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## **Summary of Qualifications**

25 years of energy industry experience leading the development of energy projects covering a variety of technologies including solar, wind, gas turbines, steam turbines and heat recovery equipment. Extensive experience developing wind energy projects in California and numerous nationwide and international wind studies. Prior to forming own company held a variety of technical and management positions including 5 years as a US Navy Nuclear Submarine Engineering Officer, 10 years in the industrial gas turbine/cogeneration markets with Solar Turbines/Caterpillar and culminating with 5 years in the energy efficiency (Performance Contracting) and distributed renewable generation markets.

### **Education, Licenses, and Achievements**

MBA-Finance, University of Michigan, Ann Arbor MI BS-Aeronautical Engineering, California Polytechnic State University, SLO. Tau Beta Pi Certified Energy Manager (CEM) Nuclear Submarine Electrical Officer - Certified Power Plant Engineer by Naval Reactors/DOE Solar Turbines – Performance Analysis, Applications Engr. Project Manager, and Product Management Past-President, Association of Energy Engineers – San Diego Chapter Co-Chair, Energy Services Coalition (ESC) – California Chapter Proficient in Spanish Language – Have given technical presentations in Latin America in Spanish

Have traveled to 35 countries

### **Professional Experience**

#### President, Debenham Energy, LLC (2004 - Present)

- Developed wind projects on BLM, Forest Service, tribal, DOD and private lands including measurement tower deployment and environmental/transmission fatal flaw analysis. Arranging debt and equity financing for project development and implementation.
- Developed distributed generation wind projects in California including prospecting, feasibility studies, project management and financing arrangement
- Consulted for AeroVironment's "Building Integrated wind system" business development.
- Consulted for a California based wind developer's product development for a Compressed Air Energy Storage System (CAES)
- Clients include Campo Kumeyaay Nation, NASA Goldstone Deep Space Communications Complex (Ft Irwin), Timbisha Shoshone Tribe, AeroVironment, Southwest Windpower, Chevron, Honeywell, City of Beaumont, MWH Americas, Wal-Mart, Oak Creek Energy Systems, Sterling Energy Management, Starwood Energy Group and mining operations in San Bernardino County (Mitsubishi Cement, Elementis Specialities, and OMYA California)

- Lead Project Developer for Luz II (later BrightSource Energy) while consulting for Sterling Energy Management (07/06 -12/07)
  - Identified, evaluated and ranked prospective sites for solar power tower project of 200-500+ MW
  - Initiated and led project development discussions with BLM Needles Office for 500 MW <u>Ivanpah</u> project. Completed and submitted BLM (SF-299) application.
  - Supported <u>Mormon Mesa</u> and <u>Broadwell</u> project development efforts including creation and submittal of BLM applications.
  - Completed and submitted 5 solar thermal applications to Barstow, Needles and Las Vegas BLM Field Offices.
- Project Developer for Starwood Energy Group (12/07 Present)
  - Lead site identification efforts in support of <u>Starwood-Lockheed Martin teaming</u> agreement
  - Identify, evaluate and rank sites in US southwest to support development strategy.

### Senior Project Developer – NORESCO LLC (2002-2004)

- Responsible for leading the project team, setting project milestones and budgets, preparing the proposals, establishing customer relationships and managing all of the project resources. Responsible for project profitability and schedule.
- Experience with DOE Super ESPC/IDIQ Contracts. Navy, BOP, USMC, Air Force.
- Successfully developed the Victorville Federal prison hybrid renewable energy efficiency project. This \$5.5 million ESPC project included a 750 kW wind turbine and 70 kW photovoltaic covered parking array as well as an HVAC/Controls upgrade.
  - Lowest capacity factor financed utility scale wind turbine in the United States.
  - First utility scale wind turbine under the California Self Generation Program
  - o Have given presentations at the Silicon Valley Manuf. Assn. and Energy 2004
  - Assisted in writing article that was published in AWEA.
  - Appealed and reversed the Utility/PUC Working Group decision on the eligible cost basis of the project which yielded an addition \$300,000 for my customer.

# Senior Project Manager – Planergy/EMI (2001-2002)

- Led implementation of Demand Side Management (DSM) energy efficiency projects with various municipal customers. Determined work priorities in accordance with project plans, project schedules and changing work demands. Managed relationships with client, contractors and equipment suppliers.
- Led development of an Energy Information System for sale to customers for analyzing and managing energy systems.

# Software Development Project Manager – Epic Cycle Interactive (2001)

- Managed team of 5 software developers at client (Asera) site in San Francisco. Determined work priorities in accordance with project plans, schedules and changing work demands. Managed client relationship.
- Developed customer solutions at Asera, a venture capital (Kleiner-Perkins) funded startup to provide B2B e-commerce sell-side implementations via the internet.

#### Solar Turbines – Program, Product and Project Manager (1989-2000)

- Technical and commercial review of client specifications and preparation of proposals to meet design, code, quality and safety standards. Responsibilities also included client presentations and negotiations.
- Managed internal and external resources to design, install and test aftermarket turbomachinery equipment including managing change orders and approving invoices.
- 3 years experience in predicting and analyzing gas turbine, centrifugal compressor and steam system performance.
- Conducted field performance tests of turbine generator and compressor packages in order to verify contractual requirements.
- Led seminars on gas turbine and centrifugal compressor performance for major Oil and Gas clients (Pertamina, Unocal, Shell, Arco, Vico, Esso) in 4 Southeast Asian countries (Malaysia, Thailand, Brunei and Indonesia)
- Developed Oracle application for automating the design and costing/pricing of centrifugal compressor refurbishments. System is still in use today. Completed 20 days of Oracle training covering database design and application development.
- As Principal Application Engineer supported Latin America for 2 years. Gave presentations to PEMEX in Spanish. Numerous trips to Brazil (Petrobras) and Venezuela (Maraven/Lagoven/Corpoven) for power/cogeneration project development efforts.

#### United States Navy – Nuclear Submarine Officer (1982-1987)

- Completed extensive 3 year Navy Nuclear Engineering training covering power plant design, thermo/fluid dynamics, chemistry, electrical engineering and controls.
- As Electrical Officer on fast-attack nuclear submarine USS Permit (SSN 594) responsible for managing overhaul, repair and acceptance testing of turbine generator, switchgear and related electrical equipment. Managed 15 highly trained electricians.
- As Submarine Engineering Officer of the Watch (EOOW) supervised operation, maintenance and casualty drills of complex integrated engineering systems including reactor, steam/condensate systems and power generation and distribution systems.