in simple cycle mode to provide 456 MW of short-term power, and then in combined cycle mode with duct burning to provide nearly 900 MW. Principal issues included compliance with very stringent SCQAMD significant impact threshold concentrations and air quality related values (particularly visibility impacts) in four nearby Class I areas. The peaker project involved execution of Level 1 and Level 2 plume visibility screening analyses for Class I areas closer than 50 kilometers and CALPUFF modeling for the Class I areas farther than 50 kilometers from the project site.

Served as an air quality and hazardous materials consultant for a series of licensing and permitting projects conducted for Southern Energy International (now Mirant Corporation) at three large utility power plants recently purchased from Pacific Gas & Electric Co. The projects include licensing of 500 MW combined cycle gas turbine generating systems at two of the newly acquired plants, as well as NOx emission control retrofit projects that are being implemented at the Pittsburg and Contra Costa plants pursuant to regulations of the Bay Area Air Quality Management District. The latter project includes installation

of low-NOx burners on three large utility boilers and SCR technology on five units. Specific activities have included air quality impact assessments, accidental release modeling to evaluate risks associated with ammonia handling and storage facilities, assistance in development of project emissions offsets, preparation of Authority to Construct applications for each of the NO_x retrofit projects and Risk Management Plans for the aqueous ammonia storage and handling systems at two Mirant plants.

Managed the air quality and public health analyses for a new combined cycle power plant. Prepared the Application for Certification to the California Energy Commission (CEC) and the Permit to Construct/Permit to Operate application to the South Coast Air Quality Management District for the San Gabriel Generating Station, a 696 combined cycle addition to the existing Etiwanda Generating Station in Rancho Cucamonga, California.

Managed the air quality and public health analyses for two new natural gas-fired power plants. Prepared Air Quality and Public Health Sections for two Applications for Certification to the California Energy Commission (CEC) 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 MW peaking plant based on simple cycle General Electric LM6000 turbines and a second facility comprising three GE Frame 7AF turbines, first in simple cycle mode to provide 456 MW of short-term power, and later in combined cycle mode with duct burning to provide nearly 900 MW.

Managed the air quality and public health analyses for a geothermal power plant. For 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.

Managed the air quality and public health analyses for a new power plant. On behalf of Competitive Power Ventures, currently managed preparation of the Air Quality and Public Health Sections for an Applications for Certification to the California Energy Commission (CEC) and Permit to Construct/Permit to Operate application to South Coast Air Quality Management District in support of an 815 MW (8 x GE LMS100 CTG) peaker project near Palm Springs California

Managed the air quality and public health analyses for a new power plant. For the Imperial Irrigation District, prepared the Air Quality, Public Health and Hazardous Materials Management analyses in support of a Small Power Plant Exemption to the California Energy Commission (CEC) and prepared the air quality permit application to the Imperial County Air Pollution Control District for a new 90 MW peaking generating station in Niland, California.

Managed the air quality and public health analyses for a new power plant. For the Imperial Irrigation District, prepared the Air Quality, Public Health and Hazardous Materials Management analyses in support

of a Small Power Plant Exemption to the California Energy Commission (CEC) 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.

Managed hazardous materials analysis for a new combined cycle power plant in Northern California. Prepared hazardous materials handling section of the Application for Certification for the Colusa Generating Station, a 600 MW combined cycle gas turbine power plant proposed by Competitive Power Ventures in Colusa County California.

Managed the air quality and public health analyses for a new peaking power plant. For EIF, prepared the Air Quality and Public Health analyses in support of an Application for Certification to the California Energy Commission (CEC) and prepared the air quality permit application to the San Joaquin Valley Air Pollution Control District for the Panoche Energy Center, a new 400 MW peaking generating station near Firebaugh, California.

Managed the air quality and public health analyses for a new peaking power plant. For EIF, prepared the Air Quality and Public Health analyses in support of an Application for Certification to the California Energy Commission (CEC) and prepared the air quality permit application to the San Joaquin Valley Air Pollution Control District for the Panoche Energy Center, a new 400 MW peaking generating station near Firebaugh, California..

Managed the air quality, public health and hazardous materials analyses for a new peaking power plant. For 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 (CEC) and prepared the air quality permit application to the San Joaquin Valley Air Pollution Control District for the Starwood Midway Project, a new 120 MW peaking generating station near Firebaugh, California.

Managed air quality permitting for a combined cycle power plant n Nevada. This project was the 900 MW Meadow Valley Project proposed by PG&E Generating Company combined cycle power generation project north of Las Vegas, Nevada

Served as lead air quality consultant to obtain an Initial Covered Source Permit from the Hawaii Department of Health, Clean Air Branch for a proposed new eucalyptus veneer mill and cogeneration facility on the Island of Hawaii, including two new wood fired boilers to provide electricity and steam for mill processes and excess electricity for sale to Hawaii Electric Light Company.

Greenhouse Gas Studies

In response to World Bank environmental review requirements, managed the preparation of greenhouse gas emissions inventories for two proposed ExxonMobil development projects in Chad. These included (1) the large new Doba oilfield and processing center with a

1,050-kilometer crude oil pipeline to an export terminal in Cameroon; and (2) a new pipeline to bring oil from an existing oilfield in Northern Chad to a new refinery in the capital city of N'Djaména for the production of fuels for local consumption. Emissions from all aspects of the subject facilities' operations, including post-project combustion of the resulting products, were included in the carbon dioxide and methane inventories prepared for each project, and a report documenting the methodology and results of the study was submitted as an addendum to the project Environmental Assessment.

Provided technical support in a project for an American Petroleum Institute project to evaluate the available protocols for developing greenhouse gas emissions estimates for facilities in the oil and gas industry. Various inventory development methods used by individual companies and by international government agencies were examined and compared for each source type, and recommendations regarding the most technically defensible emission factors and assumptions were developed. The resulting information was used to prepare emissions data for various model facilities in the exploration and production, refining and transportation sectors. The ultimate product of the study was an API Compendium that provides detailed guidance for oil and gas industry facility operators preparing greenhouse gas emission inventories.

For ChevronTexaco, conducted a study to evaluate a combined cycle gas turbine power project in Thailand as a candidate Clean Development Mechanism pursuant to Article 12 of the 1997 Kyoto Protocol. Work involved an assessment of the project's attributes versus the current thinking regarding CDM certification criteria and estimation of alternative baseline emissions scenarios to determine the project's potential for emission credit generation. The latter task required travel to Thailand and interviews with government agencies involved in overseeing the electrical generation sector in that country, as well as Thai agencies responsible for the country's climate change programs. An emissions baseline was determined by developing an estimate of the emissions (tonnes CO_2 equivalent per MW-hr) for other new energy projects in Thailand during the same general period. The result was compared with the emissions from the new combined cycle facility to determine potential emission reduction credits that could be earned by the project.

Developed greenhouse gas and pollutant emissions data for the West Africa Gas Pipeline project proposed by Chevron Overseas Petroleum, Inc. The project would involve processing and pipeline transport of natural gas recovered at crude oil production sites offshore Nigeria. The gas is currently flared due a lack of local markets and infrastructure, but the proposed project would result in its use by existing and planned power plants and industrial facilities in Togo, Benin and Ghana. The differences between future regional emissions with and without the West Africa Gas Pipeline project were calculated and used as a portion of the argument for certifying the proposed project as a Clean Development Mechanism project, as defined by the Kyoto Protocol of 1997.

Developed annual emissions inventories of greenhouse gases from Unocal facilities worldwide. Questionnaires to elicit the required information from individual business units were developed and refined for ease of use, based on feedback from selected business units. Next, each operation completed the questionnaire, including calculation of the previous year's greenhouse gas emissions, according to a specified protocol. Finally, URS compiled the data into a Unocal-wide inventory for 1999. Based on this experience, the process was refined for the 2000 inventory, with the questionnaire revised to emphasize reporting of facility activity data, which was then used by URS to calculate GHG emissions according to a common approach for internal consistency. The questionnaire was subsequently refined further.

Served on a team composed of URS and KPMG technical staff to audit greenhouse gas emissions reporting for Texaco facilities worldwide. As part of this project, personally conducted facility audits for petroleum refineries in Northern California, Washington and Thailand. The resulting data from all facility audits was compiled to create an audit opinion on the accuracy of the reported emission totals corporation-wide.

Applied Research and Policy Studies

Served as Project Manager for a study conducted on behalf of the State of Hawaii Department of Health and an Air Quality Advisory Task Force to evaluate alternative air pollution control strategies to preserve air quality and accommodate future growth in the Campbell Industrial Park/Kahe area of Oahu. The Task Force included representatives from the State Legislature, government agencies, industry and local neighborhood groups. Principal elements of the study included review of current air quality conditions in the Campbell Industrial Park/Kahe area, projection of future land use patterns, economic conditions and emissions, review of recent dispersion modeling results, and evaluation/ranking of nine different pollution control regulatory strategies that might be implemented to ensure opportunities for future industrial growth.

Directed a research project funded by the American Petroleum Institute and Chemical Manufacturers Association to evaluate area source and volume source dispersion models currently used to address air toxic impacts of industrial sources. Major project elements included identification and testing of available models in terms of the reasonableness of their simulation of basic physical processes, identification of candidate field tracer program data sets for use in a model performance evaluation study, and execution of the performance evaluation to develop statistics for the comparison between measured and predicted tracer concentrations.

Served as coordinator and field manager for a cooperative industry/government field measurement program to develop data for testing area and volume source dispersion models and for evaluating the effectiveness of OP-FTIR remote sensing technology as a tool to estimate fugitives from industrial sources. The study was

funded jointly by U.S. EPA's Emissions Measurement Branch and Air and Energy Engineering Research Laboratory and by the American Petroleum Institute. Mr. Lague headed the joint planning sessions leading to the field study and served as onsite coordinator during the measurement program, which involved releases of up to six different tracer compounds, detailed meteorological measurements, Summa canister and Tedlar bag sampling, as well as tracer plume sampling by several different OP-FTIR systems.

For the City of Phoenix Aviation Department managed a study to determine the air quality impacts of planned changes to Terminal 4 of the Sky Harbor Airport, the principal air passenger facility for Phoenix, Arizona. A proposed expansion of the parking facilities on Levels 4 through 7 of this 1,874-foot-long structure would increase the building overhang above the passenger ticketing and baggage areas, potentially restricting airflow and producing a buildup of pollutant concentrations in areas used by the public. A series of wind tunnel tracer gas experiments was conducted by CPP Wind Engineering Consultants, using a scale model of the terminal and adjacent structures e. These tests were designed to simulate dispersion of locally generated vehicular emissions near Terminal 4 before and after the proposed modification and to produce normalized concentrations that could be used with real-world vehicular emission rates to estimate actual pollutant levels. The Mobile5B emissions model was used with information on the Phoenix area vehicle fleet mix, as well as vehicle speeds and idling times on the roadways adjacent to Terminal 4 to provide the required emissions data. The results were used to estimate the quantitative change in maximum pollutant levels that would occur as a result of planned modifications and to recommend design modifications that would reduce the impacts of these changes.

Managed a project to provide technical quality assurance support to the Arizona Department of Environmental Quality and the Governor's 1997-98 Air Quality Task Force for the Task Force's report on viable actions that can be taken to improve air quality levels in the greater Phoenix area. Because this area is currently designated as nonattainment for CO, PM_{10}, and ozone, a wide range of control measures to reduce direct emissions of these pollutants and their precursors was undertaken. Separate working groups composed of government, industry and consumer representatives evaluated recommended measures for curtailing emissions from specific pollutants, implementing various reformulated fuel proposals, and measures for strengthening vehicle inspection and maintenance programs. URS was responsible for monitoring the progress of the technical working groups, providing technical review for all committee recommendations and compiling the proposed measures into a single document for presentation to the Governor.

Air Quality Impact and Health Risk Assessment Studies

Managed an air toxics health risk assessment to estimate community exposure levels and health risks resulting from

atmospheric emissions associated with the proposed Gregory Canyon municipal solid waste disposal facility in northern San Diego County, California. The study addressed impacts from emissions from all facets of the proposed landfill's operations, including landfill gas generation and flaring, as well as toxic contaminants in vehicle and equipment exhaust and in dust created by site operations. The ACE2588 risk quantification model was used in conjunction with dispersion modeling results for several different scenarios representing maximum emissions for different source categories. The risk assessment was conducted as a separate technical study in support of the project Environmental Impact Report.

For Mammoth Pacific, conducted a modeling study to estimate cooling tower visible moisture plume frequency statistics for the proposed Casa Diablo 4 geothermal power plant near Mammoth Springs, California. The SACTI plume model developed by the Electric Power Research Institute was used with a three-year record of local meteorological data to develop frequency statistics on visible plume lengths, widths and heights to be included in the Environmental Impact Report for the Casa Diablo 4 project.

Managed air quality impact and health risk assessments for Environmental Impact Reports on several municipal solid waste landfill expansion projects in California, including the Chiquita Canyon Landfill in Los Angeles County, the Cold Canyon Landfill in San Luis Obispo, the El Dorado County Union Mine Landfill in El Dorado, County and the Otay Landfill in San Diego County. Each of these projects entailed development of emissions estimates for landfill gas generation, landfill gas collection system flares, fugitive dust generation resulting from landfill earth-moving activities and vehicular traffic emissions. Public exposure to toxic air contaminant emissions from landfill sources was evaluated by means of a combination of dispersion modeling and a health risk assessment program based on the modeling results.

Managed an air quality modeling project for Unocal to evaluate the compliance of 13 of the company's facilities in Cook Inlet and the Kenai Peninsula with applicable air quality standards, as required by the Alaska Department of Environmental Conservation. The project involved the use of the ISC3 and OCD dispersion models for evaluating impacts from and onshore oil and gas processing plants, respectively. The demonstration of compliance with the ambient air quality standards was required in support of Unocal's Title V permits for the subject facilities.

Managed an air toxics health risk assessment for an aircraft parts plant operated by Aerochem Inc. in Orange, California to determine whether maximum offsite impacts of perchloroethylene emissions would exceed public notification thresholds pursuant to Proposition 65 requirements. Emission sources associated with coating operations in the facility's spray booths and dip facilities were addressed. Maximum computed concentrations and carcinogenic risk estimates were used to

generate isopleths to determine the neighboring areas where public notification would be required.

Conducted air quality impact analyses to evaluate potential effects of a proposed new heavy industrial park in the Apex Valley northeast of Las Vegas, Nevada. The assessment included an extensive air quality modeling study to estimate the quantities of emissions that could be located within the proposed development without resulting in exceedances of the applicable ambient air quality standards and Prevention of Significant Deterioration increments. The study was performed in the context of an Environmental Assessment on the transfer of land from the Bureau of Land Management that would enable the proposed industrial park to be developed.

Managed an air quality impact assessment on behalf of the Mayo Clinic in Rochester, Minnesota to evaluate air quality effects of a proposed railroad upgrade project. The project would have dramatically increased the number of coal trans crossing Rochester each day, causing concerns that the associated increases in air pollution, noise and traffic congestion would be inconsistent with the local quality of life and the large number of health care facilities in this area. Dispersion modeling was conducted to evaluate the impacts of increased vehicle idling emissions at the numerous local at-grade crossings, as well as the increase in criteria and hazardous air pollutant levels resulting from emissions from larger numbers of locomotives traversing the City.

Served as Project Manager for preparation of an air quality emissions inventory and impact assessment for the Chad Export Project, a proposed oil field development and crude oil pipeline connecting the oil field n Chad to a marine loading terminal in Cameroon. The focus of this work was to satisfy requirements of the World Bank and other international lending institutions that emissions associated with the operational oil field operations center and the intermediate pump stations along the pipeline route will be controlled in accordance with applicable World Bank and other international emission limits, and that predicted impacts on ambient pollutant concentrations will be below accepted health-based standards.

Managed an air dispersion modeling study to evaluate compliance with applicable air quality standards and Prevention of Significant Deterioration increments for expansion and consolidation of aggregate materials mining and processing facilities as well as hazardous and non-hazardous waste disposal facilities within the Apex Regional Waste Management Center near Las Vegas, Nevada. The modeling study evaluated criteria pollutant emissions from the various paving and construction materials facilities, in addition to future emissions of hazardous pollutants from the new municipal landfill and landfill gas collection system.

Managed the air quality impact analysis for the Environmental Impact Statement associated with the expansion of Honolulu International Airport in Hawaii. The project involved development of detailed source inventories for the existing and proposed airport

configurations (including aircraft engine emissions during taxiing, takeoff and landing cycles, as well as vehicular traffic patterns throughout the airport complex); evaluation of existing air quality and meteorological conditions in the project vicinity; application of then-new air quality impact modeling tools developed by Federal Aviation Administration; and design of appropriate mitigation measures to minimize public and employee exposure to air pollutants.

Managed air quality impact analyses for two large hazardous waste treatment and disposal facilities operated by Laidlaw Environmental Systems in California. Both studies included inventorying project construction and operational emissions, assessing the significance of resulting impacts, and developing recommended mitigation measures. Detailed health risk assessments were included to obtain information on exposure and potential health effects of project air toxics emissions in the adjacent communities resulting from normal operations, as well as unplanned upset conditions.

Directed an applied research program to develop a site-specific air quality dispersion model for an 800-megawatt generating station operated by Hawaiian Electric Company. The intent was to incorporate the effects that local conditions at the plant's coastal location have on the atmospheric dispersion of the power plant's stack plumes. In particular, standardized methods for characterizing atmospheric stability and, hence, turbulent mixing rates, were found to apply poorly at the facility site. The model developed was validated with extensive air monitoring data to demonstrate its superior performance for this site relative to EPA-approved models.

Conducted an analysis to evaluate recommended mitigation measures for reducing air quality impacts of the proposed redevelopment of the Hunters Point Naval Shipyard in San Francisco, California. The study included development of feasibility and cost-benefit comparisons of alternative mitigation proposals from commenters on the project EIS, including the use of low emission and zero emission fleet vehicles, transit system improvements, emission limits on support equipment in tenant lease agreements, allocations of matching funds for emission projects by tenants and freight haulers, establishment of an emission trading program among tenants, preferred parking and free fuel/power to employees and residents with alternative fuel vehicles, and collaboration with vendors and research organizations to develop and demonstrate new technologies.

Managed preparation of the air quality sections of a major Environmental Impact Statement for proposed expansion of coal bed methane production capabilities within the Southern Ute Indian Tribe reservation in Southern Colorado. The proposed development would include over 1,000 new wells for natural gas production, as well as more than 118,000 hp of additional gas compression over 20 years. Separate emissions inventories were developed for project-related sources in addition to existing and permitted sources in New Mexico and adjacent areas of Colorado inside and outside the SUIT Reservation. Compliance with applicable Prevention of Significant Deterioration increments, adherence to state and federal

ambient air quality standards and potential health risks associated with the project's emissions of hazardous air pollutants (HAPs) were evaluated by means of EPA approved dispersion modeling methods.

Responsible for preparation of air quality impact analyses in the context of environmental impact studies/reports for a large number of proposed industrial and institutional development projects throughout the western U.S. Such studies have typically involved a description of existing conditions and regulatory setting, evaluation of projected impacts (usually by means of dispersion modeling) and recommendations of mitigation measures, as required to achieve compliance with applicable rules, regulations, and standards. Examples of projects for which Mr. Lague has conducted such analyses include: municipal landfills, hazardous waste disposal facilities, cogeneration plants, airport expansion projects, roadway developments, offshore oil and gas exploration and production activities, biomass-fired power plants, prisons, light rail transportation systems and commercial developments.

Air Quality Impact and Meteorological Measurement and Data Analysis Projects

Managed numerous meteorological monitoring projects to obtain information on local conditions for facility design purposes and/or to supply required input data for use in air quality dispersion modeling analyses. The durations of the monitoring efforts have varied from a few weeks to several years and have entailed equipment ranging from a single portable station operating on battery or solar power to multiple towers instrumented for remote operation and data acquisition functions. These projects have typically included tasks to analyze the resulting measurement data for improved understanding of particular weather characteristics or to determine the applicability of data from other nearby sites with longer measurement records to represent conditions at a client's site. In many cases, the monitoring work represented a single task of a larger permitting and/or air quality regulatory compliance program.

Oversaw numerous air toxics sampling and analysis programs that have been conducted to provide information on potential offsite transport of hazardous substances or to help "back out" source emission strengths of such compounds from contaminated sites. Measurement methods used in these studies have included stainless steel canisters, Tedlar bags, polyurethane foam samplers and Hi-Vol filter samplers. These projects have typically involved coordination with the in-house or contracted laboratories responsible for analysis of the collected samples. These projects have frequently been conducted in the context of larger air quality of overall environmental compliance programs.

Directed air quality monitoring programs of at least one year's duration for numerous different oil companies with proposed development projects in the Santa Barbara Channel. These projects, which involved installation, operation, and reporting for one to three monitoring stations, were conducted for numerous international petroleum companies.

URS

Professional Societies/Affiliates

American Society of Civil Engineers (Past Chairman, Los Angeles Geotechnical Group)
International Society of Soil Mechanics and Foundation Engineers
Tau Beta Pi
Chi Epsilon

ANGELA LEIBA

ANGELA LEIBA, GISP

Senior Project Manager
GIS Manager/Visual Resource Specialist

Areas of Expertise	Environmental Permitting and Analysis Energy Projects Project Permitting/Agency Coordination Emergency Response/Emergency Planning GIS Modeling/Analysis, Database Application Design, Website Design Visual Resource Studies/Aesthetics/Simulations Military Planning Projects Flood Modeling Projects
Total Years of Experience	15
URS	6
Other Firms	9
Education	MS Program/1994/Computer Graphics/University of California, Los Angeles BA/1992/Computer Graphics/San Diego State University ESRI ArcGIS 9.0, 2005 ESRI Spatial Analysis, 3-D Analysis, Palomar College, 1999 ESRI ArcView Avenue Programming, San Diego Data Processing Center, 1999, 1997
Professional Associations	Association of Environmental Professionals, Member, 1998–present Urban and Regional Information Systems Association, Board Member, 2000-2002; Corporate Member, 1998-present Women's Environmental Council, Member, 2002 present California Geographic Information Association, Member, 1998-present ESRI Regional Arc User Group, 1999-present
Honors/Awards	URS Project Manager of the Year, 2006. National Association of Counties Award, SD County HMP, National Association of Counties, 2005 Outstanding Environmental Resource Document, SD County HMP, Association of Environmental Professionals (AEP), 2004 Outstanding Environmental Solution, AEP Award, BLM Otay/Kuchamaa GIS Database, 2002 Best Instructional Presentation, Second Place, ESRI GIS Conference, 1999 Most Artistic Presentation, ESRI GIS Conference, 1998
Registration/Certification	Certified GIS Professional (GISP), GIS Certification Institute, 2006
Overview	Ms. Angela Leiba is a Senior Project Manager with more than 15 years of experience. She manages staff in the San Diego office including Environmental Specialists, Word Processing and Geographic Information Systems (GIS) Specialists. Her project management expertise focuses on environmental projects, energy/power projects, emergency response/planning studies, visual resource assessments, and GIS projects/programs. She has helped prepare over 30 major environmental impact reports (EIRs), more than 100 environmental assessments (EAs) or technical studies, over a dozen Application for Certifications (AFCs), and dozens of environmental impact statements (EISs). She has also Project or Task managed traffic, water resource, environmental, biological, cultural, social impact, noise, air, environmental compliance, military, and planning efforts for numerous public and private agencies. She has served as Project Manager and/or Task Manager on hundreds of projects for local, state, federal, and private agencies.

Project Experience

Energy Projects

Otay Mesa Generating Station Power Plant Construction Monitoring, San Diego County, CA. Project Manager for the Construction monitoring for a 600MW gas-fired power facility located within San Diego County. Managing all oversight for multi-year construction phasing for project including agency consultation, managing sub-consultants and field efforts – and being available for on-call services whenever the Project Compliance Manager needs assistance.

Ausra, Inc. 180MW Solar Power Plant AFC, San Luis Obispo County, CA. Project Manager for the Application for Certification for an 180MW thermal generating facility located within Imperial County. The project will cover three sections of land within the Carrizo Plain area in San Luis Obispo County. Project will include agency consultation and coordination including with the California Energy Commission (as lead CEQA agency) and ACOE, USFWS, CDFG, to name a few.

Bethel Energy 100MW Solar/Bio-Fuel Power Plant CEQA Documentation, Imperial County, CA. Assistant Project Manager for the Application for Certification. Small Power Plant Exemption or Environmental Impact Report (depending on project configuration). Advised client on schedules and budgets for each of these alternatives as they move forward to try and permit their facility. Project in early stages currently. The California Energy Commission or the County of Imperial will act as lead CEQA agency.

Larkspur Power Facility AFC Amendment, San Diego County, CA. Project Manager for the Post Certification Amendment for Diamond Generating Corporation (a subsidiary of Mitsubishi) to the California Energy Commission to modify the Existing Larkspur Energy Facility in Otay Mesa, City of San Diego, to add a third 45MW LM6000. The normal power plant rating will be 135MW. Facilitated all technical resource area peer review, project facilitation with the California Energy Commission and oversaw regulatory oversight from various technical resource area agency involvements.

Starwood Power Facility AFC, Fresno County, CA. Project Manager for the Application for Certification for a simple-cycle electric generating facility located within Fresno County. The facility will include two FT8-3 Swift Pac Gas Turbine Generator (CTG) units installed in a simple cycle power plant arrangement. The normal power plant rating will be 120MW. Facilitated all technical resource area peer review, project facilitation with the California Energy Commission and oversaw regulatory oversight from various technical resource area agency involvements.

Solar Two Energy Facility AFC and EIS, Imperial County, CA. Project Manager for the Application for Certification for an 800MW thermal generating facility located within Imperial County. The project will cover 7,000 acres and will include 12,000 – 36,000 solar dishes. Facilitated all technical resource area peer review, project facilitation with the California Energy Commission and oversaw regulatory oversight from various technical resource area agency involvements, including helping to facilitate an MOU with the BLM for a joint

AFC/EIS document to comply with both NEPA and CEQA requirements.

Solar One Energy Facility AFC and EIS, San Bernardino County, CA. Project Manager for the Application for Certification for an 800MW thermal generating facility located within Imperial County. The project will cover 15,000 acres and will include over 36,000 solar dishes. Facilitated all technical resource area peer review, project facilitation with the California Energy Commission and oversaw regulatory oversight from various technical resource area agency involvements, including helping to facilitate an MOU with the BLM for a joint AFC/EIS document to comply with both NEPA and CEQA requirements.

Panoche Energy Center AFC, Fresno County, CA. Task Manager for several components of the Application for Certification for the Permitting of the Panoche Energy Center in Fresno County, CA. Panoche Energy Center, LLC was the applicant to the California Energy Commission. Evaluating impacts of four LMS100 natural gas-fired combustion turbine generators was part of this simple-cycle power generation project.

Bullard Energy Center AFC, City of Fresno, CA. Task Manager for the visual resources components of the Application for Certification for the Permitting of the Bullard Energy Center in the City of Fresno, CA. Bullard Energy Center is a proposed simple-cycle electrical generating facility occupying twelve acres. Bullard Energy Center, LLC is the project applicant to the California Energy Commission.

Gaviotta Coast Wellhead Power Project, LMS100. Task Manager for the visual resources studies for the potential permitting of a Wellhead LMS100 power project along the Gaviotta coast. Scenic highway issues were of primary concern, since the energy project location was in viewshed of the local scenic highway. Viewshed analyses and visual simulations were completed as part of these initial environmental, specifically visual resource issues for the proposed project.

Solar Power Plant Siting Study, Chevron/Texaco, West Coast, US. Task Manager for Geographic Information System, Visual Resource, Social Economic and other analyses relating to siting potential solar power plants within the western united states. Worked directly with the Program Director to help with early environmental constraint issues.

Carson Hydrogen Power Project, Long Beach, CA. Task Manager for Visual Resources permitting relating to the proposed project. This project in a major initiative by BP Alternative Energy (in partnership with Edison Mission Energy) to use gasification technology to gasify petroleum coke (a low value refinery waste product) to produce a hydrogen-rich gas that will then be combusted in next-generation turbines to be developed by GE in order to produce electric power.

Niland Proposed Power Plant, Small Power Plant Exemption (SPPE), Imperial County, CA. Imperial Irrigation District Peaker Development Project. Visual Resources Task Manager for SPPE Visual Resource Section. Also developed visual simulations and public meeting materials for the proposed

development of a 30-acre generating station, Imperial County.

El Centro Generating Station, Small Power Plant Exemption (SPPE), El Centro, CA. Visual Resources Task Manager for SPPE Visual Resource Section for the Imperial Irrigation District Project. Also developed visual simulations and public meeting materials for the proposed project. Development included an 80-acre treatment pond (160 acre area) and the addition of an additional generator adjacent to an existing generating station in Imperial County.

Chevron Liquid Natural Gas (LNG) Environmental Assessments, West coast, U.S. Task Manager for Visual Resource, Social Economic and Geographic Information System analyses for this highly controversial proposed off-shore liquid natural gas platform. Worked directly with the Program Director to help with early environmental constraint issues.

Wind Implementation Monitoring Program, County of Riverside, California. Project Manager for the County of Riverside to evaluate the ongoing and potential additional impacts of Wind Farm Development within the region. Managed visual assessment, noise assessment, air quality study, communication systems assessment, navigation element study, fire protection study, police service element, retrofit element and biological resources components.

San Onofre Nuclear Generating Station (SONGS) Units 2 and 3 Steam Generator Replacement Project. Task Managed preparation of a Proponent's Environmental Assessment for the California Public Utilities Commission, and participated in other aspects of project permitting, including NEPA compliance on Marine Corps Base Camp Pendleton and permitting through the California Coastal Commission. ***(2003 to Present)***

Cal Energy Power Plant, California Energy Commission, California. Served as Task Manager for preparation of an application for certification (AFC) for submittal to the California Energy Commission (CEC) for construction and operation of the Salton Sea Unit 6 (SSU6) geothermal plant power-generation facility in Imperial County, California. The SSU6 is a proposed, nominally rated, 175-megawatt (MW) merchant power plant. Ancillary facilities and three transmission line alternatives were analyzed. A complete visual resource assessment, including several visual simulations of the plant and corresponding transmission lines, were included in this effort. Over 120 GIS exhibits analyzing over a dozen technical disciplines were also created.

Oak Valley Substation & Transmission Line Project, Southern California Edison, Riverside County, California. Visual Resources Task Manager for the installation of a new substation, re-conductoring of several transmission lines and new installation of several transmission lines in Riverside County (including the cities of Beaumont, Banning, and Calimesa). Visual simulations showing potential transmission line alternatives and the substation were included as part of this effort. Visual assessment included reviewing potential visual impacts relating to highly populated areas where new transmission lines were to be installed, including a freeway over-crossing.

Powerplant Siting Study, ENPEX Development, Marine Corps Air Station, Miramar, CA. Task manager for GIS components of powerplant siting study. Worked to develop model of environmental and man-made constraint information, compiled GIS model and mapping elements to show areas with potential for site development. Coordinated with Air Station, agency, ENPEX and sub-consultants to identify, gather and reconcile relevant GIS data for project.

Kinder Morgan Concord-to-Sacramento Pipeline, Northern California. Task Manager for pipeline project from Concord, CA to Sacramento, CA.

Kinder Morgan California-to-Nevada Pipeline, Northern California. Task Manager for pipeline project from Colton, CA to Las Vegas, NV. I complete environmental and man-made constraint analysis was completed as part of this project.

Meadow Valley Generating Project EIS, Southern Nevada. Task Manager for 1,000 MW, gas-fired combined cycle power plant proposed in Southern Nevada.
Imperial County Gas Pipeline, Pacific Gas & Electric/Foster & Wheeler, Imperial County, California. Task Order Manager in support of archaeological services for the transmission line project.

South Bay Power Plant Land Use/Soil/Economic Studies, EDAW/Duke Engineering, San Diego County, California. Oversaw analysis of land use, soil, and economic issues related to relocation of a power plant.

InterGen Transmission Line, Imperial County, California. Analyst for constraints and possible impacts as related to the project corridor. Archaeological and biological impact maps were produced for the entire corridor.

All-American Conversion Line 1903, ENSR, San Bernardino County, California. Analyst for possible impacts as related to archaeological resources along the project corridor.

Bi-National Pipeline Study, Del Mar Land Management, San Diego County, California. Task Managed constraints analysis for possible impacts as related to archaeological resources along the project corridor.

Valley-Rainbow Transmission Line, Power Engineering, San Diego and Riverside Counties, California. Task Manager for several alternative routes for a 500-kilovolt transmission line corridor. Biological, environmental, archaeological, and social impacts were the focus.

AEP Constraints and Permitting, Energy Management and Services Co., Imperial County, California. Task Manager to help analyze and identify possible environmental, biological, archaeological, and social impacts related to transmission line corridor.

AT&T China, US Cable Network, California State Lands Commission, China to U.S. Task Manager overseeing GIS/CAD mapping, database development, and analysis of social impacts as related to fiber optic cable networking along seafloor.

GIS seafloor modeling was conducted as part of the project.

Imperial Irrigation District L-Line, Imperial Irrigation District, Imperial County, California. Extensive analysis and mapping was conducted to help evaluate potential cultural impacts from a proposed transmission line.

Environmental Projects

High Speed Rail EIR/EIS, Counties of Placer, Sutter and Sacramento, CA. Task Manager for preparation of visual impact assessment (VIA) and subsequent Visual Resources section for the EIR/EIS. The VA required Federal Highway Administration and Caltrans aesthetic guideline adherence. Responsible for analysis relating to the portion of the project covering Los Angeles Union Station (North end of the Station) to the Palmdale Transportation Center in Palmdale, CA.

Placer Parkway Tier I EIR/EIS, Counties of Placer, Sutter and Sacramento, CA. Task Manager for preparation of visual impact assessment (VIA) and subsequent Visual Resources section for the Tier 1 EIR/EIS. The VA required Federal Highway Administration and Caltrans aesthetic guideline adherence. Five current project alternatives were assessed as part of this proposed parkway connecting major State Highways in northern California.

SANDAG On-Call Environmental Services/I-805 Widening Project, San Diego County, CA. Ms. Leiba is serving as the Principal GIS Manager and Visual Resource Task Manager for all relevant studies under this on-call contract. All projects are transportation related within San Diego County. Presently working on study for expansion of I-805 from the Mexican Border to the 805/I-5 merge.

Coastal Rail Trail, City of San Diego, CA. Environmental Project Manager responsible for development of the second-half of the Coastal Rail Trail. The project is tasked with completing a bicycle/pedestrian multi-use trail from Del Mar south to the Santa Fe Depot. Helped manage project oversight, budgeting, environmental overview, public meeting support, and sub-consultant oversight. An environmental assessment and 30% engineering were the products of Phase I of the project. Phase II will consist of Final engineering and Design, once funding becomes available. ***(2002) ($150k)***

State Route 56/Interstate 5 Interconnections, City of San Diego, California. Deputy Project Manager and Visual Resources Task Manager for environmental and preliminary engineering tasks relating to the "connectors" project for Interstate 5 and State Route 56. Connections from southbound Interstate 5 to eastbound State Route 56 as well as the connection from westbound State Route 56 to northbound Interstate 5 were not completed as part of the initial State Route 56 project. Also managed the visual assessment relating to the project. ***(Ongoing) (aprox $300k)***

Nursery Products Composting Facility Initial Study (IS)/Mitigated Negative Declaration (MND)/Environmental Impact Assessment (EIR), San Bernardino, CA. Assistant Project Manager and Visual Resources Task Manager for the proposed development of a 160-acre biosolids/green waste composting

facility, San Bernardino County.

San Simeon Bridge Widenings Visual Impact Assessment (VIA), San Luis Obispo, CA. Visual Resource Task Manager for preparation of visual impact assessment (VIA) for two bridge widenings in San Luis Obispo. Oak tree removal and mitigation was also a key component addressed in this assessment. The VA required Federal Highway Administration and Caltrans aesthetic guideline adherence. Visual simulations and coordination with project engineer were also included as parts of the assessment.

Soil Erosion Surveys, GIS/GPS Database Collection and Plan Development, Marine Corps Air Station, Miramar, San Diego, CA. Project Manager responsible for as aspects of the project including field surveys, GIS/GPS data collection, soil survey collection, soil erosion modeling, PH soil testing, Best Management Practices (BMP) restoration, and methodology oversight for both GIS-related and Soil Survey-related data. After being devastated by the 2003 San Diego Wildfires, the Base was concerned with erosion, runoff and potential for restoration for the lands burned. The project covered 14,000ac. of soil.

Native Plant Restoration, Marine Corps Air Station, Miramar, San Diego, CA. Project Manager responsible for as aspects of the project including field surveys, data collection, native plant restoration oversight, and implementation oversight of Best Management Practices (BMP) for two highly eroded sites on Miramar. After being devastated by the 2003 San Diego Wildfires, the Base was concerned with erosion, runoff and potential for restoration for the lands burned. These two sites were the focus of restoration due to their proximity to highly used training areas. Managed all five years of project maintenance including oversight of subconsultant, Native Landscapes.

State Route 76 Improvements, San Diego County, CA. Task Manger for the State Route 76 improvements. Geographic Information Systems were utilized to calculate potential constraints and potential impacts for various resource areas affected by the improvements.

Carmel Valley Bike Feasibility Study, San Diego County, CA. Environmental Manger for the Carmel Valley Bikeway Feasibility Study. Topics covered included traffic, noise, visual, biology and other potentially affected resource areas.

Southwest Division (SWDIV) Navy Facility Assessment, San Diego County, CA. Task Manger for Geographic Information System mapping and analyses for tracking progress of asset evaluation. Project included GIS conversions from AutoCAD of over 1200 facilities. Geodatabases were created including such things as, asset use, square footage, age of building and more.

On-call Consulting Services for Otay Land Company, Otay Land Co., LLC. Task Manager for on-call consulting services contract for 4,800-acre ownership within Otay Ranch planning area. Biological surveys and GIS analyses and mapping were major task orders for the client.

San Bernardino County General Plan Update, Environmental Impact Report (EIR), San Bernardino County, CA. Visual Resources Task Manger for Aesthetic/Visual Resource Issues associated with updating the county general plan. Complete EIR section and relevant write-ups were included as part of this project.

Unexploded Ordnance (UXO) Assessment for San Diego Unified School District, San Diego County, CA. Task Manger for Geographic Information System mapping and analyses for tracking progress of unexploded ordnance studies relating to the potential re-use of these areas for proposed school sites.

Miramar Landfill Raise EIS/EIR, City of San Diego, California. Task Manager for the Visual Assessment and supporting EIS/EIR. The Miramar Landfill is being evaluated for potential impacts relating to the eventual raise of twenty feet in order to accommodate additional landfill capacity. Miramar Landfill sits on land leased to the City of San Diego. Ms. Leiba also managed several efforts relating to public outreach/public meetings. Visual simulations with and without mitigation were important pieces of this evaluation. NEPA and CEQA determinations were also included as part of this effort.

State Route 46/Highway 101 West Interchange Project, Paso Robles, San Luis Obispo County, California. Visual Resources Task Manager for the VIA for interchange project. Managed oak tree mitigation and scenic highway elements as part of the project. Handled all coordination with agency leads and client to assure project was in compliance with the San Luis Obispo County Council of Governments and the Regional Transportation Plan. This was a precursor to the next phase of improvements in the region, the East interchange.

State Route 46/Highway 101 East Interchange Project, Paso Robles, San Luis Obispo County, California. Visual Resources Task Manager for the VIA for controversial interchange project. Dealt with oak tree mitigation and scenic highway elements as part of the project. Handled all coordination with agency leads and client to assure project was in compliance with the San Luis Obispo County Council of Governments and the Regional Transportation Plan.

Santa Barbara Ranch EIR, County of Santa Barbara, California. Visual Resources Task Manager for the EIR for the development of the Santa Barbara Ranch development. Undeveloped coastline along the scenic highway 101 was evaluated for potential impacts relating to development of a project consisting of several mansions, an equestrian farm and other ranch-style complex facilities. Undeveloped coastal bluffs, night lighting, scenic highway, and coastal zone issues were several factors that played into the visual resource/aesthetic impact determinations. Several visual simulations were also incorporated into the visual resource documentation showing various development alternatives.

Newhall Ranch EIS/EIR, Los Angeles County, California. Visual Resource Task Manager for development project in Los Angeles County. Seven development alternatives were equally analyzed for potential visual impacts for this project. This tiered EIS/EIR document included assessing 21,000 residential units and accompanying components including several bridges. The project is

highly controversial and includes Army Corps of Engineer issues relating to wetland impacts.

North Spring Street Bridge Widening EA/EIR, County of Los Angels, California. Visual Resource Task Manager for the widening of a historic bridge within the urban core of Los Angeles County. With several potential sensitive resources in the area, the widening included several key visual resource issues including: historic structures, public art removal, oak tree removal, park area takes, train/light rail transit viewers and more. Since the widening affected several densely populated and highly unique community groups, ensuring development was handled in compliance with each community plan was also a key component of this project.

Interim Improvements for the Interstate 5-State Route 56 Interconnections, City of San Diego, California. Project Manager and Visual Resources Task Manager for initial environmental clearance and preliminary engineering for the Interim Improvements relating to the interconnection project for Interstate 5 and State Route 56. Interim Improvements included road widening, restriping, retaining wall, additional drainage/bioswale installation, and replantings. Oversaw Noise, Traffic, Biology, Water Resource and Visual Resource Technical Write-ups. Managed coordination with FHWA, Caltrans and the City of San Diego.

Cathedral City Transfer Station EA, Waste Management, Riverside County, California. Visual Resource Task Manager for preparation of an EA evaluating the proposed waste management facility in Riverside County, California. New project components included construction of a transfer building, recycling drop-off, office, weigh station, and parking area. Specific City visual guidelines, as well as County of Riverside aesthetic standards, were of concern for this new facility.

Price Canyon Road Widening Visual Impact Assessment/EA, County of San Luis Obispo, California. Visual Resource Task Manager for preparation of visual impact assessment (VA) and subsequent Visual Resources section for the EA. The VA required Federal Highway Administration and Caltrans aesthetic guideline adherence. Simulations were also generated for inclusion in the documents. ***(2004)(Task:$34k)***

Black Mountain Water Treatment Plant EIR, County of San Diego, California. Task Manager for visual simulations and visual resource assessment assistance for an EIR for a proposed 42-acre water treatment plant within Black Mountain Ranch Subarea I boundaries. Interactive 3-D model of the water treatment plant in addition to simulations were prepared for use with the environmental documentation relating to the project. Viewshed modeling was also conducted as part of the project

Mariposa Composting Facility EA/EIR, Mariposa County/U.S. Forest Service, California. Visual Resource Task Manager for preparation of an EA/EIR evaluating the expansion of a landfill facility in Mariposa County, California. New project components included construction of a composting facility and lighted parking area. Lighting and glare studies were completed to comply with

the area night-sky ordinance. Because of the project's rural nature and its proximity to Yosemite National Forest, visual character mitigation was also included in the assessment. Because the U.S. Forest Service was partially funding the project, an EIR was also completed incorporating several visual simulations. California Environmental Policy Act/National Environmental Policy Act.

Port of Long Beach, Piers J South Marine Terminal Projects, Long Beach, CA. Task manager for three separate EIS/EIRs and Application Summary reports for a 385-acre marine terminal project to be located on Pier J South. The Project features associated with all development scenarios included landfilling (from 52 to 115 acres) submerged land, dike and wharf construction, and inter-modal rail. Additionally, the project entailed the demolition of 15 acres of terminal on Pier F to allow for Pier J The U.S. Army Corps of Engineers was the federal lead agency.

Metropolitan Water District Habitat Conservation Program (MWD HCP), Southern California, US. Task Manger for the Geographic Information Systems (GIS) component of the project. GIS was utilized to map and analyze environmental constraints for the Water District's owned properties. Since the project area was huge, sample areas were chosen using the GIS and each area was analyzed then compiled to form the basis for potential habitat conservation in the area.

Pier T Terminal Modification, Port of Long Beach, CA. As the on-call consultant to the Port of Long Beach, Ms. Leiba helped prepare the Addendum to the Long Beach Complex Environmental impact Report. The Addendum assessed the 20-acre site within the greater Pier T complex for a change from development as a ship repair facility to an expansion of adjacent container terminal facilities.

Piers G and J Terminal Development, Port of Long Beach, California. As the on-call consultant to the Port of Long Beach, California, Ms. Leiba helped prepare of the EIR and Application Summary Report for this 315-acre marine terminal redevelopment project. The EIR evaluated the four-phased project that would be constructed over an 11-year period. Project features included landfilling 53 acres of submerged land, dike and wharf construction, inter-modal rail.

Vegetation Management EA, Federal Emergency Management Agency, San Bernardino, California. Visual Resource Task Manager for preparation of an EA evaluating several burn sites in San Bernardino. A viewshed assessment was completed to help with overall analysis. The managed burn sites were mapped in GIS in relation to any area sensitive viewers, which helped with overall assessment of the project.

Edom Hill Transfer Station EA, Cathedral City, California. Task Order Manager for the Visual Resources section for Waste Management of California, Inc./Waste Management of the Desert to design and construct a 35,000-square-foot, enclosed transfer station and an adjacent 2,500-square-foot office building on 27.5 acres east and south of Edom Hill Road, near the west side of the Edom Hill Landfill in the Coachella Valley.

Sorrento Valley Road EIR, City of San Diego, California. Task Manager for

the equal evaluation of three distinct alternatives for a 3-mile segment of Sorrento Valley Road which is closed and in disrepair since 1994, while a new pump station and a major Caltrans intersection at I-5 was constructed. The project borders the Los Peñasquitos Lagoon, which is managed by State Parks and under the joint coastal jurisdiction of the City of San Diego and the State Coastal Commission. All CEQA issues were evaluated and mapped in GIS with special emphasis on traffic and noise impacts as well as biological permitting and mitigation. Plan and Final Report were generated as part of this project.

Mira Sorrento Place Road Extension, City of San Diego, California. Task Manager for the civil design and environmental compliance studies associated with this road extension. Principal issues for evaluation included soils and slope stability, surface water hydrology, construction impacts, and cultural resources. Also helped prepare land use analysis technical report.

Miramar Hills Curve Realignment/Second Main Track EIR, North County Transit District (NCTD), San Diego, California. Task Manager for preparation of an Environmental Impact Report for proposed realignment and second main track through Soledad Canyon in San Diego, California. Served as task leader for land use impacts analysis and helped coordinate preparation of the Environmental Impact Report.

SONGS Unit 1 Reactor Pressure Vessel Transport Project. Task Managed preparation of a NEPA EA on Marine Corps Base Camp Pendleton and in other aspects of project permitting, including permitting through the California Coastal Commission. ***(2002-2003)***

Carmel-Valley Road Improvements, City of San Diego/Caltrans, California. Task Manager for the CEQA compliance for the controversial Carmel Valley Road Project. After extensive coordination with permitting agencies and the community, an EIR was prepared to evaluate the effects of improving Carmel Valley Road between Interstate 5 and the Pacific Coast Highway. Oversaw mapping which included potential wetland impacts due to the expansion of the roadway. ***(2000)(Approx $300k).***

State Route 56 EIR, City of San Diego, California. Task Manager for the State Route 56 (SR-56) EIR and associated studies. The project involved working closely with the City on preparation of biological and land use constraints analyses consistent with the MSCP and City MSCP Subarea Plan, which were finalized during the SR-56 study process. Using GIS background data, a database was updated through focused biological surveys, including surveys for sensitive chaparral plant species, the California gnatcatcher, vernal pools and San Diego fairy shrimp, and wetlands delineations. Assisted in an analysis using GIS MSCP data to facilitate a potential MSCP boundary adjustment for a parcel near the Camino Ruiz interchange. Section 404/401 and 1601 permit applications were performed using the updated MSCP dataset, and mitigation ratios were based on City MSCP plans. ***(2000)(Approx $400k)***

Miramar Road Pipeline Project, San Diego County, California. Task Manager for evaluating potential project impacts to noise levels, vegetation, and sensitive

species in the project area. Also incorporated a VISTA (site assessment and remediation) database to evaluate hazardous materials sites in and around the project location.

Pacific Street Bridge, City of Oceanside, Oceanside, California. Task Manager for review of potential impacts relating to three proposed bridge alternatives in Oceanside California. Very controversial as bridge was within the coastal zone and above wetlands. Presented paper and won technical symposium award on behalf of the City of Oceanside for use of innovative GIS modeling to calculate past wetland impacts.

GIS Database Development and Support, San Diego Unified School District, California. Project Manager responsible for creating a complete geospatial GIS database for ongoing analysis and Phase I environmental site assessments for 30 proposed school sites. Over 30 environmental and manmade constraint layers were incorporated. A complete historical survey of potential hazardous sites was also researched and mapped into the GIS. Over 120 exhibits were generated for ongoing environmental, Phase I, and public-outreach efforts.

McClellan Palomar Airport Noise Compatibility Study, County of San Diego, California. GIS Manager responsible for creating existing, 5-year, and 10-year projected GIS land use databases. The databases were then used to help evaluate noise conditions and help in GIS/noise modeling efforts. Over 400 GIS man-hours were used to create, update, and generate these all-encompassing databases and complete analysis for preparation of the supporting Part 150 FAA document. The final product was also converted to Global Environment Management System format for use at the airport facility. GIS models, exhibits, and materials were focal points for community planning meetings/forums.

GPS Survey and GIS Database Development, Port of San Diego, California. Project Manager responsible for overseeing field crew collection of drain, inlet, and pipe information in GPS format. A complete version of the populated data was entered into a personal geodatabase format for delivery to the client. An FGDC-standard data dictionary and complete metadata were also included in the deliverable. GPS training of Port of San Diego staff was also included so that in-house staff could make necessary future updates to the GIS database.

Otay/Kuchamaa GIS Database Development, Biological Monitoring Plan, and Cultural Resource Study, Bureau of Land Management, California. GIS Manager responsible for creating a geospatial, FGDC-standard GIS database. GIS data from over 30 private and public agencies were integrated. Over 130 data layers were compiled, reviewed, corrected, and integrated to form one consolidated, easy-to-use database for planners, biologists, archaeologists, and other specialists within the Bureau of Land Management (BLM). A complete data dictionary, including complete FGDC standard metadata, was completed for the project. Also managed installation and training for all staff at three BLM offices. Following completion of the database, a biological monitoring plan and cultural resource document were prepared. This project won the Association of Environmental Professionals' 2002 "Outstanding Environmental Solution" award.

County Trails Assessment, County of San Diego, California. Project Manager for the San Diego Trails Assessment assisting the County of San Diego (County) with preparation of a long-range strategy for non-motorized recreational trails. The effort included completion of a comprehensive trails system assessment. The County's existing, planned, and proposed trails were documented, along with types of trails (hiking, equestrian, and biking), user groups, and frequency of use. An opportunities and constraints analysis was conducted documenting existing physical and environmental constraints, including land uses, recreation, Multiple Species Conservation Program (MSCP) lands, sensitive ecosystems, and public lands. The environmental approach describing required National Environmental Policy Act and California Environmental Quality Act documentation was also included. Alternative trail systems were evaluated with regard to environmental, public demand, and financial conditions. All conditions were mapped with GIS.

Black Mountain Water Treatment Plant EIR, County of San Diego, California. Task Manager for an EIR for a proposed 42-acre water treatment plant within Black Mountain Ranch Subarea I boundaries. The proposed site is adjacent to and partially within the Multi-Habitat Planning Area (MHPA). MSCP GIS data layers for regional vegetation, sensitive species, and the MHPA boundaries were used as baseline information for the project analysis. Imported MHPA boundaries from regional data were incorporated into project GIS maps. Findings relevant to a boundary adjustment analysis were presented in the Biological Resources section of the EIR and in the biology technical report.

Environmental Services for Emergency Storage Project, San Diego County Water Authority, California. Task Order Manager for visualization and related project components of the first five-year phase of the $760 million contract. The Authority's proposed 24,000-acre-foot reservoir and dam are key components to solving regional water-storage needs. One task was to create a "dynamic" model that could incorporate data layers from over 20 different consultants. Built this three-dimensional geospatial model in GIS for resource specialists to analyze impacts to environmental resources, including biology, cultural resources, and water quality. Won several technical/GIS awards for work on this project.

East Otay Mesa Specific Plan, San Diego County, California. Task Manager assisting the County in its efforts to amend the Specific Plan for the 3,300-acre East Otay Mesa Specific Planning Area as documented on the County's MSCP Subarea Plan. The proposed amendment would modify previously approved land use designations and conservation areas within the SPA. Analyses conducted would also be used to process a minor amendment to the County's MSCP Subarea Plan, as well as a boundary adjustment to MHPA boundaries. MSCP GIS data layers for regional vegetation, sensitive species, and MHPA boundaries were analyzed as baseline information to plan current biology field survey needs and for project analysis. The regional GIS vegetation database is being updated via ongoing surveys, and all past and current data will be assessed to revise conservation boundaries and development constraints and opportunities within the SPA.

Hopewell National Historic Park Ethnographic Overview, National Park Service, Chillicothe, Ohio. Task Order Manager for the document prepared to

address park ethnography. The document focused on the park's dedication to preservation and interpretation of the Hopewell culture. The park contains nationally significant archeological resources, including large earthwork and mound complexes that provide an insight into the social, ceremonial, political, and economic life of the Hopewell people. All aspects of the project were mapped, analyzed, and presented in the document in GIS format.

Biscayne National Park Ethnographic Overview, National Park Service, Biscayne National Park, Florida. Task Order Manager providing a complete ethnographic overview of Biscayne National Park, which is in Biscayne Bay and the offshore waters along the Atlantic Coast south of Miami in Miami-Dade County, Florida. The park encompasses almost 173,000 acres and has relatively pristine estuarine and marine environments. Several off-shore GIS databases were compiled, analyzed, integrated, and exhibited for this project.

City of San Diego As-Builts Project, San Diego, CA. Project Manger for the compilation for final As-Built drawings and files for water/wastewater resource projects completed by URS over ten years ago. Tracked all final CAD fines and drawings down, updated as necessary via engineering mark-ups and presented all to City of San Diego for final processing.

Pelagic Fisheries EIS, National Marine Fisheries Service, Hawaii. Task Order Manager analyzing impacts on the human environment resulting from management of U.S. pelagic fisheries under the Fishery Management Plan for the Pelagic Fisheries of the Western Pacific Region (Pelagic FMP). Analyzed environmental impacts caused by fisheries managed under the FMP. The EIS provided a comprehensive overview of pelagic fisheries conducted under the FMP and their effects, as well as described management actions that would mitigate such negative effects. All fisheries information was cataloged, integrated into database format, and loaded into GIS for ongoing efforts.

Raising of the Ehime Maru, U.S. Navy, Southwest Division, Honolulu, Hawaii. Created the visual simulation to show the raising of the Ehime Maru, the Japanese fishing vessel sunk by a nuclear submarine in Hawaii. Worked with the Navy to help visualize raising the ship from a 6,000-foot depth to an approximately 150-foot depth to recover those that perished in the accident. Created visual simulations to show how the Ehime Maru, barge, and subsequent equipment would be positioned once the move occurred.

Salton Sea Geotechnical Study, Imperial County, CA. Task Manger for the Geographic Information Systems (GIS) component of the Salton Sea geotechnical evaluations. GIS was used to help map boring locations and track resources within the area.

Midcoast Transportation Study, San Diego County, CA. Task Manger for the traffic and transportation study of the Midcoast transportation corridors. Geographic Information Systems were utilized to help review potential constraints including slope issues and other environmental and manmade constraints potentially affecting the project.

Agua Caliente New Casino Project EA, Agua Caliente Indian Reservation, San Diego County, California. Managed the visual component for the Casino, as well as the subsequent signage components for the project. GIS and aerial images were combined to produce a base. CAD and GIS files were incorporated and extruded adding the Casino, subsequent parking structure, and later signage components to the overall assessment. Key observation points were identified and photographs from each of these points taken. The models were eventually placed in these photographs for realistic representation. ***(2001)***

San Diego Unified School District Administrative Space Study, San Diego, CA As GIS and CAD Manager, provided analysis and graphics of the buildings for conducting a Space Utilization Study, development of Space Requirement Report, Alternatives and Cost Estimates, and the final report describing methodology, information obtained, alternatives considered, and preferred alternatives.

Emergency Response/Emergency Planning Projects

City of San Diego Flood Mitigation Plan, San Diego County, CA. Project Manager for the Flood Mitigation Plan (FMP). Coordinated with the City of San Diego, State Office of Emergency Services, and FEMA to coordinate a risk assessment, vulnerability analysis and complete mitigation measures for the Plan. Planning efforts also included managing public outreach measures, including hosting public meetings, flyer generation and website development with the City of San Diego. The project will allow the City of San Diego to continue to receive mitigation funding for flood-related mitigation projects from FEMA.

County Hazard Mitigation Implementation Plan, San Diego County, CA. Project Manager for the Implementation of the San Diego County Multi-Jurisdictional Hazard Mitigation Plan (HMP). Coordinated with the County Office of Emergency Services and all eighteen incorporated cities to implement mitigation strategies identified in the HMP. Responsible for press releases, county- and jurisdictional-level working group meetings and public notices, information flyer development and GIS updates relating to the county-wide efforts.

Multi-Jurisdiction All Hazard Mitigation Plan, Municipal Water District of Orange County, CA. Deputy Project Manager for the for the preparation of a confidential hazard mitigation plan for all natural and man made hazards for 20 water districts in Orange County. Oversaw GIS coordination of assets and hazards information, Hazard analysis and write-up, risk assessment, vulnerability assessment, and mitigation strategy preparation. Coordinated working group and district-level meetings.

San Diego Gas & Electric Seismic Study, San Diego County, CA. Task Manger for the Geographic Information Systems (GIS) component of the project. CAD and GIS were utilized to map and analyze seismic issues within right-of-ways for the San Diego Gas & Electric transmission systems and owned facilities. Geotechnical data was input into GIS and distributed to agency following the project.

Multi-hazard Mitigation Plan, Viejas Band of Mission Indians, San Diego County, CA. Deputy Project Manager for the preparation of the tribe's Hazard Mitigation Plan (HMP). Coordination of GIS efforts and write-up of Planning document. Also facilitated tribal council meetings, public and inter-agency workshops. Helped develop risk assessment, vulnerability analysis and tribe's mitigation strategy, and provided general oversight of preparation of the HMP. ***(2001)***

Multi-hazard Mitigation Plan, Oregon Tribal Hazard Mitigation Plans, OR. Task Manager for the preparation of three tribal Hazard Mitigation Plans. Oversaw GIS elements for project which included a Hazard Analysis, Risk Assessment, and Vulnerability Assessment. Coordination of GIS efforts and write-up of GIS-related sections of planning document. Provided QA/QC of all GIS efforts.

US Postal Service Landslide Susceptibility Studies, Western US. Project Manager for the preparation of landslide susceptibility studies for all postal offices within the western United States. Working under an on-call contract with FEMA, URS helped evaluate potential at-risk post office locations following torrential rains in California. Focusing on California, and then moving toward the western United States, Ms. Leiba worked directly with USPS and FEMA to help with this evaluation.

Multi-hazard Mitigation Plan, Concow Maidu (Mooretown Rancheria), Sacramento Area, CA Deputy Project Manager for the preparation of the tribe's Hazard Mitigation Plan (HMP). Oversaw GIS elements for project which included a Hazard Analysis, Risk Assessment, and Vulnerability Assessment. Coordination of GIS efforts and write-up of GIS-related sections of planning document. Provided QA/QC of all GIS efforts.

Federated States of Micronesia (FSM) Multi-State Hazard Mitigation Plan, Federal Emergency Management Agency (FEMA), Government of FSM/National Emergency Management Office (NEMO). Project Manager for the multi-state FSM Hazard Mitigation Plan. As a recognized county who is eligible under compact with the U.S. for FEMA funding, the FSM government hired URS to help prepare the Plan. The FSM is made up of four states, Pohnpei, Kosrae, Chuuk, and Yap covering over 1,000,000 miles of ocean including over 605 islands. Managed extensive public outreach efforts held throughout the islands during the project. Prepared Public Participation Plan including federal website uploads, press releases, public meeting materials/preparation/and presentations, working group participation and data collection, agency and interested party site visits and interviews and more. The Plan included a complete risk assessment, vulnerability analysis, and separate mitigation strategies for each State. ***(2005)($150k)***

Guam Hazard Mitigation Plan, Federal Emergency Management Agency (FEMA), Guam. Task Manager in support of planning and GIS-related efforts for the Guam Multi-Hazard Mitigation Plan. Helped with QA/QC of Plan, GIS analysis and HAZUS-99/HAZUS-MH modeling, input to public outreach efforts, and general planning team support. The Plan included a complete risk assessment, vulnerability analysis, and mitigation strategy.

Multi-Jurisdictional Hazard Mitigation Plan, Federal Emergency

Management Agency (FEMA), Office of Emergency Services (OES), County of San Diego, CA. Deputy Project Manager for San Diego County's Multi-Jurisdictional Multi-Hazard Mitigation Plan. Oversaw Plan preparation, GIS analysis and HAZUS-99/HAZUS-MH modeling, public outreach efforts, and individual jurisdiction support. The Plan (including a separate *"For Official Use Only"* attachment for manmade hazards) was over 750 pages, included production of over 100 maps for 18 jurisdictions and the County, and covered 4,264 square miles. Riskbasilo9 assessment, vulnerability analysis, and mitigation strategies were generated for each jurisdiction. Coordinated all working group meetings, encompassing public officials/staff, fire/police/emergency personnel, public/private organizations and citizens; over two dozen individual jurisdictional meetings, and all public meetings held over the two-year project life. Project won two awards including Outstanding Environmental Document from the Association of Environmental Professionals and a National Award through the National Association of Counties. ***(2004)($250k)***

Twenty-seven (27) Single Jurisdiction Hazard Mitigation Plans, Federal Emergency Management Agency (FEMA)/Office of Emergency Services (OES), Individual Jurisdictions within County of Maricopa, AZ. Provided peer review for the twenty-seven (27) separate single-jurisdictional DMA 2000 plans for the cities within Maricopa County, Arizona. GIS review included analysis of GIS HAZUS 99/HAZUS-MH modeling results. Reviewed compilation of results for risk analysis/loss estimation portions of document.

Statewide Hazard Mitigation Plan, Federal Emergency Management Agency (FEMA)/Office of Emergency Services (OES), State of Arizona. Provided peer review for the State-wide Plan. GIS Peer review included GIS HAZUS 99/HAZUS-MH modeling results. Peer reviewed compilation of all results for risk analysis/loss estimation portions of document preparation. ***(2004)***

Urban Area Security Initiative, City of San Diego/Federal Emergency Management Agency (FEMA). Participated in the analysis and compilation of a wide-variety of complex, highly confidential source data for the completion of the Urban Area Security Initiative (UASI). This project included analysis of potential hazardous materials release/weapons of mass destruction analysis, including morbidity, mortality, and damage assessments. The preparation of mitigation measures was also a component of this project.

California Firestorm 2003 Modeling/Mapping, Federal Emergency Management Agency (FEMA)/California Office of Emergency Services (OES), Los Angeles, San Bernardino, Ventura, Riverside, San Diego Counties; California. Project Manager responsible for floodplain assessment, database generation of reaches affected, and mapping of approximately 770,000 acres of presidential declared disaster burn areas in Southern California. Emergency reaches were identified and tabulated. HEC-GEORAS hydraulic models were then generated and incorporated into GIS for 5- and 100-year flood zones. Data for over 5 counties were analyzed, field verified, H&H modeled, and mapped for upload onto the Federal Emergency Management Agency website in 3 weeks. Over 100 maps were generated in only 2 days. ***(2003-2004).***

Flood Modeling Projects

Digital Flood Insurance Rate Map (D-FIRM) Mapping; Federal Emergency Management Agency (FEMA), Map IX-Mainland Joint Venture, Napa County, San Mateo County, Alameda County, Marin County, Sacramento County, Sonoma County, Tulare County, Monterey County, and Solano County CA; Maui County, HA,. Project Manager for the Joint Venture Project with URS Corp. and Dewberry. FEMA is undertaking a nationwide effort to update and convert hard-copy flood maps for the entire nation to digital geographic information system (GIS) electronic data. FEMA has tasked the partnership with creating these "geodatabases" containing over fifty layers of updated flood information per County. After compiling local, state and federal data, each database was converted to federal standards and detail checked for accuracy. Once complete, quad-scale maps were produced for each county (100-200 maps per county). Each map was then quality assured/quality checked for accuracy. Agencies, local governments, and the public will utilize the geodatabases and corresponding maps to help analyze flood risks in their communities. ***(2005).***

Federal Emergency Management Agency Post-Fire Floodplain Mapping, San Diego, Riverside, San Bernardino, Los Angeles, and Ventura Counties, California. Task Manager responsible for floodplain assessment, database generation of reaches affected, and mapping of approximately 770,000 acres of presidential declared disaster burn areas in Southern California. Emergency reaches were identified and tabulated. HEC-GEORAS hydraulic models were then generated and incorporated into GIS for 5- and 100-year flood zones. Data for over 5 counties were analyzed, field verified, H&H modeled, and mapped for upload onto the Federal Emergency Management Agency website in 3 weeks. Over 100 maps were generated in only 2 days. ***(2003-2004).***

Floodplain Management Study and Plan, Viejas Indian Reservation, California. Task Manager responsible for floodplain modeling, mapping, and drainage system assessment. The contract also required stormwater management support, reporting, and data presentation. Floodplain modeling included historical flood information, complete topographic survey, and computer simulations/models of studied flood classes, calibrating and verifying the hydrological model to historic floods, and establishing a design flood behavior. HEC-GEORAS hydraulic models were generated through GIS.

Chollas Creek Wetlands Management Plan, San Diego County, California. Task Manager responsible for obtaining GIS data overlays, including data mapped for the MSCP study purpose and updated information. Worked with biologists to create a GIS database that included creek conditions, existing wetlands and sensitive biological resources, parcels and ownership, and planned development projects. With a HEC2 model created for this project and through intensive GIS modeling, sites along the creek needing wetlands management were identified. Also participated in development of presentation material for three community meetings using GIS/HEC-RAS three-dimensional models and information.

Rio de Flag Flood Control Study, Los Angeles Army Corps of Engineers, Rio

de Flag, Arizona. Task Manager responsible for GIS modeling/mapping for the Los Angeles Corps of Engineers (LACOE) for impacts relating to possible flooding of the lower Rio de Flag drainage. Erosion-control issues were incorporated into the analysis. Three-dimensional modeling in GIS was performed using the LACOE's HEC-RAS extension. Special attention was also given to manmade alterations of the stream's channel made in the early 1900s.

Murrieta Creek Flood Control BCR and EIS/EIR, LACOE, Los Angeles, California. Working with the LACOE, Task Managed modeling to help determine possible impacts associated with the Murrieta Creek Flood Control project. Some major modifications assessed were (1) removing the B Street bridge, (2) constructing a bridge over Ivy Street, (3) replacing the Washington Avenue bridge, (4) modifying detention/collection basins, (5) assessing equestrian trails, (6) assessing bicycle/pedestrian trails, and (7) replacing the Main Street bridge. Using HEC-RAS and GIS, environmental impacts associated with these studies were mitigated. ***(2000) (Task $300k)***

San Timoteo Creek EIR/EIS, Riverside, California. Complex GIS analysis and mapping was conducted to help evaluate biological, cultural, social, and other potential environmental impacts from proposed enhancements for flood control at San Timoteo Creek, which drains a watershed of approximately 126 square miles of the San Bernardino Mountains and foothills in eastern Riverside and San Bernardino counties. The San Timoteo Creek study area falls within several small communities, including Redlands, Colton, Loma Linda, and San Bernardino, California. The study area, which includes the 100-year floodplain of San Timoteo Creek, extends along San Timoteo Creek from a short distance downstream of Alessandro Road west to the confluence with the Santa Ana River in San Bernardino.

Military Planning Projects

Naval Base San Diego Asset Evaluation, Department of the Navy, San Diego, CA
Project Manager responsible for the oversight of the drafting of the floor plans and the GIS conversion process of data into SDSFIE compliant GIS forma for updating of Property Record Cards and Facility Planning Documents of the floor plans and space utilization data for more than 800 buildings in the metro San Diego Area spread across Naval Bases Point Loma and San Diego.

Naval Special Warfare Group 1(NSWG-1), Naval Amphibious Base (NAB, Department of the Navy, Coronado, CA
As GIS and CAD Manager, provided oversight for analysis and graphics of the buildings on NAB for Asset Evaluations (AE), development of Basic Facility Requirements (BFR), and preparation of a Facilities Development Plan to support future development of NSWG-1. This project includes development of Special Project or MILCON projects to eliminate existing facility deficiencies.

Naval Base Point Loma AOP, Department of the Navy, San Diego, CA
As GIS and CAD Manager, provided oversight for analysis and graphics of the buildings on NBPL. The goal of the RSIP (Regional Shore Infrastructure Plan)

was to develop a program of capital improvements which alleviate deficiencies through adaptive reuse, consolidations, facility expansions and new construction, and to reduce shore infrastructure costs associated with excess and underutilized facilities. The Overview Plan will also include recommendations for improvements to meet DoD standards for Anti-Terrorism/Force Protection.

Naval Base San Diego AOP, Department of the Navy, San Diego, CA
As GIS and CAD Manager, provided analysis and graphics of the buildings on NBSD. The goal of the RSIP (Regional Shore Infrastructure Plan) was to specifically address regional land and facility requirements from a functional point of view for Naval Base San Diego. Development included conducting data collection through site visits, questionnaires, interviews, and a visioning workshop with NBSD tenants. The RSIP identifies and aligns future infrastructure investment strategies with CNO guidance and Navy regional planning objectives of reducing footprints and costs, increasing existing capabilities and sustainability, and maximizing efficiencies.

Naval Base Coronado Asset Evaluation, Department of the Navy, San Diego, CA. As GIS and CAD Manager, provided oversight of the CAD and GIS conversion process of data into SDSFIE compliant GIS format for updating of Property Record Cards and Facility Planning Documents of the floor plans and space utilization data for more than 2,000 buildings in the metro San Diego Area.

Powerplant Siting Study, ENPEX Development, Marine Corps Air Station, Miramar, CA. Task manager for GIS components of powerplant siting study. Worked to develop model of environmental and man-made constraint information, compiled GIS model and mapping elements to show areas with potential for site development. Coordinated with Air Station, agency, ENPEX and sub-consultants to identify, gather and reconcile relevant GIS data for project.

Basilone Road Realignment, Marine Corps Base Camp Pendelton, CA. Task Manager for realignment of Basilone Road. Oversaw GIS database development, GIS mapping and analysis and all electronic database development in support of the Environmental Assessment. Oversaw coordination with Base and agency GIS contacts. ***(2005) (Approx $350k).***

Advanced Amphibious Assault Vehicle, MCAS Camp Pendleton, California. Task Manager for an EA/BA and subsequent EIS. Oversaw creation of a suitability model to break down the 125,000-acre-plus military area into military maneuver suitability classes. The model analyzed slope restrictions, incorporated seasonal habitat information, and added over two-dozen environmental and manmade constraint layers. ***(2000) (Approx $350k).***

Flood Repair-MCAS Camp Pendleton, MCAS Camp Pendleton, California. Task Manager overseeing extensive GIS mapping and modeling. Several environmental constraint, developmental, and flood-related layers were entered into a GIS/HEC-RAS model to help determine flood repair areas on base. Drainage information, precipitation information, and slope were just a few such entries. The model and data layers were installed at the base upon completion of the project so that the MCAS Camp Pendleton GIS department could analyze and

use the data results for its ongoing future planning efforts. Specialized training was provided to the base to help with future flood-related potential impact assessments. ***(2004) ($100k).***

San Clemente Island Ranges Environmental Assessment, Los Angeles County, CA. Task Manager responsible for analysis, and map preparation for the environmental assessment and Coastal Consistency Determination for Small Arms, Demolition Ranges, and Training Areas, including biological resource survey mapping/analysis and cultural resource investigation support services. ***(2000) (Approx $150k)***

Regional Shore Infrastructure Plan, San Diego County, California. Task Manager responsible for analysis and mapping support for investigating three complexes. Also prepared analysis/modeling/and support mapping for natural resources, biological, cultural and historical data inventory.

Long Beach Naval Complex EIS/EIR, Los Angeles County, California. Task Manager responsible for analysis and mapping in support of the preparation of an EIS/EIR to evaluate the future environmental consequences of three alternatives for reuse of the 1,229-acre site, including an adaptive use feasibility study for the Roosevelt Base Historic District. The adaptive use feasibility study received an award for cultural resource reports from the California Preservation Foundation. ***(1998)(Approx $300k)***

Conforming Storage Facility Environmental Assessment, MCB Camp Pendleton, San Diego County, California. Analyst involved in analysis and mapping for preparation of an environmental assessment that analyzed the environmental consequences associated with three alternative sites for a proposed conforming storage facility for hazardous wastes and hazardous materials.

Tomahawk Land Attack Missile Program, San Clemente Island, Los Angeles County, California. Task Manager responsible for modeling/analysis, database compilation, and mapping relating to the preparation of an environmental assessment in support of the Tomahawk Land Attack Missile Program to consider effects of proposed test flights of land and sea launches at San Clemente Island.

MCAS Camp Pendleton Airfield Environmental Assessment, San Diego County, California. Analyst responsible for analysis relating to the preparation of an addendum to a 1988 environmental assessment for airfield improvements. The project included mapping sensitive species, calculating impacts to wetlands, and preparation of maps in support of the Corps of Engineers Section 404 Permit application and the Regional Water Quality Control Board Section 401 water quality certification and waiver request.

Others:
Miramar Landfill Reuse Plan, San Diego, California. Task Manager for landfill reuse plan. Sub-consultant to Onyx Group.
MCAS El Toro Closure EIS, Santa Ana, California. Oversaw analysis related to preparation of the environmental impact statement relating to the closure of MCAS El Toro. ***(1996) (Approx $500k)***

MCAS Yuma EIS, Yuma, Arizona. Analyst for the preparation of the environmental impact statement relating to MCAS Yuma.
NAB Coronado EA, BA, and OTMMP, San Diego, California. Analyst for the preparation of several environmental documents for NAB Coronado.
Long Beach Shipyard EIS, Long Beach, California. Analyst for the preparation of the environmental impact statement.
Wire Mountain Housing EA, San Diego, California. Analyst for the preparation of the environmental assessment.
San Clemente Island OMP, Los Angeles, California. Oversaw analysis related to preparation of an operations management plan.
MCAS Camp Pendleton P-633 and 527B Archaeological Testing and Surveys, San Diego, California. Task Manager for archaeological mapping component.
Santa Margarita Complex Archaeological Surveys, San Diego, California. Task Manager for archaeological mapping component. Extensive historical modeling/mapping of the area was included.
Chocolate Mountain Aerial Gunnery Range, California. Task Manager for mapping related to archaeological surveys/reports.
NAVSTA Pier 10/11 EIS, California. Analyst for the preparation of the EIS. Sub-consultant to SAIC.
Deluz Housing EA, SWDIV, California. Analyst for the preparation of the environmental assessment of proposed new housing.
Yermo Test Track EA, SWDIV, California. Analyst for the preparation of the environmental assessment for the Yermo Test Track.

RON REEVES

URS

Ronald E. Reeves

Senior Project Scientist

Areas of Expertise

Airport Environmental Studies

Industrial Noise Assessments

FAR Part 150 Noise Land Use Compatibility Studies

Aircraft Noise Abatement Procedures Development and Evaluation

Years of Experience

Recently Joined URS

Over 15 Years Aviation Noise Control Experience With Other Firms

Education

B.S. Information Systems 1982
Western Carolina University

Designated Naval Aviator 1985
U.S. Naval Air Training Command

Registration/Certification

Licensed Commercial Pilot
Airplane, Single and Multi-Engine
Instrument Rating

Institute of Noise Control Engineering

Overview

Mr. Reeves has over twenty years of combined transportation and industrial noise control experience. Included in this experience are numerous airport, power generation facility, and industrial community noise exposure studies including the development of noise exposure contours utilizing the Federal Aviation Administration's Integrated Noise Model, the U.S. Air Force's NOISEMAP aircraft noise modeling software, and CADNA/A® modeling software. Mr. Reeves has managed all facets of these studies including the design and conduct of noise measurement surveys, operational data analysis, spatial data analysis, aircraft ground maintenance run-up analysis, airspace implications on community noise exposure, design of aircraft noise mitigation measures and computer model validation with a particular interest in aircraft performance and operational procedures as they relate to noise control and evaluation of compliance measures for power plants and industrial noise control applications.

Project Specific Experience:

Aviation Noise Exposure:

Community Noise Exposure Analysis

Lead Project Engineer, John Wayne Airport Departure Noise Demonstration Program, Santa Ana, California: The John Wayne Airport Departure Noise Demonstration Program was developed in response to FAA Advisory Circular (AC) 91-53A. This advisory circular was enacted due to flight safety concerns and limited the variety of noise abatement departure procedures employed by commercial air carriers. The purpose of the study was to determine which departure procedures provided the greatest noise reduction in noise sensitive communities near the airport. The study was a collaborative effort between the FAA, airport, airlines, pilots, and surrounding communities. As lead project engineer, Mr. Reeves was responsible for data collection, analysis, and computer modeling. Unique in scope, detail, and technical challenge; aircraft weight, takeoff procedural data, noise measurement data, meteorological data, and radar tracking data were used to used to evaluate variables and develop highly accurate single event noise contours. These contours were used to assess the changes in single event noise exposure at locations within the departure corridor and were essential for the optimization of flight procedures for minimum noise impact in the surrounding communities. The study was highly successful and resulted in a "close-in" noise abatement departure procedure that satisfied the requirements of AC 91-53A and is widely employed to reduce departure noise exposure near airports.

Part 150 Noise Exposure and Land Use Compatibility Study

Project Manager, New Orleans International Airport FAR Part 150 Noise Exposure and Land Use Compatibility Study Update: Project Manager for the New Orleans International Airport FAR Part 150 Noise Exposure and Land Use Compatibility Study Update for the City of New Orleans. The study included a detailed noise measurement survey, computer modeling, and assessment of various strategies to protect against future noise impacts. The resulting noise abatement program developed for New Orleans was tailored specifically to the needs and problems facing the airport and the surrounding community.

Part 150 Noise Exposure and Land Use Compatibility Study

Project Manager, Colorado Springs Airport FAR Part 150 Noise Exposure and Land Use Compatibility Study: Airport operations at Colorado Springs airport dramatically increased as a result of hub operations by a national airline and increased service by major national carriers. A FAR Part 150 Noise Land Use Compatibility Study was initiated to address the need for land use controls in the vicinity of the airport and to address community concerns. A unique aspect of the project was the high density altitude of the airport and associated reduction in aircraft climb performance and increased landing approach speeds and distances. A key feature of the study was emphasis on community involvement and education. The study was successful in implementing land use controls in the airport environs and prescribed a long-term noise measurement program to address community concerns. As a result, airport noise complaints were greatly reduced and the airport currently enjoys a supportive relationship with the surrounding communities.

Runway Alternatives Analysis

Project Manager, San Francisco International Airport Runway Alternatives Analysis: An analysis was conducted by to evaluate the effects of alternative airfield layouts on aircraft altitude profiles and resulting noise exposure in critical noise sensitive areas of South San Francisco. The study examined several noise abatement departure procedures for key aircraft operating from San Francisco International Airport. Considerations included aircraft performance and airspace interactions. Results of the analysis were used to select the runway layout and operational procedures most advantageous to the surrounding communities.

Continuous Descent Approach Analysis

Project Engineer, Port of Oakland, Oakland International Airport, Oakland, California: The feasibility of decreasing noise exposure from aircraft arrival operations through the use of innovative aircraft arrival procedures was investigated using the FAA's Integrated Noise Model. Typical aircraft arrival procedures contain "step-downs," levels segments in the approach used to slow and configure the aircraft for arrival. These segments require higher aircraft power settings and result in greater noise exposure. A continuous descent approach procedure incorporates

alternative power/energy management techniques to eliminate or reduce level segments. The study indicated that noise exposure could be decreased through the use of a continuous descent approach.

Airport System Master Plan

Project Engineer, El Toro Marine Corps Air Station Airport System Master Plan, Orange County, California: The potential use of MCAS El Toro for civilian aviation was one of the most controversial and divisive issues in Orange County. The intense controversy associated with the reuse of El Toro reinforced the importance of accurate noise studies. The noise analysis component of the El Toro Master Plan Development Program supported the following planning efforts: 1.) Noise analysis of runway layout options, 2.) Noise analysis of operational alternatives (number of operations, time of operations, runway utilization), 3.) Mitigation analysis for alternative airport scenarios, 4.) Presentation materials for public involvement program, and 5.) Technical support for aircraft flyover tests and/or sound level demonstrations. While this study had many components common to a typical Master Plan, the need to be sensitive to environmental issues and the need to potentially consider a two airport system made this study unique. The Master Plan contained components that are typical of a FAR Part 150 and an environmental study. This was consistent with the sponsor's need to consider noise impacts and potential mitigation measures as part of the Master Plan development process.

Airport Noise Assessment

Project Manager, Tainan Airport Noise Assessment, City of Tainan, Republic of China: Tainan Airport, located on the southwestern coast of Taiwan, is a joint-use facility serving domestic commercial air carriers and tactical military aircraft. This study was the first ever noise assessment of the airport. Noise measurement sites were selected and a comprehensive noise measurement survey was conducted. Noise contours, in terms of DNL, were developed using U.S. Air Force NOISEMAP software. The study was used as a platform for training local Chinese engineers in noise measurement and modeling techniques. The contours assisted in the development of nationwide land-use control standards in Taiwan.

Airport Noise Assessment

Project Manager, Ardmore Aerodrome Noise Assessment, Auckland, New Zealand: Ardmore Aerodrome, located approximately 20 miles southeast of Auckland International Airport, is the largest general aviation airport in New Zealand. The facility serves as a pilot training base for New Zealand and is also home to many vintage warbirds including high performance jet aircraft. Mr. Reeves was asked to provide an independent assessment of the existing DNL contours on behalf of Papakura District Council. Upon review, it was noted that several noise dominant aircraft were incorrectly modeled resulting in inaccurate noise exposure contours. Using detailed aircraft performance data, these aircraft were remodeled and the size of the noise contours was reduced. The resulting contours provided for the long-term viability of the

aerodrome and were successful in addressing community concerns regarding noise exposure.

Power Generation Facility Noise Analysis

Task Manager, Reliant Energy San Gabriel Generating Station, Rancho Cucamonga, California: Noise Task Manager for the preparation of the San Gabriel Generating Station Application for Certification. The facility is a natural gas fired combined cycle plant with a nominal power output of 615 megawatts consisting of two Siemens 5000F combustion turbine generators, two supplemental fuel heat recovery steam generators, and one steam turbine generator. The change in the noise environment at sensitive receptor locations was assessed using CADNA/A® noise analysis software. The project was designed to meet stringent California Energy Commission requirements.

Task Manager, Competitive Power Ventures Sentinel Generating Station, Desert Hot Springs, California: Noise Task Manager for the preparation of the Sentinel Generating Station Application for Certification. The facility is a natural gas fired simple cycle plant with a nominal power output of 800 megawatts consisting of eight General Electric LMS-100 combustion turbine generators and ancillary equipment.

Industrial Noise Analysis

Task Manager, Handley Generating Station Drilling Assessment, Fort Worth, Texas: Noise Task Manager for the assessment of noise exposure associated with gas well drilling operations in sensitive residential communities located in the cities of Arlington and Fort Worth. Source noise level data specific to the Caterpiller 398 diesel electric generating set was obtained and modeled. The project included assessment of compliance with local ordinances.

Task Manager, Thyssen Krupp Steel Facility Analysis, State of Louisiana: Noise Task Manager for the assessment of construction related noise exposure associated with pile driving operations at the proposed Newstar Factory Site. The project involved the placement of over 130,000 piles. Detailed noise modeling analysis was conducted using CADNA/A modeling software to assess potential noise and vibration in the surrounding environs.

Security Clearance

Secret (Not Active)

Chronology

10/06-Present, URS Corporation, Santa Ana, California

3/91-10/06, Mestre Greve Associates, Laguna Niguel, California

URS

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[Santa Ana/8/07/Rev1]

STUART ST. CLAIR

URS

Stuart B. St. Clair, P.E.

Project Civil Engineer

Areas of Expertise

Civil/Environmental Engineering
Hydrogeology & Groundwater Quality
Contaminant Investigations
Waste Disposal Facility Permit Compliance

Years of Experience

With URS: 4 Years
With Other Firms: 8 Years

Education

M.S./Civil Engineering/1996/ California State University, Fresno
B.S./Physics/1988/Walla Walla College

Registration/Certification

2000/Civil Engineer/CA/#60945/ Expires Dec. 2006

Overview

Mr. St. Clair has over 12 years of civil/environmental engineering experience within California's Central Valley and adjoining mountain areas, including almost two years with the California Regional Water Quality Control Board where he primarily oversaw Title 27 groundwater monitoring programs at Class I and II landfills and surface impoundments. His work has focused primarily on the areas of hydrology, hydrogeology, environmental assessment, contaminant investigation and remediation, waste disposal facility investigations, and groundwater resources. He has planned and implemented environmental sampling programs, aquifer tests, and remediation programs; designed and overseen the installation of groundwater monitoring well networks; managed groundwater monitoring programs; performed Phase I and Phase II Environmental Site Assessments (ESAs); and performed computerized numerical modeling studies of groundwater flow and contaminant transport.

Project Specific Experience

Contaminated Site Assessment and Remediation Projects

Assessment/Monitoring Task Leader, Groundwater Remediation, Goshen Avenue and Shirk Road Site, Visalia, CA, Confidential Client, 1996 - Present, $2M: Mr. St. Clair is the task leader for various components of a chlorinated-solvent groundwater remediation project, which is being conducted under the oversight of the California Department of Toxic Substances Control (DTSC). He has overseen: depth-discrete soil and groundwater sampling; design of nested monitoring wells (3 per borehole); aquifer tests to determine the hydrogeologic properties of the leaky, multi-layered aquifer system; computerized flow and transport numerical modeling to optimize the pump-and-treat remediation system; design of remedial extraction wells and preparation of construction specifications; management and assessment of ongoing groundwater monitoring data; and assessment of various techniques for accelerating remediation and closure. He is currently task leader for a vapor intrusion investigation to assess whether indoor air in current or future overlying buildings could be impacted by the contamination.

Project Manager, Sunnyside Village Shopping Center Dry Cleaner Site, Fresno, CA, M&H Realty Property Management, 2003 - 2004, $90K: Mr. St. Clair was the project manager for a soil and groundwater investigation at an active dry cleaner facility under the oversight of the California Regional Water Quality Control Board (RWQCB). An active municipal water supply well was located within 200 feet of the facility. The soil investigation included limited-access, direct-push borings inside the facility. The borings identified a low-permeability soil layer that likely impeded downward contaminant transport. Groundwater monitoring

wells were installed, and the sampling results indicated that the groundwater impact was relatively minor. After the RWQCB stated a concern that municipal water customers not be exposed to tetrachloroethylene (PCE) at concentrations above the California Public Health Goal of 0.06 micrograms per liter, URS arranged for water samples from the municipal supply well to be analyzed using a special method to achieve low detection limits. Expedited site closure was obtained from the RWQCB, which was greatly beneficial to URS' client who was in the process of selling the shopping center.

Project Manager, Preliminary Endangerment Assessment (PEA) and Removal Action Workplan (RAW), 3103 50th Street West, Rosamond, CA, DTSC, 2004 - Present, $110K: Mr. St. Clair is the project manager for the PEA and RAW of a site in the Mojave Desert which had been a salvage yard for scrap automobiles, electrical parts, metal wire, household appliances, and military scrap materials such as missile drones. Various waste materials were previously stored at the Site, including petroleum-based liquids, antifreeze and unknown liquids, burned batteries, oil-contaminated soil, dioxin/furan-contaminated soil and ash, asbestos-containing materials, and drums containing solvents, paints, and other chemicals. The PEA included a geophysical survey to investigate a suspected underground storage tank location, excavation and logging/sampling of test pits, and direct-push test holes for collection of soil samples. The analytical program included various organic and inorganic chemicals of potential concern. A few on-site areas with elevated lead and dioxin concentrations in surface soil were identified. URS performed stepout sampling to assess the lateral and vertical extents of the impacted soil in these areas. This approach was used so that the client could proceed directly to preparation of a RAW without the need for further site characterization. The RAW is currently under review by DTSC.

Project Manager, Visalia Village Shopping Center Dry Cleaner Site, Visalia, CA, Confidential Client, 2003 - Present, $70K: Mr. St. Clair is the project manager for the groundwater investigation at a former dry cleaning facility. Soil gas surveys were completed and identified areas of low to moderate PCE contamination. Groundwater monitoring wells were installed and identified low to moderate groundwater impacts. The client has elected to proceed with continued monitoring rather than active remediation.

Project Manager, Preliminary Endangerment Assessment (PEA), Osage Industries Site, 2001 15th Street West, Rosamond, CA, DTSC, 2003 - 2004, $75K: Mr. St. Clair was the project manager for the PEA of a site in the Mojave Desert which had been a salvage yard for scrap metal, industrial/mining/aerospace equipment, and associated materials; and where furnace slag waste from a lead smelter was deposited in the early 1970s. The PEA included collection of soil and groundwater samples and analysis for various organic and inorganic chemicals of potential concern. Based on the human health screening evaluation results, URS' report

recommended that a remedial investigation be conducted to assess the extent of contaminated soil.

Groundwater Monitoring Task Manager, H.S. Mann Metals Site, Del Rey, CA, DTSC, 2004 - Present, $200K: Mr. St. Clair is the groundwater monitoring task leader for a site that had extensive soil contamination by metals due to a metal recycling operation. The groundwater monitoring program includes on-site monitoring wells installed during the remedial investigation, as well as an on-site domestic well. Relatively minor groundwater impacts have been identified. URS prepared and implemented a Removal Action Workplan to excavate the contaminated soil and remove if from the site. Groundwater monitoring is continuing to assess whether contaminant concentrations will decrease sufficiently now that the contaminated soil has been removed.

Project Manager, Leaking UST Site, Corcoran, CA, Burlington Northern & Santa Fe Railway Co., 2004 - 2006, $34K: Mr. St. Clair was the project manager for a leaking UST site in Kings County, California. in Monterey and Santa Clara Counties. Petroleum hydrocarbons had been detected when the UST was removed. Subsequently the water table dropped substantially. A deeper monitoring well was installed. Soil and groundwater samples contained little to no contaminants. Regulatory closure from the RWQCB was obtained after three rounds of groundwater monitoring.

Project Manager, Leaking UST Sites, Salinas & San Jose, CA, J.C. Penney Co. Inc., 2003 - Present, $180K: Mr. St. Clair is the project manager for two leaking UST sites in Monterey and Santa Clara Counties, California. Innovative investigation techniques designed to efficiently provide data needed to achieve regulatory closure have included a passive soil gas survey and depth-discrete groundwater sampling using passive diffusion bags. Both sites have groundwater monitoring wells that are monitored periodically. URS is investigating options for achieving regulatory closure as efficiently as possible. At the San Jose site, Mr. St. Clair recently completed a vapor intrusion investigation to assess whether indoor air in the on-site building has been impacted by the contamination. Based vapor intrusion technical report recommended that regulatory closure should be granted based on the less-than-significant predicted impact to indoor occupants and based on the long-term stability of the groundwater plume. The report is currently under review by the regulatory agencies.

Groundwater Monitoring Task Manager, Fresno Battery Exchange Site, Fresno, CA, DTSC, 2004 - Present, $140K: Mr. St. Clair is the groundwater monitoring task leader for a site with extensive soil contamination by metals, primarily lead, due to a long-running battery recycling operation. The groundwater monitoring program includes on-site monitoring wells installed during the remedial investigation, as well as an on-site domestic well and an off-site agricultural well. Relatively minor groundwater impacts have been identified. URS has prepared a Removal

Action Workplan to excavate the contaminated soil and remove if from the site.

K-12 School Site Hazardous Material Investigations

Project Manager, Preliminary Environmental Assessment (PEA), Former Andeson Clayton Cottonseed Mill, Chowchilla, CA, DTSC, 2006 - 2007, $85K: Mr. St. Clair was the project manager for the PEA of this former industrial site that was proposed for expansion of the Chowchilla High School Athletic Fields. The PEA was conducted on behalf of the Chowchilla Union High School District under DTSC's Targeted Site Investigation (TSI) Program, so that DTSC was actually URS's client. The funding for the project came from the U.S. Environmental Protection Agency (USEPA) brownfields assessment program, which meant that the PEA Workplan had to be approved by USEPA as well as DTSC. A geophysical survey was conducted to assess for the presence of former underground storage tanks. Direct-push technology methods were employed to collect soil, soil gas, and groundwater samples. An on-site laboratory was used for soil gas analyses to provide for same-day analytical results and to allow adjustment of the sampling program for site-specific conditions, to ensure a complete site investigation, and to minimize the need for subsequent sampling events. The PEA report concluded that further assessment in specific areas was necessary, and DTSC concurred. The PEA was completed under budget and within a very short time period to meet the USEPA grant deadline.

Project Manager, Preliminary Environmental Assessment (PEA) and Supplemental Site Investigation, Planned Zumwalt Avenue Elementary School Site, Reedley, CA, Kings Canyon Unified School Distrct, 2006-Present, $45K: Mr. St. Clair is the project manager for the PEA and SSI of a proposed 20-acre elementary school site located on a nectarine orchard and farmstead. The farmstead includes a pesticide storage shed, suspected mixing area, a garbage burn pile, and potential treated wood structures. The PEA was successfully conducted on a fast-track basis to meet a grant funding and construction deadline. The PEA concluded that 95% of the site is safe for students but 5% requires further assessment. The SSI of the smaller area is ongoing at this time. URS assisted the client in getting partial DTSC site approval for the majority of the site, so that construction could move forward expeditiously.

Project Manager, Preliminary Environmental Assessment (PEA), Supplemental Site Investigation (SSI), Removal Action Workplan (RAW), and RAW Implementation, Oakdale High School Expansion Site, Oakdale, CA, Oakdale Joint Unified School District, 2003 - 2005, $250K: Mr. St. Clair was the project manager for assessment and remediation of this planned school expansion site which included 30 residences and formerly had been used as cropland. The PEA included collection of soil, soil-vapor, and groundwater samples. Soil-vapor samples were analyzed by an on-site laboratory, and the remaining samples were analyzed by fixed laboratories. The PEA identified on-site areas having elevated concentrations of lead and

chlordane in soil. The SSI assessed the lateral and vertical extents of contamination. A RAW was prepared for removal of the contaminated soil. Mr. St. Clair prepared remediation plans and specifications and continued as URS' project manager for providing air monitoring and confirmation soil sampling during the removal action. The Removal Action Completion Report was approved quickly by DTSC.

Project Manager, Preliminary Environmental Assessment (PEA) and Supplemental Site Investigation (SSI), Livingston High School Expansion Site, Livingston, CA, Merced Union High School District, 2005 - Present, $50K: Mr. St. Clair is the project manager for the PEA and SSI of a proposed high school expansion site. The site has been used as cropland, and one area was used for farm equipment maintenance and storage. Soil samples were collected across the site, and a surface water sample was collected from a canal that traverses the site. A few relatively small on-site areas were identified that have soil impacted by petroleum hydrocarbons due to the equipment maintenance activities. The PEA concluded that 80% of the site is safe for students but 20% requires further assessment. The SSI of the smaller area is ongoing at this time. URS assisted the client in getting partial DTSC site approval for the majority of the site, so that the client could qualify to receive state funding sooner.

Project Manager, Preliminary Environmental Assessment (PEA) and Supplemental Site Investigation (SSI), Planned Valentine Elementary School Site, Fresno, CA, DTSC, 2006 - Present, $80K: Mr. St. Clair is the project manager for the PEA and SSI of a proposed elementary school site. The PEA was conducted on behalf of the Central Unified School District under DTSC's Targeted Site Investigation (TSI) Program, so that DTSC was actually URS's client. The funding for the project came from the U.S. Environmental Protection Agency (USEPA) brownfields assessment program, which meant that the PEA Workplan had to be approved by USEPA as well as DTSC. At the time of the PEA, the site consisted of three contiguous residential properties that were previously rural, but had been annexed into the City of Fresno and were surrounded by recently constructed residential subdivisions and apartments. Each property had its own water well and septic system. Direct-push technology methods were employed to collect soil and soil gas samples. An on-site laboratory was used for soil gas analyses to provide for same-day analytical results and to allow adjustment of the sampling program for site-specific conditions, to ensure a complete site investigation, and to minimize the need for subsequent sampling events. The Johnson and Ettinger soil-vapor intrusion model was used to evaluate potential risks to receptors inside on-site structures. The PEA identified several areas of the site having soil impacted by chlordane (a termiticide), lead (from lead-based paint), and a few other chemicals. The PEA report concluded that a further response action was necessary, and DTSC concurred. The PEA was completed under budget and within a very short time period to meet the USEPA grant deadline. The SSI is ongoing.

Project Manager, Preliminary Environmental Assessment (PEA), Planned Mendota Junior High School Site, Mendota, CA, DTSC, 2006, $45K: Mr. St. Clair was the project manager for the PEA of a proposed junior high school site. The PEA was conducted on behalf of the Mendota Unified School District under DTSC's Targeted Site Investigation (TSI) Program, so that DTSC was actually URS's client. The funding for the project came from the U.S. Environmental Protection Agency (USEPA) brownfields assessment program, which meant that the PEA Workplan had to be approved by USEPA as well as DTSC. At the time of the PEA, the site consisted of fallow cropland. Several leaking fuel facilities were located near the site, and transport of contaminated groundwater from those facilities to the site was a concern. Direct-push technology methods were employed to collect soil, soil gas, and groundwater samples. An on-site laboratory was used for soil gas analyses to provide for same-day analytical results and to allow adjustment of the sampling program for site-specific conditions, to ensure a complete site investigation, and to minimize the need for subsequent sampling events. The PEA report concluded that no further action was necessary, and DTSC concurred. The PEA was completed under budget and within a very short time period to meet the USEPA grant deadline.

Project Manager, Preliminary Environmental Assessment (PEA), Lockeford Elementary School Expansion Site, Lockeford, CA, DTSC, 2003, $75K: Mr. St. Clair was the project manager for the PEA of a proposed elementary school expansion site. The PEA was conducted on behalf of the Lodi Unified School District under DTSC's Pilot PEA Program, so that DTSC was actually URS' client. The funding for the project came from the U.S. Environmental Protection Agency (USEPA) brownfields assessment program, which meant that the PEA Workplan had to be approved by USEPA as well as DTSC. At the time of the PEA, the site was a commercial trucking terminal and formerly had been used as a grain elevator, a brick factory, a lumber storage facility, and a railroad station. Direct-push drilling methods were employed to allow collection of soil, soil-vapor, and groundwater samples from the same boring, minimizing the costs of sampling. An on-site laboratory was used for soil-vapor analyses to provide for same-day analytical results and to allow adjustment of the sampling program for site-specific conditions, to ensure a complete site investigation, and to minimize the need for subsequent sampling events. The Johnson and Ettinger soil-vapor intrusion model was used to evaluate potential risks to receptors inside on-site structures. Minor areas of hydrocarbon-impacted soil were identified. The PEA report concluded that no further action was necessary. The DTSC project manager in the Glendale office expressed great satisfaction with URS' responsiveness to DTSC's and the school district's needs, and with the successful completion of the project ahead of schedule and under budget.

Project Manager/Engineer, Phase I and II Environmental Site Assessments (ESAs) and Preliminary Environmental Assessments (PEAs), Various Proposed School Sites, Central USD, Clovis USD, Coalinga-Huron USD, Firebaugh-Mendota USD, Kings Canyon

USD, Lodi USD, and Parlier USD, Central Valley, CA, 1999 – 2001, $NA: Mr. St. Clair was the Project Manager or Project Engineer for numerous environmental assessments of proposed school sites, ranging from 3 to 80 acres in area. The PEAs were conducted under the oversight of the California Department of Toxic Substances Control (DTSC), and all projects were successful in obtaining DTSC approval for the sites. In several instances, Mr. St. Clair was able to negotiate with DTSC for a more cost-effective sampling approach, which enabled the school district to meet the project objectives at a significantly reduced overall cost. One project was reportedly for the first planned school site in the state requiring a focused health-risk assessment beyond the PEA process, and Mr. St. Clair was integrally involved in completing that project on-budget and on-time, which was an important constraint due to the time-critical nature of the project.

Project Manager, Off-Site Hazardous Material Assessment, Planned Zumwalt Avenue Elementary School, Reedley, CA, Kings Canyon Unified School District, 2006, $5K: Mr. St. Clair was the project manager for the assessment of potential hazardous material impacts to a planned elementary school. Nearby off-site hazards included aboveground diesel and propane tanks and a manufacturing facility. Hazards evaluated included thermal, overpressure, and toxic air concentration impacts due to explosions, fires, and releases of toxic vapor clouds. Off-site consequence analysis impact distances were modeled using a specialized computer program. Recommendations were developed regarding a reasonable distance to move the aboveground fuel tanks away from the school. URS also conducted an air toxics health risk assessment to evaluate the potential for emissions from a nearby manufacturing facility to impact the health of future students and staff of the school. The assessment concluded that the potential was below the accepted threshold of concern.

Project Manager, Hazardous Air Emissions Screening-Level Health Risk Assessments, Various Proposed School Sites, Fresno USD and Parlier USD, Central Valley, CA, 2000 - 2001, $NA: Mr. St. Clair conducted several screening-level health risk assessments for proposed school sites located near facilities with chronic or potentially accidental hazardous air emissions, as required by California law. Computer modeling was performed to estimate potential air concentrations at the sites. Health risk calculations were performed for cancer, non-cancer chronic, and acute effects. Where necessary, the assessment reports included recommendations for alternate site locations.

Property Transaction "Due Diligence" Environmental Assessments

Project Manager and Technical Reviewer, Phase I Environmental Site Assessment (ESA) and Preliminary Endangerment Assessment (PEA), Imperial Anchor Pallet Property, Tulare, CA, City of Tulare Redevelopment Agency, 2006 - Present, $84K: Mr. St. Clair was the project manager for a Phase I ESA of this former industrial facility where intentional dumping of various imported waste materials was reported.

The ESA concluded that further investigation was warranted. Currently, Mr. St. Clair is serving as a technical reviewer for a PEA that is being conducted under contract to DTSC using USEPA brownfields assessment funding.

Task Leader, Phase I Environmental Site Assessment (ESA), Planned Bullard Energy Center, Fresno, CA, Bullard Energy Center LLC, 2006, $5K: Mr. St. Clair was the task leader for conducting a Phase I ESA for a 20-acre industrial site planned for conversion into natural-gas fueled, electrical generating powerplant in an industrial area of the City of Fresno. The scope of work included a site reconnaissance, interviews with knowledgeable persons, review of historical aerial photographs, and review of agency database lists and files. Recommendations were developed for further investigation of areas of concern.

Task Leader, Environmental Impact Assessment, Wasco Industrial Park, Wasco, CA, City of Wasco, 2006, $5K: Mr. St. Clair was the task leader for preparing the Hazards and Hazardous Materials Section for an Environmental Impact Assessment for a proposed 1,900-acre industrial park in the City of Wasco. Proposed uses include an ethanol distillation plant, food processing facilities, distribution and cold storage facilities, and manufacturing facilities. Hazards evaluated included thermal, overpressure, and toxic air concentration impacts due to explosions, fires, and releases of toxic vapor clouds. Off-site consequence analysis impact distances are in the process of being modeled using a specialized computer program. A survey of existing hazardous materials in the project area was also conducted.

Project Manager, Phase I Environmental Site Assessment (ESA), South Fresno, CA, Confidential Client, 2004, $3K: Mr. St. Clair was the project manager for a Phase I ESA conducted for the potential buyer of a 10-acre property used as a commercial truck terminal and maintenance center. Recognized environmental conditions (RECs) were discovered related to possible releases of waste oil and possibly improper on-site disposal of soil impacted by a previous underground storage tank leak. A limited soil investigation was conducted, which indicated that the on-site disposal had not negatively impacted the site.

Project Manager, Phase I ESA, South Fresno, CA, Confidential Client, 2004, $3K: Mr. St. Clair was the project manager for a Phase I ESA conducted for the potential buyer of a 50-acre property that included a large dry grocery warehouse, a frozen food warehouse with an ammonia cooling system, and a truck maintenance facility. RECs identified comprised possible releases from underground hydraulic lifts and possible impacts from reported off-site chemical releases. Various other concerns were identified that were not severe enough to be considered RECs.

Project Manager, Phase I ESA, Proposed Babe Ruth Baseball Association Ballpark, Fresno County, CA, City of Clovis, 2004, $4K: Mr. St. Clair was the project manager for a Phase I ESA conducted for the

City of Clovis of a 20-acre farmstead that was under consideration as the site of a baseball facility. RECs were not identified at the site, but the potential presence of lead-based paint and asbestos-containing building materials was noted.

Waste Disposal Facility Investigations

Project Engineer, Groundwater Investigation, Visalia Water Conservation (Wastewater Treatment) Plant, Visalia, CA, City of Visalia, 2006 - Present, $30K: Mr. St. Clair is the project manager for a investigation to assess the lateral and vertical extent of groundwater impacted by discharges of treated effluent from a wastewater treatment plant (WWTP). The investigation includes expanding the existing monitoring well network and a program of sampling existing domestic wells in the rural area. The investigation is complicated by commingled plumes from the WWTP and various confined animal facilities in the area.

Project Manager, Detection Monitoring Reports, Fresno County Class III Landfills, Fresno, CA, County of Fresno, 2006 - Present, $32K: Mr. St. Clair is the project manager for preparation of detection monitoring reports for four Class III landfills operated by Fresno County. Sampling points include leachate collection sumps, pan lysimeters, suction lysimeters, soil gas wells, groundwater monitoring wells, and surface water monitoring stations. Laboratory data are statistically analyzed using the Sanitas computer program for evidence of landfill releases. Mr. St. Clair developed an Access database to import laboratory electronic files and seamlessly integrate current and historical data. The reports are prepared to comply with the Waste Discharge Requirments established by the California Regional Water Quality Control Board.

Project Engineer, Geologic and Hydrogeologic Studies, Clovis Class III Landfill, Fresno County, CA, City of Clovis, 1999 - 2005, $250K: In 2004 to 2005, Mr. St. Clair was part of a team preparing an Environmental Impact Report (EIR) for a municipal solid waste landfill located in the foothills of the Sierra Nevada. Mr. St. Clair's responsibilities included preparing the EIR sections dealing with Soil and Geology, Hydrology and Water Quality, and Hazards. Mr. St. Clair was previously involved from 1999 to 2001 preparing groundwater, landfill gas, and surface water monitoring reports for the landfill, which is located in a relatively complex geologic setting, with two types of shallow bedrock underlying different portions of the landfill.

Staff Engineer & Agency Regulator, Oberti Olive Company Class II Surface Impoundments, Madera, CA, Tri-Valley Growers / California Olive Growers, 1996 - 2003, $NA: As a staff engineer in 1996 and 1997, Mr. St. Clair performed the statistical analysis of hydrologic data to assess seasonal trends important for planning the operation of a wellhead groundwater remediation system. He also calculated soil and contaminant loads for closure of a large evaporative olive brine waste pond system. As an agency regulator in 2001 to 2003, he oversaw continued implementation of the California Title 27 remediation and

monitoring program and performed computerized numerical modeling of groundwater remediation well capture zones under various pumping scenarios.

Agency Regulator, Lindsay Olive Growers Class II Surface Impoundments, Lindsay, CA, Lindsay Olive Growers, 2001 – 2003, $NA: As an agency regulator, Mr. St. Clair provided regulatory oversight for a 250-acre evaporative olive brine waste pond system that had severely impacted a large volume of groundwater with saline constituents. He assessed the areal extent and severity of the groundwater impacts. He oversaw of the installation of an earthen cover to close a portion of the ponds in accordance with California Title 27 requirements. He also oversaw the conversion of the closed ponds into a large dairy farm.

Project Engineer, Groundwater Investigation, Visalia Water Conservation (Wastewater Treatment) Plant, Visalia, CA, City of Visalia, 1998 - 2001, $300K: Mr. St. Clair performed various project engineering tasks related to assessing the lateral and vertical extent of groundwater impacted by discharges of treated effluent from a wastewater treatment plant. His tasks included logging of continuous-core drilling, oversight of discrete-depth groundwater sampling, installing monitoring wells, sampling existing supply wells, and developing recommendations for further action. He also managed the groundwater monitoring program, keeping it on-time and on-budget for several years.

Project Manager, Groundwater Investigation, Sequoia Field Wastewater Treatment Facility, Tulare County, CA, County of Tulare, 2004, $7K: Mr. St. Clair was the project manager for preparation of a groundwater monitoring workplan to assess whether groundwater has been impacted by activities at this wastewater treatment facility, which serves a small airport and a cluster of four separate correctional facilities. The facility is operated pursuant to Waste Discharge Requirements issued by the RWQCB.

Project Engineer, Geologic/Hydrologic Studies, LSF Madera Dairies Nos. 1 - 4, Madera County, CA, Quad Knopf Inc., 2003 - 2004, $100K: Mr. St. Clair provided technical direction and review for the geologic/hydrologic studies conducted for these four proposed adjacent dairies. The studies were conducted to provide technical support for EIRs prepared for the County Planning Department. The studies evaluated geologic/hydrologic conditions as related to the proposed dairy designs, and resulted in recommendations for mitigation measures for potential environmental impacts.

Project Engineer, Geologic/Hydrologic Study, Red Top Jersey Dairy, Madera County, CA, Quad Knopf Inc., 2003 - 2004, $70K: Mr. St. Clair provided technical direction and review for the geologic / hydrologic study conducted for this new large dairy farm. The study was conducted to provide technical support for an EIR prepared for the County Planning Department. The study evaluated geologic/hydrologic

conditions as related to the proposed dairy design, and resulted in recommendations for mitigation measures for potential environmental impacts.

Project Manager, Geologic/Hydrologic Study, Diamond H Dairy, Madera County, CA, Quad Knopf Inc., 2001, $50K: Mr. St. Clair was the Project Manager for the geologic/hydrologic study conducted for this new large dairy farm. The study was conducted to provide technical support for an EIR prepared for the County Planning Department. The study evaluated geologic/hydrologic conditions as related to the proposed dairy design, and resulted in recommendations for mitigation measures for potential environmental impacts.

Water Supply Investigations

Project Engineer, Water Supply Alternatives Analysis, Planned Bullard Energy Center, Fresno, CA, Bullard Energy Center, LLC, 2006, $250K: The planned Bullard Energy Center will provide 200 megawatts of electrical power using natural-gas-fired turbine generators. Mr. St. Clair performed an alternatives analysis to identify a water supply for the plant that would be technically and financially feasible and would also be acceptable to the California Energy Commission in terms of compliance with the California water policy against using fresh inland waters for power plant cooling. Alternatives analyzed included reclaimed treated wastewater, deep brackish groundwater, and shallow fresh groundwater offset by treatment of contaminated groundwater elsewhere in the City. The analysis included extensive discussions with the City of Fresno water and wastewater departments, the Regional Water Quality Control Board, the Fresno Metropolitan Flood Control District, and the Fresno Irrigation District.

Task Leader, Environmental Impact Assessment, Wasco Industrial Park, Wasco, CA, City of Wasco, 2006, $200K: Mr. St. Clair was the task leader for preparing the Hydrology Section for an Environmental Impact Assessment for a proposed 1,900-acre industrial park in the City of Wasco. Proposed uses include an ethanol distillation plant, food processing facilities, distribution and cold storage facilities, and manufacturing facilities. Both surface water and groundwater are currently used in the project area. Existing and proposed water use estimates were prepared. The analysis included discussions with the two irrigation districts that serve the area. Mitigation alternatives were prepared.

Project Manager, Groundwater Study, New Ethanol Distilling Facility, Goshen, CA, Phoenix Bio Industries LLC, 2005, $40K: Mr. St. Clair was the project manager for a groundwater study conducted to satisfy a Special Use Permit condition imposed by Tulare County in response to concerns expressed by neighbors of a new fuel-grade ethanol distilling facility that operates on corn feedstock. The study assessed whether the use of groundwater to supply the facility would cause excessive drawdowns in the neighbors' domestic wells, or would induce

the migration of contaminants into the neighbors' wells from a landfill located about 2.5 miles away. A numerical groundwater model was constructed to predict drawdowns and overall changes in the groundwater flow field. The study concluded that the drawdowns would be relatively insignificant and that there was very little likelihood of contaminants being drawn into the neighbors' wells. After submittal of the project report, Mr. St. Clair provided extensive public testimony at Planning Commission hearings to explain the report's findings and to provide detailed responses to public comments that were received.

Project Engineer, Well and Aquifer Study, Community of Richgrove, Tulare County, CA, Tulare County Resource Management Agency, 2005, $30K: The community of Richgrove's groundwater supply system suffered from inadequate water quantity and quality (including problems with DBCP, arsenic, nitrate, and hydrogen sulfide). Mr. St. Clair was responsible for evaluating whether the community's three existing water supply wells had additional flow capacity available. He was also responsible for evaluating available hydrogeologic data (well logs, geophysical logs, groundwater elevations, and groundwater quality) to select recommended locations for drilling test holes for new wells.

Project Engineer, Groundwater Modeling Study, Golden Hills Community Services District, Kern County, CA, Provost & Pritchard Engineering Group Inc., 2001, $30K: Mr. St. Clair performed a computerized numerical modeling study of groundwater flow and contaminant transport in a geologically complex Sierra Nevada mountain basin. The District relies on groundwater for water supply needs, and nitrate concentrations had increased significantly in many areas, probably as a result of residential septic systems. The model was calibrated to historical groundwater level and concentration data and used to predict future nitrate concentrations under various pumping and recharge scenarios. Mr. St. Clair produced a final report documenting methodologies, predictions, and recommendations for further study.

Specialized Training

1996/OSHA 40-hour HAZWOPER per 29CFR1910.120 (with annual 8-hour refreshers thereafter)
1999/OSHA 8-hour HAZWOPER Supervisor per 29CFR1910.120
2001/Principles of Groundwater Flow and Transport Modeling (2-day short course), Groundwater Resources Association of California
2001/Applied Ground Water Statistics (2-day short course), Intelligent Decision Technologies, Ltd.
2002/The Groundwater Pollution and Hydrology Course (5-day short course), Princeton Groundwater, Inc.
2002/Advanced Modeling of Water Flow & Solute Transport in the Vadose Zone (2-day short course), Colorado School of Mines
2006/Loss Prevention System (LPS) training (Chevron/ExxonMobil), Oakland

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Publications

"A Coupled Reactive-Transport Groundwater Computer Code for Environmental Applications," paper written by C.J. Suen, S.B. St. Clair, et al and presented at the 30th International Geological Congress, Beijing, China, August, 1996.

Chronology

01/03 - Present: URS Corporation, Project Civil Engineer, Fresno, CA
07/01 - 01/03: California Regional Water Quality Control Board, Water Resource Control Engineer, Fresno, CA
12/98 - 07/01: BSK & Associates, Project Engineer, Fresno, CA
06/96 - 12/98: Boyajian & Ross, Inc., Staff Engineer, Fresno, CA

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ERIC VONBERG

URS

Eric J. VonBerg

Environmental Manager

Areas of Expertise

NEPA/CEQA
Environmental Planning
Land Use Planning
Transportation Planning

Years of Experience

With URS: 3 Years
With Other Firms: 14 Years

Education

Master of Regional Planning/1993/University of Massachusetts at Amherst
Landscape Planning/1992/University of Hannover, Hannover Germany
B.A./Program in Social Ecology/1987 University of California at Irvine

Committees/Work Groups

The Governor's Partnership for the San Joaquin Valley, Transportation Work Group sponsored by the Great Valley Center

Overview

Mr. VonBerg has more than 17 years of experience in environmental, transportation, and urban planning at the local, county, and state level. He has had experience and success in coordination, negotiation, and making presentations to local, state, and federal agencies, politicians, city and county boards and commissions. Mr. VonBerg has a proven track record in project delivery of NEPA and CEQA projects for URS, Caltrans and FHWA, and in Environmental Project Management.

Consultant Responsibility, Planning Manager, URS Corporation: Mr. VonBerg currently manages planning in the Fresno office of URS. He is responsible for the daily operation, marketing, development and delivery of environmental and planning projects.

Management Responsibility, Supervising Environmental Planner, Caltrans Central Region: Mr. VonBerg was acting Office Chief South for the Environmental Division, Central Region prior to his hire at URS. He was responsible for the timely deliver of their Environmental Program. Mr. VonBerg wrote and worked on all levels of documentation from CE/CEs to EIR/EISs, including local assistance and programming documents. Mr. VonBerg managed projects in Districts 4,5, 6, 8,9, and 10.

Project Specific Experience

Consulting Services, Planning and Development Department, City of Fresno, CA. Mr. VonBerg was the Project Manager in charge of coordination and oversight of Cell Tower and other CUPs and SPRs for commercial development, and staffing for Traffic Engineering and Final Map Review by URS staff for the City of Fresno. Mr. VonBerg was also responsible for the CEQA and planning analysis, QA/QC, and applicant coordination for entitlement applications.

On-Call Environmental Services, Development Services and Planning, Fresno County, CA: Mr. VonBerg is the Program Manager for on-call services for Fresno County. URS is contracted to prepare all specialized environmental services needed for CEQA and NEPA compliance, including 4(f), biological and cultural surveys, air, noise, and hazardous waste investigations, and preparation of EIRs and EISs or other documents as needed.

Rose City Industrial Park Programmatic EIR, Wasco, CA: Mr. VonBerg is the Project Manager preparing the EIR for a 1,640-acre rail served industrial park including two ethanol plants studied at the project level. Impacts addressed include agriculture, biology, traffic, air and water quality, SB 610 Water Availability analysis, and growth inducement associated with expansion of the city's Sphere of Influence.

The Dominion EIR and Annexation, City of Merced, CA: Mr. VonBerg is the Assistant Project Manager and Planner preparing various sections of the EIR for the annexation and General Plan Amendment to allow development of a hospital, office, commercial, and residential development on 423 acres in north Merced.

Santa Barbara Ranch Specific Plan EIR, Santa Barbara, CA: Santa Barbara Ranch is a 485-acre property along the Gaviota Coast in Santa Barbara County. Mr. VonBerg prepared the CEQA agricultural analysis for the EIR that assessed the rescinding and replacement of a Williamson Act contract on approximately 3,000 acres with an Agricultural Conservation Easement to offset the reduction of land under contract and to exchange agricultural land to be protected. The analysis also assessed impacts and consistency with County policies for protecting and preserving prime agricultural lands and commercial agricultural operations.

California High Speed Train, Fresno to Palmdale Segment, Central to Southern CA. Mr. VonBerg is the Public Outreach Manager for this segment of the 700-mile proposed High Speed Train system being planned by the CA High Speed Rail Authority. Mr. VonBerg has been successful in leading the state in gaining support for the project through outreach efforts to Valley electeds, government staff, know community leaders, and other community stakeholders. This effort has lead to the Governor of California writing an Op-Ed to the Fresno Bee in support of a High Speed Train for California, and letter of support from the California delegation led by Jim Costa. Mr. VonBerg has developed relationships with local rail supporters including the Fresno Rail Commission.

ESPN Radio Tower EIR, Fresno County, CA: Mr. VonBerg is the Project Manager preparing an EIR to allow three 401-foot radio towers on a 28-acre parcel in rural Fresno County. This is a highly controversial project on a very tight timeline. The areas of study include aesthetics, biology, cultural and historic resources, and hazards associated with radio towers.

French Bar Bluff NEPA/CEQA Permit Assistance, Stanislaus County, CA: Mr. VonBerg is the Project Manager assisting French Bar Bluff, LLC in developing a Jurisdictional Wetland Report for the ACOE, Habitat Restoration and Monitoring Plan for CDFG,USFWS, NMFS, and ACOE, and a SWPPP for the RWQCB, including NEPA and CEQA compliance. These reports are required in order to obtain the county, state, and federal permits needed for the 544-acre rural residential project in the foothills of Stanislaus County near the Stanislaus River.

Clovis Landfill EIR, Clovis, CA: Mr. VonBerg served as Assistant Project Manager/Planner writing the EIR for the expansion and bringing into compliance the City of Clovis' Municipal landfill. Mr. VonBerg participated in two informal public meetings to explain to a small group of

concerned and informed neighbors specific information on the potential impacts of the project. As a result of these meetings, no one testified against the project at the City Council Hearing adopting the EIR.

Auberry Road Bike Lanes, Fresno County, CA: Mr. VonBerg revised the Wetland Delineation report based on comments received from Caltrans and ACOE to obtain ACOE verification on 8-2-05. Mr. VonBerg worked with the County and Caltrans to develop a strategy for resolving cultural issues to the move the project forward using new Caltrans/FHWA agreement for approving cultural resource reports.

Ball Ranch Master Development Plan, Fresno County, CA: Mr. VonBerg served as Assistant Project Manager/Planner developing a plan for providing recreational uses on 380 acres acquired by the San Joaquin River Trust on the banks of the San Joaquin River near Friant as part of the San Joaquin River Parkway.

County Planner, Millerton New Town Specific Plan and EIR, Quail Lake Specific Plan, and various General Plan Amendments Fresno CA: Planner responsible for the management of these projects for consistency with the County General Plan, and compliance with CEQA. Provided written and oral presentations to the Planning Commission and Board of Supervisors. Conserving Prime agricultural land and preventing the premature conversion of agriculture and incompatible uses into agricultural areas was a key issue for Fresno County.

County Planner, Quail Lake Specific Plan, various amendments and CEQA compliance, Fresno CA: Responsible for the review of the specific plan amendments for consistency with the County General Plan and compliance with CEQA. Provided written and oral presentations to the Planning Commission and Board of Supervisors.

County Planner, General Plan Amendments, Fresno, CA: Mr. VonBerg was responsible for assessing General Plan Amendments filed with the County, including CEQA review.

County Planner, Administration of Williamson Act Contracts, Fresno, CA: Responsible for the review, analysis, presentation, and processing of new contract requests, amendments, and cancellation of contracts. Mr. VonBerg worked with farmers, the state Department of Conservation, the local Agricultural Land Conservation Committee, and Board of Supervisors in presenting and processing all aspects of the Williamson Act for Fresno County.

County Planner, Airport Land Use Commission, Fresno, CA: Responsible for the review, analysis, presentation, and processing of land use entitlement applications within the Airport Land Use Plan boundaries of the 2 municipal airports and 7 aviation facilities located in Fresno County, focusing on compatibility/suitability of land uses with the runway safety zones and

noise contours. Responsibilities also included review and update of those plans.

UC Santa Cruz EIR for the Campus Long Range Development Plan, Santa Cruz, CA: Mr. VonBerg is responsible for the writing and analysis of Alternatives to the LRDP, and environmental analysis of the associated Infrastructure Project for the campus.

Mission Interchange, Merced, CA: Mr. VonBerg wrote the joint Environmental Assessment/Initial Study and FONSI/MND. He was successful in completing the NEPA/404 MOU process with U. S. Fish & Wildlife Service, Army Corps of Engineers, FHWA, and Federal EPA through the use and knowledge of local planning documents. Project is scheduled to start construction by Winter of 2005.

Campus Parkway Project, Merced, CA: Mr. VonBerg facilitated the NEPA/CEQA oversight for this project. He also helped respond to FHWA comments on the Administrative draft of the EIS/EIR, as a URS employee.

MCAG On-Call for Project Management Oversight, Merced, CA: Mr. VonBerg was the Environmental Specialist overseeing four Caltrans projects funded by the Merced County Association of Governments. Mr. VonBerg provides input to MCAG on resolving environmental and resource agency issues that develop on the various projects.

Professional Societies/Affiliates

Association of Environmental Professionals
CCAPA
CELSOC

Specialized Training

2004/AEP, Advanced CEQA Workshop
2000/The Shipley Group, Transportation NEPA & Decision Making
2000/National Highway Institute, NEPA and the Transportation Decision Making Process
2001/Caltrans 40-hour Supervisor's Workshop Training Program

Chronology

2004 - Present: URS Corporation, Planning Manager, Fresno, CA
1999 – 02/04: Caltrans Central Region, Supervising Environmental Planner
1993 - 1999: Fresno County, Staff Analyst, Fresno, CA
1987 - 1989: City of San Clemente, Assistant Planner/Planner/Intern

TRICIA WINTERBAUER

URS

Tricia K. Winterbauer

Senior Environmental Specialist

Areas of Expertise

Environmental Regulatory Compliance and Permitting
Energy Development Projects
Occupational Health & Safety
Phase I & II Environmental Site Assessments

Years of Experience

With URS: 11 Years

Education

BA/Environmental Studies/1992

Overview

Ms. Winterbauer has 11 years of experience in environmental regulatory compliance and permitting projects, energy development projects, occupational health and safety projects, hazardous waste soil and groundwater investigations and individual and multi-site Phase I and Phase II Environmental Assessments.

Project Specific Experience

Energy Development Projects

- Ms. Winterbauer has conducted permitting of power generating facilities through the California Energy Commission's Application for Certification (AFC) permitting processes for new power generation facilities. She has also assisted existing power generation facilities with the development of environmental and health and safety compliance plans and documentation.

- **Magnolia Power Project**. Served as task leader for Hazardous Materials, Hazardous Waste, and Worker Safety for the AFC of a 250 MW energy facility within the City of Burbank. The project was licensed in 2003. Assisted in the management of condition compliance activities from 2003-2005. Developed construction and operations Hazardous Materials and Hazardous Waste Management Plans, Stormwater Pollution Prevention Plans, A Health & Safety Program and a Risk Management Plan for the facility.

- **Ocotillo Energy Project**. Served as task leader for Hazardous Materials, Hazardous Waste, and Worker Safety for the AFC of a 456 MW electrical generating facility located within the County of Riverside submitted in 2001.

- **Agua Mansa Power Project**. Assisted in the preparation ad processing of an application to develop a 49 MW power facility in Colton, California. Project was constructed in 2003. Assisted in environmental compliance activities from 2003-2004. Developed Construction and Operations Hazardous Materials and Hazardous Waste Management Plans, a Spill Prevention Countermeasures and Contingency Plan, the operations Health & Safety Program and a Risk Management Plan for the facility.

- **Panoche Energy Center**. Served as task leader for Hazardous Materials, Hazardous Waste and Worker Safety for the AFC of a 400 MW energy facility within Fresno County. The AFC will be submitted to the CEC July, 2006.

- **Bullard Energy Center**. Served as task leader for Hazardous Materials, Hazardous Waste and Worker Safety for the AFC of a 200 MW peaking energy facility within Fresno County. The AFC will be submitted to the CEC November, 2006.
- **Duke Energy Moapa Power Project**. Assisted Duke Energy of North America in environmental permitting and construction compliance activities for a power plant in Clark County, Nevada from 2000-2002. Prepared and submitted compliance documents to various local, state and federal agencies. Prepared a permit matrix to track the completion of each of the permits required prior to construction, during construction, and prior to operations. Also assisted with NEPA compliance and coordination with the Bureau of Land Management for the power plant and project linears.
- **AES Southland**. Prepared an Occupational Health & Safety Program to comply with Cal-OSHA requirements for 5 California AES power plants in 2004. Safety Plans and Programs included Injury Illness Prevention Program, Hazard Communication Program, Industrial Hygiene Program, Hearing Conservation Program, Respiratory Protection Program, Confined Space Entry Program, Hot Work Program, Elevated Work and Fall Protection Program, Lockout/Tagout Program, Emergency Action/Fire Prevention Plans, Personal Protective Equipment Program, and Training Programs.

Environmental Regulatory Compliance

- Ms. Winterbauer has provided regulatory compliance assistance to various industrial and commercial facilities. Has developed and updated regulatory compliance documentation including hazardous waste management programs, hazardous materials management programs, Form R evaluations, hazardous material business plans, risk management plans, storm water pollution prevention plans, spill prevention control and countermeasure plans risk management plans and training programs.
- Has completed numerous Environmental Compliance Audits for industrial, commercial, and medical facilities.
- Conducted annual regulatory compliance audits for the Stanford Linear Accelerator Facility, Menlo Park, California from 1998-2003. Audits consisted of site reconnaissance activities to observe the storage and management of hazardous materials and hazardous waste, wastewater and stormwater and document review.
- Has provided daily and weekly onsite regulatory compliance assistance for various industrial and commercial businesses. Activities included, weekly inspections of hazardous waste areas, development and daily implementation of a hazardous management and hazardous waste programs, assistance with storage requirements for hazardous materials, development of a chemical spill prevention programs, and assistance with air permit compliance documentation and training of employees.

URS

Occupational Health and Safety

- Has provided occupational health and safety compliance assistance to various industrial and commercial facilities. Has developed health and safety programs that include all required Cal-OSHA plans and programs.
- Acted as the Environmental Health & Safety Coordinator for the Waste Discharge Order project at the Chevron Refinery, Richmond, California from 1998-2001. Responsibilities included completion of weekly health and safety audit, weekly health and safety meetings, preparation of health and safety plans, maintenance of training records and documentation for remedial activities completed on the project.
- Conducted occupational health and safety audits for the numerous industrial and manufacturing facilities to determine compliance of the Occupation Safety and Health Administration standards.

Phase I and Phase II Site Assessments

- Managed and conducted more than 200 Phase I Site Assessments of industrial and commercial facilities in Northern and Southern California. Investigations have focused on the potential for soil and groundwater contamination resulting from past and present site use. Specific tasks have included proposal preparation, budget tracking, site reconnaissance, historical land use investigation, topographic map and aerial photo review, and review of regulatory agency records concerning site compliance issues. Additional tasks have included collection of drinking water samples for analysis of lead content, and visual inspections and characterization of possible asbestos containing materials.
- Has Performed groundwater and soil sampling, at hazardous waste sites throughout California. Responsibilities have included well purging, sample collection, measurement of field parameters, report preparation and recommendations for further sampling analysis and remediation activities. Has assisted on large Phase II projects conducting field work and preparing reports of findings.

Contact Information

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JENNIFER WU

URS

Jennifer P. Wu

Environmental Planner

Areas of Expertise

Application for Certification (AFC)
Industrial Facility Planning
Land Use
Socioeconomic Analyses
Water Resources, Industrial

Years of Experience

With URS: 1 Year
With Other Firms: 3 Years

Education

BA/Environmental Chemistry/1999/University of California, San Diego

Registration/Certification

Certificate in Environmental Management/2002/University of California Extension, Irvine

Overview

Ms. Wu is an environmental professional with diverse experience in the public and private sectors. She has a concentration in socioeconomic analyses and environmental planning, and has a strong background in Application for Certification (AFC) licensing and compliance requirements through the California Energy Commission (CEC) and CEQA processes. Ms. Wu has dealt extensively with regulatory agencies and environmental compliance. She has worked in industrial planning, construction, and operation phases, with particular focus on water, wastewater, and air quality compliance, monitoring, and treatment and control technology. Ms. Wu has also worked substantially in safety and hazardous materials management, and has conducted environmental inspections and facility audits.

Project Specific Experience

AFC Experience

- Assistant Project Manager for Panoche Energy Center CEC AFC preparation process.
- Socioeconomics task leader for California Energy Commission (CEC) Application for Certification (AFC) for Panoche Energy Center, Bullard Energy Center, and Anaheim Municipal Power Station projects. Socioeconomics analyses included economic modeling using IMPLAN Professional software.

CEQA and NEPA Related Experience

- Task leader for Population and Housing, Environmental Justice, and Public Services and Utilities Systems sections for Southern California Edison Tehachapi Renewable Transmission project Proponent's Environmental Assessment (PEA). The project study area traversed through approximately fifty jurisdictions in Kern, Los Angeles, Orange, Riverside, and San Bernardino Counties, as well as federal jurisdictions.
- Assisted with Land Use, Recreation, and Cumulative Impacts disciplines for Southern California Edison Tehachapi Renewable Transmission Project Proponent's Environmental Assessment.
- Assisted with Aesthetics, Agriculture, and Public Services and Utilities sections on the Santa Barbara Ranch Draft Revised Environmental Impact Report (DREIR).

Siting and Feasibility Studies Experience

- Conducted siting analyses for future peaker facility within Orange County. Site analyses include critical determinations in land use, water and wastewater supplies and services, transmission, and hazardous materials and potential site remediation.
- Assisted with feasibility study for a municipal solid waste disposal facility located within the metropolitan areas of Los Angeles

County. Tasks included evaluations in land use and critical determination analyses.

- Assisted with green waste conversion technology feasibility study for Southern California Public Power Authority (SCPPA) within the Southern California region.

With Other Firms:

Environmental Consultant, Magnolia Power Project, Burbank, California. Managed regulatory compliance for the construction and operation of a combined-cycled power facility (323 MW), through the CEC, Los Angeles Regional Water Quality Control Board (LA RWQCB), South Coast Air Quality Management District (SCAQMD), California Air Resources Board (CARB), EPA Region XI, Department of Toxic Substance Control (DTSC), Department of Transportation (DOT), and the Department of Energy (DOE).

- Produced compliance documents in engineering design, air quality, hazardous materials, safety, security, storm water quality, industrial discharge, and process water quality, treatment, and monitoring.
- Executed Continuous Emissions Monitoring System (CEMS) and Source Compliance Demonstration Testing (SCDT) certification processes for local, state, and federal air quality compliance for commission of a new facility.
- Reviewed and revised process designs of water systems including ultra pure water demineralizer and Liquid Discharge (ZLD) treatment systems.
- Construction Mitigation Manager for construction air quality control.
- Managed compliance with National Discharge Pollutant Elimination System (NPDES) Permit for Industrial Activities by conducting inspections, implementing Best Management Practices (BMPs), conducting storm water sampling and chemical analyses, and administering training and reporting requirements.

Environmental Consultant, Burbank Water and Power, Burbank, California. Managed regulatory compliance associated with the operation and retrofit of an existing power facility consisting of one peaker and two base-load units.

- Managed compliance with local, state, and federal agencies relating to air quality (SCAQMD, CARB, and EPA Region IX), storm water (RWQCB and SWQCB), industrial discharge, and hazardous materials management.
- Produced and implemented environmental and safety compliance documents including: Aqueous Ammonia Risk Management Plan, Hazardous Materials Business Plan, and Storm Water Pollution Prevention Plan (SWPPP).
- Conducted greenhouse gas reporting for the California Climate Action Registry (CCAR).

URS

- Developed and provided training programs for storm water, industrial discharge, water treatment, and hazardous materials.
- Conducted environmental inspections pertaining to storm water quality, waste water discharge, and hazardous materials management.
- Lead and conducted environmental audits on hazardous waste processing and electronic waste recycling facilities.

Chronology

2003-2006:	Southern California Public Power Authority
2002:	Orange County Public Defender's Office, Fullerton, CA.
2002-1999:	Markzware Software, Santa Ana, CA
1998:	National Oceanic and Atmospheric Administration, La Jolla, CA

Publications

City of Burbank Operates the Cleanest Power Plant Nationwide, 2005. White paper discussing the operation of two boiler units built in the 1950s and 1960s, which were retrofitted to improve efficiency and achieve emission rates exceeding Best Available Retrofit Control Technology (BARCT) standards.

Contact Information

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APPLICANT'S PREHEARING CONFERENCE STATEMENT

RÉSUMÉS FOR WITNESSES PROVIDING LIVE TESTIMONY

EXHIBIT B

PANOCHE ENERGY CENTER
06-AFC-5
APPLICATION FOR CERTIFICATION

URS

Jason M. Moore, P.G., C.E.G.

Senior Geologist

Areas of Expertise

Environmental Geology
Landfill Investigations
Engineering Geology
Geologic Hazards
Water Resources
Hydrogeology
Groundwater Modeling
Project Management

Years of Experience

With URS: 1 Year
With Other Firms: 10 Years

Education

MS/Geological Engineering/1997/ Mackay School of Mines, University of Nevada, Reno
BS/Geology/1994/California State University, Fresno

Registration/Certification

2004/Professional Geologist/CA/ #7647/Expires December 2008
2006/Certified Engineering Geologist/CA/#2434/Expires December 2008

Overview

Mr. Moore is a California-registered geologist and certified engineering geologist with over 10 years of experience. He has a broad background including environmental geology, engineering geology, and hydrogeology and has supervised multi-contractor teams on complicated geologic and hydrogeologic investigations. He has worked on both commercial and government contracts, including extensive work with municipal, county, and Federal government clients. He has written numerous planning documents including field instructions, corrective action investigation plans and work plans based on regulator approved data quality objectives. Mr. Moore has interpreted analytical results and combined them with field observations in characterization reports and corrective action decision documents.

Project Specific Experience

Senior Geologist, Emergency Levee Repairs, Sacramento Valley, CA, California Department of Water Resources, 2006: Prepared Field Action Reports for 8 critical soil erosion sites for levees on the Sacramento River, Cache Creek, and the Sutter Bypass. The reports were compiled from field notes and photographs as well as aerial photographs and maps. The reports were prepared at an accelerated pace to support design of repairs for the levees prior to the summer of 2006 construction season.

Senior Geologist, Geotechnical and Seismic Hazards Investigation – First Phase, Planned Zumwalt Avenue Elementary School Site, Reedley, CA, Kings Canyon Unified School District, 2007-Present, $15K: Mr. Moore is the project Certified Engineering Geologist for the development of a proposed 20-acre elementary school site located on an orchard and farmstead. A report summarizing the first phase geotechnical and seismic hazards investigation of the site has been completed to expedite the current architectural / structural design phase of the project. The regional geologic setting, site geologic conditions, groundwater conditions, faults and seismicity of the site, as well as geologic, seismic, and liquefaction hazards were addressed in the evaluation. A second phase of the investigation will be completed after the nectarine orchard has been removed. The first phase investigation found that the site is geologically suitable for development.

Senior Geologist, Panoche Energy Center, Firebaugh, CA, Energy Investment Fund, 2006-Present: Supported permit process for a planned 400-megawatt electricity generation facility by preparing geology and other sections for the Application For Certification submitted to the California Energy Commission. The site is located on an alluvial fan in western Fresno County with recognized subsidence hazards due to

groundwater withdrawal and collapsible moisture deficient soils. Ground shaking is an additional significant geologic hazard at the site.

Senior Geologist, Bullard Energy Center, Fresno, CA, Energy Investment Fund, 2006-Present: Supported permit process for a planned 200-megawatt electricity generation facility by preparing geology and other sections for the Application For Certification submitted to the California Energy Commission. The site is located on the west side of Fresno, California.

Project Manager, Former Frank Uhler Fire Training Facility, Bakersfield, CA, Kern County General Services Division, T&M, 2004 – 2006, $340,000: Performed site characterization of a former fire training facility located over a water bank. The fire training facility was operated by the County to train County and industry personnel to fight oilfield fires. Crude oil, fuel, and other accelerants were pumped into various props at the site and burned. Site characterization tasks included a passive soil gas survey to identify the likely source of petroleum contamination at the site, direct push drilling to determine the nature and extent of petroleum contamination, and hollow stem auger drilling to collect deeper soil and groundwater samples. Contamination appeared to be primarily caused by a leaking above ground storage tank rather than fire fighting operations.

Project Manager, Blue Hills Disposal Facility, Coalinga, CA, Fresno County Department of Public Works and Planning, T&M, 2005 – 2006, $61,000: Managed quarterly groundwater monitoring at the former agricultural chemicals container disposal facility in southwestern Fresno County. The California Department of Toxic Substances Control requires quarterly monitoring at the site due to elevated concentrations of constituents of concern including herbicides in groundwater underling the site.

Task Manager, Maintenance Station, Coarsegold, CA, Caltrans, T&M, 2004 – 2005, $250,000: Managed installation of a remediation system using 4 soil vapor extraction and 4 air sparging wells and quarterly groundwater monitoring for gasoline and diesel associated with former leaking underground storage tanks (USTs) at the site.

Project Manager, County Maintenance Yard Leaking Underground Storage Tank (UST) Site, Lakeport, CA, Lake County, T&M, 2005 – 2006, $21,000: Managed installation and operation of 4 oxygen injection wells and interpreted quarterly groundwater monitoring data for gasoline and fuel additives associated with former leaking USTs at the site.

Project Manager, Naturally Occurring Asbestos Materials Survey, Tollhouse, CA, Confidential Client, T&M, 2005, $1,700: Managed a naturally occurring asbestos material screening for a parcel in the Sierra foothills. The property owner was concerned naturally occurring asbestos might be present and constitute an undisclosed preexisting condition. The

presence of naturally occurring asbestos materials was confirmed through polarized light microscopy analyses performed by a subcontracted laboratory.

Associate Geologist, Fertilizer Constituents Groundwater Modeling, Antioch, CA, Pioneer Americas, 2005: Performed groundwater modeling for a former fertilizer production facility situated adjacent to the San Joaquin River using FLOWPATH II 1.3.2 for 2 dimensional groundwater flow and transport modeling. Modeled constituents included copper and ammonia concentrations within two aquifers underlying the site.

Associate Geologist, Pyramid Lake Oil Spill Cleanup, Castaic, CA, Pacific Energy Partners, 2005: Performed approximately 3 months of on-site geologic hazard oversight for oil-impacted soil removal in a creek under steep slopes with loose rock. Oversaw construction of a rock-fall protection fence based on specifications prepared based on observations of rock-fall into the excavation area during excavation operations. The Federal On-Scene Commander for the site required a Professional Geologist with landslide experience to observe all excavation operations during the cleanup. The remote location of the cleanup required air-drop of mechanized excavation equipment and removal of the excavated soil using a heavy-lift helicopter.

Associate Geologist, Retail Petroleum Groundwater Modeling Projects, Various Sites, CA, ConocoPhillips Petroleum, 2004 – 2005: Performed groundwater modeling for former and active retail petroleum stations throughout the state of California using FLOWPATH II 1.3.2 for 2 dimensional groundwater flow and transport modeling.

Project Manager, Feedlot Phase I and Phase II Environmental Site Assessments, Firebaugh, CA, Confidential Client, T&M, 2004, $10,000: Performed Phase I and Phase II environmental site assessments to support property transfer of the cattle feeding operation property. Phase II work include direct push drilling of soil borings and soil sample collection. Soil samples were analyzed for fuel and semi-volatile organic compound constituents due to concerns regarding potential contamination associated with the fuel depot and former pesticide /herbicide handling facility located on the adjacent property.

Project Manager, Mr. Cs Handy Market Leaking UST Site, Porterville, CA, California Regional Water Quality Control Board (RWQCB), T&M, 2004, $5,000: Conducted groundwater monitoring at an active gas station with extensive groundwater contamination. Extensive site characterization and remediation had been conducted under the California UST Cleanup Fund, but was not completed because of litigation. Samples were collected from accessible wells and analyzed for fuel and fuel additives to support funding requests for additional work by the RWQCB.

Project Manager, Environmental Document Review, Gardena, CA, Baker, Manock, & Jensen, T&M, 2004, $1,500: Conducted environmental document review to support transfer of a major retail store built on property with gasoline, PCE, and TCE plumes present in the underlying groundwater. Ongoing natural attenuation of the constituents was confirmed based on review of quarterly monitoring report data and conclusions.

Associate Geologist, Hydrogeologic Testing and Groundwater Modeling, Rawhide Mine, Rawhide, NV, Confidential Client, 2004: Coordinated slug testing and performed unsaturated zone groundwater modeling for a mine in Nevada under consideration for development as a solid waste landfill. Aquifer testing and groundwater modeling software used included Win-Situ 4 for aquifer testing data, AQTESOLV 3.5 for analysis of aquifer slug tests, and HYDRUS for unsaturated flow modeling.

Senior Staff Engineering Geologist, Crestview Landslide Repair Oversight, Milbrae, CA, City of Milbrae Counsel, 2003 – 2004: Provided oversight of landslide repair construction operations for a high profile landslide. Observed construction and provided reports to City Counsel to support ongoing litgation.

Senior Staff Engineering Geologist, Scotts Valley High School Forensic Geotechncial Evaluation, Scotts Valley, CA, Consultant Team, 2004: Documented geotechnical damage to recently completed campus including slope stability, drainage, grading, and compaction problems. Completed survey of site for comparison of actual conditions to reported "as built" drawings. Evaluation supported the school district in pending litigation with contractors.

Senior Staff Engineering Geologist, Portola Valley Town Center Project, Portola Valley, CA, Town of Portola Valley, 2002 – 2004: Provided engineering geology services to the town to support reconfiguration of critical facilities at the former Portola Valley School Site. Two splays of the active San Andreas fault (Woodside and Trancos traces) are present at the site. Compiled a map of known offsets of the fault exposed in trenches surrounding the site. Provided oversight for trench logging on the Town Center Property.

Senior Staff Engineering Geologist, Seismic Hazard Assessment of Tajiguas Landfill, Santa Barbara County, CA, Heal the Ocean, 2003: Provided engineering geology services to assess County of Santa Barbara landfill expansion plans. A regional seismic hazard analysis was performed using deterministic and probabilistic seismic hazard analyses to assess slope stability calculation assumptions made by the Counties consultant. Results of the analysis were presented before the California State Regional Water Quality Control Board.

Senior Staff Engineering Geologist, Geotechnical Information Sheets, Various Hydroelectric Facility Penstocks and Canals, CA, Pacific Gas and Electric Company, 2002: Prepared Geotechnical Information Sheets for penstocks and canals at 16 sites with geologic and geotechnical hazards. Compiled geologic maps and photographs to provide a comprehensive quick reference to be used by Pacific Gas and Electric Company personnel during facility walk-downs and inspections. Summarized features to be monitored including a description of visual inspection items and recommendations for subsequent actions including contact information for status reporting. The deliverable included one or two laminated color sheets printed on both sides for each of the 16 sites.

Scientist/Engineer, Geologic and Hydrogeologic Assessment of Nevada Test Site and Adjacent Off-Site Locations, Las Vegas, NV, National Nuclear Security Administration, 2000 – 2001: Assessment of large scale contamination produced by nuclear weapons testing programs required drilling, construction, and testing of numerous wells ranging from three to five thousand feet deep in structurally and stratigraphically challenging terrain. Provided operational support as on-site technical lead during complex field efforts utilizing air-rotary and reverse circulation drilling to construct complicated multi-completion groundwater wells. Subsequent well development required extensive use of groundwater monitoring and data logger instrumentation.

Scientist/Engineer, Site Characterization of Industrial Sites, Las Vegas, NV, National Nuclear Security Administration, 1997 – 2000: Performed environmental characterization of contaminated sites associated with nuclear weapons and technologies development and testing for the US Department of Energy's Industrial Sites Project at the Tonopah Test Range and the Nevada Test Site. Prepared planning documents, characterization reports and decision documents. Supervised complex field efforts utilizing rotary sonic or hollow stem auger drilling and backhoe excavation, sampling, waste management, and extensive project documentation.

Professional Societies/Affiliates

Association of Engineering Geologists Member
Board of Directors, Central California Sierra Chapter of Solid Waste Association of North America

Awards

1994/Outstanding Geology Student – California State University, Fresno
1997/Outstanding Graduate Student – University of Nevada, Reno

Specialized Training

1992/ OSHA 40-Hour HAZWOPER w/ subsequent 8-hour refreshers
1997/OSHA 8-Hour Hazardous Waste Site Supervisor
1997/American Red Cross Emergency First Responder
1997/OSHA Confined Space Entry Supervisor
1997/OSHA Excavation Safety Competent Person

1997/U.S. Department of Energy Radiological Worker II
2000/Campbell Scientific Datalogger Training (3 day short course)
2000/Paleoseismology for Seismic Hazard Assessment, Association of Engineering Geologists Short Course
2001/Packard Liquid Scintillation Counter Operation (Instructor)
2001/Schlumberger GeoFrame Application Training (5 day short course)
2002/Nuclear Gauge Operation
2005/Chevron Loss Prevention System
2006/BP Safety Passport #238548
2006/American Red Cross Standard First Aid
2006/American Red Cross Adult CPR

Security Clearance

Formerly held National Nuclear Security Administration Level Q Security Clearance.

Publications

Schultz, R.A., Moore, J.M., Grosfils, E.B., Tanaka, K.L., and Mege, D. 2007. The Canyonlands Model for Planetary Grabens: Revised Physical Basis and Implications in Chapman, M.G., ed., The Geology of Mars: Evidence from Earth-Based Analogs, pg. 371-399.

Moore, J.M., and Schultz, R.A., 1999. Processes of Faulting in Jointed Rocks of Canyonlands National Park, Utah, Geological Society of America Bulletin, v. 111, pg. 808-822.

Schultz, R.A., and Moore, J.M., 1996. New Observations of Grabens from the Needles District, Canyonlands National Park, Utah in Huffman, A.C. jr., Lund, W.R., and Godwin, L.H., eds., Geology and Resources of the Paradox Basin Utah Geologic Association Guidebook, vol. 25, pg. 295-302.

Chronology

04/06 – Present:	URS Corporation, Senior Geologist, Fresno, CA
03/04 – 04/06:	SECOR International Incorporated, Associate Geologist, Fresno, CA
03/02 – 03/04:	Cotton, Shires and Associates, Senior Staff Geologist, Los Gatos, CA
09/97 – 03/02:	Science Applications International Corporation, Scientist/Engineer, Las Vegas, NV
04/92 – 12/93:	EMCON Associates, Geologic Technician, Fresno, CA

Contact Information

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jason_moore@urscorp.com

STEVE OTTEMOELLER

URS

Stephen H. Ottemoeller, PE

Principal Water Resources Engineer

Director, Central Valley Water Resources

Areas of Expertise

Water Resources Development
California Water Policy Issues
Water Transfers
Federal CVP Facilities, Operations and Water Policies
Water District Facilities Management, Operations and Maintenance
Civil Engineering
Irrigation and Drainage

Years of Experience

With URS: 3 Year
With Other Firms: 23 Years (Public Agency Engineering and Management Experience)

Education

BS/Civil Engineering/1980/California State University, Fresno

Registration/Certification

1986/Professional Civil Engineer/California/C 38579/March 2009

Overview

Mr. Ottemoeller has 25 years of professional engineering and water policy experience in Central California related to state and federal water projects as well as irrigation, drainage and water supply issues. He is knowledgeable about the technical and political issues associated with California water policy and the Sacramento-San Joaquin Bay-Delta region. For 13 years, including the drought period of 1987-1994, he managed the operations and water supplies of Westlands Water District, the largest water district in the United States in terms of irrigated acreage. During that time he used innovative water transfers and worked effectively to achieve federal and state policy changes to deal with a diminishing water supply caused by endangered species listings and other regulatory changes. He was actively involved in CalFed Bay Delta process and participated in negotiations that resulted in the Vernalis Adaptive Management Plan. As General Manager of Madera Irrigation District for over six years, he was actively involved in successful negotiations with the United States for long-term water service contract renewal. He also played an active role in the negotiations between the Friant Water Users Authority and the NRDC Coalition regarding restoration of the San Joaquin River.

Project Specific Experience

Water Policy and Water Resource Issues

Project Manager, Delta-Mendota Canal Recirculation Feasibility Study, Tracy, CA, U.S. Bureau of Reclamation, Engineering Planning, 2006 – present, $2,400,000: Project Manager for a federal feasibility study evaluating the potential for using Central Valley Project export pumps and the Delta-Mendota Canal to discharge water into the San Joaquin River as a means of meeting water quality and flow standards. The Project involves preparation of multiple federal planning documents, including Plan Formulation Report, EIS/R and Feasibility Study Report. Elements of the study include significant public involvement, water quality impact studies, fisheries impact studies, water supply impact studies and water rights issues.

Project Manager, Comprehensive Water Resources Management Plan, Modesto, CA, Modesto Irrigation District, Engineering Planning, 2007-present, $750,000: Project Manager for a comprehensive water resources management planning effort to evaluate the District's irrigation delivery system and operations with the goal of improving efficiencies and reducing operational discharges. Elements of the evaluation include a complete review of the canal system, control structures, groundwater integration wells, stormwater inputs, outflow structures and operations policies. The outcome will include comprehensive recommendations for physical upgrades/enhancements as

well as policy/procedure changes, along with a specific implementation plan to accomplish the District's goals.

Project Manager, Delta-Mendota Canal Recirculation Feasibility Study Plan of Study, Tracy, CA, U.S. Bureau of Reclamation, Engineering Planning, 2005-2006, $60,000: Project Manager for a Plan of Study to conduct a federal feasibility study evaluating the potential for using Central Valley Project export pumps and the Delta-Mendota Canal to discharge water into the San Joaquin River as a means of meeting water quality and flow standards. The Project involved development a plan including public involvement, water quality impact studies, fisheries impact studies and water supply impact studies.

Technical Expert, Alternative Water Supply Evaluation, Hollister, CA, BAE Systems, Water Resources Planning, 2005-Present, $20,000. Evaluated water supply needs and investigated alternative water supplies for potential development on land where groundwater supply may be unsuitable or insufficient to support domestic use. Project involved evaluation of water district policies, interaction with water district officials and development of conceptual water system design to determine the most cost effective means of developing or acquiring alternative water supplies.

Project Manager, Urban Water Management Plan, Tulare, CA, City of Tulare, Water Resources Planning, 2006-07, $92,900: Providing technical and water resources management expertise for development of an Urban Water Management Plan in accordance with California Department of Water Resources requirements. A key challenge of the project involves coordination with other water resource agencies surrounding the City of Tulare to develop a comprehensive water resource management plan that involves groundwater, treated wastewater reuse, storm water management and alternative water supplies.

District Representative, Vernalis Adaptive Management Plan, Sacramento, CA, Westlands Water District, 1996-1998: Participated in development and negotiations regarding an innovative agreement to provide specified flow levels on the San Joaquin River at Vernalis as a means of implementing SWRCB Water Quality Control Plan elements without resulting in uncompensated reductions in water supplies for tributary and export water users. The 12-year experimental program was designed to be protective of outmigrating salmon while obtaining data regarding relationships between flows, export levels and fish losses.

District Representative, Central Valley Project Improvement Act Implementation, Central California, Westlands Water District, 1993-1998: Actively participated in multiple processes related to implementation of the Central Valley Improvement Act of 1992 (CVPIA) by the U.S. Bureau of Reclamation and U.S. Fish and Wildlife Service. Implementation of CVPIA resulted in significant changes to the way the USBR operated the CVP and allocated water to its contractors. Processes

included preparation of a Programmatic EIS, development of new guidelines for transfers of CVP water, reallocation and acquisition of water for wildlife refuges and development of procedures for using 800,000 AF of CVP yield for environmental purposes.

District Representative, CalFed Bay Delta Program, Central California, Westlands Water District, 1994-1998: Monitored and actively participated in multiple processes related to the development of programs in the CalFed Bay Delta Program. Served on Water Transfers and Water Use Efficiency Task Forces developing specific programs. Water User Efficiency Task Force included over two years of facilitated negotiations with environmental representatives regarding appropriate quantifiable objectives that could result in increased flows or changed timing of flows to benefit fisheries and other ecosystem restoration goals.

General Manager, Long-Term Contract Renewal, Madera, CA, Madera Irrigation District, 1999-2001: Served as primary District representative during negotiations with the USBR for long-term renewal of his District's and other Friant contractors' water service contracts. The process included nearly two years of multi-party negotiations with 100+ other CVP contractors to develop a standard CVP form of contract, a Friant Unit form of contract and, finally, two separate District contracts for water service from separate CVP facilities. Issues included appropriate application of new federal laws under CVPIA as well as unique District contract provisions and appropriate NEPA/CEQA/ESA compliance.

District/Authority Representative, San Joaquin River Restoration – Litigation Settlement Negotiations, San Joaquin Valley, CA, Madera irrigation District, 1999-2003, $3+ Million: Served as a representative of Madera ID and Friant Water Users Authority (FWUA) during difficult settlement negotiations with the NRDC Coalition regarding litigation related to restoration of the upper San Joaquin River. Process included providing policy and technical direction to consultant teams involved in a Water Supply Study and a Restoration Strategies Study. The process was guided by mutual goals to seek ways to restore ecological functions of the San Joaquin River, including naturally reproducing salmon, without adversely impacting the water supplies or finances of the FWUA member agencies.

Chief of Operations, Supplemental Water Supply Acquisition, Fresno, CA, Westlands Water District, 1989-1998: Directed all activities of Westland WD related to acquisition of supplemental water supplies to meet water supply shortages caused by drought and changing regulatory conditions. Efforts included, but were not limited to: 1) implementing multiple transfers from north and south of the Delta, some of which involved applications to SWRCB and/or complex exchanges; 2) negotiation of revised USBR policies to allow carryover of water in San Luis Reservoir; 3) participation in the development and implementation of the California Drought Water Bank in 1991, 1992 and 1994; 4)

implementation of drought emergency programs to allow groundwater integration into closed pipe distribution system and the California Aqueduct; and 5) implementation of complex water trading and accounting system internal to Westlands WD that allowed maximum utilization of limited resources.

Chief of Operations, Water Supply Distribution, Fresno, CA, Westlands Water District, 1989-1998: Responsible for all water delivery operations for a 600,000-acre district comprised of 1,035 miles of pipelines, 78 pumping plants and 3,800 metered deliveries. The District typically delivered over 1.2 million AF to 700 irrigation customers and 6,000 AF to municipal & industrial (M&I) customers including individual residences, farmsteads, small communities and the Lemoore Naval Air Station. District programs included water quality monitoring in compliance with CA Department of Health Services and meter calibration for 3,800 agricultural and M&I meters.

Expert Testimony

Expert Witness, State Water Resources Control Board Water Quality Control Plan Hearings, Sacramento, CA, Central Valley Project Water Association, 1991-92: Developed and presented expert witness testimony in quasi-judicial proceedings before the California State Water Resources Control Board regarding the impacts of Delta water quality regulations on CVP export water supplies. Process resulted in draft Decision 1630 in 1992.

Expert Witness, Westlands Water District v. United States litigation, Fresno, CA, Westlands Water District, 1992: Presented expert testimony by declaration and in court regarding assertions by employer Westlands Water District related to terms of its water service contract. Testimony included assessment of impacts to District water supplies as a result of certain USBR operations policies and application of contract shortages.

Subsurface Drainage Systems

Project Engineer, Drainage System Planning, Fresno, CA, Westlands Water District, District employee, 1982-1984: Evaluated alternatives for providing subsurface drainage service to approximately 200,000 acres in Westlands Water District. Project included projections of drainage volumes and preliminary assessment of alternative means of disposing of highly saline subsurface drainage effluent in an environmentally sound manner.

Project Engineer, Drainage Collector System Evaluation, Fresno CA, Westlands Water District, District employee, 1982-1983: Evaluated possible causes of high levels of silt in a 42,000 acre concrete tile drain pipe collector system constructed by the U.S. Bureau of Reclamation. Collaborated with USBR engineers to determine the source and cause of excess silt infiltration into the collector system through the use of in-pipe camera and experimental high flow injection of water.

Professional Societies/Affiliates

American Society of Civil Engineers: Member; national Drainage Committee Chair (1989-1991)

Languages

English, rudimentary French

Specialized Training

1986/USBR Water Systems Management Workshop (40 hr.)

Security Clearance

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

Publications

"Physical Evaluation of a Buried Drainage System", (with co-author William R. Johnston), ASCE Conference Proceedings, Development and Management of Irrigation & Drainage Systems, August, 1985

"Experience in Operating a Large Limited Rate Arranged System – Westlands Water District", ASCE Conference Proceedings, Managing Water, Coping with Scarcity and Abundance, August, 1997

Chronology

2/05-Present: URS Corporation, Director-Central Valley Water Resources, Fresno, CA
7/98-12/04: Madera Irrigation District, General Manager, Madera, CA
5/97-7/98: Westlands Water District, Assistant General Manager, Fresno, CA
3/87-5/97: Westlands Water District, Chief of Operations/Director of Resources, Fresno, CA
2/84-3/87: Westlands Water District, Assistant Chief of Operations, Fresno, CA
6/82-2/84: Westlands Water District, Assistant Drainage Engineer, Fresno, CA
5/81-482: Wilsey & Ham, Design Engineer, Fresno, CA
12/80-5/81: Fresno Metropolitan Flood Control District, Civil Engineer I, Fresno, CA
12/78-12/80: True Engineering, Drainage Engineering Technician, Fresno CA

Contact Information

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MAGGIE FITZGERALD

URS

Margaret F. Fitzgerald

Principal-In-Charge

Areas of Expertise

Environmental Planning and Permitting

Hazardous Waste Site Characterization/Remediation

Environmental Engineering

Years of Experience

With URS: 1 Year

With Other Firms: 19 Years

Education

B.S., Chemical Engineering, University of Iowa, 1985

Overview

Ms. Fitzgerald has over 20 years of experience in the environmental engineering field, focusing on environmental permitting and hazardous waste site management programs for industrial and municipal clients. Maggie serves as the Power Business Program Manager in the URS Santa Ana office.

Ms. Fitzgerald has managed numerous power and energy industry projects, from environmental permitting to hazardous waste site characterization and remediation programs. Her expertise includes the following areas: environmental planning and permitting; site characterization and remediation; NEPA/CEQA planning; regulatory compliance; planning and permitting; public involvement; and managing environmental liability.

Project Specific Experience

Program Manager, Panoche Energy Center Project, Application for Certification, Mendota, California. Program, Manager for the Panoche Energy Center Application for Certification and subsequent Data Adequacy and Data Request responses. The Panoche Energy Center (PEC) is a proposed simple-cycle power generation project that consists of four (4) General Electric LMS100 natural gas-fired combustion turbine generators (CTGs). The total net generating capacity is 400MW with each CTG capable of generating 100MW. The proposed plant will be owned and operated by Panoche Energy Center, LLC. The electricity generated by this project would be in support of a contract with Pacific Gas and Electric (PG&E).

Panoche Energy Center, LLC is seeking approval from the California Energy Commission (CEC) to construct and operate a power generation facility within western Fresno County. The GE LMS100 is the first inter-cooled gas turbine system developed especially for the needs of the power generation industry. The LMS100 is designed for cyclic applications with 10-minute starts that provide flexible power generation for peaking and intermediate solutions.

Program Manager, Bullard Energy Center Project, City of Fresno, CA, Bullard Energy Center, LLC. Program Manager for the Bullard Energy Center Application for Certification and subsequent Data Adequacy and Data Request responses. The Bullard Energy Center (BEC) is a simple-cycle power generation project that consists of two General Electric (GE) LMS100 natural gas-fired combustion turbine generators (CTGs). The total net generating capacity is 200megawatts (MW) with each CTG capable of generating 100MW. The plant will be owned and operated by Bullard Energy Center, LLC. The electricity generated by this project would be in support of a Power Purchase Agreement (PPA) with Pacific Gas and Electric (PG&E).

Bullard Energy Center, LLC is seeking approval from the California Energy Commission (CEC) to construct and operate a power generation facility in the City of Fresno in Fresno County. The GE LMS100 is the first inter-cooled gas turbine system developed especially for the needs of the power generation industry. The LMS100 is designed for cyclic applications with 10-minute starts that provide flexible power generation for peaking and intermediate solutions.

Project Manager, Southern California Edison – Divestiture Due Diligence Audits, Southern California. Managed divestiture due diligence audits at several power plants in Southern California. This project included development of site-specific work plans and health and safety plans; implementation of work plans, including soil and groundwater sampling activities; preparation of clean up cost estimates; and development of recommendations for appropriate divestiture plans.

Project Manager, Redlands I former MGP Site, Sempra Energy, Redlands, CA. Ms. Fitzgerald served as project manager for the Redlands I former MGP site. This project includes preparation and implementation of a Remedial Investigation Work plan under the DTSC Voluntary Cleanup Program. Based on the results of the remedial investigation, DTSC requested preparation and submittal of a Remedial Action Work plan that included development of appropriate remediation technologies, assembly of remedial alternatives, conduct of a Human Health Risk Assessment to determine cleanup objectives and goals, and areas requiring cleanup.

Project Manager, Port of Los Angeles – NEPA/CEQA Services Agreement, San Pedro, Port of Los Angeles. Ms. Fitzgerald manages the current on-call NEPA/CEQA Services Agreement with the Port of Los Angeles. The Agreement scope of services includes preparation of Environmental Impact Statements and Environmental Impact Reports; preparation of special environmental studies, including water quality, biological resources, transportation, etc.; coordination with multiple regulatory agencies, including U.S. Army Corps of Engineers, RWQCB, U.S. EPA, U.S. Coast Guard, and others as applicable; participation in Port community environmental focus groups; and miscellaneous environmental tasks.

Project Manager, Fast-Track Investigation and Remediation Project, Fremont, CA, Union Pacific Railroad. Ms. Fitzgerald coordinated resources, subcontractors, and conducted regulatory agency negotiations (including RWQCB, DTSC, local fire departments, U.S. EPA, and Bay Area Air Quality Management District). This Northern California project came about as the result of a train derailment releasing various hazardous materials into a creek. Because the underlying shallow aquifer is a drinking water source for three cities, immediate response time was critical. Project activities included sediment, soil, groundwater, and surface water sampling; monitor well installation and sampling; soil and sediment excavation; groundwater extraction and treatment; and site restoration.

URS

Project Manager, Port of Los Angeles Environmental Assessment Agreement, Port of Los Angeles. Managed two on-call environmental services contracts with Port of Los Angeles (2 3-year contracts). Individual projects include Phase I and Phase II site assessments, site characterizations, feasibility studies, sediment management, UST removals, groundwater monitoring programs, regulatory agency negotiations, remedial action strategy development, compliance auditing, and remediation. Ms. Fitzgerald also serves as an in-house project manager in the Port's Environmental Management Division on a part-time basis.

Project Manager, Palos Verdes Shelf Project, Palos Verdes, California, U.S. EPA, California. This project consists of design and implementation of institutional controls for the contaminated sediments on the Palos Verdes Shelf. Institutional controls include community outreach and education, fish monitoring, and fishing ban restriction enforcement. Ms. Fitzgerald's responsibilities included development of Work plans for the three institutional controls programs, implementation of the Work plans, and serving as liaison for EPA with the numerous regulatory agencies involved in this project. Ms. Fitzgerald interacts with these organizations on a very regular schedule to ensure that all of the stakeholders' input and feedback is received and incorporated into the implementation plans.

Project Manager, Port of LA Southern California Coastal Water Research Project – Consolidated Slip Sediment Quality Sampling, Santa Ana. As project manager for the Consolidated Slip Sediment Quality Sampling project, Ms. Fitzgerald is responsible for adherence to the scope of work, schedule, budget, and allocation of technical resources for this project. The project consists of developing a field sampling plan, collection of sediment samples from multiple locations within the Dominguez Channel and Consolidated Slip, data evaluation and interpretation, and report preparation.

Technical Advisor, U.S. Air Force Base Locations, U.S. Air Force, New Hampshire. Ms. Fitzgerald provided technical oversight for the preparation of 12 feasibility studies for various Air Force Base locations. The feasibility study documents were prepared in accordance with the Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA. Tasks included determining soil and groundwater cleanup objectives, identifying and evaluating remedial technologies, developing remedial alternatives, assessing and ranking remedial alternatives, and developing cost estimates.

Environmental Compliance Project Manager, Burlington Northern Santa Fe Railroad, Environmental Compliance Agreement, Southern California. Included SPCC plan development; site characterization for TPH-contaminated soil; developed and implemented hazardous waste management training programs.

URS

Project Manage, Union Pacific Railroad – Site Characterization and Remediation Contract, Northern California. Project manager for various hazardous waste site characterization and remediation programs. Provided emergency response technical oversight and logistics coordination for derailment incident involving significant release of hazardous materials into surface water body. Project included development of site health and safety plan; mobilization of field sampling teams for surface water, soil and groundwater; providing technical updates to up to 13 different regulatory agencies; analytical laboratory data interpretation and evaluation; design and installation of three groundwater monitoring well clusters (three wells per cluster); and subsequent groundwater pump and treat system design and operation.

STEVE GARRET

Stephen M. Garrett, P.E.

Senior Project Manager

Bibb and associates

Job Function	Education
Stephen serves Bibb as a project manager with expertise in project management, engineering design and financial analysis. He has managed projects in the areas of EPC contracting, conceptual and detailed engineering design, power market assessment, project identification and screening, due diligence review for financial institutions, asset valuation for buyers and sellers, utility privatization initiatives and technical and financial feasibility analysis.	B.S. Mechanical Engineering – Colorado State University, 1977
	Registrations and Organizations
	Professional Engineer – Kansas American Society of Mechanical Engineers (ASME)

Bibb Experience

Project Name	Description
Griffith Simple Cycle Addition Kingman, Arizona Owner: LS Power	Design and engineering to support the Certificate of Environmental Compatibility, air permit, and other permits for a 4x LM6000 simple cycle addition at the Griffith power station. Services included plant conceptual design and characterization, chiller assessment, site surveying and geotechnical specifications, integration of new facilities with the existing plant, noise profiles, indicative EPC cost estimates, and design of switchyard modifications for the new plant. Steve is the project manager for the project duration.
Panoche Energy Center 50 miles west of Fresno, California Owner: Energy Investment Funds	Design and engineering for the Application for Certification to the California Energy Commission for a new gas fueled 4 x LMS100 power plant. Services included performance assessment, plant site optimization, emissions characterization, water and wastewater treatment design water mass balances, heat and mass balances, construction schedule and manning, site surveying and geotechnical assessment, and noise profiles, and data adequacy support. Steve is the project sponsor for the project duration.
Bullard Energy Center Fresno, California Owner: Energy Investment Funds	2x LMS100 project in Fresno with scope similar to the EIF Panoche project. Services also included geotechnical investigations and foundation design, onsite ambient noise monitoring and noise analysis. Steve is the project manager for the project duration.

Project Name	Description
Joslin CFB Repowering Project Port Comfort, Texas Owner: NuCoastal Corporation	Determined scope and capital costs to repower an existing gas-fired power station using a new circulating fluidized bed combustion (CFB) boiler. Steam generated by CFB boiler will be used in the existing steam turbine to generate power. Petroleum coke will be the fuel for the new CFB boiler. Steve is the project manager for the project duration.
Haynes Station Units 3&4 Repowering Project Long Beach, California Owner: Los Angeles Department of Water and Power Contractor: Kiewit Industrial Co.	Nominal 571 MW combined cycle power project utilizing two (2) GE 7FA combustion turbine generators, two (2) Alstom heat recovery steam generator and one (1) condensing steam turbine. Project included once through sea water cooling. Engineering services provided for the EPC project included design, procurement, field engineering, training and testing. This project won the Los Angeles Council of Engineers & Scientists Project Achievement Award. Steve was the design project manager for the project duration.
Santa Rosa Energy Center Pace, Florida Owner: Santa Rosa Energy, LLC (Skygen/Calpine) Contractor: Gilbert Industrial	240 MW combined cycle project with one (1) GE 7FA combustion gas turbine generator, heat recovery steam generator and steam turbine generator. Steve was the design project manager for the project duration.

Other Relevant Experience

Project Name	Description
Shell Coal Project Engineer: Black & Veatch	Project manager for an evaluation of a new greenfield 350 MW mine mouth coal plant in Callide, Australia. The assignment included need for power, competitive market impacts, site evaluation, conceptual design, development of boiler and turbine specifications and pro forma financial analysis.
National Development Corporation Engineer: Black & Veatch	Project manager for USTDA-funded feasibility study of coal plant development, including pulverized coal and CFB, in southwestern Tanzania. The assignment included environmental assessment, siting and infrastructure evaluation, conceptual design, financial evaluation, economic evaluation of net national benefits and project development strategy.
Salt River Project Engineer: Black & Veatch	Conceptual and detailed design of mechanical systems for a 400 MW coal plant, including P&IDs and equipment procurement specifications.

Project Name	Description
Brown Coal Power Plant Review Engineer: Black & Veatch	Technical and operational review of brown coal plants in Victoria and Queensland, Australia, with focus on the commercial drivers and management policies that had resulted in the current levels of performance.
Engineering Design for New Combined Cycle Florida Engineer: Black & Veatch	Engineering manager for the design, procurement and construction of a new 250 MW gas-fueled combined cycle project in Florida. Responsibilities included scheduling and managing the engineering staff and providing quality control. Project included all detailed design activities, specification development, equipment bid evaluations, contract negotiations, contract management, production of design control documents and drawings, licensing activities, construction contracting and construction management.
Project Development for Combined Cycle Caracas, Venezuela Engineer: Black & Veatch	Project manager for an EPC project development initiative for a greenfield gas-fueled combined cycle planned by Electricidad de Caracas (EdC). The assignment included due diligence reviews of completed siting studies, need for power studies and the environmental impact analyses. The assignment also included preparation of the preliminary plant design, preparation of EPC bidding documents and drawings, EPC price development, financial pro forma analysis, risk analysis and debt funding investigations.
Project Development for Combined Cycle Mato Grosso do Sul, Brazil Engineer: Black & Veatch	Project manager for initial project development and environmental licensing for a new greenfield combined cycle for Enersul, a recently privatized utility in the state of Mato Grosso do Sul. The assignment included site evaluation and selection, project sizing and technology selection, plant performance estimates, capital cost estimates, transmission load flow analysis, environmental licensing and permitting, financial analysis, preparation of EPC specifications and technical/financial evaluation of EPC turnkey proposals.

CHARLES FRITZ

Charles H. Fritz

Senior Water Chemistry Consultant/Project Manager

Kiewit
BIBB AND ASSOCIATES, INC.

Job Function

Mr. Fritz is a senior water chemistry consultant and project manager in the Consulting Engineering Services Department of the Energy Sector. Mr. Fritz has previously served as an officer and project manager responsible for overall coordination of engineering services for assigned projects. Mr. Fritz served as project manager for owner assigned tasks associated with a major new coal fired generation expansion project. He has managed General Services Agreements with selected clients involving a range of specialized services for new and existing generating facilities. Mr. Fritz has served as partner-in-charge of retrofit projects including water management projects for major coal fired stations. As project manager, Mr. Fritz has been responsible for numerous plant betterment projects including Clean Air Act compliance studies, demineralizer upgrade projects, desalination projects, a heavy metals reduction wastewater treatment plant, water management studies, zero liquid discharge studies, and a variety of plant betterment design and consultation projects. He has served as project manager for the basic process design for a coal conversion process and several fossil fuel repowering studies for an existing nuclear station.

Mr. Fritz has over 40 years experience in the power industry and has been involved in all phases of engineering, consultation, design, procurement, construction and startup activities.

Education

B. S. Chemical Engineering, University of Missouri - Columbia, 1965

Registrations and Organizations

Professional Engineer – Missouri, Oklahoma, Utah, Indiana

Bibb Experience

Project Name	Description
Thorold Cogeneration Project Thorold, Ontario Owner: Thorold Cogen LP Contractor: Kiewit Industrial Co.	Water treatment consultant and design review on a 265 MW combined cycle cogeneration project using one GE 7FA combustion turbine generator, one duct-fired Alstom heat recovery steam generator, one Siemens condensing steam turbine, two 250 kpph auxiliary steam boilers, a 10 MW back pressure steam turbine generator, a 230kV switchyard with transmission line, and associated systems. Engineering services provided for the project include complete design, construction support, and startup as part of a joint venture EPC contract.
Panoche Energy Center Fresno County, California Owner: EIF Panoche, LLC Contractor: Kiewit Industrial Co.	Water treatment consultant and design review on a 400 MW simple cycle power plant with four (4) GE LMS 100's. Balance of plant equipment includes SCR and CO modules, a 5-cell cooling tower, gas compression, 230kV switchyard, water treatment system and make-up water and water re-injection (wastewater) wells. Engineering services provided for this EPC project included design, procurement, construction support and startup and commissioning services.

Project Name	Description
Rentech Energy Midwest Project East Dubuque, Illinois Owner: Rentech Energy Midwest Corporation (REMC) Contractor: Kiewit Energy Company/Worley Parsons	Water treatment consultant and design review on a FEED services project that included the planned coal gasification of REMC's existing natural gas fed ammonia fertilizer facility in East Dubuque, Illinois and the production of ultra-clean fuels based on Rentech's patented and proprietary Fischer-Tropsch coal-to-liquids technology.
Palomar Energy Project Escondido, California Owner: Sempra Energy Resources Contractor: Kiewit Industrial Co.	Water treatment consultant and design review on a 554 MW combined cycle power plant with two (2) GE 7FA combustion turbines, two (2) Nooter/Eriksen heat recovery steam generators, and one (1) GE D11 steam turbine. This project is located in an urban area with stringent noise, aesthetic and permitting requirements. The facility burns natural gas. Bibb was responsible for providing engineering services, including design, procurement, training, testing and field engineering services. This project won *Environmental Protection Magazine's* Facility of the Year Honorable Mention, *Combined Cycle Journal's* Pacesetter Plant Award and Adobe's Success Story of the Year.
Tenaska Virginia Power Project Fluvanna County, Virginia Owner: Tenaska Virginia Power Partners, L.P. Contractor: Gilbert Southern Corp.	Water treatment consultant and design review on a nominal 890 MW combined cycle facility utilizing three (3) GE PG7241FA combustion turbines with power augmentation, fired Deltak heat recovery steam Generators, and one GE condensing steam turbine. This project had an option for zero liquid discharge. Bibb was an EPC joint venture partner with Gilbert Southern and provided engineering services for the project, including detailed design and performance testing services. This project was named DBIA: MAC Best Project Industrial/Process Sector Over $25 Million.
Hawthorn Station Owner: Kansas City Power & Light Co.	Project Manager – Responsible for management of a contract for implementation of a retrofit water treatment system. Services included conceptual design and technical specification preparation for water treatment equipment and pre-engineered building.
Jefferson County Gasification Plant Owner: Power Holdings, Inc.	Water Consultant – Consultation services in support of a zero liquid discharge design of a green field gasification facility. Services included process selection and capital and operating cost estimates.
Cardinal Plant Owner: American Electric Power Corp.	Water Consultant – Provided consultation services in support of an FGD retrofit wastewater treatment system design including process descriptions, water mass balances, metals removal options, and cost estimates. Also provided process engineering support for an EPC proposal and project implementation.
TEG and TEG II Mexico Owner: Sithe Energies	Water Consultant – Provided consultation services to evaluate design and operation of an existing water pretreatment system to improve economics of operation.

Charles H. Fritz

Senior Water Chemistry Consultant/Project Manager

Kiewit
BIBB AND ASSOCIATES, INC.

Project Name	Description
Forney Power Plant Texas Owner: FPLE Forney, LLP	Water Consultant – Conducted raw water supply design review and provided recommendations for chemical treatment of reclaimed water for improved reliability and availability of the power plant.
Refinery Water Management Study Midwest Owner: Confidential Client	Project Manager – Responsible for comprehensive water management study and Phase 1 design package. Scope included boiler makeup treatment, enhanced cooling tower makeup treatment, and enhanced reuse of wastewater.
Desalination Feasibility Study Middle East Owner: Confidential Client	Project Manager – Responsible for conceptual design, cost estimating, and schedule development for three Middle East power and desalination facilities. The facilities were based on the multi-stage flash distillation process. Three sites, each involving world class desalination plant technology, were included.
Various Power Project Overland Park, Kansas	Project Manager – Responsible for management of water management consulting projects for the Energy Services Division. Projects included process selection, cost estimates, specification preparation, design reviews, water mass balances, and water chemistry consultation.
Various Power Business Projects Overland Park, Kansas	Chief Engineer Chemical Systems - Development and implementation of design standards and guidelines for global Power Business projects for enhanced control of design quality and consistency through continuing quality improvement. Responsibilities included all water and wastewater treatment system design.
Wastewater Reuse Projects Hong Kong Owner: China Light & Power	Partner-in-Charge - Responsible for a major water management project at a four unit coal fired plant involving conceptual design and implementation of a wastewater collection and reuse scheme for compliance with regulatory requirements.

JOE GRUEMMER

Resume

Joseph C. Gruemmer
737 Kilbourne Drive
Upland, CA 91784
909-982-4256

EXPERIENCE

Feb-2005 to Present	GE Water & Process Technologies
Position	Regional Leader, Equipment Solutions Group
Responsibilities	Responsible for the achievement of sales objectives through direct sales efforts and through the direction of four directly reporting sales management staff in support of a team of 120 field sales representatives.
Jul-1995 to Feb-2005	Ionics, Inc.
Position	Various Sales and Sales Management Functions
Responsibilities	Business Development over numerous geographies and water treatment technologies both through direct sales and through Process Engineering support and sales management of staffs ranging from five to fifteen. Projects included multi-million dollar international sales.
Oct-1985 to Jun-2005	Ecolochem, Inc.
Position	Technical Sales Manager, Promoted to Regional Sales Manager
Responsibilities	Startup of first Ecolochem Service Center located in the Western USA with development of substantial base of mobile water treatment business throughout nine western US states and Western Canada.

May-1973 to Oct-1985	Dearborn Chemical, Inc.
Position	Salesman, Area Manager, District Manager
Responsibilities	Developed multiple territories and Districts in expanding the sales of proprietary chemicals to heavy industry in Iowa and in the California region.
Apr-1967 to May 1973	Oscar Mayer, Inc.
Position	Quality Control Chemistry Technician & Inspector
Responsibilities	Responsible for several positions within the department related to creating quality control standards, monitoring of quality performance and conducting a variety of bench chemistry tests to confirm product quality.
Education	University of Iowa 1964-1967
	International University – 30 CEU credits earned in completion of Water Management A.A.
	Dearborn Educational Services – 15 CEU / ranked third of nineteen students
	B.S., Chemical Engineering – Sep-1983, Middleham University
Military	United States Army – Honorable Discharge
Personal	Married; four grown children
Hobbies	Golf, Motorcycling, Exercise, Sports of All Kinds, Reading

GARY CHANDLER

Gary Chandler Resume

BS Accounting, Brigham Young University
MBA, University of Utah
Certified Public Accountant (no longer practicing)
Post graduate engineering economics courses at Iowa State University

Consultant to the independent power industry
President of Panoche Energy Center, LLC
Chairman of the Board, Bear River Mutual Insurance Company
Project Development Director of the Mountainview Power Plant in Redlands, CA.
Former Board Member, Energy Investors Funds, Boston, MA; VEDCO Energy, Houston, TX; San Diego Central Cooling Company, San Diego, CA; Mt. Poso Cogeneration Company, Bakersfield, CA.
Former Executive Vice President of VEDCO Energy, Houston, Texas
Former CFO of Pacific Generation Company, Portland, Oregon
Former CFO and board member of Atlantic Orient Corporation, PEI, Canada

Former South Jordan City, Utah Council Member
Current member, South Jordan City Board of Adjustments

30+ years of experience in power plant development, permitting and entitlement, project finance, financial analysis, site management, construction management, contract negotiation, and operations management.

APPLICANT'S PREHEARING CONFERENCE STATEMENT

LIST OF APPLICANT'S PROPOSED EXHIBITS

EXHIBIT C

PANOCHE ENERGY CENTER
06-AFC-5
APPLICATION FOR CERTIFICATION

PANOCHE ENERGY CENTER, LLC
EXHIBIT LIST

The following exhibits and declarations will be presented as indicated in Section I of Applicant's Prehearing Conference Statement.

Exhibit #	Description	Witness
1.	Panoche Energy Center, LLC's Application for Certification, Volumes I and II, August 2, 2006	Various
2.	Data Adequacy Responses, November 6, 2006	Various
3.	Responses to Staff's Data Requests, Set 1, January 9, 2006	Various
4.	Revised Figure 5.5-5, February 14, 2007	Jason Moore
5.	Responses to Staff's Data Requests, Set 2, February 14, 2007	Various
6.	Revised Data Request Response 26, April 23, 2007	John Lague
7.	Fresno County Site Plan Approval, March 26, 2007	David Jenkins
8.	Fresno County Board of Supervisors Resolution on Williamson Act Cancellation , May 9, 2007	David Jenkins
9.	Panoche Energy Center Comments to Staff's Preliminary Staff Assessment, July 26, 2007	Maggie Fitzgerald
10.	Fresno County General Plan Conformity Letter, August 8, 2007	David Jenkins
11.	Biological Opinion, August 21, 2007	Maggie Fitzgerald
12.	San Joaquin Valley Air Pollution Control District's Preliminary Determination of Compliance, May 4, 2007	David Jenkins
13.	San Joaquin Valley Air Pollution Control District's Final Determination of Compliance, July 13, 2007	David Jenkins
14.	Declaration of Noel Casil	Noel Casil
15.	Declaration of Lanny Fisk	Lanny Fisk
16.	Declaration of Brian Hatoff	Brian Hatoff
17.	Declaration of Lincoln Hulse	Lincoln Hulse
18.	Declaration of David Jenkins	David Jenkins
19.	Declaration of Michael King	Michael King
20.	Declaration of John Lague	John Lague
21.	Declaration of Angela Leiba	Angela Leiba
22.	Declaration of Ron Reeves	Ron Reeves
23.	Declaration of Stuart St. Clair	Stuart St. Clair
24.	Declaration of Eric Vonberg	Eric Vonberg
25.	Declaration of Tricia Winterbauer	Tricia Winterbauer
26.	Declaration of Jennifer Wu	Jennifer Wu

The following exhibits will be presented by witnesses at the October 10, 2007 Evidentiary Hearing.

Exhibit #	Description	Witness
27.	Technical Memorandum, March 2, 2007	Maggie Fitzgerald
28.	Technical Memorandum, March 23, 2007	Maggie Fitzgerald
29.	Technical Memorandum, April 24, 2007	Maggie Fitzgerald
30.	Letter to Dr. Reede, July 27, 2007	Gary Chandler
31.	State Water Resources Control Board Resolution 75-58	Steve Ottemoeller
32.	2003 California Energy Commission, Integrated Energy Policy Report	Steve Ottemoeller
33.	Water Balance – Lower Aquifer (2 pages)	Steve Garrett
34.	GE LMS 100 Representation	Steve Garrett
35.	Lime and Soda Ash Softening System	Steve Garrett
36.	Geologic Cross-Section	Jason Moore
37.	Groundwater Levels	Jason Moore

STATE OF CALIFORNIA
ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION

In the Matter of:	) DOCKET No. 06-AFC-5
	)
Modification of the Certification	) PROOF OF SERVICE
for the PANOCHE ENERGY CENTER	) (Revised 07/12/2007)
	)

INSTRUCTIONS: All parties shall 1) send an original signed document plus 12 copies OR 2) mail one original signed copy AND e-mail the document to the web address below, AND 3) all parties shall also send a printed OR electronic copy of the documents that shall include a proof of service declaration to each of the individuals on the proof of service:

CALIFORNIA ENERGY COMMISSION
Attn: Docket No. 06-AFC-5
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512
docket@energy.state.ca.us

APPLICANT

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APPLICANT CONSULTANTS

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DECLARATION OF SERVICE

I, Kimberly Hellwig, declare that on September 28, 2007, I transmitted to the above referenced parties via electronic mail consistent with the requirements of California Code of Regulations, title 20, sections 1209, 1209.5, and 1210, Applicant's Prehearing Conference Statement. All electronic copies were sent to all those identified on the Proof of Service list above.

In addition, I caused to be delivered via Federal Express Overnight Delivery a paper copy to Intervenor's attorney of record, Gloria Smith at the address identified above.

I declare under penalty of perjury that the foregoing is true and correct.

Kimberly J. Hellwig