Government Financial Strategies inc.

MEMORANDUM

To: Jim LaGrone

From: Stacie Frerichs SHF

Date: July 17, 2014

Re: Transmittal of Documents Regarding RFP for Independent Energy Advisor Services

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Jim, as you know, on the District's behalf we recently implemented a process to request proposals for independent energy advisor services. This memorandum describes the services requested and the purpose of the request for proposal process, lists the energy advisor firms contacted, and transmits the proposals received.

Services Requested

The specific services requested are:

- Identify and analyze the feasibility of energy conservation and energy generation project opportunities - includes identifying energy projects, upfront and ongoing costs, projected energy cost savings, rebates, etc. This work must consider the results of the energy audit conducted for the District by the California Energy Commission under the Bright Schools Program.
- Lead process of hiring contractors to install /construct energy projects - includes leading process of developing RFQs/RFPs, evaluating RFQs/RFPs, negotiating contract terms with contractors, etc. The energy consultant/advisor must be independent of the contractor(s) selected to install /construct the energy projects.
- Oversee installation/construction of energy projects.
- Lead process of applying for funding under the Proposition 39 energy project funding program - includes completing energy expenditure plans as described in the California Energy Commission's "Proposition 39: California Clean Energy Jobs Act - 2013 Program Implementation Guidelines" dated December 2013 (Prop. 39 Guidelines).
- Lead process of energy project tracking and reporting as described in the Prop. 39 Guidelines.
- Lead process of addressing the steps described in the Prop. 39 Guidelines.
- Providing expert guidance on the above.

Purpose of Request for Proposal ("RFP) Process

The purpose of the RFP process is threefold:

1) Understand the services provided by an independent energy advisor and whether the District would benefit from this type of service,
2) Become a more knowledgeable consumer of this type of service, and
3) Choose the right firm for the District if this type of service is determined to be beneficial.

1228 N Street, Suite 13, Sacramento, CA 95814-5609
Telephone (916) 444-5100 Fax (916) 444-5109

Firms To Receive Request For Proposals

In order to identify independent energy advisors to receive the District's *Request for Proposal* (RFP), we compiled a list of firms who work as independent energy advisors and have experience relevant to this proposal. The list was discussed with District staff at a meeting on May 2.

The list included:

ARC Alternatives
California Center for Sustainable Energy
Digital Energy, Inc
IEC Corporation
kW Engineering
Newcomb Anderson McCormick
NORESCO
Optony
SchoolWorks
Salas O'Brien
Willdan Energy Solutions

We sent an email to each firm with the RFP and invited them to submit a proposal. Proposals were due Wednesday, June 18 at 3 PM. Four proposals were submitted.

Proposals Submitted

The following four proposals are attached to this memorandum for reference:

Response from ARC Alternatives, dated June 18, 2014
Response from Center for Sustainable Energy California, dated June 18, 2014
Response from IEC Corporation, dated June 18, 2014
Response from Salas O'Brien, dated June 17, 2014

Next Steps

After reviewing the proposals, we recommend a meeting or conference call to discuss the proposals. We will follow up with you to discuss the proposals.

Jim, once again, thank you for the opportunity to assist you, and please don't hesitate to call us if you have any questions or comments.

SHF:abm

Enclosures

June 18, 2014

Mr. Jonathan Edwards
Government Financial Strategies, Inc.
1228 N Street, Suite 13
Sacramento, CA 95814-5609

Dear Mr. Edwards:

Thank you for the opportunity to submit this proposal to provide independent energy advisor services to the Colusa Unified School District (District). ARC Alternatives has assembled a team to bring the strongest combination of strategic energy program management experience, engineering expertise, and flexibility to the District.

We are committed to efficiently and effectively using our resources, as well those of the District. Our goal is to help build a robust energy program focused on reducing the District's energy spend, replacing aging energy infrastructure, and improving learning conditions.

The advantages to working with ARC Alternatives are many.

- We are a completely independent firm with no ties to solution providers.
- We maintain a strategic focus and act as an advisor and thought partner to our clients.
- ARC Alternatives has deep experience with all aspects of energy programs for K-12 schools. Not only can we provide planning and auditing services, but we write specifications and RFPs, evaluate proposals, negotiate contracts and oversee construction.
- We are client focused. The District will get our full attention throughout this engagement.
- Our approach is cost effective and will result in projects implemented and energy saved.

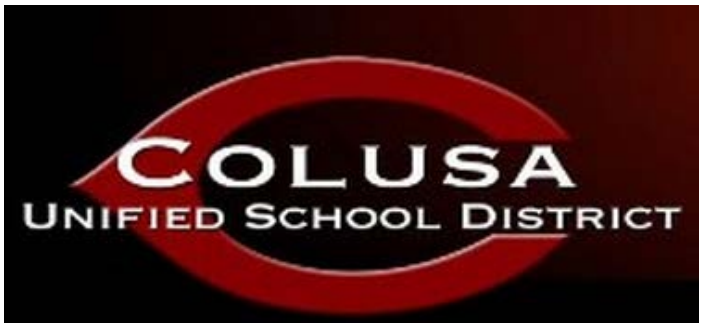
As the District's partner, we will identify and implement cost-effective, meaningful energy solutions that ensure the District achieves its energy conservation goals in the short- and long-term. ARC Alternatives looks forward to building a trusted relationship as we support the District in the development of an energy conservation program. Please do not hesitate to reach out to me at 415-420-5727 or russell@arc-alternatives.com with any questions or clarifications regarding our response, and we look forward to the opportunity to work with Colusa Unified School District!

Sincerely,

Russell Driver,
Principal, ARC Alternatives

Clean
Energy
Consulting

Proposal to Colusa Unified School District



Independent Energy Advisor Services

Submitted by ARC Alternatives
101 California St.
Suite 2710
San Francisco, CA 94111
June 18, 2014

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1. Firm History and Executive Summary

I. History of the Firm

We formed ARC Alternatives in 2014 to serve the energy consulting needs of public sector, large institutional clients and school districts in California. Our mission is to help our clients cost effectively achieve lasting energy savings in pursuit of their critical fiscal, environmental, and educational goals. We established ARC Alternatives to be a responsive, nimble organization with a singular focus on project execution. ARC Alternatives has no relationships with energy technology or service providers, which enables us to be completely independent and represent only our clients' best interests.

The three founding Principals of ARC Alternatives collectively have over 50 years of experience in energy engineering, energy program management, public sector procurement, and the management of design-build contracts. Our qualifications include the development and implementation of solar programs throughout California; management of the largest and longest running statewide energy efficiency partnerships; development of comprehensive energy planning efforts for universities, schools and other government agencies; exhaustive knowledge of utility incentive and rebate programs, and participation in the development and design of the Proposition 39 program.

II. Approach to Conducting the Work

Our approach to working with clients emphasizes building partnerships. We believe we are most effective when acting as a trusted thought partner and advisor. ARC Alternatives focuses on understanding our clients' needs and we work tirelessly to ensure projects are successful based on your objectives and criteria. Our compensation model is simple and straightforward, ensuring that we have no incentives other than our clients' satisfaction.

At ARC Alternatives our clients' needs are our highest priority. We are able to maintain our focus on project execution and the Colusa Unified School District will not get lost among the other jobs we have to deliver. We manage our workload to ensure the availability of key resources, including Principals, to deliver the work. You will not see inexperienced staff take the place of the more senior resources identified in this proposal. In addition, ARC Alternatives has two current Proposition 39 projects near Colusa: Chico Unified and Washington Unified. We are regularly in the area, which will facilitate meetings and field work, and we encourage you to contact our clients at Chico Unified and Washington Unified (contact information provided in Section 8 of this proposal) to discuss the quality of our work.

We have assembled an experienced team with the skillset and bench strength needed to deliver the highest quality energy planning, auditing, engineering and program management services to the District. ARC Alternatives is currently working with several school districts to incorporate the audit work of kW Engineering, the lead consultant for the California Energy Commission's

Bright Schools Program, into our Proposition 39 planning – as will be the case for Colusa Unified. We also have a long, successful working relationship with Government Financial Strategies and we are currently collaborating with them on energy-related projects at several other school districts. Additionally, we will supplement our staff, if needed, with resources from TRC. TRC is TRC is an established, financially stable firm with over 2,600 employees at 71 locations throughout the U.S. and has a 43 year track record of excellence in energy and environmental consulting. ARC personnel have an ongoing 15 year working relationship with the local branch office of TRC that will be supporting this effort, a track record that ensures the District will receive seamless support.

Another aspect of ARC Alternatives that differentiates us from our competitors is our expertise in all phases of energy project implementation. As your energy advisor, ARC Alternatives will support your energy program from conception through construction and close-out, and even during operations and maintenance if needed. Our staff have audited thousands of buildings, led strategic energy planning initiatives for both large and small scale clients, developed comprehensive RFP documents for K-12 school districts throughout California for projects valued at over $100 million in total, evaluated complex and disparate vendor proposals, and overseen the design and construction of numerous projects. Our experience working through the entire lifecycle of a project has profoundly informed our approach to identifying and procuring energy projects: the District will benefit from applying these lessons learned.

III. Additional Firm Information

- **Legal name and address of Firm:**
  ARC Alternatives, Inc.
  144 Donald Drive
  Moraga, CA 94556
- **Name and address of the Firm's principal place of business:**
  101 California St., Suite 2710
  San Francisco, CA 94111
- **Firm's legal form of entity:**
  California Corporation
- **Firm's engagement model and fee structure:**
  We propose to work on a Time & Materials basis with an established not-to-exceed budget agreed to by ARC and Colusa Unified School District prior to commencing work. Direct costs will be billed at cost without markup.
- **Other company affiliations:** None**.**

2. Experience, Expertise and Qualifications

ARC Alternatives has the specific experience and qualifications described in the RFP: no conflicts of interest; extensive experience in the analysis and development of energy efficiency and renewable projects; a long track record of acting as an independent advisor to school districts, including successful projects with K-12 districts; demonstrated success analyzing project economics (including incentives) and partnering with financial advisors; deep familiarity with Proposition 39 requirements and procedures; direct experience ensuring project compliance with California Building Codes, Title 24 and DSA; and proven ability to provide effective communication and support to the District, its Board, and other stakeholders. The number and type of projects delivered in the past five years by the above personnel, including associated savings or generation, are further detailed below.

ARC Alternatives Energy Project Experience	
Number of energy audits and project feasibility studies completed by Firm's assigned personnel in past 5 years at educational facilities	904
Estimated percentage of energy audits and project feasibility studies completed which resulted in implementation of recommended projects	75%
Total cost in dollars of energy projects installed as a result of the assigned personnel's engineering and program management efforts	$520 million
Total annual energy saved or generated by energy projects implemented or installed to date through projects developed by the assigned personnel at public education facilities in California	362,000,000 kWh/yr 19,800,000 therms/yr
List the typical energy efficiency measures implemented in connection with past projects: • Variable volume HVAC retrofits • Zone level DDC controls • Demand control ventilation • LED lighting • Photovoltaic systems • Chiller and boiler retrofits • Low watt T8 • Dimmable T8 lighting • Occupancy sensors • Daylighting controls • T5 court lighting • Induction lighting • Laboratory fume hood controls • Monitoring Based Commissioning (MBCx) • Central plant retrofits • Pool covers • Variable flow pool pumps • Retrocommissioning (RCx)	

Notes:

1. *The unit of measure for an audit is defined as a building or facility, depending on size. For example, an elementary school campus is considered one audit, while each building on a university campus is considered a separate audit.*
2. *Where solar construction costs are unknown, as in the case of a Power Purchase Agreement, a construction cost of $4.50 per watt is assumed.*

3. DSA, OPSC and CDE Experience

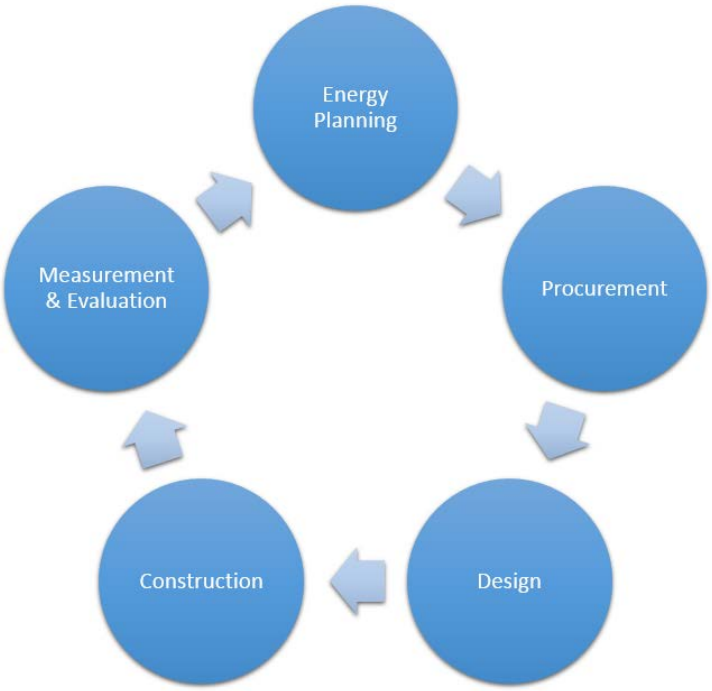
ARC Alternatives has worked extensively with these state agencies, owing to our work with school district through the implementation and close-out of their projects. We understand DSA and OPSC requirements and incorporate them into specifications and work plans. We will also identify and incorporate any relevant CDE initiatives into Proposition 39 plans. For example, in another district we identified computer desktop virtualization as a possible energy savings measure. The District's IT staff are in the midst of significant computer infrastructure deployment, which needs to be coordinated with both the energy work and CDE's California Education Technology Blueprint.

DSA is likely to have the largest impact on the implementation of energy projects at the District, as they are the agency responsible for approving construction plans, inspecting construction work, and closing out projects consistent with the California Building Code and other, school-specific regulations. ARC Alternatives has worked directly with DSA through all project phases on many projects, including projects for Chico Unified, Washington Unified, Santa Clara Unified, Mt. Diablo Unified, and Lincoln Unified. These projects have a construction total construction value of approximately $115 million.

4. Approach

ARC Alternatives provides energy consulting services covering the entire lifecycle of an energy project. Our ability to provide support through all phases of a project has facilitated the development of best practices in the areas of energy planning, RFP development, design review, construction oversight (including testing and commissioning) and ongoing performance management (reporting, measurement/monitoring, and evaluation). In fact, each of these activities supports the further development of methods and tools we regularly deploy to the benefit of our clients. Every time we oversee a system being installed or tested, we take those lessons learned and apply them when identifying projects, estimating their costs and benefits, and writing technical specifications.

ARC Alternatives Consultant Support Cycle



The remainder of this approach section describes how we intend to carry out the work for Colusa Unified School District, with an emphasis on up front energy planning, project identification, and Proposition 39 support. We also address later phases of energy project delivery to provide the District with a picture of how we propose to support procurement, design, and the construction of these projects.

I. Energy Planning and Proposition 39 Administration

ARC Alternatives overall approach to energy planning is to start at a high level and work to progressively more detail only as required to refine specifics. This approach contrasts with the bottoms-up methodology often used where one starts with full, detailed audits of all facilities. In the context of limited funding, we believe a top down approach is a more effective use of District time and resources, while still meeting all CEC requirements. Our approach recognizes District goals, including those related to education and outreach, and we will incorporate the Bright Schools energy audits conducted by kW Engineering at Burchfield Primary School, Egling Middle School and Colusa High School.

Benchmarking

Benchmarking is a prerequisite to all Prop 39 funding and it is best practice for the development of energy plans. ARC Alternatives will collect necessary data from the kW report and various additional sources as necessary, including square footage from facility insurance records and electricity and gas data directly from PG&E through the use of utility consent forms.

After collecting the data, we will organize it and perform the necessary calculations to provide annual energy use intensities (EUI) by utility for each school site to determine an overall cost and total energy (kBtu) per square foot as required in the Prop 39 Guidelines. The final step is to provide a report to the District that summarizes and ranks the resulting EUIs and relative efficiencies of the schools, to help identify the sites with the best opportunity for energy savings.

Develop a Strategic Energy Plan

Development of a Strategic Energy Plan (SEP) is proposed to combine the needs and goals of the District with the requirements of Prop 39, in order to provide a well-integrated plan for Prop 39 allocations over the next five fiscal years. The approach of the SEP is consistent with our philosophy to start at a high level, by framing up opportunities and determining the strategic direction, and working our way to specific detailed investigation for only likely projects.

The process starts by interviewing key stakeholders about District energy goals and priorities (including maintenance, comfort, or other non-energy factors) thereby identifying the overarching needs and goals of the District. Our experience with institutions large and small has taught us that this input helps accurately define desired outcomes.

With the understanding of the District's needs, and the requirements of the Prop 39 Guidelines in mind, ARC Alternatives will review the Scoping Audits conducted by the kW Engineering and determine if additional surveys of the District's facilities are needed We will perform walk through level audits of any additional District facilities needed beyond those included in the Scoping Audits, with the insights provided by District staff, to identify existing equipment, identify measures, and gather basic conditions needed to calculate energy savings and costs. The walk through audits will be performed by senior staff who have conducted audits on thousands of buildings, ensuring that existing conditions and potential measure are quickly and efficiently identified.

ARC Alternatives will use standard energy savings and cost estimating methods, including tools approved for Prop 39 savings estimates and other conservative engineering methodologies. The overall economics will take into account the available PG&E incentives and provide the simple payback of individual projects. Upon quantification of the opportunities and project economics, the measures will be prioritized and bundled together in ways that meet the District's goals and Prop 39 requirements. The prioritization effort is an important one to ensure all phases of the Prop 39 Expenditure Plan will meet savings-to-investment ratio requirements, and be consistent with the overall goals of the District. The resulting prioritized project bundling will be reviewed with the District in the form of a draft SEP, and feedback solicited.

The next step will be to incorporate detailed audits performed under the Bright Schools program to further define potential projects, their costs and savings. At this point, we may recommend conducting additional audits and modeling for select projects, if we have identified any gaps in the audits conducted under Bright Schools. All detailed audits will occur at the level of detail consistent with an ASHRAE Level 2 energy audit, as required by Prop 39 guidelines. The advantage of this approach is that it concentrates in-depth auditing efforts on only the projects that pass the high level strategic phase and are intended for implementation, thereby conserving resources and for the District.

Finally, the results of these detailed audits and staff feedback will be brought together into a final Strategic Energy Plan and presented to the District. In addition to defining the proposed projects, timing, sequencing and implementation options will also be taken into consideration to make the plan comprehensive and actionable. This final plan will be used as the basis for the Expenditure Plan submitted to the CEC and provide the basis for follow on phases of

implementation by the District. ARC will be available for District and Board presentations, and will coordinate with District staff to ensure the plan is approved and moves into implementation.

Perform CEC Administrative Steps

There are several specific administrative steps and requirements in order to receive Prop 39 funding. ARC Alternatives will provide assistance in all three main areas; (a) Providing CEC access to site-level utility data, (b) Developing Expenditure Plans and (c) Energy Project Tracking and Reporting. ARC will identify the utility accounts and help submit the necessary utility data release forms in conjunction with the benchmarking step described above. The Expenditure Plan is the actual application that Colusa Unified School District must submit to the CEC to receive Proposition 39 award funds. The main content of the Expenditure Plan will flow naturally from the Strategic Energy Plan, and ARC will dovetail these efforts to seamlessly complete the Expenditure Plan for the District, and provide assistance through the CEC approval process. We anticipate preparing a single, multi-year Expenditure Plan in this scope, and ARC Alternatives will help prepare the first annual status report.

II. Procurement Support and Request for Proposal (RFP) Development

Procurement Strategy

ARC Alternatives will leverage our experience developing procurement strategies for public sector clients in California to create an approach to contracting for the implementation (and possible operation) of energy projects and services. The specific procurement and contracting approach will likely change based on the number and type of energy projects being implemented. For example, a comprehensive program with a significant capital equipment component (e.g., HVAC, central plant) may lend itself to contracting with an energy services company. Solar projects, on the other hand, are often best implemented via a design-build contract mechanism or Power Purchase Agreement (PPA). There are many factors to consider in addition to the type of project being implemented, including source of financing, competitiveness of the marketplace for the specific system or service being contracted, the speed at which implementation has to take place, and availability of District resources to manage the projects.

RFP Development

Whatever method is eventually used, ARC Alternatives will facilitate the process by developing technical specifications, performance standards, and procedural elements of the bid documents. We will also work in collaboration with District legal support to develop the contracts

themselves, which are usually included in the RFP, along with any District-specific construction requirements and General Conditions.

Typically, RFPs for energy systems consist of the following elements:

- Scope of work and description of the project
- Instructions to proposers
- Evaluation process, scoring criteria, and award process
- Sample contract
- Technical specifications
- Project requirements (General Conditions): design process, submittals and approvals, safety requirements, site access, etc.
- Bid forms: price, schedule, exceptions, alternates, bonds, other certifications
- Utility data
- Site information: proposed project placement, as-built documentation, electrical drawings, other relevant site conditions

Depending on the procurement strategy, there may be one or more RFPs needed to implement the District's energy program. ARC alternatives has adopted this approach at several districts, where the major components of the energy program were procured through separate contracts. ARC Alternatives has example RFPs and contracts from other public school districts, providing a starting point for Colusa Unified projects, further leveraging our experience and saving the District the cost of starting from scratch.

Solicitation Support

Once an RFP or other type of solicitation document is released, the vendor community often seeks clarification on technical issues. ARC Alternatives often assists clients with responding to these types of questions and would support the District during this process. Additionally, we will provide assistance with bidders' conferences, site walks, and drafting and issuing addenda. Our approach to ensuring a successful and smooth solicitation process is to provide clear, unambiguous information to potential proposers in order to reduce their bid risk and encourage robust and fair competition.

Proposal Evaluation and Contract Negotiation

ARC Alternatives staff have reviewed hundreds of energy project proposals and applications. As part of the developing the RFP documents, we will work with District staff to identify potential evaluation criteria and their relative importance. We will customize existing models and develop a scoring rubric for use during the evaluation process. It is critical to finalize the evaluation process and scoring system prior to receiving proposals to keep the process fair and unbiased.

ARC Alternatives will also leverage several best practices around the evaluation of proposed project costs in order to ensure alignment between the scoring process and the District's goals for the project. For example, it is often the case with solar PV projects that proposals are evaluated based on simple cost metrics such as construction cost ($/watt) or the levelized cost of energy ($/kWh). We prefer to evaluate the NPV of the cash flow of the entire project accounting for both costs and benefits (i.e., utility savings and incentives) because this metric is more closely aligned with our clients' goals for their projects. It also has the added benefit of providing the capability to compare dissimilar proposals. This is just one example of the evaluation best practices we will leverage on behalf of the District.

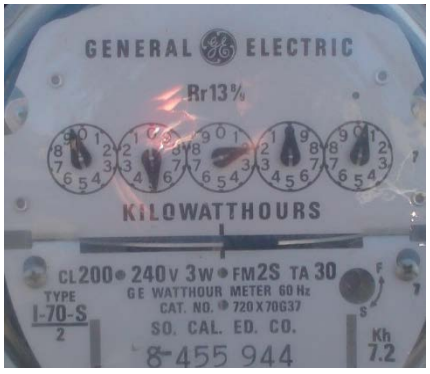
We will also be available to assist the District with contract negotiations. We have a great deal of experience with the different types of contracts used to implement energy projects and regularly assist K-12 clients negotiate favorable terms. By including the form of the contract you expect the vendor to sign in the RFP, the client starts from a position of strength in the negotiations and can limit the scope of the discussions to just those items with which the proposer has taken exceptions.

III. Project Installation/Construction

The level of effort required to oversee project installation varies greatly between project types. For simpler energy conservation measures, like lighting, it is usually sufficient to arrange site access and verify the installation by spot-checking or sampling the install sites. However, for more complex projects, such as HVAC replacement or solar, more extensive project management is needed, including detailed scheduling, on-site oversight (particularly if there is a civil component to the work), testing and commissioning. ARC Alternatives offers all of these services and our staff have provided everything from full project management and inspection services to more targeted oversight and ad hoc technical support. We will work with the District to jointly determine the appropriate role and level of effort for this phase of the project.

IV. Measurement and Evaluation

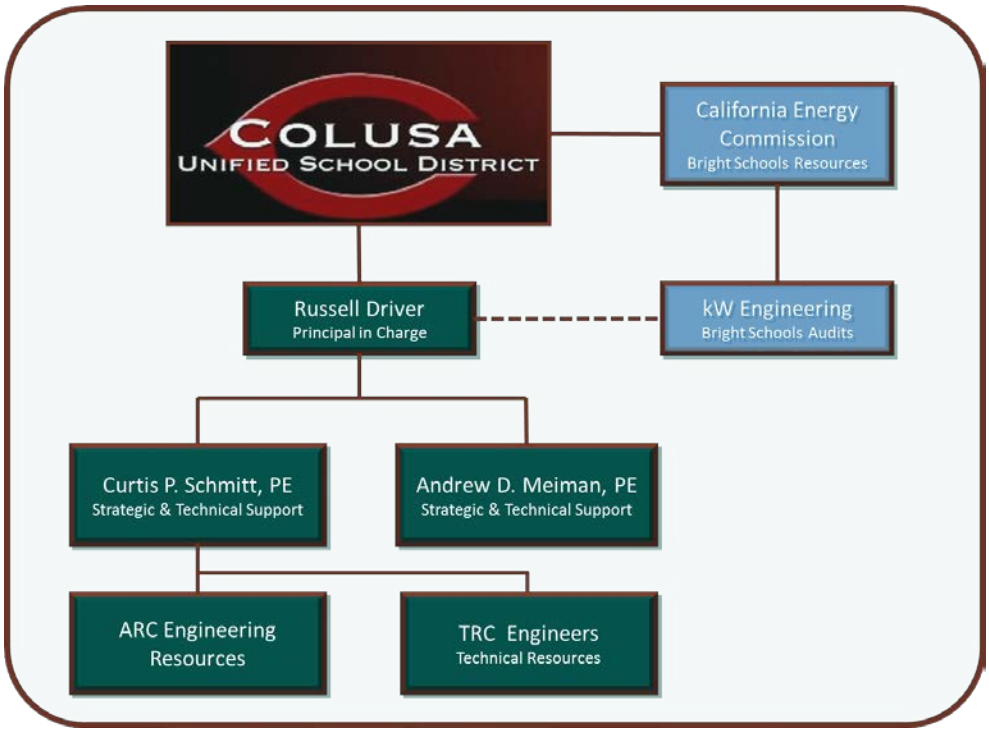
Oftentimes, organizations do not have the resources to manage the operations and performance of their energy systems once they are installed. While some systems do not require ongoing maintenance effort, most organizations benefit from a program of monitoring energy performance to identify performance shortfalls and ensure they are realizing the benefits of their investments. ARC Alternatives will help the District define an ongoing monitoring program that is sized appropriately for the types of projects implemented as well as the District's available resources – which are typically very constrained for our K-12 clients. It is also important to recognize that Proposition 39 requires a minimum level of



monitoring and reporting to document the savings achieved from investing these funds. As discussed above, we will perform this reporting as part of our Proposition 39 support and in addition look for ways to leverage the effort to create additional long-term value for the District.

5. Proposed Team and Key Personnel

The ARC Alternatives personnel dedicated to this contract bring extensive experience in energy engineering and energy program management as well as a successful track record of delivering projects for K-12 school districts in California. Additionally, assigned ARC personnel over the past eight years have made California's higher education energy efficiency Partnerships the standout successes they are. We also have strong working relationships with the Bright Schools consultants and will be able to integrate the existing Bright Schools Scoping Audits into the planning for Proposition 39 in order to make most effective use of existing programs and resources. ARC Alternatives core K-12 clients are currently all in PG&E service territory. We will also draw on engineering and auditing resources from TRC, if required. Russell Driver, Principal at ARC Alternatives, will be the single point of contact for the District and incorporate all project resources in a seamless fashion, as shown in the organization chart below. Additionally, resumes of key personnel are included in Attachment A.



Mr. Russell Driver, Principal and Co-Founder of ARC Alternatives, will be the Principal-In-Charge and overall project manager for this engagement, and will have primary responsibility for continuity with District Staff. Mr. Driver has over 20 years of experience managing large-scale technology programs in complex institutional settings. Mr. Driver specializes in the development and implementation of solar programs in the public sector, with an emphasis on K-12 school districts in California. With his previous employer, Mr. Driver has led consulting efforts supporting solar programs at Chico Unified School District, Los Angeles Unified School

District, Mt. Diablo Unified School District, Pajaro Valley Unified School District, San Leandro Unified School District, Santa Clara Unified School District, and Washington Unified School District. These programs have seen the implementation of over 48 MW of generating capacity at over 100 school sites. Mr. Driver also provides solar consulting support to cities and counties, including several joint procurement efforts in California and Hawaii. Mr. Driver's expertise includes solar technology, energy economics, public sector procurement, design-build contracting, system design review, construction oversight, project management, and data management. Mr. Driver has a Bachelor of Arts from Stanford University and a Master's Degree from UCLA. He is an active volunteer in the community and is currently a member of the Contra Costa Transportation Authority's Citizens Advisory Committee. He previously chaired the Town of Moraga Planning Commission and Climate Action Plan Task Force.

Mr. Curtis Schmitt, P.E., Principal and Co-Founder of ARC Alternatives, will have primary responsibility for the Prop 39 Strategic and Technical Support. Mr. Schmitt specializes in working with diverse organizations to provide strategic planning by marrying the depth and breadth of his technical expertise with a programmatic approach. Mr. Schmitt was the Program Manager with his previous employer to develop Strategic Energy Plans for customers including the University of California, resulting in $900M of potential energy projects across 14 campuses and medical centers. As a result of the plan, the University committed to nearly $400M in projects over a 5 year period to achieve savings of 270 million kWh and 17 million therms. The strategic aspect of the plan allowed the University of California to obtain commitment of over $65M in enhanced utility incentives, and the approval of a $250M bond by the University of California Board of Regents for implementation. Mr. Schmitt also initiated the efforts to provide East Bay Regional Park District with a similar Strategic Energy Plan, and was the Program Manager of the partnership between the California Department of Corrections and Rehabilitation (CDCR) and the Investor Owned Utilities. In this role, Mr. Schmitt provided technical oversight to identify and develop projects, conduct peer reviews of Energy Service Company proposals as an owner's representative, approve incentives and oversee the implementation of projects. The Partnership had achieved over 50 million kWh and 1.5 million therms of annual savings under Mr. Schmitt's leadership through 2013, and the processes implemented will ensure continued success. Mr. Schmitt has experience in wide variety of energy efficiency projects with virtually every customer segment during his more than 18 years of experience, including school districts. He holds an MS in Engineering Management from the University of Missouri and a BS in Mechanical Engineering from UC Davis. He is also a registered Professional Engineer (Mechanical) in California.

Mr. Andrew Meiman, P.E., Principal and Co-Founder of ARC Alternatives, will provide strategic and technical support for the Prop 39 efforts. With over 20 years of experience, Mr. Meiman's specialty is developing and managing large-scale, multi-stakeholder energy efficiency programs. With his previous employer, he was the Statewide Program Manager for the UC/CSU/IOU Energy Efficiency Partnership, which through 2013 saves the University of California and

California State University annually 335 million kWh, 19 million therms and achieved approximately 40MW of demand reduction, earning the universities $95M of incentives and helping California's primary Investor Owned Utilities achieve their energy efficiency goals. The Partnership is on track to add significantly to those totals in 2014 and beyond. Mr. Meiman has also advised clients on energy efficiency and renewable energy policy, regulatory and financial issues. He holds an MBA from the Darden Graduate School of Business Administration at the University of Virginia, and a BS in Aerospace Engineering from the University of Colorado at Boulder. Mr. Meiman is a strong supporter of public education in California and his local community. In 2008 he co-founded the Pacifica Education Foundation in his local school district and still serves on its Executive Board as the CFO and Treasurer. He is a registered Professional Engineer (Mechanical) in California.

The following table lists resources assigned to the Colusa Unified School District project, their years of experience, and relevant expertise in the areas critical to the success of the project.

Resources	Years of Experience	Relevant Expertise				
		Analysis & Development of Energy Efficiency Measures	K-12 Efficiency and Renewable Programs	Proposition 39 Requirements	Procurement, RFPs, and Proposal Eval.	Project Design, Construction, Testing & Acceptance
Russell Driver, Principal, Project Manager	20	X	X	X	X	X
Cutis Schmitt, P.E., Principal	18	X	X	X	X	X
Andrew Meiman, P.E., Principal	20	X	X	X	X	X
Senior Engineer	5-10	X	X		X	X
Engineer	3-5	X	X			

6. Similar Services for Public Agencies

The ARC Alternatives team has deep experience providing clients in the education sector strategic advice, engineering services and program management support throughout ***all phases*** of their energy projects, including support of the later stages of energy projects requested in the RFP: development of specifications/bid documents, procurement, construction oversight, M&V, commissioning and retro-commissioning, training, and Energy Manager services to ensure the persistence of savings.

Our team has worked with numerous K-12 school districts in California as well as other educational institutions in California. Additionally, we have worked with virtually every University of California and California State University campus and a number of California Community Colleges, and bring the understanding of the schools market sector to this engagement. The table on the following pages describes our school experience in each phase of energy project development and implementation over the past five years.

K-12 District, Community College and Public University Projects	Audit/Project Development	Strategic Planning	Project Review/ Procurement Support	Implementation Support	Program Management
Chico USD	X	X	X	X	
Washington USD	X	X	X	X	
Santa Clara USD	X		X	X	
Pajaro Valley USD	X		X	X	
San Leandro USD	X		X	X	
Mt. Diablo USD	X		X	X	
Los Angeles USD	X		X		
Orinda USD	X	X			
Temple City USD			X		
Palm Springs USD			X		
Fontana USD			X		
University of Hawaii	X	X	X		
UC Office of the President	X	X			X
UC Berkeley	X	X	X		X
UC Davis	X	X	X		X
UC Davis Medical Center	X	X	X		X
UC San Francisco	X	X	X		X
UC San Francisco Medical Center	X	X	X		X
UC Santa Cruz	X	X	X		X
UC Riverside	X	X			X
UC Los Angeles	X	X			X
UC Los Angeles Medical Center	X	X			X
UC San Diego	X	X	X		X
UC San Diego Medical Center	X	X			X
UC Irvine	X	X	X		X
UC Irvine Medical Center	X	X			X
UC Santa Barbara	X	X	X		X
CSU Bakersfield					X
CSU Chico			X		X
CSU Dominguez Hills			X		X
CSU East Bay			X		X
CSU Fresno					X
CSU Fullerton			X		X
Humboldt State University			X		X
CSU Long Beach			X		X
CSU Los Angeles					X
California Maritime Academy					X

K-12 District, Community College and Public University Projects	Audit/Project Development	Strategic Planning	Project Review/ Procurement Support	Implementation Support	Program Management
CSU Monterey Bay			X		X
California State Polytechnic University, Pomona			X		X
CSU Sacramento			X		X
CSU San Bernardino			X		X
San Diego State University			X		X
San Francisco State University			X		X
San José State University			X		X
California Poly, San Luis Obispo	X		X		X
CSU San Marcos					X
Sonoma State University			X		X
CSU Stanislaus			X		X
Antelope Valley College			X		
Bakersfield College	X	X			
Barstow College	X				
Cerritos College	X				
Cerro Coso Community College	X	X			
Chaffey College	X		X		
Citrus College			X		
Coastline Community College			X		
College of the Canyons	X		X		
College of the Desert	X		X		
College of the Redwoods			X		
College of the Sequoias	X		X		
Cosumnes River College			X		
Cypress College	X		X		
El Camino College	X		X		
Glendale Community College			X		
Long Beach City College			X		
Los Angeles Valley College	X		X		
Merced College	X				
Norco College	X		X		
Orange Coast College	X		X		
Porterville College	X	X	X		
Sacramento City College			X		
Santa Barbara City College			X		
Santa Rosa Junior College	X		X		
Victor Valley College			X		

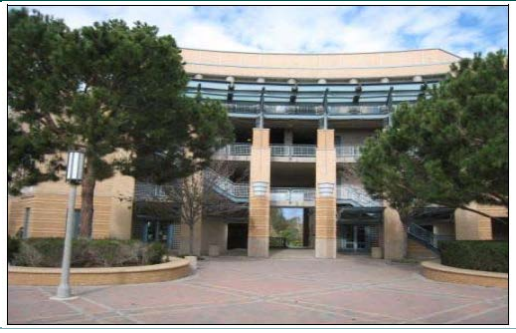
7. Project References

Project Name	Chico Unified School District Prop 39 Support			
Customer Name	Chico Unified School District			
Contact Info	Julie Kistle Construction Manager Chico Unified School District 530-891-3140 jkistle@chicousd.org			
Team Member & Role	Russell Driver, Program Manager Curtis Schmitt, PE - Technical Lead Andrew Meiman, PE - Strategic and Technical Support			
Project Type & Description	ARC Alternatives is currently under contract to provide CUSD Proposition 39 support. Our scope of work includes utility analysis, facility benchmarking, project identification, strategy development, coordination with other District initiatives (e.g., Facilities Master Plan, smart meter deployment, Bright Schools, RCx K-12 Pilot Program), technical support, and management of CEC required processes and submittals. Our mandate is to provide a coordinated, actionable, and strategic roadmap for implementing energy projects across the District. Additionally, Russell Driver (working for his previous employer) led consulting efforts to support solar implementation. Mr. Driver managed the entire consultant scope of work, including feasibility study, economic analysis, RFP development, technical specification development, proposal evaluation, contract negotiations, construction project design review and evaluation, construction oversight and quality assurance, evaluation of project schedules, cost-benefit analysis, claims review and negotiation support, and general project management and contract. Mr. Driver also oversaw the development of a "Performance Verification" report validating real world system performance and financial savings to the District. The first phase of solar construction (currently installed) consists of approximately 1.6 MW of solar generation capacity of carport shade structures at five District sites. All but one of the sites were constructed concurrently.			
Location of Project	Chico, CA			
Project Dates	Planning:	2014 (Prop 39) 2010 (solar)	Installed & Operational:	TBD (Prop 39) Sep 2011 (solar)
Project Costs	$544,374 (Year 1 Prop 39 allocation) $7.5 million (estimated, project was financed through a PPA)			

Project Name	Washington Unified School District Prop 39 Support			
Customer Name	Washington Unified School District (WUSD)			
Contact Info	Scott Lantsberger Assistant Superintendent - Business Services 916-375-7604 x1010 slantsberger@wusd.k12.ca.us			
Team Member & Role	Russell Driver - Program Manager Curtis Schmitt, PE - Technical Lead Andrew Meiman, PE - Strategic and Technical Support			
Project Type & Description	WUSD has engaged ARC Alternatives as their Proposition 39 Strategic and Technical Consultant to develop an overall strategic energy plan for the District and fulfill all CEC and CDE Prop 39 requirements for planning and funding. Additionally, ARC will coordinate Prop 39 work with other concurrent District initiatives including an extensive Capital Improvement Plan, a Cenergistic energy manager contract, an ESCO proposal, and their recently completed, large scale solar PV project at multiple campuses. Previously, Russell Driver (working for his previous employer) led consulting efforts to support two phases of solar implementation. The consultant scope of work for those efforts included feasibility studies, development of specifications and RFP documents, procurement support, design review, construction support, testing oversight, and performance validation. Mr. Driver helped WUSD implement 2.6 MW of power, with annual production of approximately 4.1 million kWh.			
Location of Project	West Sacramento, CA			
Project Dates	Planning:	2014 (Prop 39) 2010 & 2012 (solar)	Installed & Operational:	TBD (Prop 39) 2011 & 2013 (solar)
Project Costs	$345,864 (Year 1 Prop 39 allocation) $10.8 million (Prior solar projects)			
Energy Savings or Generation	4,100,000 TBD	kWh/yr therms/yr	2.6 MW Peak Capacity Note: Current effort TBD. Figures represent prior solar projects.	

Project Name	Santa Clara Unified School District Solar Program			
Customer Name	Santa Clara Unified School District			
Contact Info	Larry J. Adams Bond Manager (408) 423-2001 ladams@scusd.net			
Team Member & Role	Russell Driver, Program Manager (with previous employer)			
Project Type & Description	The District's solar program consisted of approximately 2.8 MW of solar generation capacity installed at eight District sites. The solar project consisted entirely of carport shade structures with most of the sites constructed concurrently. Consultant assistance included economic analysis, RFP development, technical specification development, proposal evaluation, contract negotiations, construction project design review and evaluation, construction oversight and quality assurance, evaluation of project schedules, cost-benefit analysis, claims review and negotiation support, and general project management and contract administration (e.g., participating in project meetings, providing direction to contractor, review of contractual submittals, etc.).			
Location of Project	California			
Project Dates	Planning:	2011	Installed & Operational:	2012-2013
Project Costs	$10.4 million			
Energy Savings or Generation	4,480,000	kWh/yr	2.8	MW Peak Capacity
	NA	therms/yr		

Project Name	SANBAG Feasibility Study			
Customer Name	San Bernardino Associated Governments			
Contact Info	Duane Baker Director of Management Services (909) 884-8276			
Team Member & Role	Russell Driver, Program Manager (with previous employer)			
Project Type & Description	The San Bernardino Associated Governments (SANBAG) engaged Russell Driver to lead the development of a solar feasibility study on behalf of 19 member agencies across more than 60 sites throughout San Bernardino County. The objective of the feasibility study was to determine whether a collaborative procurement would be an appropriate means for implementing solar power systems. The study included field work, utility analysis, and solar economic modeling. We determined the potential locations and sizes for systems, costs for installation, and the estimated bill savings for a 20-year period. The study also identified strategies for undertaking the procurement. As a result of the study, SANBAG is in the process of developing a procurement strategy and associated documents to engage in a collaborative procurement for solar PV projects.			
Location of Project	San Bernardino County, CA			
Project Dates	2012-2013			
Project Costs	$72 million (estimated)			
Energy Savings or Generation	25,500,000 (est.)	kWh/yr	18 MW (est.)	kW Peak Capacity
	N/A	therms/yr		

Project Name	University of California Strategic Energy Plan			
Customer Name	University of California Office of the President (UCOP)			
Contact Info	George Getgen Director Facilities Management Services (510) 987-9127 George.Getgen@ucop.edu			
Team Member & Role	Curtis Schmitt, Program Manager (with previous employer) Andrew Meiman, Strategic and Technical Support (with previous employer)			
Project Type & Description	Developed Strategic Energy Plan for 14 University and Medical Center Campuses. Audited all buildings over 50,000 sf, numbering some 500 individual buildings, and conducted targeted audits to identify and analyze energy projects and extrapolate results across entire University of California system. Provided initial project list, under extreme time constraints, employing team of subcontractors to conduct all fieldwork and initial analysis in less than 4 months, identifying over $900M in projects. Projects included energy efficiency and renewable generation and provided actionable plan which resulted in UC Board of Regents approving bonds and UC securing enhanced incentives from the Investor Owned Utilities. UCOP has recently retained ARC Alternatives to conduct follow-up audits and analysis to update the Strategic Energy Plan with a focus on deep energy efficiency retrofits.			
Location of Project	Statewide (14 University of California Campuses and Medical Centers)			
Project Dates	Planning:	2008-Current	Installed & Operational:	Ongoing
Project Costs	>$900M Identified, $350M funded & in construction or completed			
Energy Savings or Generated	267,434,000 17,191,000	kWh/yr therms/yr	28,322 (in construction or completed)	kW Peak Demand

8. Client References

Julie Kistle
Construction Manager
Chico Unified School District
530-891-3140
jkistle@chicousd.org

Scott Lantsberger
Assistant Superintendent - Business Services
Washington Unified School District
916-375-7604 x1010
slantsberger@wusd.k12.ca.us

Larry J. Adams
Bond Manager
Santa Clara Unified School District
(408) 423-2001
ladams@scusd.net

Duane Baker
Director of Management Services
SANBAG
(909) 884-8276
dbaker@sanbag.ca.gov

George Getgen
Director -Facilities Management Services
University of California Office of the President
(510) 987-9127
George.Getgen@ucop.edu

9. Letters of Reference and Testimonials

The following pages include letters of reference and testimonials from current and past clients.

April 25, 2014

To Whom It May Concern:

Earlier this month I had the pleasure of retiring from my position as Director – Facilities and Construction, Chico Unified School District. During the last few years we were able to complete several photovoltaic projects within the District. I had the pleasure of working with ARC Alternatives Principal Russell Driver from 2010 until my retirement this month. During this time he provided energy consulting services to Chico Unified School District and continues to do so. Mr. Driver led consulting efforts covering all phases of our solar PV program, from project planning and feasibility through the design and support of a competitive RFP process, to the construction and testing of the systems. His assistance enabled the District to confidently make decisions regarding this large investment, which resulted in the installation of over 1.6 MW of generating capacity at District facilities. He contributed to our success by providing independent, third-party energy expertise to the District on some of our most high-profile projects.

Mr. Driver has been a key part of the success of our solar deployments to date. In particular, his thorough knowledge of public procurement processes, developing RFP's, best value proposal evaluation techniques, and design-build contracting have been extremely valuable to the District. He applied a very structured approach to the development and management of our energy programs and has become a critical thought partner and advisor to the District on energy-related matters. Mr. Driver is also very responsive to District needs and has a strong track record of delivering on-time and within established budgets.

Based on their excellent qualifications and track record of delivering the highest quality services, the District recently contracted with ARC Alternatives to provide Proposition 39 planning support. Having worked extensively with Mr. Driver, I feel confident in recommending his energy consulting services. He is not only thorough, but also easy to work with and always available to respond to District needs.

If you have any further questions, please feel free to contact me at (530) 520-9191.

Sincerely,

Michael Weissenborn
Director, Facilities and Construction (Retired)
Chico Unified School District
mike.weissenborn@comcast.net

Washington Unified School District
"Together We Can Make A Difference"

BOARD OF EDUCATION
Adam Menke, President
Alicia Cruz, Vice-President
Sarah Kirby-Gonzalez, Clerk
Mary Leland, Member
Katie Villegas, Member

SUPERINTENDENT
Dayton Gilleland, Ed.D.

930 Westacre Road • West Sacramento, CA 95691 • (916) 375-7600 • Fax (916) 375-7619 • www.wusd.k12.ca.us

April 2014

To Whom It May Concern:

I am writing to recommend the services of ARC Alternatives Principal Russell Driver. Mr. Driver has been supporting Washington Unified School District's energy initiatives since 2009. We first engaged Mr. Driver to perform a feasibility study for implementing a solar system at several of our school campuses. Since then, he has led consulting efforts to determine the feasibility of projects, develop procurement documents (including technical specifications), support contract negotiations with vendors, and help oversee contractors during design and construction. He has fulfilled a critical role by providing independent, un-biased, third-party energy expertise to the District on extremely technical projects.

Mr. Driver has been instrumental in the success of our solar deployments to date. He applies a very structured approach to the development and management of energy programs and has become a critical thought partner and advisor to the District on energy-related matters. Mr. Driver is also very responsive to District needs and has a strong track record of delivering on-time and within established budgets.

The District continues to find Mr. Driver's services valuable and recently contracted with him and his firm, ARC Alternatives, to provide Prop 39 planning assistance and support for two (2) additional energy initiatives currently being undertaken by the District. I feel confident in recommending Mr. Driver's energy consulting services. He is not only thorough and easy to work with, but understands his role as a consultant. Mr. Driver is always willing to take the time to discuss and respond to any concerns or questions of the District's team.

If you have any further questions, please feel free to contact me.

Sincerely,

Scott A. Lantsberger
Assistant Superintendent Business Services

UNIVERSITY OF CALIFORNIA

BERKELEY • DAVIS • IRVINE • LOS ANGELES • MERCED • RIVERSIDE • SAN DIEGO • SAN FRANCISCO SANTA BARBARA • SANTA CRUZ

OFFICE OF THE EXECUTIVE VICE PRESIDENT –
BUSINESS OPERATIONS

OFFICE OF THE PRESIDENT
Budget and Capital Resources
Facilities Management Services
1111 Franklin Street, 6th Floor
Oakland, California 94607-5200
Phone: (510) 987-9127
Fax (510) 987-0752

April, 21, 2014

To Whom It May Concern:

I am pleased write this reference letter for ARC Alternatives, recommending them without hesitation for energy efficiency technical and program management consulting services.

The principals of ARC Alternatives have assisted the University of California with their energy efficiency programs in various capacities over the past eight years. Mr. Curtis Schmitt led development of a Strategic Energy Plan for 14 University and Medical Center campuses which identified over 2,700 energy efficiency and renewable generation projects. The Strategic Energy Plan resulted in the University of California (UC) Board of Regents approving bonds for project financing and enabled us to secure incentive commitments from all four California Investor Owned Utilities.

The efficiency projects then flowed into the Statewide UC/CSU/IOU Energy Efficiency Partnership for implementation, for which Mr. Andrew Meiman was the statewide program manager since 2006, and his colleagues, Messrs. Schmitt and Russell Driver, supported the program in technical and program management roles. This Partnership Program has been a great success for the University and has achieved as of 2013 over $130 million in cumulative avoided utility cost savings.

Based on their qualifications and their demonstrated commitment to delivering the highest quality services, the UC Office of the President has recently retained ARC Alternatives to update the Strategic Energy Plan for future deep energy and central plant efficiency retrofits, positioning UC for continued success in achieving its fiscal and climate goals.

Having personally worked directly and extensively with both Mr. Meiman and Mr. Schmitt, I can attest to their professionalism, knowledge, skills and work ethic. I give them and their new company, ARC Alternatives, my highest recommendation.

If you have any further questions, please feel free to contact me at 510-987-0843 or dirk.vanulden@ucop.edu.

Sincerely,

Dirk A. van Ulden

Associate Director (Retired)

Energy and Facilities Management Services

"ARC Alternatives Principals Curtis Schmitt and Andrew Meiman have been instrumental over the years in the success of UC's ambitious energy efficiency programs. From leading our Strategic Energy Plan creation, to managing our Energy Efficiency Partnership with the Investor Owned Utilities Statewide, they drive results and have our best interests at heart."

- Dirk van Ulden, Associate Director (Retired)
  University of California, Office of the President

"I've proudly worked with Curtis Schmitt and Andrew Meiman of ARC Alternatives in many different capacities over the last 15 years, with great success. Their engineering expertise, judgment and strategic approach have made them trusted advisors for clients we've worked with together, garnering excellent results."

- Paul David, Vice President, TRC Solutions, Inc.

10. Proposed Compensation

ARC Alternatives proposes the hourly rates provided under separate cover on a Time and Materials basis, and is committed to providing the most cost effective solution for the District. Direct expenses will be billed at cost without markup. We are acutely aware of the funding challenges facing K-12 schools and recognize that money spent from Proposition 39 planning funds is money not available for projects. Due to the uncertainty in the ultimate scope of work as indicated in the RFP, we commit to working with the District to establish an acceptable not-to-exceed budget and collaboratively defining the final mix of services necessary to meet the District's needs.

ARC Alternative Staff Rates

****** Proprietary Information ******

Please refer to Proposed Rate Table submitted under separate cover.

11. Claims

No claims related to the firm's services or performance have been filed against ARC Alternatives in the past five years, or ever.

Attachment A – Resumes

Russell Driver
russell@arc-alternatives.com

SUMMARY

Experienced professional with over 19 years of progressive experience in energy, economic analysis, program management and consulting. Expertise in renewable energy and energy efficiency projects and programs, having led efforts to develop over 100 MW of solar in California and Hawaii. Thorough knowledge of the principles of project management, procurement, scheduling, and budgeting and deep experience communicating with senior executives, policy boards, industry groups, the public, and the media.

EXPERIENCE

Principal, Co-Founder

ARC Alternatives, Moraga, CA, Feb 2014 to present

- Founding and startup of consulting company serving the clean energy consulting needs of the Public sector
- Responsible for developing, managing and implementing energy efficiency programs and projects, with a focus on public sector clients and Investor Owned Utility (IOU) Programs.

Principal

Newcomb | Anderson | McCormick, San Francisco, CA, 2007-Jan 2014

- *Renewable Project Development, Procurement, and Implementation – Multiple Public Sector Clients Throughout California and Hawaii*
  - Performed solar feasibility studies for K-12, university and other public sector clients. Studies included determining size, location and layout of systems as well as modeling system production and financial performance.
  - Developed procurement strategies, bid documents, technical specifications, and contracts for renewable energy systems. Conducted evaluations of proposals, supported contractor selection and participated in contract negotiations as representative of the client.
  - Oversaw implementation of multiple solar deployments on behalf of public sector clients, including the development of schedules and work plans, monitoring contractor and internal staff performance, maintaining program budgets, and reviewing and accepting deliverables throughout the delivery lifecycle.
  - Determined actual system performance over time and determined financial savings resulting from solar projects.
- *UC/CSU/IOU Statewide Energy Efficiency Partnership Program – Southern California Edison*
  - Successfully led the design, development and deployment of Primavera P6 for energy efficiency project tracking across all UC and CSU campuses and to the California IOUs.
  - Developed and delivered training on the use of project management tools and processes to UC, CSU, and IOU staff.
  - Negotiated contracts for Primavera licenses, software hosting, and support.
- *Energy Efficiency Program Process Improvement – Pacific Gas & Electric Company*
  - Managed comprehensive process improvement work with PG&E's core Energy Efficiency programs.
  - Led the development of new procedures and standards for program implementation.

- Developed and delivered training programs for all affected departments.
- Updated the standard customer contract, and designed quality assurance and audit protocols.

- *California Solar Initiative Evaluation Program Management – California Public Utilities Commission*
  - Led efforts to oversee the comprehensive evaluation program of the California Solar Initiative on behalf of CPUC.
  - Coordinated evaluation consultants performing impact, process improvement, and market transformation studies.
  - Developed and deployed tools for managing budgets, schedules, deliverables, review cycles and program documents.

Senior Manager

Kaiser Permanente, Oakland, CA 2004-2007

- Directed program management office in support of Kaiser Permanente nationwide deployment of electronic medical records (EMR) system.
- Led implementation of the long-term support model for EMR system for all Kaiser regions outside California.
- Acted as IT Program Manager for revenue cycle remediation projects across Kaiser Permanente enterprise.

Principal Program Coordinator

Metropolitan Transportation Commission, Oakland, CA 1994-2004

- Led team of staff, consultants, and contractors implementing a region-wide transit fare payment system.
- Directed development of bid documents, oversaw evaluation of proposals, and led negotiations resulting in $300 million contract for a regional transit fare payment and transaction processing system.
- Acted as lead staff on contract administration issues, including communications, documentation control, contract interpretation and negotiation, and change orders.
- Facilitated and negotiated agreements on governance, customer service policies and fare policies among Bay Area transit operators.
- Acted as lead staff for programming and allocating State transportation funds.

EDUCATION

M.A., Urban Planning, University of California Los Angeles, 1993
B.A., Urban Studies, Stanford University, 1991

COMMUNITY SERVICE

Chair, Town of Moraga Planning Commission 2005-2012
Co-chair, Town of Moraga Climate Action Plan Task Force 2012-2013
Chair, Contra Costa County Transportation Authority Citizens' Advisory Committee 2006-Present

Curtis P. Schmitt, PE

curtis@arc-alternatives.com

SUMMARY

Experienced Program Manager and Engineer with a proven record of developing successful strategic energy plans and implementing complex energy programs, balancing technical and strategic approaches. Deep experience in Investor Owned Utility incentive programs, as well as providing owner's representation for technical review and program implementation. Demonstrated ability to leverage engineering competency, judgment and strong interpersonal skills to lead teams and deliver results.

EXPERIENCE

Principal, Co-Founder

ARC Alternatives, Moraga, CA, Feb 2014 to present

- Founding and startup of consulting company serving the clean energy consulting needs of the Public sector
- Responsible for developing, managing and implementing energy efficiency programs and projects, with a focus on public sector clients and Investor Owned Utility (IOU) Programs.

Principal

Newcomb | Anderson | McCormick, San Francisco, CA, 2007-Jan 2014

- *Pacific Gas & Electric (Lead Utility) Southern California Edison, San Diego Gas & Electric, Southern California Gas, California Department of Corrections and Rehabilitation* - Statewide Program Manager for the CDCR/IOU Energy Efficiency Partnership
  - Chaired Executive and Management Teams governing the operation of the Partnership.
  - Organized and executed all work for the Partnership including technical review, project development, project tracking, reporting, planning and strategy.
  - Provided oversight of pre-qualified ESCOs and owner's representation during project lifecycle.
  - Through 2013 saves CDCR annually 50 million kWh, 1.5 million therms and achieved approximately 6MW of demand reduction, earning $27M of incentives.
- *University of California* – Systemwide Strategic Energy Plan (SEP)
  - Managed large multi-discipline team of subcontractors, coordinated scheduling, provided oversight of all field and audit activities, project identification and analysis and report aggregation and presentation.
  - Identified over $900M in energy efficiency and renewable generation projects for the University with an overall simple payback under 10 years.
  - As a result, campuses planned nearly $400M in projects over the following 5 years with savings of 270 million kWh, 17 million therms and 28 MW of peak demand savings
- *Pacific Gas & Electric Company*
  - Led team responsible for technical review of third party program proposals, which reviewed more than 50 proposals in multiple market segments including schools, commercial, industrial, agriculture, and healthcare.
  - Provided oversight and expertise for technical review and revision process of nearly 500 third party program work papers for approval of measures by CPUC Energy Division.
  - Managed process improvement for internal measure code system to classify all customized energy measures for project tracking and CPUC reporting.

- Provided and managed various technical review and project development for higher education Partnerships and third party programs.

- *Southern California Edison & Southern California Gas* - Managed project development and technical reviews of retrofit projects for California Community College Partnership, resulting in incentive approvals and streamlining timelines and complying with CPUC requirements. Assisted utilities managing customer milestones, contributing to overall success of program.

Lead Mechanical Engineer

EMCOR Energy Services, Consulting Services, San Francisco, CA 2001-2007

- *Pacific Gas & Electric* – Managed and provided technical due diligence reviews in support of various customized incentive programs (SPC, NRR-DR, SBD, Partnerships) and responsible for approval of approximately $25M in incentives. Provided the technical reviews for all San Francisco Peak Energy Program customized project, which exceeded goals and achieved 100% realization rate in CPUC EM&V.
- *Southern California Edison* – Managed and provided technical due diligence reviews in support of the Standard Performance Contract customized incentive program. Recognized by customer for lowest transactional cost per review, while consistently maintaining highest realization rates in CPUC EM&V.
- *Verizon Communications* – Provided engineering and program support to Corporate Energy Manager and initiatives, including:
  - Generator Block Heater Controls – Lowered the maintained temperature of standby generators through modification of block heater controls without compromising network reliability
  - Digital Metering Initiative - Incorporated real time building demand to enable demand response
  - Demand Control Ventilation – Provide controls for central offices (network centers) to maximize economy cycles and reduce excess outside air in a space with high internal loads and a variable occupancy pattern.
- *San Francisco Department of the Environment (SFE)* – Program Design and construction management support for the Power Savers program, a CPUC funded third party program (funded under SB5X) designed to serve small and hard to reach businesses in San Francisco. The program surpassed its goals to achieve 6 MW demand reduction across 4,000 businesses.
- WebGen Systems – Identified opportunities, developed strategies and developed control points lists to support implementation of WebGen System's Enterprise Energy Management, which enabled real-time demand response through automated intelligent load curtailment and system control optimization.

Captain

United States Army, Corps of Engineers, 1996-2001

- Increasing levels of responsibility including Platoon Leader, Company Executive Officer, Battalion Adjutant, and Battalion Training Officer in engineer organizations.
- Included oversight of multi-million maintenance and training budgets, direct leadership of technical teams up to 100 personnel, and staff responsibility for an 800 person organization.
- Graduated both Officer Basic Course and Officer Advanced Course in top 2%, earning Commandant Honors.

EDUCATION

M.S., Engineering Management, University of Missouri at Rolla, 2000

B.S., Mechanical Engineering, University of California at Davis, 1995

PROFESSIONAL AFFILIATIONS

Registered Professional Engineer, Mechanical (CA)

Tau Beta Pi Engineering Honor Society Member

Andrew D. Meiman, PE
andrew@arc-alternatives.com

SUMMARY

Experienced program manager and engineer with a proven record of successfully implementing complex engineering-driven programs in multi-stakeholder environments. Programs cumulatively represent owner commitments of over $600M capital. Demonstrated ability to leverage business perspective, engineering competency and strong interpersonal skills to lead teams and drive programs in the education, government and utility sectors.

EXPERIENCE

Principal, Co-Founder

ARC Alternatives, Moraga, CA, Feb 2014 to present

- Founding and startup of consulting company serving the clean energy consulting needs of the Public sector
- Responsible for developing, managing and implementing energy efficiency, renewable energy and sustainability programs and projects

Principal

Newcomb | Anderson | McCormick, San Francisco, CA, 2006-Jan 2014

- *Southern California Edison (Lead Utility), San Diego Gas & Electric, Pacific Gas & Electric, Southern California Gas, University of California Office of the President, California State University Chancellor's Office* - Statewide Program Manager for the UC/CSU/IOU Energy Efficiency Partnership
  - Led Executive and Management Teams governing the operation of the Partnership
  - Organized, directed and executed all work for the Partnership including technical review, project development, project tracking, reporting, outreach, training, planning and strategy
  - Through 2013 the Partnership saves the University of California (UC) and California State University (CSU) annually 335 million kWh, 19 million therms and achieved approximately 40MW of demand reduction, earning the universities $95M of incentives and helping California's primary Investor Owned Utilities (SCE, PG&E, SDG&E and SCG) achieve their energy efficiency goals
- *California Energy Commission* – Developed approaches to bring private financing into the public sector energy efficiency projects through the California Public Facilities Energy Financing Partnership
- *University of California, Office of the President* – Systemwide Strategic Energy Plan (SEP)
  - Supported large multi-discipline project team that identified over $900M in energy efficiency and renewable generation projects for the University with an overall simple payback under 10 years
- *Pacific Gas & Electric Company* – Led team responsible for data integration and reconciliation of 30+ third-party energy efficiency programs during program cycle close
- *Pacific Gas & Electric Company* – Evaluated and redesigned internal energy efficiency processes related to utility run core energy efficiency programs

Senior Associate

Booz Allen Hamilton, San Francisco, CA 1996-2006

- *Confidential Client* – Performed strategic and program planning related to a municipal/regional Community Choice Aggregation (CCA) effort which included aggressive renewable energy, efficiency and conservation requirements.
- *Consumer Energy Council of America (CECA)* – Provided analysis on energy efficiency and contributed to reports supporting a national energy policy initiative addressing the nation's non-transportation energy portfolio. The reports cover the role of renewable energy and energy efficiency, future demand, supply availability and constraints.
- *Multiple Agencies* - Led and advised Booz Allen teams in Los Angeles, San Francisco, Washington D.C., Toronto, New York, New Jersey, Atlanta, Seattle, San Diego, London, Vancouver, and Sydney in matters concerning planning, procurement, design, implementation, outreach and governance of regional smart card systems.

Vehicle Engineer

Orbital Sciences Corporation, Dulles, VA 1991-1994

- *US Air Force* - Led a 6-member core team and a 12-member support team responsible for constructing, troubleshooting, and successfully launching a $13 million Pegasus rocket with a $20 million satellite payload.

EDUCATION

M.B.A., University of Virginia, Darden Graduate School of Business, 1996

B.S., Aerospace Engineering, University of Colorado, 1991

PROFESSIONAL AFFILIATIONS AND COMMUNITY SERVICE

Registered Professional Engineer, Mechanical (CA)

CFO, Treasurer, and Co-Founder, Pacifica Education Foundation

Billing Rates

****** Proprietary Information ******

Classification	$/hour
Principal	$185
Senior Engineer	$165
Engineer	$140
Project Manager	$125

Client will be billed for direct costs and actual expenses without markup.

CONFIDENTIAL

Center for Sustainable Energy CALIFORNIA

9325 Sky Park Court
Suite 100
San Diego, CA 92123

main 858.244.1177
fax 858.244.1178
www.energycenter.org

June 18, 2014

Jonathan Edwards
Financial Advisor
Colusa Unified School District
745 Tenth Street
Colusa, CA 95932

Re: Request for Proposal for Independent Energy Advisor Services

Dear Mr. Edwards:

The California Center for Sustainable Energy (CCSE) is pleased to provide this proposal in response to Colusa Unified School District's request for proposals for independent energy advisor services. CCSE is a nongovernmental, not-for-profit organization with a long history of leadership in California's sustainable energy arena. For more than 18 years, CCSE has delivered technical assistance and program support to dozens of public sector clients in California and engaged tens of thousands of residents and businesses in energy and cost-saving activities.

The California Clean Energy Jobs Act (Proposition 39) creates a way for California schools to pay for energy efficiency projects, creating better learning environments and providing considerable long-term utility bill savings. Our role is helping school districts identify opportunities for establishing Prop. 39 project plans that meet their sustainable energy goals.

As a nonprofit, with no vested interest in the use or installation of specific equipment or systems, we leverage deep technical expertise, clean energy incentives and alternative financing methods to optimize Prop. 39 funding to make district planning funds more cost-effective. Our tailored planning and implementation services verify and quantify actual project performance and savings, using industry-specific best practices to certify safe project installations that meet energy savings goals. We specialize in helping schools of all sizes to navigate the clean energy landscape with confidence.

We believe this proposal will substantially assist the District's efforts to further its energy efficiency and cost-saving goals. We look forward to speaking with you about this opportunity.

Sincerely,

Len Hering, RADM, USN (ret)
Executive Director, California Center for Sustainable Energy
858-737-1589 (direct)
len.hering@energycenter.org

SUBMITTED TO

Colusa Unified School District

June 18, 2014

SUBMITTED BY

California Center for Sustainable Energy
Len Hering, Executive Director
len.hering@enerycenter.org
858.737.1589 *phone*
858.244.1178 *fax*

Center for Sustainable Energy® CALIFORNIA

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Office Locations
San Diego
Los Angeles
Oakland

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I. Firm Overview

The California Center for Sustainable Energy (CCSE; www.energycenter.org) has 18 years of experience providing technical assistance, program administration and workforce training for energy efficiency, renewable energy/distributed generation, clean vehicles and advanced energy storage market development initiatives. During that time, CCSE has earned the trust of consumers, businesses, local, state and federal agencies, schools, ports and utilities through effective engagement, independent analyses and a deep understanding of the markets we support. To date, CCSE has helped design and implement more than $400 million in clean energy programs and services in California. We are enthusiastic about the opportunity to extend these services to Colusa Unified School District.

As a nonprofit social enterprise that has provided direct outreach and education to the public, we understand the constraints and opportunities for educational institutions seeking to adopt clean energy plans. Since 1996, we have provided technical assistance on energy efficiency and conservation, energy planning and modeling and pilot programs for advanced energy storage for dozens of public clients in California. CCSE also has engaged tens of thousands of students, residents and businesses in energy-saving activities through a variety of marketing, education and outreach and incentive programs. Most relevant to this proposal, CCSE has worked with more than a dozen school districts throughout California to identify, implement and maximize energy and cost-saving opportunities.

This proposal provides an opportunity for the District to leverage CCSE's experience as a leader in California's clean energy market development, energy planning and analytical services. We are the largest, longest running nonutility administrator of clean energy ratepayer-funded programs in California and manage statewide clean energy programs for the California Air Resources Board, the California Energy Commission (Energy Commission) and the Department of Energy (DOE). CCSE's expertise and insights are gleaned from access to unique technical and sustainable energy adoption data, on-the-ground information from the programs we administer and our strong relationships with key stakeholders. Furthermore, CCSE is actively engaged in helping to shape and guide the policies that drive clean energy projects, allowing us to anticipate market developments and provide our clients energy planning advice that benefits them immediately and into the future.

CCSE understands the unique priorities of school districts to provide quality education while saving energy and money. We specialize in helping schools of all sizes to navigate the clean energy landscape with confidence. Our Proposition 39 services always

- Ensure full compliance with Prop. 39 regulations
- Evaluate and create options to save energy and money
- Account for teaching schedules when designing project schedules

CCSE's deep expertise in each of the scope of work areas, combined with our strong understanding of the pressure and needs of school districts within the state, will allow our project team to immediately get under way and exceed deliverables. Through this project, we believe that CCSE can be an extension of District staff and that this relationship will be an important factor when considering the timeline and deliverables in the execution of project tasks. As a nonprofit social enterprise, CCSE will be swift in its execution on a comprehensive suite of deliverables that will further assist the District in ensuring energy savings and costs reductions over time.

II. Relevant Qualifications

a. Firm Experience

The California Center for Sustainable Energy has operated as a 501(c)(3), nongovernmental, not-for-profit organization since 2001. During 1996–2001, the company operated as the San Diego Regional Energy Office.

Our role is to advance state, federal and local sustainable energy investments. We facilitate on-the-ground, clean energy market development that results in greater adoption of c energy technologies. We provide integrated and comprehensive services, including technical assistance, community and stakeholder engagement, education and outreach, project administration, rebate processing, policy guidance and workforce training. In 2013, the majority of CCSE's revenue came from contracts with federal and state agencies, local governments and regional entities such as schools, ports and airports and utility-collected ratepayer funds.

Our impact

CCSE has managed dozens of innovative sustainable energy programs that encourage the adoption of renewable energy, clean vehicle technologies, efficient energy solutions and behavior change. CCSE provides independent, unbiased assessments and technical assistance based on consumers' needs. We have provided education and technical assistance to hundreds of thousands of consumers, businesses and governments. In this capacity, we have directly supported more than 70,000 energy projects representing more than $400 million in sustainable and energy-efficient technologies.

Pending Litigation

CCSE has no pending litigation that could affect the viability of our proposal, continuance of existing contracts, operations or financial stability.

Office Locations
Headquartered in San Diego, California, CCSE has regional offices in Los Angeles and Oakland. Staffing to support the project will be based out of our San Diego office.

Financial Summary
As of December 31, 2013, CCSE's financial statements report an operating fund balance of $2.1M. During 2013, CCSE's contract service revenues exceeded $12.4M, and the organization delivered more than $77.5M in rebates and incentive payments to eligible recipients who met defined program requirements.

The organization's most recent independent audit was completed May 12, 2014, for the 2013 calendar year. The auditors performed a single audit and reported on the financial statements, internal controls and compliance, as required by government auditing standards and OMB Circular A-133. The reports were unqualified, and there were no findings or questioned costs relative to the organization's 2013 federal awards.

b. Firm Expertise

CCSE's 90-person staff of energy planners, project managers, engineers, research and policy analysts and program implementers has a wide breadth of experience in the clean energy arena. CCSE currently manages more than 40 major energy programs, most of which involve coordination with multiple partners, subcontractors and other stakeholders. Projects include regional, statewide and multistate efforts, many requiring sophisticated operational and process controls and that are subject to state and federal audit standards. Our project management teams follow established professional project management principles, including dedicated and accountable staff, tracking of goals and metrics, strict budget control and ongoing client reporting. In addition to our program staff, CCSE maintains support departments in policy, research, analysis, engineering and marketing. Staff members from those departments provide cross-functional support for specific projects and report to the project manager for their specific project deliverables.

CCSE maintains a senior manager point of contact for each of our projects with clear communication channels and oversight functions. Each project team meets weekly to measure progress on contract deliverables and engages funding sources, partners and other stakeholders to ensure work products and deliverables are high quality and on time. Issues and concerns are flagged weekly for immediate resolution and/or escalation as needed. CCSE conducts regular program review meetings with our funding partners to track progress, performance and budget objectives. Project managers receive support from CCSE's finance team that distributes monthly project status reports for managers to track budgets.

Financial Management

CCSE has financial management systems in place to monitor operational performance, financial position and compliance with both contractual and regulatory requirements. Our chief financial officer, who is a certified public accountant and certified information technology professional, heads the finance department. Annually, CCSE undergoes an independent audit of its financial statements and federal awards, in compliance with generally accepted auditing standards and government auditing standards.

c. Firm Experience with DSA, OPSC, CDE

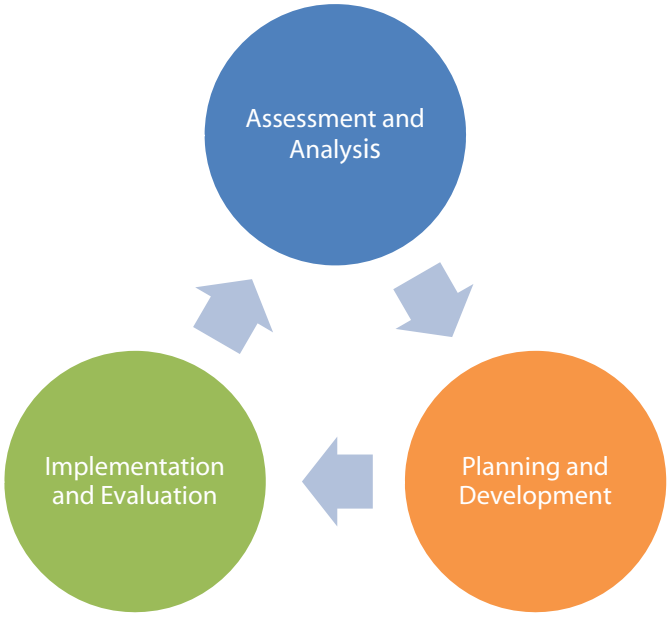
CCSE has experience working directly with the Division of the State Architect (DSA). Since 2012, DSA has been a participating member of the permitting task force for the Rooftop Solar Challenge (RSC), a component of the DOE's SunShot Initiative led by CCSE. DSA provides CCSE with permitting expertise to further assist CCSE's efforts to reduce the soft costs associated with solar installations. Additionally, while CCSE does not have experience working with the California Department of Education (CDE) directly, CCSE's youth education initiatives strongly align with the science, technology, engineering and mathematics (STEM) education standards outlined by CDE. Piloted in 2009, our youth education programs engage elementary, middle and high school students in hands-on activities that empower, inspire and educate about green career paths, while reinforcing literacy, math and science skills.

III. Project Approach

Given the variety and breadth of the District's needs/requests, CCSE suggests the District take a phased approach to increase probability of success when installing and constructing energy conservation or generation projects. This approach reduces risk, ensures the involvement of appropriate personnel with the correct tasks, reduces the complexity of planning and control and maximizes quality through regular reviews.

CCSE has composed an iterative methodology to ensure project success. Working in close coordination with the District, CCSE will develop individualized project scopes, each one originating from the three distinct work areas illustrated on the following page. Concrete deliverables will be established to define the scope of subsequent tasks/projects. This phased approach allows for sequential or concurrent execution of individual scopes, granting the District the flexibility to proceed as quickly or gradually as they see fit throughout the project process. In addition, our approach will help the District to quickly capture savings from the most readily achievable (low-hanging fruit) opportunities to build immediate project momentum.

CCSE Project Approach



a. Assessment and Analysis

Establish Baseline Metrics and Benchmarks

Benchmarking allows the District to compare their performance to similar metrics such as previous year's performance or the performance of other Districts in the region or state. This step will identify which areas of opportunity are the highest priorities in terms of both cost savings and investment. This analysis also will set the foundation for performance tracking of the implemented energy projects or measures. Prop. 39 guidelines declare that local education agencies (LEA) must "benchmark" to determine the energy use intensity (EUI) of any school site that receives Prop. 39 program funding. Benchmarks also provide important information about the energy usage of a school site. Working closely with District staff, CCSE's activities and tasks would include but not be limited to

- Compiling an inventory of existing building information, equipment and billing data
- Analyzing how recent energy conservation measures affect baseline metrics
- Developing energy use and cost metrics for District facilities
- Developing a District facility database to track periodic changes in energy usage and costs

Identify and Prioritize District Opportunities

Building upon established benchmarks, as well as any existing information or previous analyses, CCSE will help the District prioritize cost-effective measures that align with the District's mission. Identifying this loading order will be an integral component to optimizing more capital-intensive projects such as

renewable energy generation. CCSE will work closely with District staff to provide objective third-party findings and results. CCSE's anticipated tasks would include but not be limited to

- Prioritizing identified measures from existing energy audits and feasibility studies
- Optimizing tariff arrangements for energy efficiency or generation measures
- Performing technology-specific analyses utilizing geographic information systems (GIS) to identify and quantify the renewable energy resources available within the District
- Performing energy efficiency and distributed generation feasibility assessments and life-cycle cost studies
- Identifying applicable state, federal or utility rebates and incentives
- Working with the District's financial advisory to analyze the effects of alternative financing strategies on project economics
- Performing computer-aided energy modeling as necessary

b. Planning and Development

Development and Management of RFP Content and Evaluation Criteria

Successful contractor engagement is critical to ensuring the overall quality and integrity of District efforts. However, soliciting proposals from contractors for energy projects involves highly technical material that falls outside the core competencies of most District staff. Further, the District will have to determine a uniform method to evaluate each of these proposals. To accomplish this, CCSE will work in close conjunction with the District to perform tasks that would include but not be limited to

- Compiling a comprehensive list of qualified contractors
- Developing requests for qualification or proposal (RFQ/RFP) language
- Developing technical specifications and financial performance assumptions
- Identifying specific District contractual terms
- Coordinating and managing meeting(s) and/or site walk-through(s)
- Acting as the District's single point of contact for all project related inquiries
- Normalizing all responses into a standard evaluation criteria
- Coordinating efforts with appropriate District staff and/or departments

Proposition 39 Program Activities

The energy expenditure plan is the application an LEA uses to request Prop. 39 program award funds to implement proposed eligible energy projects. LEAs must complete and submit an energy expenditure plan to the Energy Commission, and this plan must be approved by the Energy Commission in order for the LEA to receive Prop. 39 program award funds. Successful approval of these expenditure plans will be dependent on following the guidelines and formats set forth by the Energy Commission and making sure to document and include all eligible energy project information. CCSE has a strong knowledge of the Prop. 39 requirements and guidelines and has excellent

operational methodologies and tools that will facilitate expenditure plan acceptance. To accomplish this, CCSE's anticipated tasks would include but not be limited to

- Complete and submit standard expenditure plan forms
- Complete and submit utility data release authorization forms (if applicable)
- Compile relevant energy project back-up documentation

c. Implementation and Evaluation

Support District Staff through Implementation Processes

Once the District begins the implementation process, a number of different departments within the District could potentially be involved. CCSE will assist the District to manage best these various implementation activities and to understand the more technical aspects of the process. CCSE's tasks typically include but are not limited to

- Acting as the District's commissioning and/or retrocommissioning agent
- Providing responses to technical requests for information (RFI)
- Attending meeting(s) and/or site walk-through(s)
- Serving as the District's technical expert and point of contact during construction
- Coordinating implementation efforts with appropriate District staff and/or departments

Proposition 39 Tracking and Reporting

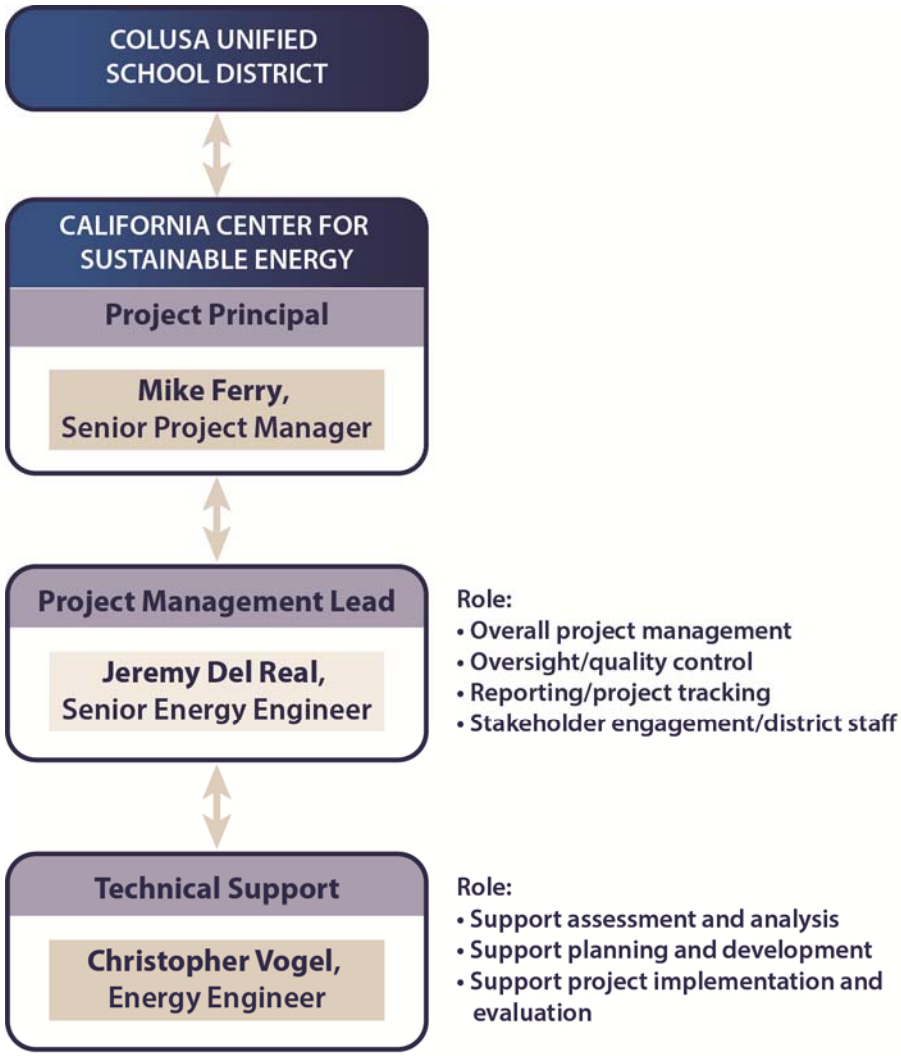
LEAs are required to submit an annual progress status report for each approved energy expenditure plan to the Energy Commission, until all eligible energy measures within an energy expenditure plan are completed. CCSE will lead the District effort and develop and put in place those tools and procedures that will accurately capture the cumulative progress related to the District's expenditure plan(s). CCSE's tasks would include but not be limited to

- Compiling relevant expenditure plan information
- Reporting any applicable workforce data or other Prop. 39 metrics
- Drafting and submitting annual progress status reports for each approved energy expenditure plan

IV. Key Personnel

CCSE's project team members bring extensive experience in each of the proposed scope of work areas. The project manager for this effort is Jeremy Del Real, CCSE's senior energy engineer. The project principal is Mike Ferry, senior manager of advanced energy projects and energy advisory services. The project engineer is Christopher Vogel, who will provide technical assistance support and serve as the lead project resource for this effort. CCSE values program staffing continuity and retention and makes a commitment to staffing continuity. We operate in a matrix environment and provide cross-training of staff to deploy resources in a flexible manner.

Project Team Organization Chart



Project Team Background

Name/Title	**Mike Ferry, Senior Program Manager**
Education, Professional Licenses and Certifications	• M.S. Graduate Group in Energy and Resources, University of California, Berkeley • B.A. University of California, Berkeley, Berkeley, CA
Project Roles	**Senior Manager** and **Project Principal**
Years of Experience	10+
Office Location	San Diego, CA
Relevant Project Experience	• Led multiple research teams from academia, industry and government laboratories investigating advanced second-life applications for used electric vehicle (EV) batteries, managing over $2 million in advanced research activities and culminating in two long-term, grid-tied energy storage deployments utilizing repurposed EV battery packs • Prepared Environmental Impact Reports (EIR) under the State of California Environmental Quality Act (CEQA) for multimillion dollar development projects in both northern and southern California • Organized and launched the California ARB Clean Vehicle Rebate Project • Managed the state's zero-emission vehicle rebate program as it grew from an annual budget of $4.1 million to a cumulative $120 million over a four-year period • Managed and published numerous peer-reviewed reports on energy storage and smart grid sectors

Name/Title	**Jeremy Del Real, PE, Senior Energy Engineer**
Education, Professional Licenses and Certifications	• B.S. Mechanical Engineering, California Polytechnic State University, San Luis Obispo • CA licensed mechanical engineer, #M35375 • AEE certified energy manager, #17198
Project Roles	**Senior Engineer** and **Project Manager**
Affiliations	• American Society of Heating, Refrigerating and Air-Conditioning Engineers • Association of Energy Engineers • U.S. Green Building Council
Years of Experience	6+
Office Location	San Diego, CA
Relevant Project Experience	• Performed benchmarking and energy planning activities for California school districts and water districts, ports and AHJs • Performed numerous feasibility assessments for solar photovoltaic (PV), solar thermal, combined heat & power (CHP) and emerging renewable technologies for commercial and public agency clients • Performed Direct Access alternative analysis for school districts, water districts, AHJs and commercial clients • Managed RFQ and RFP processes for municipal and school district clients resulting in the installation of energy efficient and solar PV generation technologies

	• Maintained positive customer relationships in all consulting engagements • Worked directly with vendors and facility managers to improve energy efficiency while managing project costs and expectations • Assisted Pasadena Water and Power to develop their Commercial Energy Efficiency Partnering incentive program • Reviews emerging technology projects seeking incentives through the Self-Generation Incentive Program (SGIP) and CHP incentive programs

Name/Title	**Christopher Vogel, Energy Engineer**
Education, Professional Licenses and Certifications	• M.S. Energy Management, New York Institute of Technology • B.S. Energy Management, New York Institute of Technology
Project Roles	**Engineer**
Affiliations	• Association of Energy Engineers
Years of Experience	7+
Office Location	San Diego, CA
Relevant Project Experience	• Managed energy performance contracts for eighteen K-12 school districts totaling over 10 million square feet and over $120 million in guaranteed project benefits • Continually monitored performance of building lighting and HVAC equipment and assess facility operating practices using data loggers and trend data • Secured utility rebates for various energy-efficient equipment upgrades within school districts including the amount of $770,000 for Middle Country Schools, NY, and $453,284 for West Islip Schools, NY • Maintained positive customer relationships throughout all performance contract phases including development, implementation and construction • Worked directly with vendors and facility managers to improve energy efficiency while managing project costs and time to maintain margin • Developed, maintained and presented yearly energy performance reports including a detailed utility analysis, facility assessment and proposed future energy efficiency upgrades

V. Past Public Agency Clients

During the past five years, CCSE has provided similar energy planning services to numerous clients, including school districts. The following is a complete list of all public agency clients.

Unified School Districts

Alpine Union School District
Bonsall Union School District
Castaic Union School District
Encinitas Union School District
Escondido Union School District
Grossmont Union High School District
Hemet Unified School District
Lakeside Union School District
Newhall School District
San Diego Unified School District

San Dieguito Union School District
Santee School District
Valley Center-Pauma Unified School District

Municipal Water Districts

Helix Water District
Otay Water District
Padre Dam Municipal Water District
Pasadena Water and Power
Rancho California Water District
Sweetwater Authority

Jurisdictions

City of Chula Vista
City of Ontario
City of San Diego
County of Los Angeles
County of San Diego

Public Agencies

Bay Area Rapid Transit (BART)
Port of Long Beach
Port of San Diego
San Diego Regional Airport Authority

VI. Relevant Project Experience

Descriptions of three relevant projects in the past five years are provided. Client contact information for each project is included.

Project Name / Client	**Independent Energy Advisory Services** **Alpine Union School District**
Contract Duration	July 2010 – September 2011
Description	CCSE identified, specified and implemented energy conservation measures including renewable solar PV generation. CCSE evaluated the District's energy conservation opportunities by analyzing historical energy billing and consumption data, developing energy benchmarks and performing on-site energy audits. Next, CCSE developed an energy road map and project solicitation documents and methodology, using their findings as the foundation for project criteria and specifications. Working closely with the District, CCSE managed the solicitation process and prepared, and adhered to, a timeline for adoption. CCSE created an understanding of the technical implications of the various bids in an unbiased that allowed the District to determine the best course of action based on factual data. Finally, during the installation of the District's energy project, CCSE provided as-needed technical consultation involving energy technology or economic impact related implementation analysis. Through CCSE's services the District installed energy-efficient and solar PV generation technology at every school site in the District.
Key Project Deliverables	• Feasibility report detailing recommended equipment, system performance specifications, anticipated upfront and ongoing project costs, projected utility cost savings and applicable incentives/rebates

	• RFP document identifying project scope and criteria at specified district locations • Installation of specified project scope within the budget identified
Scope of Services	• Conducted districtwide facility benchmarking and level 2 energy audits • Optimized individual energy conservation and generation measures through energy modeling and cost-benefit analysis • Identified and prioritized a districtwide energy conservation and generation project that was the most cost-effective given the District's available budget • Developed RFP language and content utilizing the results and specifications of the feasibility study as the basis • Led the solicitation and selection of qualified bidders • Managed district-bidder interaction throughout the RFP process and served as the single point of contact for all information requests • Developed evaluation metrics and criteria that the District used to make a well-informed decision based on levelized information • Provided technical support and oversight throughout the project construction process • Developed post project verification plan
Client Contact Information	Rob Turner Business Manager robturner@alpineschools.net 619-445-3236

Project Name / Client	**Independent Energy Advisory Services** **Escondido Union High School District**
Contract Duration	January 2011 – December 2011
Description	CCSE identified, specified and implemented energy conservation measures including renewable solar PV generation. CCSE evaluated the District's energy conservation opportunities by modeling new school developments, analyzing historical energy billing and consumption data, developing energy benchmarks and performing on-site energy audits. Next, CCSE developed an energy plan and project solicitation documents and methodology, using their findings as the foundation for project criteria and specifications. Working closely with the District, CCSE managed the solicitation process and prepared, and adhered to, a timeline for adoption. CCSE created an understanding of the technical implications of the various bids in an unbiased that allowed the District to determine the best course of action based on factual data.
Key Project Deliverables	• List of recommendations for incorporating energy efficiency and solar generation into the construction of the new high school • Feasibility report detailing recommended equipment, system performance specifications, anticipated up-front and ongoing project costs, projected utility cost savings and applicable incentives/rebates • RFP document identifying project scope and criteria at specified district locations • Selection of winning proposal
Scope of Services	• Developed an energy model of a new high school in order to identify high-

	value energy efficiency and distributed generation opportunities • Conducted districtwide facility benchmarking and level 2 energy audits of existing high schools • Optimized individual energy conservation and generation measures through energy modeling and cost-benefit analysis • Identified and prioritized districtwide energy conservation and generation projects that would be part of an energy performance contract • Developed, released and managed the RFQ process and lead the solicitation and selection of qualified bidders • Developed RFP timeline, language and content utilizing the results and specifications of the feasibility study as the basis • Managed district-bidder interaction throughout the RFP process and served as the single point of contact for all information requests • Developed metrics and criteria used in evaluating submitted bids that the District used to make a well-informed decision based on levelized information • Provided technical support and oversight throughout the project construction process
Client Contact Information	Michael Simonson Assistant Superintendent msimonson@euhsd.k12.ca.us 760-291-3210

Project Name / Client	**Water and Energy Conservation Services** **County of San Diego**
Contract Duration	June 2011 – June 2016
Description	CCSE has been under a master service agreement with the County to provide as-needed water and energy conservation and consulting services. To date, CCSE has provided an assessment and identification of the County's energy efficiency, electric vehicle infrastructure potential, fleet reduction, alternative fuel and renewable energy opportunities. CCSE has analyzed all of the County's electric and gas accounts to develop facility benchmarks and identify lower-energy performing buildings. CCSE used the data to identify and prioritize energy efficiency and renewable generation opportunities. CCSE performed technology-specific feasibility studies to quantify the County's energy conservation and generation potential. The County still employs CCSE's services to assist in the development of solicitation processes and grant proposals for the measures identified.
Key Project Deliverables	• Multiple reports identifying the recommendations for incorporating energy efficiency and renewable generation technologies into the County's strategic energy plan • Feasibility report detailing recommended equipment, system performance specifications, anticipated up-front and ongoing project costs, projected utility cost savings and applicable incentives/rebates
Scope of Services	• Analyzed utility usage and costs and developed benchmarks and baseline metrics for all County buildings and facilities • Performed technology specific analyses to quantify the renewable generation opportunities available within the County such as fuel cells, solar thermal, solar

	PV and CHP technologies • Identified, evaluated and prioritized Countywide energy conservation and distributed generation opportunities that would further the County's strategic energy plan • Developed a Countywide electric vehicle charging infrastructure plan • Developed a green fleet action plan identifying opportunities to reduce greenhouse gas (GHG) emissions through route optimization and transitioning to alternative-fueled vehicles • Developed RFP timelines, language and content utilizing the results and specifications from previous opportunity analyses • Provided technical support and consultation on energy conservation, self-generation and GHG reduction initiatives
Client Contact Information	Susan Freed Energy & Sustainability Program Manager Susan.Freed@sdcounty.ca.gov 858-694-3627

VII. Public Agency References

Following are the names and contact information for five public agency clients to serve as references for CCSE.

1) Port of San Diego
   Jenny Lybeck
   Environmental Specialist
   jlybeck@portofsandiego.org
   619-686-8078

2) City of Chula Vista
   Brendan Reed
   Energy Manager
   breed@chulavistaca.gov
   619-409-5889

3) Alpine Union School District
   Rob Turner
   Business Manager
   robturner@alpineschools.net
   619-445-3236

4) Escondido Union High School District
   Michael Simonson
   Assistant Superintendent
   msimonson@euhsd.k12.ca.us
   760-291-3210

5) County of San Diego
   Susan Freed
   Energy & Sustainability Program Manager
   Susan.Freed@sdcounty.ca.gov
   858-694-3627

VIII. Proposed Compensation and Budget

CCSE will assign a project principal who will provide oversight and direction through the length of the contract. The project manager will be the main point of contact and work with the District to develop scopes, budgets and deliverables. Other project staff will be assigned to task orders according to their qualifications and availability and to the experience and expertise required. Individual staff will fall into the following labor categories shown in the table below.

CCSE 2014 Rate Sheet*

Position	*Maximum fully loaded hourly rate**
Senior Manager	$ 140
Senior Engineer	$ 130
Engineer	$ 90

*These rates represent approximations, based on our current 2014 operating budget. Actual labor rates may vary.

While staffing may vary according to scope or work task, Mike Ferry and Jeremy Del Real, will be involved in developing all task orders and providing project oversight.

Since the District is seeking independent energy advisor services, that may or may not lead to the implementation of projects, CCSE proposes a master service agreement contract structure. This allows the District to mitigate their risks to changing circumstances as the project progresses and the flexibility to dispatch tasks and scopes as quickly or deliberately as they see fit. Task orders and work scopes would be developed and compensated under either an hourly time and materials District-approved budget or fixed fee arrangement. CCSE would prefer fixed fee arrangements, but are amenable to hourly time and materials contracts. Following, we have provided budget estimates that the District may use as a reference when considering this proposal.

Project Components	*Cost*
Opportunity Assessment and Identification	$ 20,000
Proposition 39 Program Activities	$ 10,000
Energy Project Development and Implementation (Includes travel and coordination related expenses)	$ 35,000
Project Coordination (Up to 3 on-site meetings)	$ 10,000
TOTAL	***$ 75,000***

IX. Claims against CCSE

CCSE has no existing claims against it and has not had any claims filed against it in the past five years related to the services being proposed.

X. Appendix

a. Letters of Reference

- Alpine Union School District — Letter of Reference
- Escondido Union High School— District Testimonial

Thomas V. Pellegrino
Superintendent

Bruce Cochrane,
Director Human
Resources and
Pupil Services

Robert W. Turner
Business Manager

Alpine Union School District
"Where Children Come First"

1323 Administration Way, Alpine, CA 91901 619-445-3236; 619-445-7045 FAX
www.alpineschools.net

Board of Trustees:

Dr. Tim Caruthers
Glenn Dickie
Gina C. Henke
Joseph Perricone
Eric Wray

June 9, 2014

RE: Letter of Reference for the California Center for Sustainable Energy's Independent Energy Advisory Services

To whom it may concern:

Alpine Union School District (AUSD) is pleased to provide this letter of reference for the California Center for Sustainable Energy's (CCSE) application in response to your solicitation for independent energy advisor services.

Over the period of July 2010 through September 2011, CCSE assisted the District identify, specify, and implement energy conservation measures including renewable solar photovoltaic generation. First, CCSE evaluated the District's energy conservation opportunities by analyzing historical energy billing and consumption data, developing energy benchmarks, and performing on-site energy audits. Next, CCSE developed an energy roadmap and project solicitation documents and methodology, using their findings as the foundation for project criteria and specifications. With close interaction with the District, CCSE managed the solicitation process and prepared, and adhered to, a timeline for adoption. Further, CCSE created an understanding of the technical implications of the various bids in a manner that was unbiased, and allowed the District to determine the best course of action based on factual data. Finally, during the installation of the District's energy project, CCSE provided as-needed technical consultation involving energy technology or economic impact related implementation analysis. Through their services, the District now benefits from reduced energy costs through efficient technology and sustainable clean energy.

With CCSE, your organization will be able to leverage their unique understanding of the California energy landscape, covering technology integration, energy policy and incentive programs, in order to fully comply with state and federal regulations and access additional funding sources. As a result, CCSE is ideally positioned to identify, select and maximize energy and cost saving opportunities. We strongly support CCSE in the current solicitation for independent energy advisor services, and if you have any questions, feel free to contact me.

Sincerely,

Rob Turner
Business Manager
robturner@alpineschools.net
619-445-3236

Barry S. Dragon
BSD LEADERSHIP SERVICES
13818 Via Boltana San Diego, CA 92129

June 12, 2014

RE: Letter of Reference for the California Center for Sustainable Energy's Independent Energy Advisory Services

To Whom It May Concern:

I, Barry Dragon, was Assistant Superintendent of the Escondido Union High School District from August 2005 until September 2011 and oversaw the District's management of CCSE's contract and services. I am pleased to provide this letter of reference for the California Center for Sustainable Energy's (CCSE) application in response to your solicitation for independent energy advisor services.

Over the period of January 2011 through December 2011, CCSE assisted the District to identify, specify, and implement energy conservation measures including renewable solar photovoltaic generation. First, CCSE evaluated the District's energy conservation opportunities by modeling new school developments, analyzing historical energy billing and consumption data, developing energy benchmarks, and performing on-site energy audits. Next, CCSE developed an energy plan and project solicitation documents and methodology, using their findings as the foundation for project criteria and specifications. With close interaction with the District, CCSE managed the solicitation process and prepared, and adhered to, a timeline for adoption. Further, CCSE created an understanding of the technical implications of the various bids in a manner that was unbiased, and allowed the District to determine the best course of action based on factual data. Through their services, the District now benefits from reduced energy costs through efficient technology and sustainable clean energy.

With CCSE, your organization will be able to leverage their unique understanding of the California energy landscape, covering technology integration, energy policy and incentive programs, in order to fully comply with state and federal regulations and access additional funding sources. As a result, CCSE is ideally positioned to identify, select and maximize energy and cost saving opportunities. We strongly support CCSE in the current solicitation for independent energy advisor services, and if you have any questions, feel free to contact me.

Sincerely,

Barry Dragon
President & Owner
BSD Leadership Services, Inc.
barry@bsdlead.com
(858) 231-5550

June 18, 2014

COLUSA UNIFIED SCHOOL DISTRICT

INDEPENDENT ENERGY ADVISOR SERVICES

SUBMITTED TO:

Colusa Unified School District
745 Tenth Street
Colusa, CA 95932

ATTN: Jonathan Edwards

SUBMITTED BY:

IEC Corporation
8795 Folsom Boulevard, Suite 205
Sacramento, CA 95826
Phone: 916.383.6000

iec-corporation.com

Shaping the Future of Energy™

IEC Corporation

8795 Folsom Boulevard, Suite 205
Sacramento, CA, 95826

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Fax: 916.383.6010

www.iec-corporation.com

June 18, 2014

Jonathan Edwards
Colusa Unified School District
745 Tenth Street
Colusa, Ca, 95932

Subject: Response Regarding RFQ for Independent Energy Advisor Services

Dear Mr. Edwards:

IEC Corporation is pleased to provide one (1) digital copy of the attached proposal response for Independent Energy Advisor Services for Colusa Unified School District. The attached response is formatted to match the required Response Content Requirements provided in the RFQ.

IEC Corporation is a professional, licensed engineering firm that focuses on delivering comprehensive energy saving solutions for school districts. As an independent, professional Energy Manager and school district partner, IEC works on behalf of school districts to identify energy efficiency savings and renewable energy opportunities that put money back into the schools.

IEC Corporation and its proposed team key staff would be pleased to provide any additional information and are available at your convenience for interviews at the District offices.

Please call me at (916) 383-6000 if you have any questions or require additional information.

Sincerely,

Eric Quintero

Eric Quintero, P.E.
President

Enclosure

1. Provide a brief history of the firm. Include number of years in business and type(s) of business conducted.

Firm Description & Qualifications: IEC Corporation is a professional, licensed engineering and construction firm that that focuses on delivering comprehensive energy saving solutions for public utilities government agencies and school districts. The company is well-established, with over 14 years in the energy industry and a large base of clients throughout the west coast**.** IEC's track record of effectively and efficiently designing and managing energy projects for some of California's largest untilities (LADWP, SDG&E, and SMUD to name a few) has earned superior reputation within the industry.

The IEC Project Team consists of an exceptional group of energy consulting professionals with direct experience in planning and developing renewable energy and energy efficiency projects for public agencies and K-12 school districts throughout California. Our team includes a number of **licensed Professional Engineers and Certified Energy Managers**. We bring our trusted industry knowledge and experience to school districts throughout California to provide exceptional energy management services. IEC has worked with over 65 school sites in the past year to provide solar energy services. Our experts assist administrators throughout all aspects of solar-installation projects to maximize funding and savings while conserving staff resources. IEC helps to ensure our school district clients receive competitive pricing on energy retrofits and high-quality renewable energy systems designed to address individual goals and resources.

As an **unbiased consultant free from conflicts of interest**, our Team works on behalf of school districts to identify energy efficiency savings and renewable energy opportunities that put money back into the schools. The IEC Corporation team has completed more than 150 energy evaluations, including more than 80 energy audits and evaluations for educational facilities over the past five years. This equates to more than $80 Million dollars in commercial and public agency energy projects engineered or installed by IEC. **In the past two years alone, we have had the opportunity to support over 65 California school renewable energy projects.** To date, IEC projects developed at K-12 public schools have saved or generated 21.8 Million kWh/year in total capacity.

2. Describe the firm's expertise, experience and any other relevant qualifications to the services requested.

Firm's expertise in providing the services requested.

The IEC Project Team consists of an exceptional group of energy consulting professionals with direct experience in planning and developing renewable energy and energy efficiency projects for public agencies and K-12 school districts throughout California. Our team includes a number of **California licensed Professional Engineers and Certified Energy Managers**. The proposed IEC Corporation team has completed more than **150 energy evaluations** for commercial, industrial, and government/public agency clients, including more than **80 energy audits and evaluations for educational facilities** over the past five years. This equates to more than $80 Million dollars in commercial and public agency energy projects engineered or installed by IEC. In the past two years alone, we have had the opportunity to support over **65 California school** energy projects. To date, IEC projects developed at K-12 public schools have saved or generated **21.8 Million kWh/year** in total capacity.

California Code Experience: As a professional engineering firm with nearly 14 years of experience serving utility and public agency clients, IEC has extensive knowledge and experience with all applicable California Building Codes, including current Title 24 Energy Code, CAL Green, Title 5, Field Act, NEC, etc.

DSA Experience: The Division of the State Architect (DSA) is involved in three phases of school construction projects: plan review and approval, construction oversight and project closing and certification for structural, fire/life safety and accessibility requirements. **IEC has extensive experience working with DSA through the design, construction and close-out phases of school district projects.** IEC has successfully worked to get designs approved through the DSA Over-the-Counter (OTC) appointment process as well as the more rigorous full DSA review back-check appointment process. IEC is also well-versed in the DSA Construction Oversight Process including DSA field inspection, special inspections such as welding, Request for Information (RFI) documentation and Construction Change Document (CCD) approval. IEC has extensive experience with the new project inspection job card (DSA-152) that debuted in summer 2013 as well as the new electronic document control via DSA's cloud content management service on the Box. IEC has comprehensive knowledge about the DSA close-out process and has a track record of closing out DSA projects quickly. Additionally, the IEC Team recently attended a California Coalition for Adequate School Housing (C.A.S.H.) workshop to learn more from the DSA regarding streamlining Prop 39 projects and mid-year California Building Code Changes.

Funding Expertise: Our team brings relevant, energy-specific grant writing expertise and extensive knowledge of the application process for federal, state, and private agencies. The proposed key personnel have written dozens of grant applications with a very high success rate and have also provided peer review and evaluation for applications **including California Solar Initiative (CSI) rebates and other utility/manufacturer rebates** for replacement of poor performing equipment, power management software, occupancy light sensors, variable speed drive implementation on pumps and demand response. Our Team will evaluate and pursue programs and incentives to leverage Prop 39 funding including local government programs, utility incentives, rebate programs, and Energy Commission's ECAA-Ed Loan Program. This includes rebates through Energy Upgrade California and through **Southern California Edison's Express Solutions and Customized Solutions programs** and its **Demand Response Technology Incentives.**

Independent Consultant: IEC is an **independent, unbiased consultant** and is free from any conflicts of interest arising from financial relationships with potential suppliers, constructors, financiers, or owners of related projects or products. Since IEC doesn't have any specific teaming arrangements, we are able to competitively bid the work which **provides the District the Best Value at the lowest cost**. This will also ensure that all contractors will be evaluated on an even playing field so as to select highly qualified contractors for the best value and price. During any project implementation, **our preference is to award to local qualified contractors to stimulate the local "green" economy and keep the dollars close to the District.** We believe this approach is important because it has the potential to employ parents of students in the District.

Firm's relevant qualifications in providing services requested.

IEC has provided Energy Engineering services for multiple California School Districts which include: Antelope USD, Corning USD, Cuyama USD, Selma USD, Delano USD, Manteca USD, Mojave USD, Middletown USD, Willows USD, Upper Lake USD, and Tipton USD. This equates to over 65 school sites in which IEC provided energy engineering services along with complete PV design packages including architectural, civil, structural, electrical, and mechanical engineering. **As the Engineer of Record, IEC was required to permit design packages through the *stringent* California Department of General Services, Division of the State Architect (DSA).** More detail to all the services IEC provided is located in the sections below and includes testimonials.

K12 School District Recent Energy Projects Summary

SCHOOL DISTRICT	IEC Role	Project Scope	Operation Date	System Size (kW-STC-DC)	Total Project Cost ($)	Estimated Energy Production (kWh/yr)	Sites	Installed Carport Capacity (kW-STC-DC)	Installed Ground Mount Capacity (kW-STC-DC)
Antelope SD	Solar Contractor	Solar	Mar-14	240.0	$1,407,958	360,048	2		240.00
Corning UHSD	Solar Contractor	Solar	Jun-14	342.0	$1,665,825	510,514	2		342.00
Cuyama JUSD	Solar Contractor	Solar	Apr-14	156.6	$1,019,120	277,501	2		156.60
Delano USD	Solar Contractor	Solar	Aug-13	3,186.4	$19,325,000	4,465,998	12	2,990.44	196.00
Manteca USD	General Contractor	Solar & ECMs	Oct-13	4,493.3	$26,009,665	6,710,039	26	2,578.30	1,915.00
Middletown USD	Solar Contractor	Solar	Jan-14	233.64	$1,521,755	367,916	2	115.05	118.59
Mojave USD	Solar Contractor	Solar	Apr-13	1,274.4	$6,413,068	1,924,899	6		1,274.40
Selma USD	General Contractor	Solar & ECMs	Feb-13	2,126.4	$13,103,112	3,285,595	8	838.98	1,287.38
Tipton ESD	Solar Contractor	Solar	Apr-14	198.0	$1,228,844	295,838	1		198.00
Upper Lake UHSD	Solar Contractor	Solar	Jan-14	162.0	$832,283	245,293	1		162.00
Williams USD	Solar Contractor	Solar	Jun-14	450.0	$2,062,000	665,700	1		450.00
Willows USD	General Contractor	Solar & ECMs	Feb-14	444.0	$3,390,275	678,619	3	204.00	240.00
			TOTAL:	**13,306.7**	**$77,978,905**	**19,787,960**	**66**	**6,726.77**	**6,579.97**

Firm's other relevant qualifications requested.

IEC is offering a **unique program approach** that no other contractor or consultant is providing. Our program approach extends beyond just spending money on energy efficiency equipment. That is, we believe energy efficiency measures are only 1/3 of the opportunity. The other 2/3 of the opportunity is being overlooked. This section describes our unique approach to maximizing our value and capability for the benefit of the District, which includes the addition of **Conservation and Education** to the equation.

The IEC Program consists of a **three-part integrated approach** that maximizes our effectiveness.

Part I - Energy Savings

As the District's "Energy Manager", IEC will provide independent and unbiased support as a professional engineering and project management organization. Why is this important? This is critical because in the planning stages when identifying energy saving opportunities, IEC is not limited to any one technology or specialty. In other words, we will objectively evaluate all energy saving opportunities and prioritize them in order of savings potential, and not based on a particular product we are trying to sell. **We are an engineering firm looking for the best solution for the District and not subject to conflict of interest.**

PART II – Conservation

Often overlooked is the conservation component of energy savings. Although Prop 39 does not specifically address managing the behavioral aspects of energy conservation, we believe faculty and staff play an equally important role in energy savings. For example, what good is a highly efficient air conditioner or heater, if the teacher leaves his/her classroom door open to the outside, giving no thought the energy being wasted. Or, overriding the heater thermostat and leaving it on all night. Likewise, replacing all the lights to highly efficient LEDs and never turning them off over night. **As such, it is our opinion that energy efficiency measures should not be de-coupled from conservation.** They are equally important and go hand-in-hand.

We understand, however, it is difficult to change the behavior of people and their energy usage habits. For this reason, IEC identifies conservation initiatives as part of our energy policy strategy. To get buy-in from staff and faculty, we provide tips to help them change their perspective on energy conservation. This is an important part of the holistic approach to energy reduction and part of our energy policy strategy and stakeholder buy-in to implement a successful and effective energy savings program.

Part III – Education

In addition to our work on behalf of our school district clients to identify energy efficiency savings and renewable energy opportunities, we also focus on **engaging students in the real-world energy projects taking place around them**. As a team of professional energy engineers, we see the Prop 39-funded school energy projects as the ideal platform and opportunity for inspiring future scientists and engineers. Although getting students involved is NOT part of the Prop 39 funding program, we feel it would be a shame not to take advantage of this opportunity as professional engineers while we are providing support at your schools. Why not encourage the next generation of engineers and scientists throughout the energy planning and implementation process? IEC's engineering team is committed to using these opportunities to inspire students towards the engineering field as part of our integrated support. **These Energy Education services are free of charge and are included as part of our Energy Management services.**

For the younger kids, we provide renewable energy demonstrations and explain how things work. For the older students, we provide renewable energy demonstrations and also talk about what an engineer does and the different engineering disciplines. Imagine students in your district: learning about renewable energy technologies directly from an engineer working on their school energy projects; conducting solar and wind lab experiments; taking field trips to renewable energy facilities; and monitoring the District's real-time project data via a school-specific webpage.

Examples of the Energy Education Services we can provide include:

- Renewable Energy Demonstrations
- Science Lessons on Energy Conservation and Renewable Energy Technology
- Hands-on Activities
- In-Class Experiments
- Mentoring for Careers in Engineering and the Sciences
- Career Days for Introduction to Engineering Disciplines
- Solar Photovoltaic (PV) Plant Tours for Students

This education component is the third part of our three-part integrated approach and exclusive for our District clients. And best of all, it's free. It's part of giving back to the community and promoting our profession.

3. Describe the firm's experience (if any) with the Division of the State of the Architect (DSA), the Office of Public School Construction (OPSC), and the California Department of Education, (CDE).

The **OPSC** is charged with the responsibility of verifying that all applicant school districts meet specific criteria based on the type of eligibility or funding which is being requested and to work with school districts to assist them throughout the application process. The OPSC ensures that funds are allocated properly and in accordance with the law and decisions made by the School Allocation Board (SAB). To ensure that districts are providing adequate safe facilities to students, approval by both the **Division of the State Architect (DSA)** is required prior to signing a contract for any new construction, modernization and alteration projects for which State funding is requested. Education Code, Section 17072.30, requires that school districts obtain DSA approval of their project's plans and specifications prior to submitting a funding application to the OPSC. The DSA approval ensures that the plans and specifications are in compliance with California's requirements for structural safety, fire and life safety, and accessibility.

OPSC Expenditure Reporting: As an Energy Manager, IEC works with each school district client to ensure project expenditure statistics are captured throughout each project in a manner that complies with OPSC audits. **Prior to any expenditure, IEC will work with the District to create the Energy Expenditure Plan for the California Energy Commission and will work through the OPSC Expenditure Worksheet at the same time to ensure all fees and costs are captured accurately throughout the project.** A substantial progress report will be required at 18 months from the date the final apportionment was made. Annual expenditure reports will be required beginning one year from the date of the first fund release until the project is complete. In general, the State's fiscal concerns are limited to verifying that the expenditures and certifications of program requirements made by the district for the project comply with the law, that the district followed applicable State requirements pertaining to construction and to verify that the project progresses in a timely manner as specified in statute. To assist with this oversight, IEC will work with District staff to gather and record the expenditure detail and to ensure the Form SAB 50-06 is submitted as required to OPSC.

DSA Experience: The Division of the State Architect (DSA) is involved in three phases of school construction projects: plan review and approval, construction oversight and project closing and certification. The DSA reviews projects for structural, fire/life safety and accessibility requirements. IEC has extensive experience working with DSA through the design, construction and close-out phases of school district projects. IEC has successfully worked to get designs approved through the DSA Over-the-Counter (OTC) appointment process as well as the more rigorous full DSA review back-check appointment process. IEC was one of the first engineering firms to get small wind turbine projects approved for construction through DSA as part of the Manteca Renewable Energy Efficiency Project (REEP). IEC is also well-versed in the DSA Construction Oversight Process including DSA field inspection, special inspections such as welding, Request for Information (RFI) documentation and Construction Change Document (CCD) approval. IEC has extensive experience with the new project inspection job card (DSA-152) that debuted in summer 2013 as well as the new electronic document control via DSA's cloud content management service on the Box. **During the solar installation portion of Manteca's REEP, the DSA Sacramento Regional Office commended IEC's coordination with engineers of record and inspectors and used IEC as an example of prompt document control for the new job card process.** IEC has comprehensive knowledge about the DSA close-out process and has a track record of closing out DSA projects quickly. Additionally, the IEC Team recently attended a California Coalition for Adequate School Housing (C.A.S.H.)

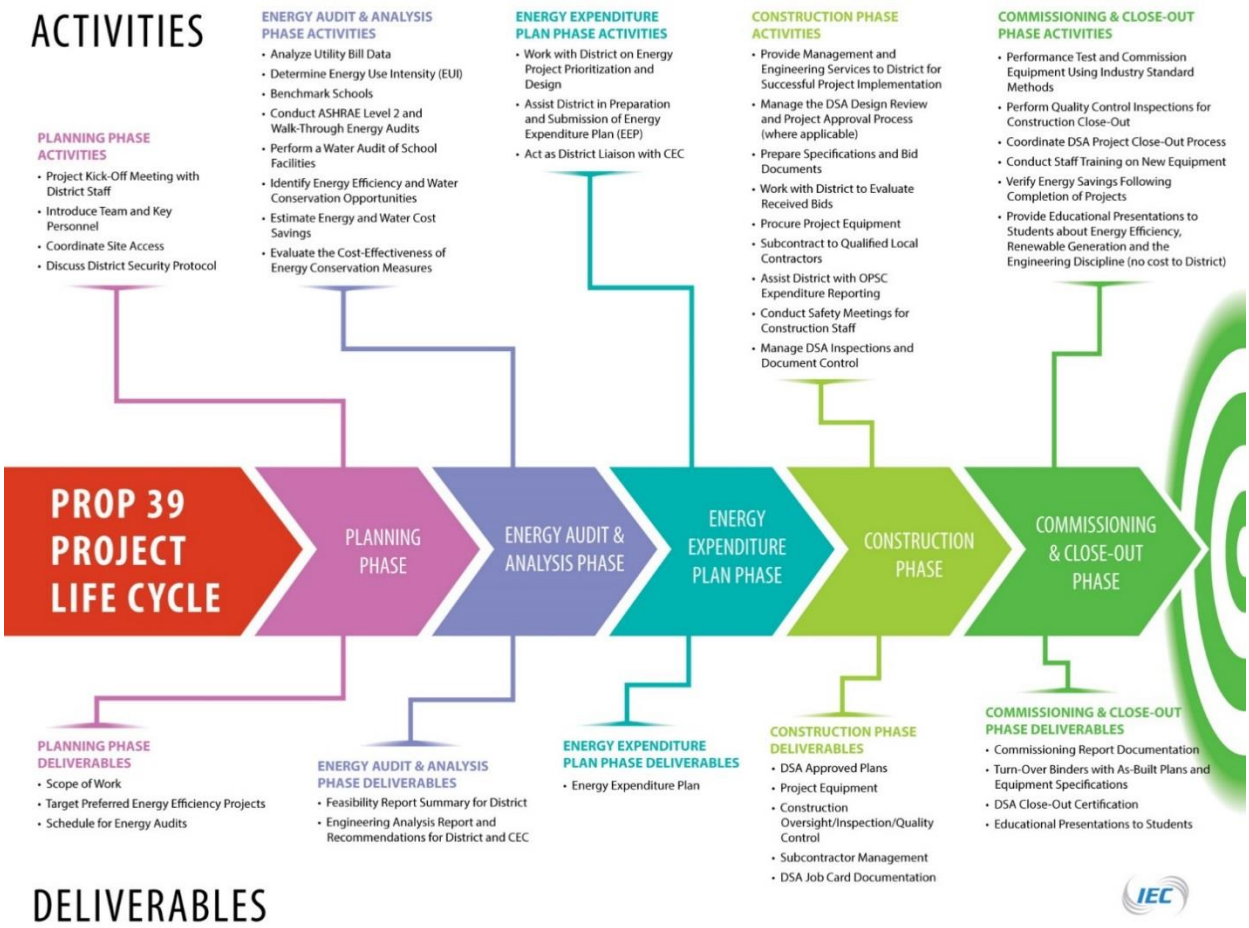
workshop to learn more from the DSA regarding streamlining Prop 39 projects and mid-year California Building Code Changes.

4. Describe the firm's proposed approach to providing the services requested.

IEC's experience with similar K-12 energy projects and clear understanding of District policies and goals will enable the IEC Team to effectively "hit the ground running" on energy audits of school sites. The IEC Team will work closely with Facilities department personnel to quickly and effectively coordinate energy audit work at school sites. Additionally, IEC will work with District staff to address modernization projects that need to be coordinated with Prop 39 funding such as HVAC replacements, window upgrades, updating and recommissioning of existing Energy Management System (EMS) controls and others. The IEC Team will evaluate the District's overall energy use intensity (EUI) and develop an approach to maximize energy saving opportunities that maintain strict compliance with the Proposition 39 eligibility and reporting requirements.

As a professional engineering firm, we provide an independent and unbiased approach in selecting equipment and services for Prop 39 projects. Our Engineering Team will create the specifications for bid documents to provide for quality equipment and installation. This approach will ensure the District gets the lowest price for their energy conservation measures. IEC's extensive experience with the DSA design and approval process puts us in a position to quickly and effectively implement creative solutions for the District. The IEC Team has the in-house skills and expertise to support the District in a diversity of energy projects.

The following section provides an overview of the step-by-step approach taken to support our School District clients which demonstrates our ability and understanding of how to implement a successful energy project.



ENERGY PROJECT PLANNING & PROP 39 APPLICATION ASSISTANCE

Fact Finding Meetings with Key District Staff: IEC will conduct meetings with facility maintenance and operational staff as well as fiscal services and other department staff to establish a good understanding of the District's facilities and various related components as a basis for the most effective approach to identifying projects for the Energy Expenditure Plan. During this phase, IEC will identify District preferences including: District preferences to minimum payback requirements, high priority maintenance issues, operational requirements, schedule requirements, and other important preferences based on the needs of each school. **With this information, IEC will be able to focus its support on projects that are meaningful to the District and not waste time on projects that are of little value to the District.** This will maximize the use of Prop 39 funds and make the Energy Expenditure Plan effective in meeting District goals.

Energy Audits, Energy Surveys, and Data Analytics: Our Certified Energy Managers conduct energy surveys, prepare data analytics, calculate Savings to Investment Ratios ("SIR"), and perform Level 2 Energy Audits under ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers). The Level-2 project starts with the findings of the Level-1 audit ("walk-through audit") and is the basic starting point for building energy optimization. **The Level 1 Audit will likely be part of the fact finding step above and will include interviews with site operating personnel, a review of the facility's utility bills and other operating data, and an abbreviated walk-through of the building.**

The Level 2 Audit will evaluate the building energy systems in detail to define a variety of potential energy-efficiency improvements. This will include the Building Envelope, Lighting, Heating, Ventilation, and Air Conditioning (HVAC), Domestic Hot Water (DHW) and Plug Loads. Our study will start with a detailed analysis of energy consumption to quantify base loads, seasonal variation, and effective energy costs. From there, our study will include an evaluation of lighting, air quality, temperature, ventilation, humidity, and other conditions that may affect energy performance and occupant comfort. Our process also includes detailed discussions with the building maintenance personnel and occupants to explore potential problem areas.

Our Level-2 Audit will result in a clear and concise report and briefing with the District describing a variety of Energy Efficiency Measures (EEMs) including no- and low-cost measures, modifications to system controls and building automation, operational changes, and potential capital upgrades. The findings will include general costs and performance metrics, as well as a means for the District to evaluate the EEMs and decide how to proceed with implementation.

Many of the EEMs identified by IEC during the Level-2 audit can be implemented quickly with rapid or immediate financial payback for the District. These EEM will show high SIR values. Other EEMs will require more detailed analysis of benefit and cost and the other goals that are important to the District. Regardless, all eligible energy projects must achieve a minimum savings-to-investment ratio (SIR) of 1.05 to be approved for a Proposition 39 award.

Project Prioritization & Evaluation: In accordance with Prop 39 Guidelines and IEC's own methodology, eligible projects will be evaluated and prioritized using three criteria as described below:

- Compliance with Public Resource Code Section 26235(e)(1-11);
- Logical sequencing of facility improvements; and
- Cost effectiveness.

Compliance with Public Resource Code Section 26235(e)(1-11) – IEC will work with the District to select projects that comply with or support a majority of the factors described in Public Resources Code Section 26235(e)(1-11) including but not limited to:

- age of facility,
- recent modernizations,
- facilities' hours of operation,
- potential for energy demand reduction,
- health and safety improvements, and
- impact on employment opportunities for the local community and state agencies.

Compliance with this Public Resource Code section is critical because the District will have to certify to the CEC that they considered the factors in development of their Energy Expenditure Plan.

Logical Sequencing of Facility Improvements – In conjunction with District staff, IEC will establish the sequence in which projects should be completed in order to maximize the value of each energy efficiency measure. Demand reduction measures such as thermostat upgrades and implementation of building automation and control systems will be prioritized and scheduled for early completion in the sequence of facility improvements.

Cost Effectiveness – In order to maximize use of funds, IEC will prioritize energy projects based on cost-effectiveness, or the return on investment achieved by energy savings. IEC engineers will evaluate specifications, prices, maintenance agreements, and warranties to ensure selection of the best equipment for energy projects that provide an excellent savings-to-investment ratio (SIR) and an acceptable life cycle timeline.

Energy Expenditure Plan: Upon completion of the evaluation steps above, IEC will work with the District to streamline the Energy Expenditure Planning process to help you to make an informed and educated decision and determine the available savings for your school. Our experienced Energy Management Team members are experts at navigating the Expenditure Plan Forms and Energy Savings Calculators to ensure the submitted projects meet SIR, and in preparing and submitting complete Energy Expenditure Plan(s) that demonstrates both technical merit and financial value so that the District receives its funding allocation(s). IEC will also work as the liaison between the District and the relevant state agencies including California Department of Education (CDE), CEC, DSA and others to answer any questions, provide clarification or resolve issues as needed.

PROJECT IMPLEMENTATION

During the project implementation phases, IEC will provide a detailed scope of work for bid for each energy efficiency measure. IEC doesn't have any specific teaming arrangements so we are able to competitively bid the work which **provides the District the Best Value at the lowest cost**. This will also ensure that all contractors will be evaluated on an even playing field so as to select highly qualified contractors for the best value and price. **Our preference is to award to local qualified contractors to stimulate the local "green" economy and keep the dollars close to the District.** We believe this approach is important because it has the potential to employ parents of students in the District.

Scope of Work Development: For any major project to be executed effectively, the project scope must be well thought out and defined in written form. As part of the RFP or Bid documents, IEC prepares a detailed technical description of the Scope of Work, any engineering and construction specifications, regulatory requirements, equipment and materials lists, warranty and guarantee requirements, and schedule constraints associated with the project. **The Scope Definition also outlines all scope activities, clearly identifies all lines of responsibility, and allows bidders to bid accurately to the same project detail.** Over the years, IEC has refined many of the bid documents to ensure each project contains all the necessary documents to minimize risk for the client, maximize the quality of the design, construction, and installation process, and mitigate contract disputes. As part of IEC's Project Management services, we offer complete procurement program support to our clients. IEC can provide complete turnkey installation services covering all engineering, design, procurement, construction management, installation, construction, training, monitoring, verification, maintenance, operation, and repair using Prop 39 funding allocation for the next 5 years. The following outlines typical support we provide for each step of this process.

Design Documents

- Develop draft design documents.
- Allow District to review design and incorporate comments.
- Finalize design documents (drawings and calculations).
- Submit Approved For Construction Documents to DSA for full review. Sometimes DSA over-the-counter review can be used for smaller projects, pre-check projects, or maintenance work. DSA is stating that much of the Prop 39 work will be DSA exempt.

- Coordinate approval of fire access plan with local Fire District.
- Meet with DSA to discuss comments and provide final submittal of documents to DSA.

Solicit Proposals

- Develop technical specifications.
- Competitively bid work with the specifications.
- Award to best value contractor.

Construction

- Coordinate with school principals to minimize interruption to staff and students.
- Hold construction kickoff meetings with subcontractors, District and District Inspector of Record (IOR) to review project scope and schedules.
- Manage and coordinate all subcontractor work.
- Begin construction and coordinate inspections with IOR and DSA field engineer.
- Hold weekly construction meetings with the District and subcontractors.
- Perform quality control inspections.
- Close out construction with DSA and contractors.

Commissioning

- Performance testing of systems by engineers using industry standard methods.
- Gain approval by utilities for energization of systems, if applicable.

Project/Site Management: IEC is also available as a Construction Manager/Site Superintendent to manage coordinate, and control the work to insure that the work is installed to the highest quality, within schedule and under budget. Work will not be completed unless IEC quality control inspectors have inspected and signed-off on the contractor's work. Our experts also provide specialized documentation, inspection, and training services to ensure successful commissioning, start-up, and long-term reliability.

Project Tracking: Tracking these energy projects allows school districts to compare energy usage over time to track project success, report on project expenditures, and verify savings-to-investment ratios (SIR). In addition, we have found that the key to ongoing energy efficiency is through actions which establish sustainability projects and promote campus-wide conservation measures and tracking. As part of our Energy Efficiency services, IEC provides:

- Up-to-date analysis of school facility energy use
- Comparisons to the school's previous energy performance
- Energy impact of energy-related school improvements

Reporting: IEC will report their planning activities and related expenditures, and include that reported information in the Energy Expenditure Plan (at the discretion of the District).

5. Describe the background and experience of the key personnel who would be performing services for the District. Define each person's role in serving the District. Indicate personnel who will serve as primary contact(s) for the District.

IEC Corporation currently maintains a permanent, full-time staff of **30 California licensed professional engineers** in multiple disciplines, Certified Energy Managers, specialists, and technical support personnel available to support District projects. This core of employees is supplemented by approximately 20 staff augmentation personnel. Each team member brings invaluable knowledge and hands-on expertise to our clients. The following are the proposed key personnel for this Contract. Complete resumes for key staff members assigned to this contract are provided in *Appendix A – Resumes.*

Mr. Blake Heinlein will lead this effort as Project Manager out of our corporate headquarters office in Sacramento. Mr. Heinlein is a California licensed mechanical engineer and Certified Energy Manager with extensive energy project development and design experience. As Project Manager, he is responsible for coordinating with the client and its employees, site contractors, connecting utilities, and regulatory agencies, throughout each project. Mr. Heinlein has managed a number of energy projects over the past several years, including energy evaluations, energy efficiency upgrades, solar installations and utility scale wind plant construction. He has **worked with multiple K-12 School Districts,** and several of California's largest electric utilities as a Project Manager on energy projects worth in excess of $300M. Mr. Heinlein has proven himself to be a great asset to these projects in maintaining schedule and budget.

Summary of Assigned IEC Corporation Key Personnel

NAME	CLASSIFICATION/ROLE	YEARS OF EXPERIENCE
Eric Quintero, P.E., CEM	Principal Consultant / Contract Manager	20+
Blake Heinlein, P.E., CEM	Project Manager / Certified Energy Manager	16
Dana Arter, P.E., CEM	Energy Engineering Specialist / Certified Energy Manager	7
Don Nguyen, CEM	Energy Efficiency Engineer / Certified Energy Manager	16
Aaron Leach, P.E.	Electrical Engineer / Energy Expert	8+
Dan Henriod, P.E.	Electrical Engineer / Energy Expert	20
Brandon Doering, P.E.	Mechanical Field Engineer / Energy Auditor	20+
Chuck Sinkey, S.E, P.E.	Civil/Structural Engineer / Site Safety Expert	28
Rudge Wynn	Site Superintendent	15+
Carlos Flores	Designer / Drafter	16
Tracy Mattley, MBA	Project Professional / Technical Writer	16

Staff Support: IEC's project teams are backed by an **administrative staff with industry-specific experience**, including technical writing and editing, graphic arts and design, drawing design, and advanced Excel programming. This pool of knowledge provides comprehensive engineering, design, analysis, reporting, management, and consulting services.

6. Provide a list of public agencies for which the firm has provided services similar to the services requested in the past five (5) years.

IEC Corporation is well-established in the energy industry with a large base of clients throughout the west coast. IEC's track record of effectively and efficiently designing and managing energy projects for some of California's largest utilities (LADWP, SDG&E, and SMUD to name a few) has earned us a superior reputation within the industry. A sample of some recent energy efficiency and renewable energy contracts are provided below:

County of Santa Clara Renewable Energy Program Support

IEC Corporation was awarded a Master Services Contract with the County of Santa Clara to provide "On-Call" professional engineering services for its Renewable Energy Program. IEC provided design services for County's Solar Facilities. For the County's PPA Projects at the Tully Outpatient Center and Gilroy PV Site, IEC was responsible for providing design review and plan check services for the solar projects. IEC was also tasked with providing **construction inspection support** for both facilities, including on-call field inspection services to verify installations were performed in accordance with the site-specific drawings and specifications. The County also retained IEC to provide similar services for its Qualified Energy Conservation Bond Design-Build Solar Projects. IEC's services included design review of engineering through 100% for four project sites and additional support during construction to support RFI review and response.

Los Angeles Department of Water & Power Utility-Owned Solar Development

LADWP evaluated a program to install 125 MW of solar PV systems on or near City owned properties. IEC worked with LADWP's Solar Energy Development Group to identify, develop, and perform preliminary engineering for these facilities. The development of these properties included, feasibility assessments, site evaluations, acquisition of permits/documentations, property mapping, development of preliminary engineering design packages, and the necessary services to prepare each potential property for further photovoltaic development and construction.

Sacramento Municipal Utility District Photovoltaic Design & Engineering

For the SMUD Cal Expo, PV-1, PV-2, PV 3 & 4, PV-6, and Arden/Limn PV arrays, IEC prepared cost estimates for decommissioning each of the arrays and for repowering the Cal Expo array with both fixed and tracking options. Cost estimates included a breakdown of the tasks required for the demolition, removal, and disposal of the array, including the supporting structure and foundations; and restoration of the site to original conditions. Also included was a credit for the reclamation value of the structural materials that can be salvaged. A complete, itemized breakdown of task details was included in the report deliverable, with the summary estimates. For the repower estimates, the report included preliminary design layouts, equipment selections, and electrical single line diagrams. Also included was the cost of partial demolition of the existing array to the point that best accommodates the new panels and equipment. **Actual equipment quotes from vendors and manufacturers were obtained for major items, with costs for the other materials based on industry averages and standard construction costs.** These estimates will be used to prepare budgets for plan implementation beginning in 2012.

San Diego Gas & Electric Photovoltaic System Engineering Consulting

IEC Corporation was awarded a Master Services Contract to provide PV System Engineering Design to the San Diego Gas and Electric Company (SDG&E). For the initial task under this contract, SDG&E was in the early stages of developing distributed and large scale photovoltaic generation on 18 Company owned or controlled properties for a total of 32MW AC. **IEC prepared specifications, preliminary designs, bid evaluation, interconnection submittals, technical attributes of permitting packages, EPC contract negotiations, and construction overview.**

Transportation Corridor Agency Photovoltaic Consulting & Design

IEC Corporation provided solar power engineering services to The Foothill/Eastern Transportation Corridor Agency (TCA) for a photovoltaic system at the Agency's headquarters building in Irvine, California. In support of the project, IEC was responsible for the Preliminary Design Report, Final Design, and Construction Phase Services for the PV System. Services also include **cost estimates and financing recommendations, interconnect design coordination** with Southern California Edison, permitting support and compliance with City ordinances, and assistance with California Solar Initiative rebate and tax incentive programs.

7. Provide a reasonably detailed description of at least three projects the firm has worked on within the last five (5) years that demonstrate the firm's expertise and experience in providing the services requested. Include the name of the agency, a description of services provided, and the name, telephone number, and e-mail address of the contact person.

This section provides a summary of **the proposed IEC Team's recent, relevant experience** with management, design, and implementation of both School District projects to demonstrate IEC Corporation's technical and managerial capability across a broad range of energy, analysis, design, construction, funding, operations, and maintenance support services.

CLIENT**: Manteca Unified School District (26 school/district sites)**
Contact: Susan Bell, Director of Facilities, sbell@musd.net, (209) 858-0716
IEC Corporation Role: Prime Contractor – Energy Evaluation, ECMs, Solar Design and Installation
Type of Project: Energy Efficiency Upgrade and Solar PV Generation
Location of Project: Manteca, CA
Operational Date: October 2013
Project Cost: $26,009,665
Annual Energy Savings: 7.35 Million kWh/year
Funding: Qualified Zone Academy Bonds (QZAB)

"The IEC Team acted as the general contractor for Manteca Unified School District's $30 million Renewable Energy Efficiency Project (REEP) that included installation of 26 solar PV systems across the District. I had the pleasure of working with them during the preliminary design phase of the solar systems and appreciated their professionalism and attention to detail when it came to individual site considerations and constraints. Their Team was personable and responsive to our

staff s questions and worked diligently to make the project as streamlined as possible for our Facilities staff. Additionally, the IEC Team has been a valued partner in education and a popular presenter at our Planet Party events for 6th graders. IEC also continues to participate as a member o the District's Leadership on Green Initiatives Committee (L.O.G.I.C) and provide input for PlanetParty planning and other green projects."

~ Victoria Brunn, Coordinator: Sustainability and Energy Education, Manteca USD

Manteca Unified School District (26 Sites)

Manteca Unified School District (MUSD) is increasing its energy efficiency efforts with the installation of solar photovoltaic (PV) systems at school sites within the school district. After a multi-year investigation, MUSD staff selected IEC to provide design and construction of the renewable energy systems which include solar photovoltaic (PV) systems and wind turbines. The project also included interior and exterior lighting upgrades and other energy conservation measures that will help further reduce the overall energy usage. IEC is also providing operations & maintenance (O&M) services.

Energy Analysis: As part of the project, IEC analyzed energy usage across the District to identify the campuses with high energy consumption and/or large and costly peak demands. **IEC also performed a rate analysis to determine the optimal utility rate schedule for each school site.** The results from these analyses enabled IEC to characterize the energy use at sites, identify energy reduction opportunities, and properly size the solar PV systems. Through evaluation of District utility bill data, IEC estimated total savings from implementation of energy conservation measures (ECMs) and solar generation.

Solar Projects: The project also entailed installation of solar photovoltaic (PV) systems at 26 school sites within the school district, including ground mount and parking lot solar installations. Total installed solar capacity at the 26 MUSD school sites is approximately 4,500 kilowatts (or 4.5 megawatts). The MUSD solar installations have transformerless string inverters that are more efficient than a central inverter, small in size and, most importantly, quiet. Construction began in spring 2013 and the systems became operational in Fall 2013. The solar PV systems are expected to produce approximately 6.7 million kWh per year, which is about half of the District's annual energy consumption. Through Net Energy Metering (NEM), the energy produced by the solar PV systems is used to offset site usage and any excess energy is exported to the grid. Since solar PV systems produce energy in the middle of the day when it is worth the most, the savings realized for the District are greater than 50%. MUSD will be compensated by PG&E for the time-of-use value of the energy. The solar systems are expected to significantly reduce the District's utility bill. There were no up-front costs for the District and MUSD did not provide any general fund dollars for the solar installations; instead, **the project was funded by government low-interest bonds and California Solar Initiative (CSI) rebates**.

Educational Partner: As an additional element to this project, MUSD built a Regional Environmental Studies Center (Center) to educate students and faculty on renewable energy. The Center provides opportunities for students to learn the value of energy conservation and the applied principles of renewable energy in an effort to inspire the next generation of engineers and scientists. The Center will also contain equipment and tools designed to enhance the energy education curriculum and provide students with hands-on experience. **IEC is donating time to support the Center, holding seminars and Planet Party events, and will remain as ongoing educational partner.**

CLIENT: **Delano Union School District (12 school/district sites)**

Contact: Jack Tillman, Director of MOT, jtillman@duesd.org, (661) 721-5015
IEC Corporation Role: Design Engineer
Type of Project: Design and Installation of Carport and Ground Mount Solar PV Systems
Location of Project: Delano, CA
Operational Date: August 2013
Project Cost: $18,230,428
Annual Energy Savings: 4.88 Million kWh/year
Funding: Qualified Zone Academy Bonds (QZAB) / Tax Exempt Municipal Lease (TEML)

"The IEC Team exceeded our expectations for our PV Systems installed at the Delano Union School District by being reliable and attentive to our needs and installing a quality project. IEC made safety their number one priority throughout the entire construction project. Our School Board, Superintendent and District administration staff is very pleased with our solar arrays and the energy costs they are saving our District; and the shade that they provide are an added bonus for the staff and students. It was an honor and a pleasure working with IEC during the construction project, and I am looking forward to our next project."

~ Jack Tillman, Director of Maintenance, Operations, & Transportation, Delano USD

Delano Union School District (12 Sites)

IEC provided complete Energy Engineering, Energy Analysis, and Engineering, Procurement, and Construction (EPC) services for ten (10) school sites and two (2) district-owned facilities at Delano Union School District (DUSD). **Energy Analysis**: As part of the project, IEC analyzed energy usage across the District to identify the campuses with high energy consumption and/or large and costly peak demands. IEC performed a rate analysis to determine the optimal utility rate schedule for each school site. **The results from these analyses enabled IEC to characterize the energy use at sites, identify energy reduction opportunities, and properly size the solar PV systems.** **Solar Projects:** The photovoltaic (PV) installations consist of PV modules installed on both fixed-tilt ground mounted structures and elevated shade structures. The total installed solar capacity at the 12 sites is approximately 3,186 kilowatts (or 3.2 megawatts). These installations were funded by government low-interest bonds and California Solar Initiative (CSI) rebates. The solar systems are expected to significantly reduce the District's utility bill.

CLIENT: **Selma Unified School District (8 school/district sites)**

Contact: Larry Teixeira, Assistant Superintendent, Lteixeira@selma.k12.ca.us, (559) 898-6500
IEC Corporation Role: Prime Contractor – Energy Evaluations, ECMs, Solar Design and Installation
Type of Project: Energy Efficiency Upgrade and Solar PV Generation
Location of Project: Selma, CA
Operational Date: February 2013
Project Cost: $13,103,112
Annual Energy Savings: 3.26 Million kWh/year
Funding: Qualified Zone Academy Bonds (QZAB)

"I highly recommend IEC for your solar needs—particularly on complex projects. Their ability to plan, coordinate and implement [our] projects allowed for a smooth running program. Their extensive knowledge and experience, coupled with diligence and hard work, has made working on this program so much easier and less stressful than other projects…"

~ Larry Teixeira, Assistant Superintendent

Selma Unified School District (8 Sites)

IEC provided complete Energy Engineering, Energy Analysis, and Engineering, Procurement, and Construction (EPC) services for installation of energy upgrades and renewable energy installations at eight (8) school sites within the Selma Unified School District (SUSD). **Energy Analysis**: As part of the project, **IEC analyzed energy usage across the District to identify the campuses with high energy consumption and/or large and costly peak demands**. The results from these analyses enabled IEC to characterize the energy use at sites, identify energy reduction opportunities, and properly size the solar PV systems. **Solar Projects**: The photovoltaic (PV) systems consist of PV modules installed on both fixed-tilt ground mounted structures and/or on elevated shade structures. The total installed solar capacity at the eight school sites is approximately 2,126 kilowatts (or 2.1 megawatts). These installations were funded by government low-interest bonds and California Solar Initiative (CSI) rebates.

CLIENT**: Willows Unified School District (3 school/district sites)**
Contact: Mort Geivett, Superintendent, mgeivett@willowsunified.org, (530) 934-6600
IEC Corporation Role: Prime Contractor – Energy Evaluations, ECMs, Solar Design and Installation
Type of Project: Energy Efficiency Upgrade and Solar PV Generation
Location of Project: Willows, CA
Operational Date: 2014
Project Cost: $3,390,275
Annual Energy Savings: 803,000 kWh/year
Funding: Qualified Zone Academy Bonds (QZAB)

Willows Unified School District PV Installations (3 Sites)

IEC provided complete Energy Engineering, Energy Analysis, and Engineering, Procurement, and Construction (EPC) services for installation of photovoltaic (PV) systems at three (3) school sites within the Willows Union School District (WUSD) district. The solar installations consist of PV modules installed on both fixed-tilt ground mounted structures and elevated shade structures. The total installed solar capacity at the two sites is approximately 444 kilowatts (or .44 megawatts). **Energy Analysis**: As part of the project, IEC also analyzed energy usage across the District to identify the campuses with high energy consumption and/or large and costly peak demands. IEC performed a rate analysis to determine the optimal utility rate schedule for each school site. The results from these analyses enabled IEC to characterize the energy use at sites, identify energy reduction opportunities, and properly size the solar PV systems.

CLIENT: **Upper Lake Union School District (1 school/district site)**
Contact: Pat Iaccino, Superintendent, piaccino@ulhs.k12.ca.us, (707) 275-2338
IEC Corporation Role: Design Engineer
Type of Project: Design and Installation of Carport and Ground Mount Solar PV Systems
Location of Project: Upper Lake, CA
Operational Date: January 2014
Project Cost: $832,283
Annual Energy Savings: 245,293 kWh/year
Funding: Qualified Zone Academy Bonds (QZAB)

"IEC was there for us through every step of the process. They were highly professional, and took the time necessary so all involved had an understanding of the project. Their employees were sympathetic to our Districts needs, making a very small District feel not only important but that our project was their top priority."

~ Pat Iaccino, Superintendent

Upper Lake Union School District PV Installation (1 Site)

IEC provided complete Energy Engineering, Energy Analysis, and Engineering, Procurement, and Construction (EPC) for installation of a photovoltaic (PV) system at Upper Lake High School in the Upper Lake Union School District. IEC analyzed energy usage and identified energy reduction opportunities. The solar installation consists of PV modules installed on fixed-tilt ground mounted structures. The total installed solar capacity is approximately 162 kilowatts (or .16 megawatts), producing an estimated 250,000 kWh per year.

Middletown Union School District (2 Sites)

IEC provided complete Energy Engineering, Energy Analysis, and Engineering, Procurement, and Construction (EPC) services for two (2) school sites within the Middletown Union School District (MUSD). As part of the project, IEC analyzed energy usage across the District to identify the campuses with high energy consumption and/or large and costly peak demands. IEC performed a rate analysis to determine the optimal utility rate schedule for each school site. **Solar Projects: The photovoltaic (PV) installations consist of modules installed on both fixed-tilt ground mounted structures and elevated shade structures**. The total installed solar capacity at the two sites is approximately 115 kilowatts (or .12 megawatts). These installations were funded by government low-interest bonds and California Solar Initiative (CSI) rebates. The solar PV systems are expected to produce an estimated 370,000 kWh per year. The solar systems are expected to significantly reduce the District's utility bill.

8. Provide the name and contact information for the five (5) public agency clients who will serve as references.

IEC California Utility References
Client: Sacramento Municipal Utility District (SMUD) Projects: Solar Photovoltaic Highways Feasibility Study & Engineering – 1.5 MW Contract Value: $75,000 / Contract Dates: May 2010 (Phases 1 & 2 Complete) Reference: Mr. Harlan Coomes, Supervisor, Design Resource Center - Engineering Phone: 916.732.5414 / Email: hcoomes@SMUD.org
Client: Los Angeles Department of Water and Power (LADWP) Projects: Utility-Owned Photovoltaic Development-Site Assessment and Engineering Contract Value: $230,000 / Contract Dates: August 2010 Reference: Mr. Mike Webster, Asst. Director of Power System Planning & Development Phone: 213.367.4945 / Email: mike.webster@ladwp.com
Client: Foothill/Eastern Transportation Coordination Agency Projects: Solar Engineering Consulting Services Contract Value: $65,000 / Contract Dates: June 2011 Reference: Mr. Kurt Machtolf, Facilities Manager Phone: 949.790.7726 / Email: kmachtolf@thetollroads.com
Client: Sacramento Municipal Utility District (SMUD) Projects: Renewable Generation Assessment & Analysis Contract Value: $30,000 / Contract Dates: February 2009 Reference: Ms. Elaine Sison-Lebrilla, Senior Project Manager, ER&D Department Phone: 916.732.7017 / Email: esison@SMUD.org

9. Provide up to ten (10) letters of references or testimonials related to the provision of services similar to the services requested (if available).

In the section above, IEC has included testimonials with our project experience.

10. Describe the firm's proposed compensation - Since the District is seeking independent energy advisor services, that may or may not lead to the implementation of projects, the District anticipates that compensation will be under an hourly (with a District approved time and materials budget based on the scope of services) and/or fixed fee arrangement, possibly varying depending on the particular service provided.

Performance-Based Fee Structure

To better support Colusa Unified School District in achieving the "Best Value" contract which ensures effective and efficient use of Prop 39 funds, IEC can provide a *performance-based fee structure and engagement model*. **This alternate option allows the District to use 100% of the planning funds towards implementation.**

This fee option does not require the upfront planning costs traditionally required of a vendor, architect, engineer, or energy manager to perform the energy audits and prepare the energy expenditure plan. Instead, IEC will cover 100% of the cost to perform the energy audits and prepare the energy expenditure plan at **NO COST** to the District. IEC will only charge a **flat rate (8%)** management fee over the construction term for all projects that are successfully implemented. This means District can use 100% of the Planning Funds towards implementation of the projects. The flat rate management fee covers the following:

- **Identify and analyze the feasibility of energy conservation and energy generation project opportunities - includes identifying energy projects, upfront and ongoing costs, projected energy cost savings, rebates, etc. This work must consider the results of the energy audit conducted for the District by the California Energy Commission under the Bright Schools Program. The District's financial advisor, Government Financial Strategies, will assist with identifying and analyzing financing options.**
- **Lead process of hiring contractors to install /construct energy projects - includes leading process of developing RFQs/RFPs, evaluating RFQs/RFPs, negotiating contract terms with contractors, etc. The energy consultant/advisor must be independent of the contractor(s) selected to install /construct the energy projects.**
- **Oversee installation/construction of energy projects.**
- **Lead process of applying for funding under the Proposition 39 energy project funding program - includes completing energy expenditure plans as described in the California Energy Commission's "Proposition 39: California Clean Energy Jobs Act - 2013 Program Implementation Guidelines" dated December 2013 ("Prop. 39 Guidelines).**
- **Lead process of energy project tracking and reporting as described in the Prop. 39 Guidelines.**
- **Lead process of addressing the steps described in the Prop. 39 Guidelines.**
- **Providing expert guidance on the above.**

This approach maximizes District funding by not having to pay for Planning Services (Steps 1 through 7 in the Prop 39 Guidelines). **This means that all the money saved will be applied to the actual installation and reduces all risk to the District and maximizes the use of Prop 39 funds.**

Specifically, IEC proposes the following:

- Cover 100% of the Planning Costs associated with an approved Energy Expenditure Plan
- No upfront fees (payments to IEC will only be made after Prop 39 funding is received)
- Exclusive five (5) year partnership contract
- Performance-based fees: 9.0% of total project cost paid over term of contract
- Inclusive of all management services (from planning through post implementation)
- No payment on projects that fail to qualify or meet 1.05 SIR requirement

IEC will provide a standard engagement agreement which includes an exclusive term for implementation of all Prop 39 projects that matches the program duration (5-year Prop 39 Program).

Based on the recent allocations for the District, the planning funds available for 2013-14 ($112,836) will not have to be spent on planning activities. **This is a savings of $112,836 for the District which means the District could use 100% of the planning funds for implementation.**

Should the District wish to manage the contract on an hourly basis, typical hourly rates for our Engineers and Staff at IEC are provided below.

IEC 2014 RATE SCHEDULE

Professional and Technical Services	
Project Manager	$150
Energy Engineering Specialist	$140
Energy Efficiency Engineer	$130
Conservation Specialist	$125
Field Engineer / Energy Auditor	$125
Measurement & Verification Engineer	$125
Project Professional	$95
Designer/Drafter	$90
Project Assistant	$75
Engineering Technician 5	$75
Engineering Technician 4	$65
Engineering Technician 3	$50

Construction Management Services	
Construction Manager	$135
Field Engineer	$125

Other Costs

1. Direct Expenses (non-equipment) will be billed at cost.
2. Mileage will be billed at the published IRS mileage rates in effect.
3. Travel time to and from client sites will be billed at hourly rates shown above.
4. Federal published per diem rates (GSA) will apply if applicable.
5. Subcontractors will be billed at invoice price plus 10%.

11. Provide a description of any claim(s) filed against the firm in the past five (5) years that relate to the firm's services. Briefly indicate the nature of the claim and the resolution, if any, of the claim(s).

IEC Corporation has not filed any claims and/or lawsuits against any public or private agencies.

Appendix A
RESUMES

INDEPENDENT ENERGY ADVISOR SERVICES

IEC iec-corporation.com

Eric Quintero, P.E., CEM

President, IEC Corporation

Managing Member,
IEC Power, LLC

IEC Corporation

8795 Folsom Blvd., Ste.205
Sacramento, CA 95826
916.383.6000
916.383.6010
equintero@iec-corporation.com

Education

BS Mechanical Engineering,
University of California, Davis

Professional Licenses

Mechanical #M31050

Certified Energy Manager

Areas of Expertise

Project Management
Project Financing
Owner's Engineering
Construction Oversight
Energy Consulting
Utility Support
School District Energy Planning
Energy Efficiency
Performance Engineering
Engineering Design

Corporate Biography

Mr. Quintero serves as the President of IEC Corporation. His responsibilities include the full range of management functions – from team development and personnel assignments through supervision of project closeout and operations. Mr. Quintero is a registered California professional engineer and Certified Energy Manager with expertise in engineering consulting related to electric utility, public agency, and school district energy projects. He has extensive knowledge of energy systems and has served as the Project Manager for a number of energy projects in recent years, ranging from energy evaluation, planning, and efficiency projects to full utility-scale power plants. He has experience across the wide range of energy project planning and implementation issues including energy project evaluations, strategy, economics, development, siting, permitting, financing, contracting, plant design, construction, commissioning and operations. Over the past two decades, Mr. Quintero has managed more than 100 energy projects for both public and private owners, and has managed multiple program-level projects, worth in excess of $600M.

K-12 Experience

Mr. Quintero has served as the IEC Contract Manager on the following K-12 energy projects:

ANTELOPE ESD
Antelope Elementary
Berrendos Middle School

CORNING USD
Corning Union High School
Centennial High School

CUYAMA JUSD
Cuyama Valley Elementary
Cuyama Valley High School

DELANO USD
Albany Park Elementary
Del Vista Elementary
Fremont Elementary
Harvest Elementary/
La Vina Middle School
Morningside Elementary
Princeton Elementary
Terrace Elementary/
El Puente Academy
Almond Tree Middle School
Cecil Avenue Academy
Nueva Vista Language Academy
Delano Union School District Office
& Facilities

MANTECA USD
Manteca Unified School District Office
East Union High School
Lathrop High School
Manteca High School
Sierra High School
Weston Ranch High School
August Knodt Elementary
Brock Elliott Elementary
French Camp Elementary
George Komure Elementary
George McParland Elementary
Golden West Elementary
Great Valley Elementary
Joseph Widmer Elementary
Joshua Cowell Elementary
Lathrop Elementary
Lincoln Elementary
Mossdale Elementary
Neil Hafley Elementary
New Haven Elementary
Nile Garden Elementary
Sequoia Elementary
Shasta Elementary
Stella Brockman Elementary
Veritas Elementary
Walter Woodward Elementary

MIDDLETOWN USD
Coyote Valley Elementary
Middletown High School

MOJAVE USD
Mojave Elementary
Mojave High School
California City High School
California City Middle School
Robert P. Ulrich Elementary
Hacienda Elementary

SELMA USD
Eric White Elementary
Lincoln Middle School
Wilson Elementary
Terry Elementary
Roosevelt Elementary
Jackson Elementary
Indianola Elementary
Selma High School

TIPTON ESD
Tipton Elementary

UPPER LAKE UHSD
Upper Lake Union High School

WILLIAMS USD
Williams Elementary
Williams Upper Elementary
Williams Junior/Senior High School

WILLOWS USD
Murdock Elementary School
Willows Intermediate School
Willows High School

Recent Utility & Public Agency Renewable Energy Projects

Utility-Owned Solar Development for LADWP
LADWP is implementing a program to install 125 MW of solar PV systems on or near City owned properties. IEC worked with LADWP's Solar Energy Development Group to identify, develop, and perform preliminary engineering for these facilities. The development of these properties included, feasibility assessments, site evaluations, acquisition of permits/documentations, property mapping, development of preliminary engineering design packages, and the necessary services to prepare each potential property for further development and construction.

PV Consulting & Design for Transportation Corridor Agency
IEC Corporation provided solar power engineering services to The Foothill/Eastern Transportation Corridor Agency (TCA) for a photovoltaic system at the Agency's headquarters building in Irvine, California. In support of the project, IEC was responsible for the Preliminary Design Report, Final Design,

and Construction Phase Services for the PV System. Services also include cost estimates and financing recommendations, interconnect design coordination with Southern California Edison, permitting support and compliance with City ordinances, and assistance with California Solar Initiative rebate and tax incentive programs.

Santa Clara County Solar Design & Construction Support
IEC is providing design and construction services for Santa Clara County's Solar Facilities. For the County's PPA Projects at the Tully Outpatient Center and Gilroy PV Site, IEC was responsible for providing general design review, plan check support services and request for information (RFI) support services for the solar projects. IEC was also tasked with providing construction inspection support for the two facilities, including on-call field inspection services to verify installations were performed in accordance with the site-specific drawings and specifications. The County also retained IEC to provide similar services for its Qualified Energy Conservation Bond (QECB) Design-Build Solar Projects. IEC's services included design review of engineering through 100% for four (4) project sites, as well as additional support during construction to support RFI review and response.

PV System Engineering Consulting Services for SDG&E
IEC Corporation was awarded a sole source contract to provide Photovoltaic System Engineering Consulting to the San Diego Gas and Electric Company (SDG&E). SDG&E is in the early stages of developing distributed and large scale photovoltaic generation on 18 Company owned or controlled properties for a total of 32MWac. IEC will assist SDG&E in preparation of solicitations, specifications, bid evaluation, interconnection submittals, technical attributes of permitting packages, EPC contract negotiations, and construction overview.

Local Renewable Generation Assessment and Analysis, Sacramento Municipal Utility District
IEC performed an assessment of renewable resources within and near the SMUD service territory. The work focuses on solar PV, concentrating solar thermal and biomass resources. The objective of this project is to identify the renewable resources; assess and quantify the renewable generation potential; calculate the cost of local renewable generation; and compare the costs of local renewable projects to distant renewable projects, including the costs of transmission.

Pine Tree Wind Project Owner's Engineering & Construction Management, LADWP
IEC earned a contract with LADWP to provide professional engineering services to support the 120 MW Pine Tree Wind Project. LADWP awarded IEC with the Owner's Engineering and Construction Management contract to support the entire Project. This very successful project was completed ahead of schedule and within budget, due in part to IEC's ability to proactively address project obstacles and sustain a high level of effort on site.

Renewable Portfolio Standard Program Support, LADWP
IEC Corporation was awarded multiple contracts to support LADWP as the utility looks to comply with California's RPS mandate to procure at least 20% of its electricity from renewable resources by 2010 and 35% by 2020. LADWP selected IEC to assist its staff in assuring the successful implementation of its RPS projects and the development of associated transmission systems through three different contracts. LADWP selected IEC to assist its staff in assuring the successful implementation of its RPS projects through three different contracts: 1) Development & Acquisition of Renewable Energy Resources; 2) Transmission System Technical Support; and 3) Construction Management Services for Renewable Energy and Transmission Projects. IEC Corporation was the only company that was awarded a contract in each of the three contract areas solicited by LADWP for RPS and Transmission support.

Blake Heinlein, P.E., CEM

Director / Senior Project Manager

IEC Corporation

8795 Folsom Blvd., Ste.205
Sacramento, CA 95826
916.383.6000
916.383.6010 fax
916.541.3045 cell
bheinlein@iec-corporation.com

Education

BS Mechanical Engineering,
California State University, Chico

Professional Licenses

Mechanical #M32333

Certified Energy Manager

Areas of Expertise

Project Management
Renewable Energy Systems
Energy Consulting
Energy Financing
Utility Support
School District Energy Planning
Energy Efficiency
Performance Engineering
Renewable Power Design
Distributed Generation
Construction Oversight
Engineering Design

Corporate Biography

Mr. Heinlein is IEC Corporation's Director and Senior Project Manager. He is a California licensed mechanical engineer with extensive energy project development and design experience. As Project Manager, he is responsible for coordinating with the client and its employees, site contractors, connecting utilities, and regulatory agencies, throughout each project. Mr. Heinlein has managed a number of energy projects over the past several years, including energy evaluations, energy efficiency upgrades, project financing, and various solar, wind, and emerging renewable energy technologies, and has further developed his expertise with these types of projects. He has worked with multiple K-12 School Districts and several of California's largest electric utilities for the past 12-plus years as a Project Manager on various projects, and has managed energy projects worth in excess of $300M. Mr. Heinlein has proven himself to be a great asset to these projects as he has the necessary technical knowledge and experience as well as the ability to coordinate and communicate with project personnel so that the project stays on schedule and within budget.

K-12 Experience

Mr. Heinlein has served as the IEC Project Manager on the following K-12 energy projects:

ANTELOPE ESD
Antelope Elementary
Berrendos Middle School

CORNING USD
Corning Union High School
Centennial High School

CUYAMA JUSD
Cuyama Valley Elementary
Cuyama Valley High School

DELANO USD
Albany Park Elementary
Del Vista Elementary
Fremont Elementary
Harvest Elementary/
La Vina Middle School
Morningside Elementary
Princeton Elementary
Terrace Elementary/
El Puente Academy
Almond Tree Middle School
Cecil Avenue Academy
Nueva Vista Language Academy
Delano Union School District Office
& Facilities

MANTECA USD
Manteca Unified School District Office
East Union High School
Lathrop High School
Manteca High School
Sierra High School
Weston Ranch High School
August Knodt Elementary
Brock Elliott Elementary
French Camp Elementary
George Komure Elementary
George McParland Elementary
Golden West Elementary
Great Valley Elementary
Joseph Widmer Elementary
Joshua Cowell Elementary
Lathrop Elementary
Lincoln Elementary
Mossdale Elementary
Neil Hafley Elementary
New Haven Elementary
Nile Garden Elementary
Sequoia Elementary
Shasta Elementary
Stella Brockman Elementary
Veritas Elementary
Walter Woodward Elementary

MIDDLETOWN USD
Coyote Valley Elementary
Middletown High School

MOJAVE USD
Mojave Elementary
Mojave High School
California City High School
California City Middle School
Robert P. Ulrich Elementary
Hacienda Elementary

SELMA USD
Eric White Elementary
Lincoln Middle School
Wilson Elementary
Terry Elementary
Roosevelt Elementary
Jackson Elementary
Indianola Elementary
Selma High School

TIPTON ESD
Tipton Elementary

UPPER LAKE UHSD
Upper Lake Union High School

WILLIAMS USD
Williams Elementary
Williams Upper Elementary
Williams Junior/Senior High School

WILLOWS USD
Murdock Elementary School
Willows Intermediate School
Willows High School

Recent Utility & Public Agency Energy Projects

900 kW Fuel Cell Design Project, Cache Creek Resort Casino
Mr. Heinlein provided design and installation for a fuel cell project for the Cache Creek Casino Resort. He served as Project Engineer and Project Manager to provide complete engineering design and procurement services to install three 250kW (total of 750kW) natural gas fuel cells that provide base load electrical power and heat to the facility. Mr. Heinlein oversaw all project activities including scheduling, fuel cell equipment selection, balance-of-plant engineering (mechanical, civil, electrical design), and designs to interconnect existing electrical and mechanical systems with the new plant. He also developed interconnection and self-generation incentive program applications, equipment purchase agreements, and operation and maintenance agreements for the Owner and acted as owner's representative.

Solano Wind Project O&M Engineering, SMUD
Mr. Heinlein monitored and documented operational status of thirty-one (31) wind turbines. He proactively investigated operational issues, developed structure for monthly production reports, inspected turbines, and coordinated operational procedures with power authorities and operations group. Mr. Heinlein managed tasks between O&M contractor, SMUD, and other site contractors. He also provided Asset management services to assist SMUD in maintaining project facilities and managing the agricultural leases on the 6,000+ acre SMUD-owned project site.

During this support of the Solano Wind Project and throughout his support of other SMUD departments, Mr. Heinlein has developed excellent working relationships with SMUD personnel, project contractors, and other stakeholders. Specific to the Solano Project, he has an excellent working relationship with Vestas personnel at the Solano O&M building and a strong working relationship with EnXco. Mr. Heinlein has also worked with TriMark to resolve data transmission issues and has coordinated outages with SMUD SPAC.

PV Consulting & Design for Transportation Corridor Agency
IEC Corporation provided solar power engineering services to The Foothill/Eastern Transportation Corridor Agency (TCA) for a photovoltaic system at the Agency's headquarters building in Irvine, California. In support of the project, IEC was responsible for the Preliminary Design Report, Final Design, and Construction Phase Services for the PV System. Services also include cost estimates and financing recommendations, interconnect design coordination with Southern California Edison, permitting support and compliance with City ordinances, and assistance with California Solar Initiative rebate and tax incentive programs.

Santa Clara County Solar Design & Construction Support
IEC is providing design and construction services for Santa Clara County's Solar Facilities. For the County's PPA Projects at the Tully Outpatient Center and Gilroy PV Site, IEC was responsible for providing general design review, plan check support services and request for information (RFI) support services for the solar projects. IEC was also tasked with providing construction inspection support for the two facilities, including on-call field inspection services to verify installations were performed in accordance with the site-specific drawings and specifications. The County also retained IEC to provide similar services for its Qualified Energy Conservation Bond (QECB) Design-Build Solar Projects. IEC's services included design review of engineering through 100% for four (4) project sites, as well as additional support during construction to support RFI review and response.

Russell Substation Phase 3 Expansion, SMUD
Mr. Heinlein is providing project management from conceptual design through commercial operation. As Project Manager, he is responsible for coordinating SMUD employees, SMUD subcontractors, the Design-Build Contractor, PG&E, and CA-ISO throughout the project. The Russell Substation expansion includes the addition of a 235 MVA transformer that will be connected to the existing 230 kV substation and adds six (6) 34.5 kV breakers which will connect the future Phase 3 Solano Wind Project to the electrical grid. IEC's activities for this project include: overall project management duties, coordinating the development of the conceptual substation design, preparing the detailed substation EPC scope document, contract negotiation support, detailed design review, equipment and special inspections, quality control, commissioning oversight, and coordinating the ownership transfer to SMUD's operations group.

Sutter Elk Grove Cogeneration Study, Sacramento Municipal Utility District
Mr. Heinlein managed this study on the technical and economic feasibility of combined heat and power (CHP), and thermal energy storage (TES), for the Sutter Health Elk Grove Medical Campus (Sutter). The feasibility study evaluated the cost to build, own, and operate a reciprocating engine cogeneration plant to serve the Medical Campus. The study evaluated a single reciprocating engine configuration under two ownership cases.

Folsom Prison Technical & Economic Feasibility Study, Sacramento Municipal Utility District
Mr. Heinlein served as Project Manager to conduct a technical and economic feasibility study of combined heat and power (CHP) for the Folsom Prison using fuel cells, engines, and turbines as the prime movers. The study evaluated the cost and equipment selection to build, own, and operate a cogeneration plant to serve the Prison buildings. Many options and iterations were performed as part of this study based on SMUD increases to the scope of work.

Railyards Feasibility Studies, Sacramento Municipal Utility District
Mr. Heinlein led the work on a feasibility study for installation of a Central Utility Plant and distribution piping network at the Railyard development. His responsibilities for this project included: cogeneration equipment selection, determination of O&M costs, determination of capital costs for cogeneration equipment, and cost/engineering analysis using EconExpert. All calculations were performed using EconExpert software. SMUD found the report to be so thorough and well prepared that it exceeded their expectations. As a result, additional work was assigned to IEC to perform an analysis of three additional options for the system.

Airport Due Diligence Study, Sacramento Municipal Utility District
Mr. Heinlein managed this analysis relating to the Central Utility Plant (CUP) and combined heat and power (CHP) at the Sacramento International Airport to evaluate the cost and equipment selection for an advanced CUP, CHP and possible thermal energy storage (TES) to serve the planned new terminal, hotel, and concourse at the Airport. In addition to the due diligence study, IEC performed financial analysis of SMUD ownership of a CHP and CUP plant, modeled TES, and evaluated the use of a larger engine for the SMUD ownership case.

Cogeneration Feasibility Studies, Sacramento Municipal Utility District
Mr. Heinlein led the IEC team in performing pre-feasibility studies of two sites with potential for CHP/cogeneration using biogas. Mr. Heinlein evaluated the potential benefit of using waste heat from electric generation using biogas at both the Campbell Soup facility in Sacramento and the Rio Cosumnes Correction Center (RCCC) in Elk Grove. The Campbell Soup site has potential for installation of a biodigester at the plant to process wastewater before sending it down the sewer. Mr. Heinlein determined the size of a reciprocating engine or turbine that could be supported by the estimated amount of biogas. He also identified opportunities for use of any additional waste heat generated and isolated preliminary sites for a digester, generator, and tie-ins for waste heat. The RCCC site is located within two miles of a cluster of dairies participating in a study of a centralized dairy digester. Based on the estimate of biogas potential, Mr. Heinlein determined the feasibility of generating electricity and heat at the RCCC. He also determined the opportunities for use of the generated waste heat as well as the estimated value of that waste heat to the RCCC. Mr. Heinlein also identified preliminary sites at the RCCC for the generator and a preliminary gas pipeline route.

Dana Arter, P.E., CEM

Energy Engineering Specialist

IEC Corporation

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Sacramento, CA 95826
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darter@iec-corporation.com

Education

M.S., Mechanical Engineering,
University of California, Davis

B.S., Mechanical Engineering,
University of California, Irvine

Professional Licenses

Mechanical #M36357

Certified Energy Manager

Areas of Expertise

Renewable Energy Systems
Energy Efficiency
Engineering Design
Energy Consulting
Project Management
Utility Support
Owner's Engineering
Distributed Generation

Corporate Biography

Ms. Arter is a California licensed mechanical engineer with extensive energy project evaluation, development, design and management experience. Ms. Arter serves as our School District Energy Engineering Specialist and assists our project manager with all tasks from planning, coordination, project identification/prioritization, preparation of energy expenditure plans, and project implementation activities. As our lead Energy Engineering Specialist, she is also responsible for coordinating with District employees, designers, subcontractors, utility representatives, and the DSA throughout each project. Ms. Arter's activities for our recent School District Energy projects have included: coordination of the development of the project design packages; preparation of contractor bid, scope and contract documents; contract negotiation support; detailed design review; quality control; and coordination with the connecting utility interconnection groups. During this support of the School District Energy Projects, Ms. Arter has developed excellent working relationships with District personnel, project contractors, and construction managers.

K-12 Experience

Mr. Arter has served as the IEC Energy Engineering Specialist on the following K-12 energy projects:

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George McParland Elementary
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Great Valley Elementary
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TIPTON ESD
Tipton Elementary

UPPER LAKE UHSD
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Williams Junior/Senior High School

WILLOWS USD
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Additional Project Experience

Pasadena Windsor Reservoir Solar Project, NCB

Ms. Arter assisted in performing an independent engineering evaluation of a 646 kW solar PV rooftop system located at City of Pasadena Windsor Reservoir for the project lender, NCB. As part of the project, she conducted a site visit and reviewed system design and performance modeling. She summarized observations and results from financial and energy production analyses in a written report to NCB.

Solano Wind Plant Asset Management, SMUD

Ms. Arter monitored and documented operational status of six (6) meteorological (MET) towers located on SMUD's 6,000+ acre Solano Wind Plant. She proactively investigated sensor operational issues, developed analysis of sensor data and generated bi-weekly and later monthly status reports. In preparation for this work, SMUD invited Ms. Arter to attend a two-day course for training on the Vestas Online Business (VOB) software that operates the wind plant. She also assisted SMUD in additional tasks such as tariff analysis and investigation of lost generation due to plant production curtailments. Ms. Arter has an excellent working relationship with SMUD employees as well as Vestas personnel.

Comparative Cost Forecast of Renewable Electricity Generation Technologies, NCPA

Ms. Arter worked on development of a report that provided NCPA with an analysis of the Levelized Cost of Energy as well as PPA contract prices for both commercially available and emerging renewable technologies. Specifically, Ms. Arter developed a Monte Carlo model in Excel for performing financial sensitivity analyses of conventional energy technologies and renewable energy technologies. She summarized the results of the sensitivity analyses along with current industry information in a written report to NCPA with recommendations for their Integrated Resource Planning Group.

Photovoltaic System Engineering Consulting, SDG&E

Ms. Arter provided engineering support for various tasks for SDG&E under a Photovoltaic Owner's Engineering project. Specifically, she worked on preliminary engineering designs and evaluations of properties being considered for solar plant development. She also created the bid template for solar contractors used by SDG&E in their bid process. Ms. Arter assisted SDG&E personnel in evaluation of solar contractor bids and submitted designs.

Solid Waste Technical Services, SMUD

Ms. Arter worked on an Organic Waste Resource Assessment study for SMUD's Renewables Division. She assisted in conducting a food waste survey with a focus on wastes suitable for co-digestion at the Sacramento Regional Wastewater Treatment Plant (SRWTP). She evaluated feedstocks for their potential biogas production as well as their financial viability in terms of distance from the SRWTP. She also performed a literature review to provide an update to SMUD on current trends in food waste digestion and energy production. The results of the study were summarized in a written report with recommendations for SMUD on collection and processing of valuable organic waste sources in the region.

Distributed Generation Best Practices Project, SMUD

Ms. Arter worked on development of a Distributed Generation Best Practices Review & Strategy Recommendation report for SMUD's Energy Research Development and Demonstration Department. Ms. Arter researched best practices for implementation of distributed generation and developed strategies suitable for SMUD based on their strategic objectives, Board policies, existing programs and regional characteristics. Ms. Arter worked with a team at IEC on summarizing recommendations for SMUD in a report that addressed technology and market barriers as well as interrelated business process and public outreach planning.

Don Nguyen

Energy Efficiency Engineer

IEC Corporation

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Education

B.S., Applied Sciences Engineering, Rutgers State University

Professional Licenses

Certified Energy Manager (CEM)

Areas of Expertise

Renewable Energy Systems
Energy Auditing
Facility Energy Monitoring
Measurement & Verification Plans
Project Management
Field Engineering

Corporate Biography

Mr. Nguyen is an experienced Energy Efficiency and Measurement & Verification Engineer with experience working on many Energy Performance Contracts – Energy Savings Performance Contract (ESPC) and Energy Conservation Measures for various entities: Commercial/Institutional, Schools, Hospitals, State and Local Governments.

Mr. Nguyen has experience in building controls and automation systems, boilers, chillers, lighting, water, variable frequency drives, solar hot water, and solar PV. He is specialized in developing and implementing energy measurement and verification plans and has extensive experience in contract review, cost estimates, budgeting, energy efficiency project management, stakeholder communication (client representatives, local utilities, vendors, etc.) and managing contractors. Mr. Nguyen is an excellent field engineer and passionate about saving energy and preserving the environment.

Work Experience

Energy Efficiency Consultant

- Performed consulting work for Major Industrial Program
- Reviewed contracts, submittals, savings calculations and measured Pre/Post data
- Developed EM&V Plans to evaluate the savings
- Estimated the quantity of M&V equipment needed for the program, for budgeting and purchasing
- Scheduled M&V equipment installations with TVA, LPCs and customers
- Installed power meters (Dent Elite Pro SP) for various industrial processes equipment, Chillers, RTUs & AHUs for commercial buildings, also installed Dent lighting loggers (photo sensors & CTs) to evaluate lighting projects
- Retrieved loggers, download and analyzed data to evaluate project demand and energy savings
- Trained two other engineers on safety and M&V work, including installation/removal of various metering equipment

Energy / M&V Engineer
Pepco Energy Services
- Reviewed ESPCs and M&V methodologies for: VEC, VT, ASU, PAFSC, COG, Norfolk PS, Salisbury University, BCPSS, BCGB, NC DOA, VISN 4 and VEC
- Developed and performed M&V measurements for multiple ECM's, i.e. Boilers, Chillers, Motors, VFDs, Solar Hot Water, Solar PV, Water and Lighting to verify Pre & Post conditions of various projects
- Validated savings for all contracted ECMs above, and building envelopes (seals and windows) & controls, cooling tower deduct meter, ice storage system, vending miser and energy awareness
- Operated and maintained a variety of M&V equipment: Fluke-43B Power Quality Analyzer, Hioki-Power Analyzer, GE-Panametrics PT878 Flow Meter, Bacharach-Combustion Analyzer, Aircuity-Air Quality Analyzer, TelAir-CO2 Logger, Onset HOBO Lighting Loggers and Sensor Switch Lighting Loggers
- Worked with customers and contractors to gain access to control systems: ESI, Siemens, JCI and Trane
- Wrote final reports of projects' ECMs and annual projects' performance reports to submit to customers
- Certified with America Train Co. for working safely with electrical and OSHA 10 hour Safety Training
- Worked with PMG engineers & project managers, contractors and customers on Preliminary and Pre/Post M&V
- Managed contractors and internal M&V Technicians to perform various measurements: Water, Lighting, Motors, VFDs, Boilers and Chillers.
- Provided assistance to other projects: Harrisburg PA, Penn State Altoona, HCPSS, DC PS, DTCC, ECU, RU and VCU
- Worked with department manager to develop final / performance reports for customers: NC DOA and VISN 4
- Attended trainings on various safety procedures for working/handling: electrical, boilers, asbestos, lead and PCP

Project Engineer
PSEG Demand Management Co.
- Promoted from Staff Engineer to Project Engineer
- Developed and managed projects: lighting, VFD & HVAC; developed and implemented plans to improve portfolios performance, i.e. SYCOM, RFP'89, PSCRC and PAI projects and ultimately P&L statement
- Took on more responsibilities: managed the Verizon Fiber Optic Project, new construction projects, directly responsible for contractors' performance, managed 15 contracted employees
- Worked with department managers to develop budgets, tracking systems for performance and costs
- Developed, managed and improved the revenues of performance contracting projects
- Managed lighting retrofits and lighting maintenance projects from initial audit to turnkey installation for large commercial & industrial customers: Crest Foam, Schiffenhaus, Clara Maass Hospital, Rutgers University and Middlesex County Water Co.

Staff Engineer
PSEG Energy Technologies
- Managed the design, build, operation and maintenance of the M& V/Measurement & Verification Infrastructure for utility company's DSM programs
- Maintained reliable M&V infrastructure at more than 1,500 customer sites
- Performed as project manager for new M&V installations including full accountability for managing vendors and project's budget
- Designed M&V Plans, supervised installations and communicated with Utility Co., Vendors, Contractors, Customers & Upper Management on new lighting projects: Marcal Paper, Best Foods
- Handled all annual maintenance audits and renovation submittals with PSE&G and JCP&L
- Kept track of all M&V repairs, issues, savings and expenses using Access and Excel
- Provided technical supports to Lighting and Customer Relations Department

Maintenance Manager
ONSITE SYCOM, Energy Corp.
- Maintained customer efficient lighting, heating & cooling equipment
- Managed all M&V equipment at all monitored facilities
- Coordinated and managed the project/group relamping and the recycling of spent lamps at customers' sites
- Communicated with Utility Co., Vendors, Contractors, Customers & Upper Management
- Managed all annual maintenance audits with PSE&G
- Answered customers' and PSE&G's inquiries, kept track of all maintenance issues and expenses
- Fixed and found solutions to all maintenance issues, improved maintenance processes

DSM Project Sponsor
- Worked as DSM Energy Auditor from 02/1996 to 08/1997 then got promoted to DSM Project Sponsor
- Handle all HVAC, Fuel-Switch and VSD projects in PSE&G's Standard Offer Program
- Reviewed Measurement & Verification Plans or energy saving methods from Sponsors
- Supervised auditors to perform energy audits: HVAC, motors and lighting
- Developed auditing procedures and determined the status (pass/fail) of each project
- Communicated with Sponsors, ESCO's (Energy Services Co.) and Contractors
- Had experience in performing complete energy audits: windows, lighting, motors, chillers and boilers, then wrote ECO's (Energy Conservation Opportunity) for medium size industrial customers: National Starch, A-Treat and Pepsi during second and third year at the College of Engineering, Rutgers University

Aaron Leach, P.E.

Senior Electrical Engineer

IEC Corporation

8795 Folsom Blvd., Ste.205
Sacramento, CA 95826
916.383.6000
916.383.6010
aleach@iec-corporation.com

Education

BS Electrical Engineering,
California State University,
Sacramento

Professional Licenses

Electrical #E20071

Additional Training

SEL University Engineer Program
- Generation System Protection
- Substation Protection/Integration

Areas of Expertise

Electrical Engineering, Design, Construction & Oversight
- Substations/Switchyards
- Generation Facilities
- Remote Terminal Units (RTUs)

System Protection Engineering
AutoCAD Design
Specification Development
Power System Studies
Plant Side Electrical Engineering
Utility Support

Professional Summary

Mr. Leach is an electrical engineer knowledgeable about electrical systems for power facilities and substations. He has significant experience in the electrical power industry and provides electrical engineering support, including design and construction/ implementation oversight, for IEC's utility and public agency clients. Mr. Leach's electrical training includes completion of the SEL Power Protection Program, which consisted of multiple tracks for both power system fundamentals and product application courses. He completed the Generation System Protection Track and the Substation Protection and Integration Track which focused on specialized substation system protection training. Mr. Leach's recent relevant experience includes PV system support for both utility and commercial clients. Currently, Mr. Leach is serving as the lead electrical design engineer for over 25 MW of commercial solar PV projects in California, Arizona, Nevada, and New Mexico.

K-12 Experience

Mr. Leach has served as the IEC Senior Electrical Engineer on the following K-12 energy projects:

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Cuyama Valley Elementary
Cuyama Valley High School

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Harvest Elementary/
La Vina Middle School
Morningside Elementary
Princeton Elementary
Terrace Elementary/
El Puente Academy
Almond Tree Middle School
Cecil Avenue Academy
Nueva Vista Language Academy
Delano Union School District Office & Facilities

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Coyote Valley Elementary
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MOJAVE USD
Mojave Elementary
Mojave High School
California City High School
California City Middle School
Robert P. Ulrich Elementary
Hacienda Elementary

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Eric White Elementary
Lincoln Middle School
Wilson Elementary
Terry Elementary
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Jackson Elementary
Indianola Elementary
Selma High School

TIPTON ESD
Tipton Elementary

UPPER LAKE UHSD
Upper Lake Union High School

WILLIAMS USD
Williams Elementary
Williams Upper Elementary
Williams Junior/Senior High School

WILLOWS USD
Murdock Elementary School
Willows Intermediate School
Willows High School

Project Experience

PV1 and PV2 Generation Facility RTU Upgrade for Sacramento Municipal Utility District (SMUD)
For the SMUD operated PV1 and PV2 solar generation facilities, Mr. Leach supported the electrical design and equipment implementation for upgrading a Remote Terminal Unit (RTU) for both facilities. This included several modified systems, including instrumentation, communication, and controls. His responsibilities included designing interconnection tables, creating and editing electrical drawings, and modifying existing electrical and communication equipment to operate with updated components.

Solar Engineering Consulting Services for Transportation Corridor Agency (TCA)
IEC Corporation is providing solar power engineering services to The Foothill/Eastern Transportation Corridor Agency (TCA) for a photovoltaic system at the Agency's headquarters building in Irvine, California. In support of the project, IEC is responsible for the Preliminary Design Report, Final Design, and Construction Phase Services for the PV System. Mr. Leach's responsibilities include major equipment sizing and selection (such as inverters, panels, transformers, and switchgear), string design,

site layout design, creating a protection scheme for the system, creating a power output monitoring and display system, and creating detailed electrical drawings.

650 kW Bonsall School District PV Project
IEC is currently serving as the Owner's Engineer to a private developer on PV projects for school districts throughout California. The installations will be a mix of rooftop PV and parking lot canopy PV systems. Mr. Leach's responsibilities include major equipment sizing and selection (such as inverters, panels, transformers, and switchgear), string design, site layout design, creating a protection scheme for the system, creating a power output monitoring and display system, and creating detailed electrical drawings. Mr. Leach is also serving as the on-site inspector of all electrical installations.

1.3 MW Mohave School District PV Project
IEC is currently serving as the Owner's Engineer for the 1.3 MW School District PV Project. Mr. Leach's responsibilities include major equipment sizing and selection (such as inverters, panels, transformers, and switchgear), string design, site layout design, creating a protection scheme for the system, creating a power output monitoring and display system, and creating detailed electrical drawings. Mr. Leach is also serving as the on-site inspector of all electrical installations.

850 kW Mountain Empire School District PV Project
IEC is currently serving as the Owner's Engineer for the 850 kW Mountain Empire School District PV Project. Mr. Leach's responsibilities include major equipment sizing and selection (such as inverters, panels, transformers, and switchgear), string design, site layout design, creating a protection scheme for the system, creating a power output monitoring and display system, and creating detailed electrical drawings. Mr. Leach is also serving as the on-site inspector of all electrical installations.

2 MW Delano Solar Photovoltaic Project
IEC provided complete engineering services for the development of a utility-scale, turnkey PV power plant near Delano, California. The Project is a 2 MW STC Solar Photovoltaic System consisting of a ground mounted single axis tracking solar array. The array consists of 9,072 Solarfun 220-30-P 220 Watt Polycrystalline Modules and four (4) SMA Sunny Central 500HE inverters. Mr. Leach's responsibilities included major equipment sizing and selection, such as inverters, panels, transformers and switchgear, string design, site layout design, creating a protection scheme for the system, creating a power output monitoring and display system, creating detailed electrical drawings, incorporating Small Generation Interconnection Procedures, completing the Generating Facility Interconnection Application, and supporting the interconnection process. Mr. Leach also helped the project in passing 10 different screens required by the SGIP.

2 MW Victorville Solar Photovoltaic Project
IEC provided complete engineering services for the development of a utility-scale, turnkey PV power plant near Victorville California. The Project is a 2 MW STC Solar Photovoltaic System consisting of a ground mounted single axis tracking solar array. The array consists of 9,072 Solarfun 220-30-P 220 Watt Polycrystalline Modules and four (4) SMA Sunny Central 500HE inverters. Mr. Leach's responsibilities included major equipment sizing and selection, such as inverters, panels, transformers and switchgear, string design, site layout design, creating a protection scheme for the system, creating a power output monitoring and display system, creating detailed electrical drawings, incorporating Small Generation Interconnection Procedures, completing the Generating Facility Interconnection Application, and supporting the interconnection process. Mr. Leach also helped the project in passing 10 different screens required by the SGIP.

Solar Highways Feasibility Study & Preliminary Engineering for SMUD
SMUD was interested in the feasibility of installing solar photovoltaic (PV) panels along Highway 50. To determine the feasibility of this project, IEC evaluated cost, performance and potential barriers to installing PV panels at the sites, this included development of preliminary design drawings and a detailed cost analysis of four different PV systems. Mr. Leach supported the electrical design for the three proposed flat panel systems.

Design of PV Curtain Wall System Project for Private Client
IEC provided electrical system design for a PV Curtain Wall System project. Mr. Leach served as the electrical engineer on the project and provided plans specifically designed for interconnecting three separate system PV panel sets and associated inverters to the building AC electrical system. Two of the systems were designed using micro inverter technology, and one utilizes a conventional single inverter. Mr. Leach's responsibilities included major equipment sizing and selection, such as inverters and panels, string design, creating a protection scheme for the system, creating a power output monitoring and display system, creating detailed electrical drawings, and providing support for system certification. In addition to electrical system design support, Mr. Leach provided site inspection and technical assistance during installation, connection, and startup of the PV system electrical components.

Utility PV System Development Owner's Engineering Services for San Diego Gas & Electric
IEC Corporation was recently awarded a sole source contract to provide Photovoltaic System Owner's Engineering Services to the San Diego Gas and Electric Company. SDG&E is in the early stages of developing distributed and large scale PV generation on 18 Company owned or controlled properties for a total of 32MWac. Mr. Leach assisted SDG&E in development oversight, consulted on technical attributes of permitting packages, completed interconnection submittals, and developed technical specifications for each of the sites.

50 MW Macho Springs Wind Project, Substation, & Switching Station for Consolidated Electrical Distributors (CED)
Electrical design and construction of a new 50 MW wind farm collector system, 34.5kV to 345kV substation, and 345kV switching station. Responsibilities included design of the site layout, ground grid, bus structures, wireway routing, communications, power, controls, metering and protection schemes, relay coordination and settings, performing calculations for equipment sizing, wireway fill and voltage drop, battery sizing, shielding analysis, energy loss analysis, cable thermal modeling, and writing technical specifications for new substation equipment.

Clatskanie Substation for Clatskanie People's Utility District
Electrical design and construction of a new 115kV to 12.47kV distribution substation. Responsibilities included design of the site layout, bus structures, wireway routing, communications, power, controls, metering and protection schemes, relay coordination and settings, performing calculations for equipment sizing, wireway fill and voltage drop, Arc flash analysis, writing technical specifications for new substation equipment, monitoring bid processes, and creating a construction package.

Brandon Doering, P.E.

Senior Mechanical Engineer

IEC Corporation

8795 Folsom Blvd., Ste.205
Sacramento, CA 95826
916.383.6000
916.383.6010
bdoering@iec-corporation.com

Education

BS Mechanical Engineering,
Pensacola Christian College

Professional Licenses

Mechanical #M32531

California General Contractor #907754

Areas of Expertise

Construction Oversight
Construction Maintenance, Inspections, and Documentation
Energy Consulting
Utility Support
O&M Engineering
Testing

Professional Summary

Mr. Doering is a California licensed professional mechanical engineer with nearly 20 years of experience. He provides a variety of engineering services for generation facilities and has extensive experience in the design and inspection of PV power plant systems and equipment. His experience includes: engineering design and modifications; field inspections; coordination and management of projects and inspections; and the development of equipment specifications. Mr. Doering is responsible for performing on-site inspections of the power plants to verify completion of work, record construction schedule and progress, and to verify construction technique and procedures with approved documentation.

Project Experience

School District Solar Project Inspection Construction Support

Mr. Doering was part of the IEC team that provided construction management and site inspection services for solar photovoltaic developments for the School Districts of Selma, Delano, Mojave, and Manteca California. For each of these projects, IEC was responsible for development, design, and construction management of ground mount and carport solar structures. Mr. Doering was tasked with providing construction inspection support for the projects, including on-call field inspection services to verify installations were performed in accordance with the site-specific drawings and specifications. Mr. Doering also assisted with construction management, equipment installation and setup, and coordination with school district facilities personnel.

PV Recommissioning/Decommissioning for SMUD

For the SMUD Cal Expo, PV-1, PV-2, PV 3 & 4, PV-6, and Arden/Limn PV arrays, Mr. Doering led the IEC team in preparing cost estimates for decommissioning each of the arrays and for repowering the Cal Expo array with both fixed and tracking options. Cost estimates included a breakdown of the tasks required for the demolition, removal, and disposal of the array, including the supporting structure and foundations; and restoration of the site to original conditions.

Also included was a credit for the reclamation value of the structural materials that can be salvaged. Mr. Doering developed a complete, itemized breakdown of task details and finalized the report deliverable, with the summary estimates. For the repower estimates, the report included preliminary design layouts, equipment selections, and electrical single line diagrams. Also included was the cost of partial demolition of the existing array to the point that best accommodates the new panels and equipment. Mr. Doering also obtained actual equipment quotes from vendors and manufacturers were obtained for major items, with costs for the other materials based on industry averages and standard construction costs.

PV1 & PV2 Upgrades for SMUD

The SMUD PV1 and PV2 Generation Facilities are adjacent sites generating a combined 3.2MW from fixed solar arrays. As part of a system-wide upgrade program, SMUD engaged IEC to provide detail engineering and technical support for the replacement of the Remote Terminal Units (RTU's) at both sites. Mr. Doering verified the existing equipment wiring and documentation, worked directly with the RTU vendor and SMUD personnel to determine the design requirements, and provided a complete design package for the new equipment that facilitated the RTU replacement within a narrow time window. Mr. Doering was also on hand providing technical assistance throughout the installation process.

Solar Highways Preliminary Engineering for SMUD

SMUD was interested in the feasibility of installing solar photovoltaic (PV) panels along Highway 50. To determine the feasibility of this project, IEC evaluated cost, performance and potential barriers to installing PV panels at the sites, this including development of preliminary design drawings and a detailed cost analysis of four different PV systems. Mr. Doering provided field engineering and surveying support for the project, including site measurements, general surveying, and identification of potential interconnection locations.

Rancho Seco Photovoltaic Engineering Services for SMUD

Mr. Doering managed a project for SMUD at the Rancho Seco PV facility which included the design of a new control and instrumentation package upgrade and field installation support for a 2 MW system.

Solano Wind Project for SMUD

Maintenance Inspections, Phase I:

Mr. Doering reviewed records of repair and maintenance work performed by operators on Vestas V47 660 kW turbines. He performed on-site inspections of turbine repair and maintenance to verify completion of work, to check that past problems were corrected satisfactorily, and to ensure that potential problems were addressed proactively.

Construction Inspections, Phase II:

Mr. Doering performed on-site inspections of mechanical and electrical equipment and installation during construction of Vestas V90 3.0 MW turbines to record construction schedule and progress, and to

verify construction technique and procedures with approved documentation. He also assisted in coordination and inspection of balance-of-plant site work by subcontractors.

Ongoing Project Support:
Mr. Doering has continued, as part of the IEC team, to support SMUD's management of the Solano Wind Project with facilities and infrastructure inspections and studies, proactive equipment maintenance analysis, and other tasks as requested.

Santa Clara County Solar Design & Construction Support
Mr. Doering was part of the IEC team that provided design and construction management services for Santa Clara County's Solar Facilities. For the County's PPA Projects at the Tully Outpatient Center and Gilroy PV Site, IEC was responsible for providing general design review, plan check support services and request for information (RFI) support services for the solar projects. Mr. Doering was also tasked with providing construction inspection support for the two facilities, including on-call field inspection services to verify installations were performed in accordance with the site-specific drawings and specifications. The County also retained IEC to provide similar services for its Qualified Energy Conservation Bond (QECB) Design-Build Solar Projects. IEC's services included design review of engineering through 100% for four project sites and additional support during construction to support RFI review and response.

Photovoltaic Engineering Review for Turlock Irrigation District (TID)
Mr. Doering led the contract to provide PV engineering and consulting support for the Turlock Irrigation District (TID). Responsibilities included review of various PV documents such as system design sketches, system warranties, structural reports, equipment spec sheets, interconnection applications, and solar rebate applications. Mr. Doering also conducted site inspections and performed engineering reviews of photovoltaic application packages for multiple TID customers to evaluate solar panel installation sites for structural capacity and suitability and conformance to design requirements. The reviews were done to ensure all the documents were in order and properly completed by each TID customer requesting a solar rebate.

Utility-Owned Solar Development for LADWP
Mr. Doering supported IEC's contract with LADWP's Solar Energy Development Group to identify, develop, and perform preliminary engineering for PV facilities. The development of these properties included feasibility assessments, site evaluations, acquisition of permits/documentations, property mapping, development of preliminary engineering design packages, and the necessary services to prepare each potential property for further PV development and construction. Mr. Doering provided site inspection, site feasibility evaluations, and system layout and design for both ground and rooftop mounted PV systems totaling over 110 MW at various sites throughout the LA County Basin.

Utility PV System Development Owner's Engineering Services for San Diego Gas & Electric
IEC Corporation was awarded a sole source contract to provide Photovoltaic System Owner's Engineering Services to the San Diego Gas and Electric Company to support SDG&E in developing distributed and large scale PV generation on 18 Company owned or controlled properties for a total of

32MWac. Mr. Doering assisted SDG&E in development oversight, consulted on technical attributes of permitting packages, completed interconnection submittals, and developed technical specifications for each of the sites.

Design of PV Curtain Wall System Project for Private Client

Mr. Doering supported the system design for a PV Curtain Wall System project for a local architectural firm. Mr. Doering provided system layout and design services for the firm to integrate solar PV panels into building curtain walls for medium and high rise structures.

Renewable Power Plant Water Supply Practices for Imperial Irrigation District (IID)

Mr. Doering provided consulting services to review Renewable Power Plant Water Supply Practices for the Imperial Irrigation District (IID). The initial study included a review of current operating practices at the generation facilities in the IID service area. The analysis included an economic comparison of technologies related to plant water treatment and cooling requirements, and a summary of regulations governing water usage affecting IID area power plants, including state, local, and special district policies, including those of the California Energy Commission. Mr. Doering worked with plant representatives of the existing facilities to obtain relevant plant information, water usage, and current cooling systems and technologies employed. The final report provided IID with a summary of the results and findings as well as suggested opportunities for water conservation at these IID plants. Mr. Doering assisted IID in reviewing the Water Supply Applications from power generators to ensure that each application met all requirements as set forth by IID through their Interim Water Supply Policy (IWSP) adopted in 2009. This included determining if the applicant or other party performed an acceptable water supply assessment; determining if the applicant sufficiently considered all current or future water supply resources; and determining if the applicant sufficiently considered best management practices for water usage during the power plant design. Mr. Doering performed an assessment of each application and addressed any issues that may be problematic to IID and the IWSP in the development of each project.

Field Engineering for Modesto Irrigation District (MID)

Mr. Doering recently completed his onsite field engineering support of the Modesto Irrigation District's Woodland Generation Station Unit 3 (WGS3) Project. The facility is powered by reciprocating engines with a net output of 49.6 MW. Mr. Doering, as part of IEC's Construction Team, was on site at the Project from mid 2009 until April 2011 coordinating and managing the activities of the onsite construction contractors and directing safety, scheduling, quality control, and regulatory items during the build out of the new facility. IEC carefully coordinated all plant tie-in (interface) construction activities in order to minimize the amount of down time at the existing Woodland Generation Station. Mr. Doering supported IEC's construction manager and performed all management, administration, monitoring, inspections, controls, quality assurance, and oversight for the Project. The successful project was completed on-time and within budget and is now online and providing power.

Rudge Wynn

Site Superintendent

IEC Corporation

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Areas of Expertise

Construction Oversight
Construction Maintenance, Inspections, and Documentation
Energy Consulting
Utility Support
O&M Engineering
Testing

Professional Summary

Mr. Wynn is a Site Superintendent with more than 15 years of experience supervising effective site teams for a wide variety of energy related projects. As Site Superintendent, he is responsible for establishing and delegating specific responsibilities and schedules for each level of site supervision to provide optimum communication, problem solving and project progress. Mr. Wynn is also responsible for performing on-site inspections of energy projects to verify completion of work, record construction schedule and progress, and to verify construction technique and procedures with approved documentation. He maintains the overall project planning from start to finish, providing an optimum work environment for those directly under his supervision, as well as for the entire project.

Relevant Project Experience

School District Energy Project Inspection Construction Support

Mr. Wynn is part of the IEC team that provides construction management and site inspection services for solar photovoltaic developments for the California School Districts of:

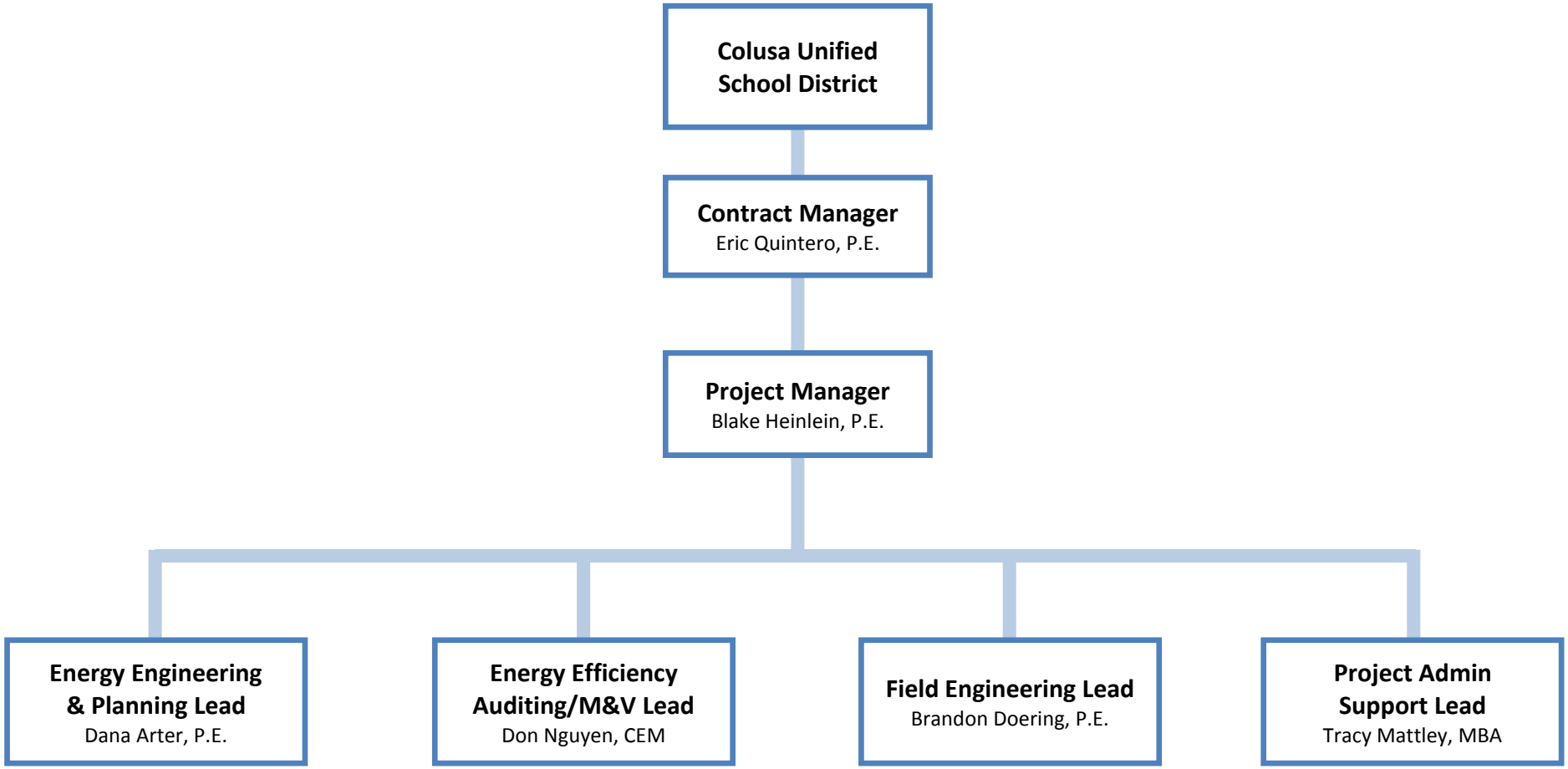
- Manteca
- Antelope
- Corning
- Cuyama
- Middletown
- Tipton
- Upper Lake
- Williams
- Willows

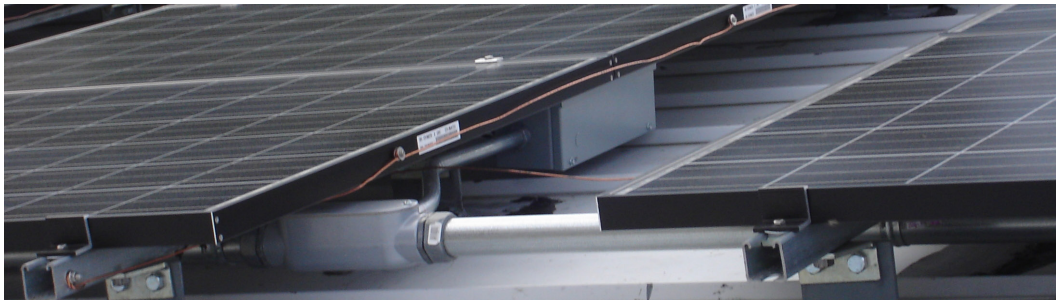
For each of these projects, IEC was responsible for development, design, and construction management of ground mount and carport solar structures. Mr. Wynn was tasked with providing construction inspection support for the projects, including on-call field inspection services to verify installations were performed in accordance with the site-specific drawings and specifications. Mr. Wynn also assisted with construction management, equipment installation and setup, and coordination with school district facilities personnel.

Specific responsibilities include the following:

- Manage and enforce site safety
- Coordinate construction contractors and vendors
- Provide onsite field presence at 26 site locations throughout Manteca USD territory.
- Lead coordination meetings and other construction meetings on behalf of IEC
- Coordinate schedules and resolve issues with on-site school staff
- Ensure contractors are in compliance with contract documents
- Document all construction progress and outstanding issues through Weekly Field Reports which includes brief descriptions of progress and any outstanding issues at each school site including photos to document status
- Provide 3-week look ahead schedule for site construction work
- Provide input and updates for overall master construction schedule
- Identify installation issues and complete Request for Information (RFIs) for engineering input
- Work with various agencies (e.g. fire department, DSA inspector, etc.) to complete inspections
- Review Contractor's safety and quality control/quality assurance plans
- Provide inspections services
- Ensure redlines are being updated in the field
- Create final punchlist for field construction
- Attend project meetings at various locations
- Report to Project Manager any unresolved field issues
- Other work as directed

Project Management Organization Chart





SALASO'BRIEN

Response to Request for Proposal for
Independent Energy Advisor Services

Prepared for Colusa Unified School District

June 17, 2014

877.725.2755 | www.salasobrien.com

Colusa Unified School District

RFQ for Independent Energy Advisor Services

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COVER LETTER

Salas O'Brien
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Marketing Manager
proposals@salasobrien.com

June 17, 2014

Colusa Unified School District
745 Tenth Street
Colusa, CA 95932

Attention: C/O Jonathan Edwards
Subject: RFP for Independent Energy Advisor Services

Dear Johnathan,

Salas O'Brien is pleased to respond to the Request for Proposals for the above referenced project for Colusa Unified School District.

Legal Name of Firm:	Salas O'Brien Engineers, Inc. DBA Salas O'Brien
Corporate Mailing Address:	305 South 11th Street, San Jose CA 95112
Authorized Firm Representative:	John Salas, PE, LEED AP, Managing Principal Phone: 408-282-1500 | Fax: 408-297-2995

Salas O'Brien has been providing clean energy engineering & design service solutions since 1975 and has a nationwide reputation for sustainable and flexible facilities planning and design. Unlike many consulting firms, our team specializes in renovation, expansion, and **modernization of infrastructure for campus systems in existing facilities**. Our team will pull together and coordinate professional, high quality engineering services based on the needs of the District; the requirements of Proposition 39 and the "clean energy" demands of today.

Our team for this project has been trained to recognize that successful energy projects can be identified and implemented by recognizing primary and secondary benefits and liabilities, as well as short term and life cycle costs. Our team is ready to provide the guidance necessary to Colusa Unified School District. The firm's approach is defined by a process as follows:

- Our experienced and practical team considers potential energy efficiency, energy conservation, renewables generation, distributed generation, load management, and available energy incentives and programs;
- Identifies energy or renewable projects are formulated as a part of an integrated matrix of constructability, equipment integration, and real systems sustainability over the life cycle of the project;
- Emerging technologies are considered along with established energy technologies;
- Energy projects are considered (and framed) against other district activities and modernization and growth plans;
- Greenhouse gas and carbon footprint which must be considered as a valuable part of the energy program and implementation plan for proper budget planning.
- The budget plan is considered over its life, and with primary and secondary cost streams and cost liabilities.

On behalf of Salas O'Brien, we thank you for this opportunity to propose and appreciate the District's consideration of our proposal; we look forward to meeting with the District to discuss your needs in further detail.

Energetically Yours,
Salas O'Brien

John Salas P.E., LEED AP
Managing Principal
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877.725.2755

SALAS O'BRIEN
expect a difference

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94-2624963

Years In Business:
Established 1975
Incorporated 1979

Website & Toll Free #:
www.salasobrien.com
877.725.2755

Type of Organization:
Corporation

Salas O'Brien is a full-service Engineering, Architecture and Construction Management Firm. The Firm has been in business for 38 years and our staff members understand the educational environment, specializing in facilities and energy engineering for educational campus style settings with an emphasis on building and campus improvement, infrastructure, mechanical, electrical, and telecommunications systems, we have been performing energy audits of various types since our inception and are highly qualified to perform the ASHRAE Level I and II Energy Audits of all the Districts 7 facilities, under the proposition 39 guidelines. Our goal for your facilities will be to provide the energy conservations measures (ECM's) that will provide the most sustainable, energy efficient, relevant, coordinated, fully commissioned, and cost effective facility projects for the district's facilities.

Our team has performed inspections and developed documents including energy audits to report on a building's efficiency, reliability and the conditions of its systems; followed by providing recommendations for improvement and payback, which will be of great value to the district identifying their energy implementation projects.

Since our inception, our business has had a focus on providing services to education facilities; the Firm's first customer, in 1975, was a K-12 school district. Since that time, the firm has worked for over 30 K-12 school districts. This deep rooted history in the educational environment provides a practical working knowledge and resource base to serve all of the district's needs.

Today, we continue to build on our reputation of quality designs and dedicated work to bring about great relationships for successful new building and existing infrastructure design projects.

As a current member of the UC Green Building Council, a significant portion of Salas O'Brien's engineering staff is LEED Accredited. We are well positioned to provide our clients the team necessary to fulfill the services that may be required.

Salas O'Brien is a unique firm, with unique human resources, a unique niche and unique experience because of our focus on existing buildings and utilities. Our energy audits, assessments, and feasibility study experience has been garnered and applied over a 38 year history; across a plethora of educational campuses, institutions, public facilities and buildings.

Salas O'Brien's biggest strength comes from first-hand observation of similar systems and our direct responsibility for budgets and performance targets when working on project such as this. Our team has learned that all successful energy projects contain the multiple elements of: systems integration, equipment age/condition/efficiency, control, maintenance, energy, comfort, performance, and behavior. Our mature wisdom and understanding of facility infrastructure opportunities coupled with our overall knowledge of mechanical, electrical, plumbing systems will allow us to provide accurate facility and site assessments to Kelseyville unified school district. Our team is extremely well versed in ASHRAE Level Audits, the CEC's "proposition 39: CA clean Energy Jobs Act, Title 24, Green Building Standards, Energy Star, LEED, and the "Clean Energy" components that will be required serve as an energy advisor to the district.

Salas O'Brien provides planning and engineering services to support Proposition 39 efforts for our clients. In particular, we excel at providing the following:

- Project planning – determining the most energy efficient and cost effective projects available for campuses to take advantage of Proposition 39 funding including scheduling, funding considerations, and necessary documentation for the utility companies. We take the time and opportunity to determine where opportunities by implementing the following measures:

    - Benchmarking of Campus Facilities
    - Performing Energy Audits and Surveys
    - Prioritizing the needs of Campus Facilities (including Preventative Maintenance)
    - Ensure compliance with CPUC Loading Order
    - Cost Effectiveness Analysis
    - Project Prioritization Based on Impact to Energy and Job Creation
    - Develop Project Prioritization List for funding
    - Develop Projects to align with and support Proposition 39 Application(s)

- In addition to general compliance with the requirements by the CEC, we accomplish our high level of service by providing the following focuses to assist with the validation and accuracy of our recommendations:

    - Review and confirmation of campus as-built documents utilized to determine energy savings.
    - Project implementation – Provide review of utility estimates for savings and collaboratively work to refine final numbers to best serve the school/campus. We also provide alignment of energy savings calculations with real, on-site equipment operation to refine and sharpen final energy savings estimates to ensure the most accurate project implementation. In addition, based on our staff input, we're able to coordinate project efforts with potential on-going projects to ensure funding and campus efforts are aligned.
    - Project design and completion – with short timetables to implement Proposition 39 projects, we have determined bid calendars, equipment delivery schedules, and construction schedules that can be implemented and managed. In addition, where possible, we've provided add alternates for project work with unit costs to allow clients to easily take advantage of good pricing and/or accurately document work that will not be completed as part of projects but can be moved to future phases of funding.
    - Provide review of utility estimates for savings and collaboratively work to refine final numbers to best serve the school/campus.
    - Determine parameters for monitoring-based and retro-commissioning (MBCx and RCx) and potential projects associated with these programs to take advantage of Prop 39 funding.
    - Provide Self-Generation solutions to qualify for the Self Generation Incentive Program. By reviewing campus energy data for the past 24 months and taking into account the campus master plan and current construction/campus expansion, we can make recommendations (and provide design) for projects in this category including (but not limited to) Cogeneration, Photovoltaic, Fuel Cell, Ground Source Heat Pumps, Wind, Solar-Thermal, and others. This effort also considers advantageous utility rates where possible (and aligned with overall project costs) for client consideration.
    - Savings By Design can be utilized for new projects. Where appropriate, we can make recommendations of measures to utilize as part of design for new construction projects.

We have strong relationships with the **Division of State Architect** (DSA) in all major areas of review. Our approach includes preliminary design meetings with DSA to ensure the project scope and use of either over the counter, small project or standard reviews are best applied. In addition, our record of getting DSA approval for projects has allowed us to develop relationships with the key staff at DSA that provides practical and reasonable interpretations of the requirements needed and has afforded us great success in our DSA approval process.

Completion of Contract Documents for DSA Plan Check:

At the earliest possible opportunity, we submit our required Drawings, Specifications, Fees and Forms to DSA for their review. Normally, the DSA initial review process can take anywhere from 2 to 3 months depending on their backlog. Upon the acceptance of our submittal, we receive our application number and then, using Tracker (DSA's on-line program), we are able to check the progress of the DSA review process. Another factor is that typically, Districts want to have OPSC funded projects ready for construction beginning when school is out for the summer. This optimum date is the milestone from which our design schedule is set and our schedule works back from this critical milestone. While DSA is reviewing, we undertake a thorough final check of the documents for another QC opportunity.

Receipt of DSA Plan Comments/DSA Approval:

Upon receipt of any one of the three types of plan check comments (Access, Structural and Fire Life Safety) we will make appointments for backcheck and begin picking up any comments made by these three aspects of DSA. Normally, a one to two week time allotment is required for this Task. Upon completion of the comments and coinciding with our appointments with the Plan checkers, our licensed Architect and/or Engineers take in corrected drawings and/or specifications committed to receiving approval on the same day. Salas O'Brien Engineers, Inc. familiarity with DSA requirements extensive prior experience on school projects help to obviate most DSA comments and, because of this, we are able to receive approval on the same day as the backcheck session. Any outstanding DSA concerns are usually resolved by supporting and resolving code related design issues with extensive familiarity by citing CBC code sections.

DSA Approved Drawings:

Upon approval, DSA approved drawings are sent to DSA and a CD-ROM is prepared meeting OPSC requirements for submission along with the required CDE approval. Usually, CDE approval follows after several weeks with SFPD Form 4.09 at which time we arrange to submit all required forms and documents to OPSC to complete the funding process as part of SAB 50-04. We are also able to assist the District in completing such other OPSC forms as required (e.g. SAB 515).

Projects that can be handled as small project or over the counter are discussed early in the process to expedite the scheduling and review time. The next pages of this section show the various project experiences we have completed as well as contact information.

All changes made during construction are to be kept current with related documentation and approvals with DSA, ensuring the final closeout and certification pose no hang ups.

Our approach to your district wide energy audit is based on 38 years of successful energy audit development, strategic energy planning, and energy project implementation. Salas O'Brien has dedicated itself to being fully responsible for all aspects of energy engineering. The company took on this philosophy because the firm principals believe that this is the only way that *successful* energy projects can be identified and implemented. We define "successful" as truly cost effective projects that provide persistent savings and do not increase maintenance. For this reason, the firm's approach is defined by a process where:

- Our experienced and practical team considers potential energy efficiency
- Identified energy or renewable projects are formulated as a part of an integrated matrix of constructability, equipment integration, and real systems sustainability over the life cycle of the project.

Therefore, energy efficiency in the 21st century must be an integral part of an effectively modernized area, system or component.

Because of this, we approach each Energy Audit, from the standpoint that it will be built and it will be operating 20 years from now. Therefore, the ultimate ECM/EEM[1] or renewable project must be effective and fully integrated into the building system(s).

Effective Energy Efficiency and Renewable Project Identification demands that each and every ECM/EEM provide reliable, high integrity performance from the day it is fully commissioned and for the next 20 to 30 years. This obvious expectation is not easily achieved.

Effective energy efficiency can only be accomplished with a detailed site evaluation (which includes a review of historical and current utility data and benchmarking), quality control and constant communication among engineering disciplines, the District's project manager(s) and affected Staff and Student Users.

Integrated Energy Efficiency demands that financial tradeoffs (between equipment quality and cost) and technical tradeoffs (between various disciplines or between equipment manufacturers or system types) are clearly documented within the context of:

- Sustainable (persistent) Performance
- Integrated control
- Reliability
- Maintenance and operations
- Flexibility

Salas O'Brien's availability your project team is ready to start your project immediately and is accustomed to working with district's such as yours and it is our goal to understand and meet your timeline. At Salas O'Brien, we are very adept to workload changes, we hold weekly staff meeting which allow the company to adjust and reallocate resources as necessary in order to meet the schedules and commitments for all active projects. Because of the diversity of our staff our ability to adapt and the 'can do' attitude; our project history reflects projects that are completed on time and within budget. Our team's ability to meet schedules and work on tight timelines is reflected in our referrals and repeat clients.

The Salas O'Brien's project management plan is based on a site-by-site audit, including an analysis of electricity, gas and (possibly) water demands, operations and maintenance procedures, and current policies for energy management.

Our experience is the combination of energy analysis; while matching the quality of energy usage to each end-use, can dramatically change the economics of the facilities operations, and their energy supply system.

[1] Energy Conservation Measure or Energy Efficiency Measure.

With an intensive kick-off meeting, the project manager defines field team needs relative to inventory, physical inspections, targeted data collection, renewables (and self-generation) considerations, follow up interviews and systems analysis. Most importantly, the project executive develops an initial sense of the required equipment inventory and conditions assessment.

This leads to the hands-on fieldwork portion of the audit. The operating condition, condition/quality, type and kind of equipment (of each energy using systems) is inventoried and inspected in order to understand and document the energy using patterns, noting the shortcomings, conditions, upgrades and repairs that exist or may be required.

An integrated plan is a long-term undertaking, based on the principle of continuous improvement rather than trying to immediately define a set path or end-point. Given the possible budget for the resultant Energy projects, we believe that the District's staff and faculty can be instrumental in defining *their* integrated vision, such that each building audited will end up with a personalized, site specific "green solution" and "green vision." Demonstrating significant progress at the facility allows us to create excitement and enthusiasm for "green" energy work across all of the District's multi-site infrastructures.

Today, our team of over 160 professionals includes over 45 registered engineers and architects are here to support the District's needs when it comes to energy, renovations, expansions, and modifications to buildings as well as facility infrastructure. We have put together a highly qualified team for your project that are well positioned to provide the Colusa Unified School District with the best energy services possible, below you will find an organizational chart detailing the specific team members.

Salas O'Brien's Availability - Your Project Team is ready to start your project immediately and is accustomed to working with district's such as yours and it is our goal to understand and meet your timeline. At Salas O'Brien, we are very adept to workload changes, we hold weekly staff meeting which allow the company to adjust and reallocate resources as necessary in order to meet the schedules and commitments for all active projects. Because of the diversity of our staff our ability to adapt and the 'can do' attitude; our project history reflects projects that are completed on time and within budget. Our team's ability to meet schedules and work on tight timelines is reflected in our referrals and repeat clients.

Salas O'Brien has put together a highly qualified team in order to meet all needs for Colusa Unified School District The Project Manager on the team will be John Salas. Mr. Salas has a vast knowledge of campus's sucha as this and has been working on project such as this for the last 15 years. He is a great relationship manager and will be your direct point of contact for the duration of this project. We anticipate that the Mr. Salas (Project Manager) will devote 50% of his time to this planning effort for the first month of the project and about 25% of his time thereafter until completion. Carl Salas w oversee the project which will allow maximum coordination in the project working environment and will be able to coordinate the many issues, trades, and needs required for a successful Energy Audit.

Project Engineers assigned to this project will have additional resources to assist them in carrying out the survey and analysis of respective components. Salas O'Brien does not anticipates using subconsultants for this project; but our Firm has access to numerous reputable subconsultants, and can hire based on the needs and desires of the SFSU team and the projects at hand.

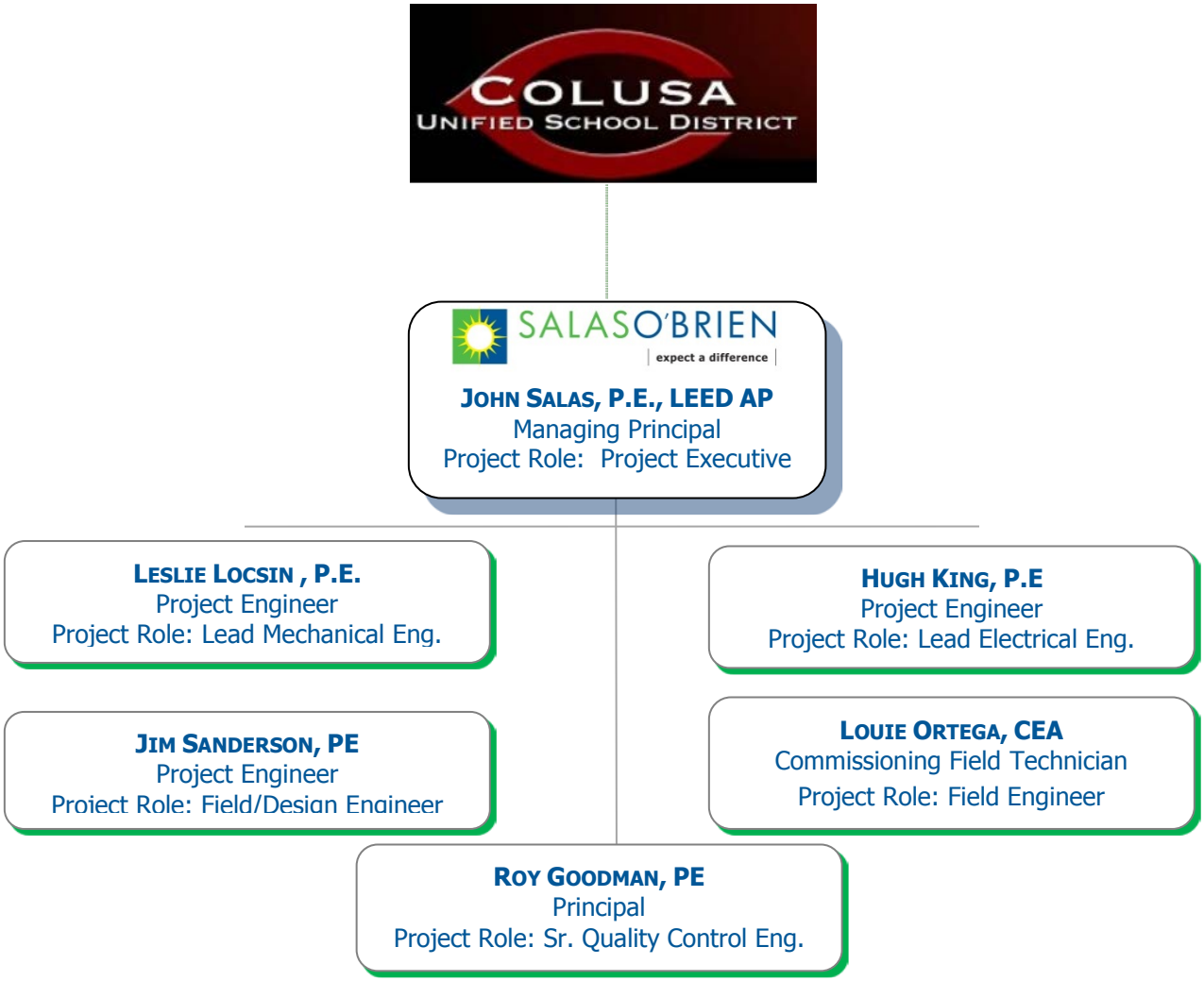
The Salas O'Brien's Project Management Plan is based on a site-by-site audit, including an analysis of electricity, gas and (possibly) water demands, operations and maintenance procedures, and current policies for energy management.

Our experience is the combination of energy analysis; while matching the quality of energy usage to each end-use, can dramatically change the economics of the facilities operations, and their energy supply system.

With an intensive kick-off meeting, the project manager defines field team needs relative to inventory, physical inspections, targeted data collection, renewables (and self-generation) considerations, follow up interviews and systems analysis. Most importantly, the project executive develops an initial sense of the required equipment inventory and conditions assessment.

This leads to the hands-on fieldwork portion of the audit. The operating condition, condition/quality, type and kind of equipment (of each energy using systems) is inventoried and inspected in order to understand and document the energy using patterns, noting the shortcomings, conditions, upgrades and repairs that exist or may be required.

An integrated plan is a long-term undertaking, based on the principle of continuous improvement rather than trying to immediately define a set path or end-point. Given the possible budget for the resultant Energy projects, we believe that the District's staff and faculty can be instrumental in defining *their* integrated vision, such that each building audited will end up with a personalized, site specific "green solution" and "green vision." Demonstrating significant progress at the facility allows us to create excitement and enthusiasm for "green" energy work across all of the District's multi-site infrastructures.



Individual Team Resumes follow this page.

JOHN SALAS | PE, CEM, LEED AP, CBCP

MANAGING PRINCIPAL

EDUCATION:

Bachelor of Science, Mechanical Engineering, San Jose State University

REGISTRATIONS:

California Mechanical Engineer #M02055

LEED Accredited Professional

Certified Energy Manager (CEM)

Green Building Engineer (GBE)

Certified Building Commissioning Professional

(CBCP)

PROFESSIONAL BIOGRAPHY

Mr. Salas is a Managing Principal with the firm. He has experience with project management, construction management, mechanical, controls and plumbing design of systems for educational, commercial, institutional, industrial and public sector projects for well over 30 years. John has designed central plants, building HVAC systems and control systems. John has managed multi-million dollar projects both new construction and modernization projects from the study phase through design and construction. He is one of the firm's lead sustainability and energy experts; he has extensive commissioning, LEED certification, Energy Star and measurement and verification of energy management systems and will be a great asset to the team.

John has instructed controls classes for the Association of Energy Engineers for last 10 years and has practiced as an expert witness in numerous litigation cases for construction defects.

REPRESENTATIVE PROJECTS

California State University Monterey Bay
Combined Heat/Power Plant Infrastructure & Utilities Design, Monterey, CA
Foothill DeAnza Community College District
Foothill College Utilities Infrastructure Design, Los Altos, CA
DeAnza LEED PEER Review & HVAC Replacement, Cupertino, CA
DeAnza Photovoltaic System at Kirsch Center, Cupertino, CA
University of California Santa Cruz
Heating System Infrastructure Study, Santa Cruz, CA
Solar Thermal Design at OPERS Bldg., Santa Cruz, CA
East Field House Boiler Replacement, Santa Cruz, CA
University of California San Francisco – Medical Center
Utilities & Energy Engineering Consulting Services, San Francisco CA
University of California San Francisco
Energy Engineer & Consultant
Duct Repair & PUP OSP Repair; Mission Bay Pipe Remediation, San Francisco CA
Stanford University
Energy & Sustainability Projects for Cantor Art Center & Green West Library, Stanford CA
Santa Clara Valley Medical Center
Central Plant, Utilities Infrastructure, San Jose, CA
San Jose State University
Central Plant Utilities & Telecommunications Upgrade, San Jose, CA
Humboldt State University
Cogeneration System PEER Review, Arcata, CA
San Francisco State University
Various HVAC Upgrades/Cogeneration Studies & Schematic Design, San Francisco, CA
San Jose City College
Library & Learning Resource Center, San Jose, CA
San Jose/Evergreen Valley Community College District
Campus Hydronic Heating/Cooling Loop Upgrades, San Jose, CA
General Electric – Vallecitos
Various HVAC Upgrades including ice storage systems, Pleasanton, CA

LESLIE LOCSIN | PE, CEPE, LEED AP

SENIOR MECHANICAL ENGINEER

EDUCATION:
Bachelor of Science
Mechanical Engineering
San Jose State University

REGISTRATIONS:
California Mechanical Engineer
#M34628

PROFESSIONAL AFFILIATIONS:
Active member of American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE)

PROFESSIONAL BIOGRAPHY

Leslie Locsin provides an analyze specifications, including sketches, blueprints, equipment schedules, layouts, and calculates costs using labor and material pricing schedules and historical data. He collects cost data from representatives, subcontractors, and vendors. He also provides design and analysis of and recommendations on sustainability plans, energy audits, infrastructure systems, heating ventilating and air conditioning systems, plumbing systems, cogeneration systems and energy code compliance. He is familiar with controls and has taken various classes in controls. He has experiences from central plant design to HVAC upgrades and also fully commissioned project upon completion for all equipment and energy management system installed for a complete operable system.

REPRESENTATIVE PROJECTS

Foothill De Anza Community College District
- Science Center Pre-Forensic, Cupertino, CA
- S2 & S6 Plant Consolidation, Cupertino, CA

AT&T
- 6245 Dial Way, Install Dolphin System, San Jose, CA
- 6150 3rd Street, Chiller Replacement, San Francisco, CA
- 15125 Hesperian St., Air Handler Replacement, San Leandro, CA
- 4073 Adams Ave., Improve Air Circulation, Fremont, CA
- 611 Folsom, Computer Room AC Replacement, San Francisco, CA

East Side Union High School District
Building 500 and 300 HVAC Replacement, San Jose, CA
Evergreen Valley Community College
Central Plant Upgrades Phase III, San Jose, CA
San Jose City Community College
Utilities Infrastructure Phase IV-B, San Jose, CA
California Polytechnic State University
Central Plant/Utilidor Upgrade, San Luis Obispo, CA
California State University Monterey Bay
Building 74 Redesign, Seaside, CA
Silicon Valley Collocation
Data Center Expansion Phase II, Santa Clara, CA
Bio Mass Institute
Jemez Pueblo Heating System Retrofit, Jemez Pueblo, NM
City of Palo Alto
CARE 229 High St., Palo Alto, CA
City of Mountain View
Chiller Replacement, Mountain View, CA
Santa Clara Valley Health and Hospital System
Absorption Chiller, San Jose, CA
GE Vallicitos
Building 102 HVAC Replacement, Sunol, CA

HUGH KING | PE

PROJECT ENGINEER

PROFESSIONAL BIOGRAPHY

Mr. King is a Project Manager at Salas O'Brien. He has over 5 years of experience in the field of Electrical engineering; producing, estimating and implementing of electrical infrastructure. He has supervised engineering and drafting consultants and joint venture design teams. He has also been responsible for budget and schedule of multi-million dollar projects employee relations, and resolution of construction disputes and estimation of project construction costs. He is also experienced in site surveys, procedure development, existing and new building design and renewable energy design and grid interconnection.

EDUCATION:

Bachelor of Science
Electrical Computer Engineering
Lafayette College
Easton, PA

Photovoltaic System Design
High Sun Engineering
San Francisco, CA

REGISTRATIONS:

California Electrical Engineer
#E 20539
Exp: 12/31/13

PROFESSIONAL AFFILIATIONS:

Institute
of Electrical and Electronics
Engineers (IEEE)

REPRESENTATIVE PROJECTS

San Jose Evergreen Community College District
Evergreen Valley College—Utilities infrastructure & central plant, San Jose, CA

Foothill De Anza Community College District
De Anza Community College Site Lighting Master Plan—Complete campus design to meet standards to pathway lighting design includes: Photometric study for Metal Halide fixtures, power & control wiring & demolition of existing lighting. Phasing of campus areas for initial construction project of $1.5million, coordination with multiple concurring projects around campus, Cupertino, CA

Fremont Union High School District
Sports Field Complex Design— Electrical power & signal infrastructure design for five high schools. Design includes: PG&E service upgrades, cell tower coordination, sports field stadium lighting, phone & internet connectivity & DSA permitting, Sunnyvale, CA

Orchard School District
240 kW PV System Design— Design of 240 kW, grid connected PV System mounted on new parking canopy. Design also included lighting for below canopy, San Jose, CA

Oakland Unified School District
Campus Modernization & New Building Construction - Provided engineering support during modernization of entire campus' power, lighting, data, fire alarm & security systems. Provided engineering support during the construction of a new 2-story elementary building, Oakland, CA

San Francisco State University
Steam System Removal—Existing building design to replace steam system with electrical steam generators. San Francisco, CA

Santa Clara Valley Health & Hospital System
840 kW Photovoltaic System, San Jose, CA

Poway Unified School District
Multi-Campus 694 kW Photovoltaic System, Poway, CA

Palo Alto Medical Foundation
Wind Turbine Install—Project Engineer for design of a grid interconnected wind turbine located on the roof of the building. Design included: interconnection with City of Palo Alto utility and remote monitoring capabilities for the client.

JAMES SANDERSON | PE

PROJECT ENGINEER

Mr. Sanderson is a mechanical engineer who designs and analyzes HVAC controls, measurement & monitoring equipment, building automation systems and hydronic & hydraulic systems. The focus of his work is on the design of lowest lifecycle cost systems that generate the least amount of greenhouse gases. From his experience with studies, energy audits, as well as the design of mechanical systems for both new construction and modernization projects, he has gained an in-depth understanding of the practical application of energy conservation measures and sustainability in design. He is a consultant engineer for PG&E and focuses on reducing power use and greenhouse gases by increasing the efficiency of cooling equipment through retrofits that improve the airflow.

EDUCATION:

Bachelor of Science, Mechanical Engineering, San Jose State University

REGISTRATIONS:

California Mechanical Engineer M36498

REPRESENTATIVE PROJECTS

County of Santa Clara

West Hedding HVAC Improvements—Designing the replacement of air handling equipment and the addition of an air cooled chiller. Conducted field work, sized HVAC system, wrote sequence of operation & points list for controlling the HVAC system, & created construction drawings. San Jose, CA

Foothill De Anza Community College District

- MBCx Student Services B8400 for De Anza College—Providing Monitoring Based Commissioning services for the De Anza Student Services Building and Foothill Building B8400. Conducted field work, selected meters to monitor the electricity, Chilled Water, and Heating Hot Water, created working drawings for the installation of metering equipment, designed a web based monitoring system to access metered data with a web browser at any off site location. Cupertino, CA
- Utilities Infrastructure Design for De Anza College—Upgrading the central plants and utility infrastructure to meet future heating and cooling demands. Conducted field work, sized valves and pipes, wrote Sequence of Operation and points list for controlling the chillers, cooling towers, boilers, and valves, selected meters for monitoring the central plants' electricity, Chilled Water, and Heating Hot Water, and designed a web based monitoring system to access metered data with a web browser at any off site location. Cupertino, CA

California State University Cal Poly

Central Plant Design—Upgrading the central plants and utility infrastructure to meet future heating and cooling demands. Analyzed the Heating Hot Water system and wrote a summary report documenting the findings. San Luis Obispo, CA

Stanford University

Bing Wing—Upgrading the HVAC equipment and controls to better control the temperature and humidity. Conducted field work, sized system, selected equipment, wrote Sequence of Operation and points list to control the VFD's, dampers, VAV boxes, and humidifiers. Stanford, CA

California State University Cal Poly

Central Plant Design—Upgrading the central plants and utility infrastructure to meet future heating and cooling demands. Analyzed the Heating Hot Water system & provided summary report. San Luis Obispo, CA

Stanford University Medical Center

Steam to HHW Conversion—Provided complete building survey of steam vs.

heating hot water services. Evaluate options for providing steam to the sterilizers and auto-claves and any existing equipment on steam. Evaluate options for providing heating hot water. Provide rated enclosure (room) for boiler, with provisions for flue, combustion air, and exhaust. Evaluate gas loads. Cost/Benefit Analysis for options, including energy savings, incentives, and maintenance related issues. Stanford, CA

LOUIE ORTEGA | CEA

COMMISSIONING FIELD TECHNICIAN

PROFESSIONAL BIOGRAPHY

Mr. Ortega is a Project Engineer at Salas O'Brien. He has over 25 years of experience in the field of mechanical engineering; producing, estimating and implementing HVAC, fire protection, process piping, specialty gas system, commercial plumbing, and mechanical (machine) designs. He has supervised engineering and drafting consultants and joint venture design teams. He has also been responsible for budget and scheduling of multi-million dollar projects, negotiation of contracts, employee relations, and resolution of construction disputes and estimation of project construction costs. He is also experienced in safety engineering which includes site surveys, procedure development, accident investigation and reconstruction. Louie has also been a member of a team of engineers that have been very instrumental in the installation, final inspection and operation verification of various energy conservation projects installed in portable buildings in various School District sites in the Northern California. He has been deeply involved in reviewing numerous PG&E incentive applications that are submitted to various PG&E incentive programs. As a part of this process he has performed hundreds of assessment testing to evaluate the energy use of the emerging technology equipment to quantify the performance and savings claims.

EDUCATION:

Bachelors of Science
Mechanical Engineering
San Jose State University

REGISTRATIONS:

State of California
Certified Energy Auditor

PROFESSIONAL AFFILIATIONS:

Member of Latino Engineers and Scientist

President of Sierra Chapter of ASHRAE

REPRESENTATIVE PROJECTS

Foothill De Anza Community College District
- Foothill College Administration Remodel, Los Altos CA
- De Anza College Forum Renovation, Cupertino, CA

Santa Clara Valley Health & Hospital Systems
Chiller Upgrade, San Jose, CA

San Jose State University
- Aquatic and Event Center Assessment, San Jose, CA
- Central Plant Utilities & Telecommunications Upgrade, San Jose, CA

Milpitas Unified School District
Various HVAC Upgrades, Milpitas, CA

Gilroy Unified School District
Various School Modernizations, Gilroy CA

San Jose Evergreen Community College District
- Evergreen Valley College EMS Commissioning, San Jose, CA
- Evergreen Valley College Central Plant Upgrades Phase I & II, San Jose, CA
- Evergreen Valley College Boiler Replacement, San Jose, CA
- San Jose City College Central Plant Upgrades Phase I, II, & III, San Jose, CA

General Electric
Various HVAC Upgrades, San Jose, CA

Palo Alto Unified School District
Chiller Replacement & EMS Services, Palo Alto, CA

City of Palo Alto
Various CARE Audits & Projects, Palo Alto, CA

ROY GOODMAN | PE

PRINCIPAL & SENIOR MECHANICAL QUALITY CONTROL ENGINEER

EDUCATION:

Bachelor of Science
Mechanical Engineering
San Jose State University

REGISTRATIONS:

California Mechanical Engineer #M21313

PROFESSIONAL AFFILIATIONS:

Member of National Chapters of ASHRAE, ASME, & AEE

PROFESSIONAL BIOGRAPHY

Mr. Goodman is a Principal with the firm. His experience with project management, construction management, mechanical, controls, and hydronic design of systems for commercial, institutional, residential, industrial, educational and public sector projects spans over 28 years. His understanding of central utility plants, cogeneration systems and steam and chilled water distribution systems in a campus environment is excellent. His underground infrastructure experience keeps the balanced approach to know that running a set of pipes underground in an active campus requires good field work, design and phasing. Roy has designed central plants, building HVAC systems, boiler systems, chiller systems, and control systems, as well as major campus infrastructure expansions/replacements. Roy has acted as lead project manager for entire renovation/modernization projects from the study phase through design and construction.

REPRESENTATIVE PROJECTS

Foothill De Anza Community College District

- Foothill College – LEED PEER Review & HVAC Replacement, Los Altos, CA
- De Anza College – Interconnection of HHW/CHW plants S2 & S6 with remote condenser water plant (phase I complete, Phase II pending – CW plant); forensic review of Science building, Cupertino, CA
- De Anza College Science Center--Provided remediation design & construction administration services submitted to DSA, a "repair & remediation set" of plans & specifications with work estimated at $1.5million. Roy's role included technical assistance to compete the retrofit. Cupertino, CA

San Jose Evergreen Community College District

- San Jose City College –CHW & HHW infrastructure expansion to Applied Sciences; MDF relocation including a jack & bore segment under the General Education building; CHW & HHW infrastructure & Central Plant expansion to majority of campus & new Math/Science building; Central Plant Design & Construction Library & Learning Resource Center, San Jose, CA
- Campus Hydronic Heating/Cooling Loop Upgrades, San Jose, CA

San Jose State University

- 18,000 ton hour ice storage system & CHW/Steam infrastructure expansion to new Housing Village (2500 beds), San Jose, CA
- Central Plant Utilities & Telecommunications Upgrade, San Jose, CA

California State University Monterey Bay

- Combined Heat/Power Plant Feasibility Study, Seaside, CA
- Central Heat & Power Plant with infrastructure for campus (1 MW cogen) since re-designed without cogen. Sports complex with campus wide sanitary sewer upgrades, Seaside, CA

Humboldt State University

- Cogeneration System PEER Review, Arcata, CA

University of California Santa Cruz

- Heating system infrastructure study, Santa Cruz, CA
- Campus Plant & Distribution Improvements, Santa Cruz, CA

San Francisco State University

- Cogeneration Feasibility/Design, San Francisco, CA

California State University Los Angeles

- Central Plant MBCx Program--Initial review of all existing metering, controls, controls interface, & sequences of operation. This work involved site inspection & testing, review of documentation, remote access of the EMS, & meetings with vendors. Roy's role included site field work & cost estimates in particular. Los Angeles, CA

California State University Cal Poly

- Design Central Plant / Utilidor Upgrade--Provided design for the Central Plant / Utilidor project which included, completing chilled water piping in the Utilidor system, adding a

chilled water spur through the center of campus, adding a single 1,350 ton chiller to the central plant & then finally, adding a 19,000 ton/hr water based Thermal Energy storage system that will leverage chiller capacity. Roy's role included the oversight of the chilled & heating hot water distribution system modeling & subsequent design of piping system expansions, including profiles & specification for direct buried piping systems, San Luis Obispo, CA

Santa Clara Valley Medical Center

- Central Plant, Utilities Infrastructure; Central Plant was a new building extension with full MEP, & addition of a 1250 ton absorption chiller, San Jose, CA

Community Hospital of Monterey Peninsula

- Utility Extension, Monterey, CA

City of San Jose, Redevelopment Agency

- Boiler Replacement study & design, San Jose, CA

City of San Jose Civic Auditorium

- Boiler Replacement--This project began as a study then went into design & construction administration of the design of Boiler Replacement at the Civic Auditorium. Roy's role included complete design & specification for the (2) new cast iron sectional boilers to replace the original 1936 Birchfield fire tube low pressure steam boilers. Work included the replacement of the vacuum condensate return/boiler feed unit, & upgrades to the boiler room to meet current code, including combustion air fans & a second means of egress. A new flue system was also designed & specified as part of the upgrade, San Jose, CA

Harvey's Casino

- 7th Floor Remodel, Stateline, NV

Over the past 38 plus years, we have worked with a multitude of K-12 Districts throughout California and have long standing working relationships with many of those to this day. This deep rooted history in the educational environment provides a practical working knowledge and resource base to serve all of the district's needs. We also have extensive experience working with proposition 39. We are currently working on 4 Proposition 39 projects for foothill DeAnza Community College District as noted below:

RELEVANT PROJECTS IN-PROGRESS (IP) AND RELEVANT PROJECTS COMPLETED (C)

IP	C	K-12 SCHOOL DISTRICTS
		Palm Springs Unified School District:
☐	☒	*Energy Program Consultant*
☐	☒	*Telephony Review*
☐	☒	*ECM Renewable Design*
☐	☒	*Solar RFP Oversight*
		Placentia-Yorba Linda Unified School District
☐	☒	*PYLUSD Education Services Center Upgrades*
		Middletown Unified School District
☐	☒	*Solar Project Evaluation*
		Long Beach Unified School District:
☐	☒	*Run Co-Generation Units at Millikan and Lakewood High Schools Prior to Equipment Auction*
IP	**C**	**COUNTIES/CITIES**
		County of San Bernardino
☒	☐	*Peer Review and Pre-Forensics for the Adelanto Detention Center*
☒	☐	*Comfort & Energy Assessment of the Central Government Center*
☒	☐	*WVDC Backup Generators Replacement*
☒	☐	*WVDC TES Report and Construction*
☐	☒	*West Valley Detention Center Backup Generator Design*
☐	☒	*Lighting Study at the Glen Helen Rehabilitation Center*
☐	☒	*Boiler Evaluation and Air Quality Upgrade - WVDC*
☐	☒	*Government Center boiler change-out AQMD Coordination*
☐	☒	*WVDC Feedwater System Upgrade*
☐	☒	*CDC Energy Audit*
		City of Fontana
☒	☐	*On-Call Design Consulting Services*
		City of Hope
☒	☐	*130532 - Renovation Outpatient Imaging Center at City of Hope*
		130183 - Energy Conservation Pilot Project
		130424 - PYLUSD Education Services Center Upgrades
		130384 - City of Hope Door Replacement Project
		County of Orange
☒	☐	*On-Call MEP Design Support Services*
☒	☐	*Replace/rebuild: 8 Joy fans at 320 N. Flower Street*
☒	☐	*Renovation Outpatient Imaging Center at City of Hope*
IP	**C**	**CURRENT PROP39 PROJECTS**
		Foothill DeAnza Community College District
☒	☐	*DeAnza College Pool Boiler Replacement*
☒	☐	*DeAnza College Science Chiller Replacement*
☒	☐	*DeAnza College ATC Boiler Replacement*
☐	☐	*DeAnza College Site Lighting Replacement*

IP	C	HIGHER EDUCATION
		Riverside Community College District:
☒	☐	*Norco College Fuel Cell Installation*
		North Orange County Community College District:
☒	☐	*Cypress College – Business 3rd Floor IDF Expansion*
☐	☒	*Fullerton College – 3rd Party Review of Chilled Water Distribution Center*
☐	☒	*Cypress College – 3rd Party Review of Central Plant & Cogeneration System*
☐	☒	*Fullerton College Chilled Water Distribution System*
☐	☒	*Fullerton College Central Plant*
☐	☒	*Cypress College Central Plant*
☐	☒	*Cypress Re-Commissioning*
		University of Southern California
☒	☐	*USC VHE 419 MEP Design*
☒	☐	*USC RTH 416 Renovation Project*
☒	☐	*NEW USC ITS UPGRADE PROJECT*
☐	☒	*USC VHE 420 & 422 Re-purpose*
☐	☒	*USC SGM 915 HVAC Unit*
		CSU, Los Angeles:
☐	☒	*Boiler Replacement Project*
☐	☒	*Utility Sustainability Plan*
☐	☒	*Utility Charge-Back Rate Model/Overhead Rate Validation*
☐	☒	*Energy Efficiency Services*
☐	☒	*Pre-schematic Design Luckman Chilled Water*
☐	☒	*Chilled Water Flow Meter Installation*
☐	☒	*Administration/Student Affairs Center HVAC Improvements*
☐	☒	*Central Plant MBCx*
☐	☒	*Data Center*
☒	☐	*Fine Arts AHU Design*
☒	☐	*CSULA Boiler Replacement Project*
☒	☐	*Design Services for the Fine Arts Center AHU*
☒	☐	*La Kretz Hall Fume Hood Project*
☒	☐	*Library Data Room Chilled Water Design*
☒	☐	*Public Safety Server Room Study*
☒	☐	*Plan and Options for Campus Wide Boiler*
		Long Beach State University:
☐	☒	*Cogeneration Feasibility Studies (preliminary and advanced)*
		San Diego State University:
☐	☒	*Developed and Executed a Procurement Document and Developed Process for Soliciting Natural Gas Supplies to Serve the Campus's Cogeneration system*
☐	☒	*Evaluation of Solar Impact on Cogeneration System*
☐	☒	*Greenhouse Gas Baseline & Reporting*
☐	☒	*Impact of Performance Contract on Campus Cogen*

DISCIPLINES

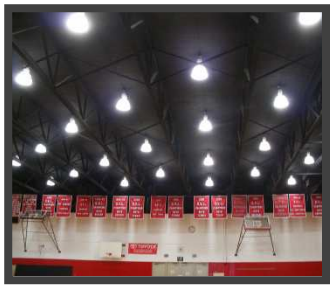
Energy,
Design,
Financial & Contractual Support,
Emissions Analysis

PROJECT COMPLETION DATE

2010

FEES

Construction $3.1M



PALM SPRINGS UNIFIED SCHOOL DISTRICT

DISTRICT WIDE ENERGY AND GHG REDUCTION PROGRAM: CLEAN ENERGY & RENEWABLES

PROJECT DESCRIPTION

Phase I Palm Springs Unified School district comprises of 27 schools (K-12) as well as continuing education centers, administrative facilities and a maintenance & operations center. All facilities were evaluated to determine potential energy efficiency projects, changes in facility operations, and feasibility in implementing renewable projects in a three step process. The first step involved project identification, rough order of magnitude cost estimates, and payback analysis. Salas O'Brien was able to identify numerous incentive programs and alternate funding sources and identified more than three hundred feasible projects. Taking the first series of recommended projects would require a total expenditure of $4.2 million for a yearly payback of more than $700k per year (no escalation included). As part of this work, site investigations were performed, key personnel were interviewed, and a detailed analysis of energy usage at each facility was generated for a four year period. Key findings included:

- Numerous lighting projects (much of the District still has T-12 lighting).
- Phased replacement of existing HVAC systems with high efficiency systems. This to be done in conjunction with their current maintenance program (replace rather than repair).
- Extending existing energy management systems.
- Economical energy upgrades to portable classrooms.
- Architectural changes to certain semi-permanent buildings.
- Closer control over after hour's use of facilities.
- Programs to encourage better participation from everyone in the District (from the students to the Board of Directors).
- Pilot solar projects.
- Wind projects at two sites.

Phase II included selection of projects to go out for bid along with detailed site investigation, project design, estimates, and payback analysis. Salas O'Brien researched and deigned renewable energy systems for the district. This included both wind and solar designs.

Phase III included developing and completing a $16million grant application and providing 3rd party support of a separate, Power Purchase Agreement to install on the order of $40million in solar PV, throughout the District in order to provide approximately 80% of "grid neutral" production over 20 years. This included emissions analysis, contract review, solar analysis, financial analysis and solar (PV) massing and concept design.

DISCIPLINES

Energy

PROJECT COMPLETION DATE

2012

Contact Information
Scott Gould
Senior Energy Engineer
Stanford University
327 Bonair Siding,
Stanford, CA
650-725-71818

STANFORD UNIVERSITY, STANFORD, CALIFORNIA

ENERGY & SUSTAINABILITY PROJECTS FOR THE CANTOR ART CENTER AND GREEN WEST LIBRARY

PROJECT DESCRIPTION

Salas O'Brien has provided energy engineering services on two historic buildings on Stanford's campus. Salas O'Brien performed energy audits of The Cantor Art Center and Cecil H. Green Library. These buildings have specific temperature and humidity requirements for the historical documents they contain both in storage and for public and student use.

These energy audits resulted in several capital improvement and energy saving projects that would improve operations, maintenance and result in significant energy savings. Salas O'Brien followed the energy auditing phase with the design of these projects, which included the replacement of humidification systems (Cantor Art Center's electric humidification and Green's steam to steam humidification), direct digital controls including wireless zone sensing, economizers and variable frequency drives on fans and pumps. Salas O'Brien provided commissioning and Measurement & Verification (M&V) of these projects which resulted in delivered incentives of $181,518 for Cecil H. Green library and $122,794 for Cantor Art Center. The new humidification systems also provided redundancy that was not available with the previous humidification systems.

The total cost of the energy projects was $1.5 million, with verified savings through M&V of over $520,000 will result in a payback of less than 3 years.

ENERGY & SUSTAINABILITY PLAN FOR THE HOSPITAL & CLINICS

PROJECT DESCRIPTION

The Stanford University Hospital and Clinics has aging buildings and infrastructure that are not planned for replacement as part of the long term growth and modernization. Utility costs are in excess of $14,000,000, and rising. Salas O'Brien (SOBE) was retained to help jump-start a sustainability plan based on their long term experience with both energy conservation and sustainability and their work in hospital environments.

Salas O'Brien's performed a Phase 1 Energy & Sustainability plan for the Hospital & Clinics at Stanford Medical Center funded in a partnership with the City of Palo Alto and Stanford Medical Center. This effort resulted in identifying recommended Sustainability projects of over $7,000,000, with incentives of over $500,000. There were 18 projects identified in this first phase that are seen as critical in terms of both managing energy and maintenance while providing a reasonable return on investment.

As part of the study SOBE documented and itemized all the major energy using systems and equipment, and a sufficient conditions assessment of this equipment to determine the viability of projects associated with aging equipment. There is a variety of aging equipment, from some recently modernized along with significant amounts of equipment exceeding 20 and 40 years old. SOBE is currently working with the Hospital to begin implementing the projects identified.

COUNTY OF INYO, CALIFORNIA

COST, ENERGY, AND SERVICE EFFICIENCIES ACTION PLAN (CESEAP)

DISCIPLINES

Energy

PROJECT COMPLETION DATE

2013

PROJECT SIZE

County-wide

CONTRACT VALUE

$129,850

CONTACT INFORMATION

Cathreen Richards
Associate Planner
Inyo County Planning Department
168 N. Edwards Street
Independence, CA
(760) 878-0447

PROJECT DESCRIPTION

Salas O'Brien was hired by the County of Inyo to develop a Cost, Energy, and Service Efficiencies Action Plan. The Firm worked with the Inyo County Planning Department and SCE to benchmark county facilities, develop an energy action plan (EAP), a regional EAP template, and policies and procedures for a green building, benchmarking, and commissioning/retro-commissioning policy.

The first task was to research and choose a Utility Manager System to monitor and benchmark county facility energy use. Salas O'Brien completed 8 assessment and planning reports to research and evaluate what local governments had already accomplished in regards to each of the tasks. The team presented multiple Utility Manager options and the county ultimately chose the Energy Star Portfolio Manager due to it being free of charge and SCE's automated benchmarking option.

The Firm has also created a regional EAP template that will be used by local agencies and tribes in the county. The template will be used to encourage entities within the county to reduce their energy use in a way that best fits their region.

Salas O'Brien used the data from the Portfolio Manager to customize certain energy saving projects and an Energy Action Plan for the county. All facilities were evaluated to determine potential energy efficiency projects and to construct an EAP that is specific to the county needs. Once the plan is completed, the next step will be to present it to the stakeholders to receive feedback.

SAN FRANCISCO STATE UNIVERSITY

STRATEGIC ENERGY PLAN AND UTILITY MASTER PLAN

DISCIPLINES

Energy
Utilities

PROJECT COMPLETION DATE

2012

PROJECT SIZE

Campus-wide

CONTRACT VALUE

$915,500

CONTACT INFORMATION

Simon Lam
Associate vice President
SFSU
1600 Holloway Avenue San Francisco, CA 94132
415.338.1698

PROJECT DESCRIPTION

San Francisco State had completed a 2007 Campus Master Plan that included expanding the core campus, University Park North and South. SFSU wanted a Utility Master Plan to analyze and design the infrastructure necessary to support the University's long range development goals. Salas O'Brien was hired by the San Francisco State to develop multiple documents including:

- Utility Master Plan (UMP) for the main campus
- UMP for the Romberg Tiburon Center (satellite campus)
- Strategic Energy Plan (SEP) for the main campus
- SEP for Romberg Tiburon Center

This scope consisted of evaluating existing infrastructure and conducting a utility systems review of the following utilities:

- Central Heating System
- Heating Hot Water
- Domestic Hot Water
- Domestic Cold Water
- Central Chilled Water
- Fire Protection Water

- Sanitary sewer
- Storm Drain
- Natural Gas
- Electrical Distribution
- Data/Telecommunication Infrastructure

The Strategic Energy Plan focused on the energy needs of the growing campus and conservation strategies. It identified potential energy efficiency retrofit projects to the campus infrastructure at San Francisco State University. The projects included connecting buildings to campus HHW system, upgrades to the Central Plant, cogeneration system, campus CHW system, removal of SS lift stations, photovoltaic system, fuel cells, and campus lighting. The Plan also addressed the potential for energy efficiency in new construction and renovated buildings based on the Utility Master Plan. During implementation the campus will select measures to implement which meet its investment and physical plant needs. Energy savings were calculated on a project by project basis.

The Firm then compiled a recommended project list (with over 100 projects) specific to the University's needs. Salas O'Brien performed and reported detailed evaluations of renewable energy options including solar PV systems and fuel cells.

The Utilities Master Plan and Strategic Energy Plan for the main campus as well as the Romberg Tiburon Center were completed in July, 2012.

COUNTY OF SAN BERNARDINO

AIR HANDLING UNIT AND HOT WATER SYSTEM IMPROVEMENTS AT WEST VALLEY DETENTION CENTER

DISCIPLINES

Energy
Mechanical
Electrical
Plumbing
Architecture

PROJECT DURATION

2013 – On-Going

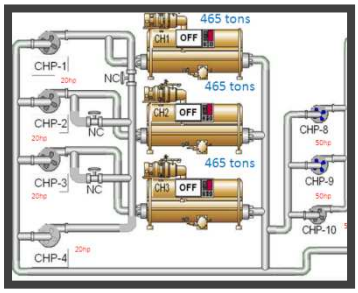
CONTRACT AMOUNT

$38,980

CONTACT INFORMATION

Darlynn Wissert

DWissert@ae.sbcounty.gov



PROJECT DESCRIPTION

The West Valley Detention Center has a sophisticated central chilled water plant which has been providing adequate cooling since the 1980's. It is comprised of 3 identical 465 ton ice-making chillers and a thermal energy storage system. In 2011 a Phase-1 retro-commissioning effort took place with Southern California Edison. They installed metering and re-piped the chiller plant in a more efficient arrangement to allow it to run more efficiently in both on-peak and off-peak hours. Salas O'Brien undertook Phase-2 of the retro-commissioning effort to evaluate the TES system. Although the current TES system is providing robust design capacity cooling, it is unable to meet building demand load on the hottest days.

The existing pumps have no speed control, which results in full-speed continuous operation. The pumps currently operate at a constant speed regardless of the system load. Salas O'Brien Engineers estimated the savings associated with the installation of variable frequency drives on the main heating hot water pumps. The firm also provided in depth analysis for this project. To accomplish "full cooling" capacity the firm suggested two main options for expansion of the current TES system:

Option 1: A 10-tank system sized in order to meet load capacity during off-peak hours (6pm-12am).

Option 2: A 16-tank system also based on being able to meet building load and charge. All 16 tanks use the full 18 hour off peak period, but provide additional battery capacity in case of grid failure.

In addition to the above options Salas O'Brien Engineers also evaluated and recommended a "pony chiller" which would allow the plant to run more efficiently during non-ice making periods. Finally, the Phase-2 study suggested that variable frequency drives be added to the heating hot water pumps in the central boiler plant.

This work shows Salas O'Brien's ability to think outside the box and provide multiple options for the county to choose from for their facility.

1. Niraj Dangoria
Assistant Dean Office of Facilities Planning & Management
Stanford University School of Medicine
300 Pasteur Drive, Always Building, M033C
Stanford, CA 94305-5132
Ph: 650-725-6781
dangoria@stanford.edu

2. Scott Gould
Senior Energy Engineer
Stanford University
327 Bonair Siding, Stanford, CA
scottg@bonair.stanford.edu
650-725-71818

Recent Projects with Stanford University:
- 2010 – 2011 Energy & Sustainability Plan for the Hospital & Clinics
- 2010 – 2011 Energy & Sustainability Projects for the Cantor Art Center & Green West Library
- 2010 - Alumni Center Energy Study – Phase 1 Audit

3. Cathreen Richards
Associate Planner
Inyo County Public Works Department
168 N. Edwards Street, P.O. Box Drawer L
Independence, CA 93526
crichards@inyocounty.us
760-878-0201

Recent Projects with Inyo County:
- 2011 – 2012 Cost, Energy, and Service Efficiencies Action Plan

4. Simon Lam
Associate vice President
San Francisco State University
1600 Holloway Avenue San Francisco, CA 94132
slam@sfsu.edu
415.338.1698

Examples of Recent Projects with Robert Dias (have completed 50+ projects together)**:**
- 2011 – 2012 Strategic Energy Plan and Utility Master Plan

5. Tom Armstrong
Director, Bond Program
Foothill DeAnza Community College District
12345 El Monte Road, Los Altos Hills, CA 94022
armstrongtom@fhda.edu
408-864-8289

Recent Projects with FDACCD County:
- 2014 - DeAnza College Pool Boiler Replacement
- 2014 - DeAnza College Science Chiller Replacement
- 2014 - DeAnza College ATC Boiler Replacement
- 2014 - DeAnza College Site Lighting Replacement

ARCHITECTURE & ENGINEERING DEPARTMENT

385 North Arrowhead Avenue, 3rd Floor, San Bernardino, CA 92415-0184
(909) 387-5000

COUNTY OF SAN BERNARDINO

Carl R. Alban, Director

June 10, 2014

County of San Bernardino
Architecture & Engineering Department
385 North Arrowhead Ave, 3rd Floor,
San Bernardino, CA 92415-0184

Subject: Letter of recommendation

To Whom It May Concern:

For several years we have enjoyed a great working relation with Salas O'Brien. Their team has continually provided us with outstanding support and engineering services. The staff is always available for questions; they are courteous, easy to work with and are quick to respond when problems arise.

Carl Salas, and his team are well-versed in mechanical, electrical, and plumbing design work; which was demonstrated by their knowledge base and skill set to get the various County projects completed on time and on budget. Their ability to understand infrastructure is enhanced by their knowledge of the energy issues associated with that infrastructure. That has been an added value for you.

Sincerely,

Darlynn Wissert
Supervising Project Manager
909.38735227
DWissert@ae.sbcounty.gov

GREGORY C. DEVEREAUX
Chief Executive Officer

Board of Supervisors
ROBERT A. LOVINGOOD. . . . . First District
JANICE RUTHERFORD, Chair. . . . Second District
JOSIE GONZALES. . . . . Fifth District
JAMES RAMOS. . . . . Third District
GARY C. OVITT, Vice Chair . . . . . Fourth District

at&t

AT&T Services Inc. Corporate Real Estate
100 N. Stoneman Ave., Room 120
Alhambra, CA 91801

December 19, 2012

To whom it may concern,

Salas O'Brien provided LEED certification, mechanical, electrical, Energy management system, and lighting control system services for the AT&T Homer Innovation Center. The building received a LEED Platinum rating.

The Salas O'Brien team provided mechanical design services for the tenant improvement area. They performed modeling and comparisons to find the highest efficiency combination that easily integrated with the building energy management system. The electrical system was designed by the firm to include high efficiency lighting and occupancy censors. The lighting control system was designed to allow for total light management to ensure comfort, productivity, and energy savings.

Sincerely,

L. W. Rugg
Sr. Project Manager
at&t Services, Inc
Corporate Real Estate
2600 Camino Ramon 3E400I
San Ramon CA. 94583
925-549-1369 Mobility
E-mail: lr2915@att.com

Mt. Diablo Unified School District
2010 Measure C
3333 Ronald Way
Concord, California 94519
(925) 682-8000

December, 2012

To whom it may concern,

Salas O'Brien was hired as a consultant by the Mt. Diablo Unified School District in 2012 to help provide guidance and oversight for a Security Intrusion System Replacement at all 55 MDUSD sites. This includes some rather difficult hurdles including many different situations and campus/sites built throughout the last 100 years. The project is currently underway and is on budget and on schedule. Salas O'Brien is currently developing the District's security standards, developing an RFQ to identify eligible manufacturers, along with designing the security system and the main dispatch system for the entire district.

Salas O'Brien has worked with our district since 2011 and they have continued to provide excellent services as well as professional relationships with our staff. We are happy with their services and progress on all of our projects.

Sincerely,

John Willford
Asst. Program Manager 2010 Measure C
Mt. Diablo Unified School District

Current point of contact:	John Willford
Current phone number:	925-682-8000 ext. 85670
Original contract date:	July 25, 2012
Contract end date:	On-Going

SAN JOSÉ STATE UNIVERSITY

Facilities Development and Operations
One Washington Square
San Jose, CA 95192-0010
Voice: 408-924-1950
Fax: 408-924-7243
http://www.sjsu.edu

Associate Vice President
Christopher Brown

Utilities, Maintenance and Operations:
Adam Bayer

Facility Operations:
Betty Luna

Planning, Design & Construction:
Robert Dias

www.sjsu.edu

December 19, 2012

To Whom it May Concern:

Salas O'Brien has provided mechanical, electrical, and plumbing services for the San Jose State campus for over 15 years and continues to provide excellent service to this day. Salas O'Brien has been able to save the University thousands of dollars each year by effectively and efficiently reducing energy costs by upgrading our MEP design systems. Some recent projects (within the past two years) the Salas O'Brien team has worked are as follows (but not limited to):

SJSU Student Health – Skilled Nursing Facility Upgrade
SJSU Steam Assessment Project
SJSU Plumbing Assessment
SJSU MLK Library – Fire Alarm Project
SJSU Utility Master Plan

Sincerely,

Robert Dias
Director of Planning, Design & Construction
Facilities Development & Operations
San Jose State University

Current point of contact: Robert Dias
Phone number: 408-924-1925
Date of the original contract: 6/1998 - Present

The California State University:
Chancellor's Office, Bakersfield, Channel Islands, Chico, Dominguez Hills, Fresno, Fullerton, Hayward, Humboldt, Long Beach, Los Angeles, Maritime Academy, Monterey Bay, Northridge, Pomona, Sacramento, San Bernardino, San Diego, San Francisco, San Jose, San Luis Obispo, San Marcos, Sonoma, Stanislaus

Santa Clara Valley Water District

5750 ALMADEN EXPWY
SAN JOSE, CA 95118-3686
TELEPHONE (408) 265-2600
FACSIMILE (408) 266-0271
www.valleywater.org
AN EQUAL OPPORTUNITY EMPLOYER

Subject: Letter of Reference/Recommendation

To Whom It May Concern:

On every project awarded, Salas O'Brien's staff has been nothing but insightful, knowledgeable and professional in regards to our needs and the demands of our specific projects. Their staff is always available for questions, they are courteous, extremely easy to work with and they are quick to respond.

Salas O'Brien has demonstrated that they are well-versed in electrical, mechanical and architectural design work; which has been verified to me by their knowledge base and skill set to complete our projects on schedule and within budget.

Our projects have always been delivered fast and efficient, and within budget. The finished projects have been completed and perform as intended which is a tribute Salas O'Brien's follow thru and partnering with the District Team.

I would highly recommend Salas O'Brien for their engineering and architecture services. I look forward to continuing a great working relationship with the Salas O'Brien team on future projects.

Sincerely,

Santa Clara Valley Water District

Tom Spada
Facilities Maintenance Administrator
Santa Clara Valley Water District
5750 Almaden Expressway
San Jose, CA 95118
(408) 630-2248
(408-687-0034) Cell
(408)-979-5664
tspada@valleywater.org

www.studioplusarch.com

studio+
ARCHITECTURE

June 11, 2014

Re: Letter of Recommendation | Salas O'Brien Engineers

To Whom It May Concern,

Since the inception of our business relationship, Salas O'Brien's entire staff has been insightful, knowledgeable, and professional in regards to our needs and the demands of our specific projects. The staff is always available for questions, they are courteous, easy to work, and very responsive. Salas O'Brien is an asset to our team.

Andy Chan and his team are well-versed in electrical, mechanical, and plumbing design work. This has been demonstrated by their ability to complete various projects on time and within budget for highly demanding public and private organizations. We have worked on a multitude of projects together, an example of some are as follows:

- University of Southern California – Lyon Recreation Center Sauna Renovation
- University of Southern California – Vivian Hall of Engineering 420 & 422 Lab Re-purpose
- University of Southern California – Vivian Hall of Engineering – 419 MEP Design
- University of Southern California – Ronald Tutor Hall 416 Renovation Project
- University of Southern California – Electrical Engineering support for VHE 605, 705, & 709 Lab Renovations
- City of Hope – Hospital Door Replacement Project
- City of Hope – Halper Research Lab Remodel
- City of Hope – Beckman Building Classroom Renovation
- City of Hope – Outpatient Imaging Center Renovation
- City of Hope – Furth Lab 1134 Chiller Replacement
- Placentia – Yorba Linda Unified School District – Education Services Center Upgrades
- Placentia – Yorba Linda Unified School District – La Entrada High School Portable Restroom Project
- Newport – Mesa Unified School District – TeWinkle Middle School Admin Building Electrical Support

Studio+ highly recommends Salas O'Brien's MEP engineering services and we will continue to utilize their services. I personally look forward to continuing a great working relationship with the Salas O'Brien team.

Sincerely,
studio+ ARCHITECTURE

Jason Dontje, NCARB, LEED AP BD+C
Managing Principal
jasond@studioplusarch.com

2070 Business Center Drive, #295, Irvine, CA 92612 | P: 949.228.7529

Labor Category	Rates **2014**
Principal	$220
Vice President/Director	$200
Architect/Professional Engineer/Telecom Engineer	$160
Design Engineer/Project Engineer	$150
Construction Project Manager	$155
Design Manager/Program Manager/Drafting Manager (CADD)	$135
Program Specialist/ Coordinator/Drafter (CAD)	$115
Program/Project Assistant	$85
Court Testimony/Deposition	$395
Senior Consultant	$255
Energy Consultant	$185
Instruction/Seminar/Training	$195

All rates are based on office to project site with a minimum of four hours for any engagement, unless otherwise arranged. Payment terms are net 30 days.

In the Firm's 38 years of business, there is no past or present litigation, no debarments, claims, or judgments nor has it ever been terminated from any project. We have no debt in our organization except trade payables in the normal course. We are fiscally conservative and have over $5,000,000 in equity and have a Line of Credit that is unused with capacity of $4,000,000. We have had No Claims on our Errors or Omissions or Professional Liability policies. The firm has the staff and resources necessary to meet all project requirements set forth by the District.

The following insurance coverage's are in effect for Salas O'Brien:

A.M. Best Rating For Each Agency listed below = A

Insurer: CNA
E&O Insurer: Everest National Insurance Co.
WO Insurer: Republic Indemnity Insurance

Type	Policy Number	Expiration	Limits
Professional Liability	79AE0001048	7/9/14	$2Million **$4Million Aggregate**
General Liability	2025181845	6/1/14	$2Million **$4Million Aggregate**
Automobile Liability	2097273849	6/1/14	$1Million
Umbrella Liability	2097212534	6/1/14	$1Million
Worker's Compensation	18102603	12/1/14	$1 Million