



DAVID A. CONNORS, P.E.

President

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Education	B.S., Electrical Technology, 1990 California Polytechnic University – Pomona
Registration	Electrical Engineer - California, No. E15953 - Arizona, No. 021405 - Nevada, No. 020539 - Idaho, No. 13750
Memberships/Awards	Institute of Electrical and Electronics Engineers, Inc. (IEEE), No. 40291817
Years of Experience	20

Dave has more than 20 years of engineering, construction and project management experience that has included alternative energy developments, petro/chemical facilities, civil works, naval facilities, utility systems, buildings, process plants, critical systems, large-scale waterfront, port and industrial projects with fees ranging from a thousand to several hundred thousand dollars. He is a specialist in interfacing with clients, marketing, project budgeting, scheduling, deliverables and cost control. In addition to his expertise in the electrical and mechanical and architectural disciplines, he has been responsible for management of structural and civil disciplines for numerous engineering projects and studies. As department manager, he has managed up to 30 engineers, designers and supporting office staff.

His electrical design experience has encompassed all components of high, medium and low voltage distribution systems including wharf power distribution, ship-to-shore power (cold ironing/AMP) utilities, container crane power, reefer plug distribution, high-mast and street lighting, security and communication systems, and gate systems including RPM and OCR technologies. His range of experience includes electrical planning; short-circuit, relay coordination, arc-flash, load flow analysis, special studies and code/condition assessments; design, bid, and construction phase services, system commissioning, and as-built document preparation.

He has extensive project related coordination experience with Southern California Edison, San Diego Gas and Electric, Los Angeles Department of Water and Power and other utility providers and has a solid project permitting background that includes the City of Long Beach, County of Los Angeles and numerous other applicable agencies.

Selected examples of project experience include:

#### Alternative Energy

- Wind/Solar Energy Plant, Confidential Client, Central California. Project Manager for 100MW Wind/Solar plant in Central California. Project includes anemometer installation to obtain available wind data, submittal to County for all permitting requirements, EIR documentation, and conceptual solar and wind turbine layouts.
  - Solar Panel Feasibility Analysis, Port of Los Angeles, California. Project Manager for a feasibility analysis to install solar panels on an existing 700,000 square foot roof. Project included structural analysis for the existing structure, shading analysis and electrical capacity analysis.
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- Solar Panel Design and Installation, Newhall County Water District, California. Lead Electrical Engineer to install solar panels on a new 14,000 square foot LEEDs certified administration building. Project included shading analysis and electrical capacity analysis and cost savings versus capital outlay evaluation.
  - Solar Panel Design and Trail Lighting, City of Carlsbad, California. Lead Electrical Engineer to install solar panels on an existing sewer lift station and provide design for initial reach of a new rail trail. Project included SDGE coordination, short circuit and voltage drop calculations.
  - Solar Panel Operational Analysis, City of Long Beach/General Motors, Long Beach/Rancho Cucamonga, California. Project Manager for a Operational analysis to evaluate existing thin film solar panels for overheating on an existing convention center and distribution center. Project included observation of welded connections with infrared camera to observe and document any overheating at connection points with PV system active.
  - 1.0MW Wind Turbine Installation, Chevron Energy Systems, Victor Valley College, California. Project Manager for a 1.0MW Nordic Wind Turbine. Project included submittal to Department of State Architecture (DSA) and complete engineering and design for foundation, grading and roadway alignment and electrical distribution.
  - 1.5MW Wind Turbine Installation, Barstow Marine Corps Logistics Base Nebo , Barstow, California. Project Manager for a 1.5MW Nordic Wind Turbine. Project included submittal to Department of State Architecture (DSA) and complete engineering and design for foundation, grading and roadway alignment and electrical distribution.
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## Ports and Marine

- Shore Power Project, Port of Oakland, CA. Electrical Engineer for the development of twelve service drops throughout several terminals in the Port of Oakland for the purpose of the CARB mandated Cold Ironing. Package included distribution planning, PGE coordination, pre-purchase specifications, cost estimates and supporting electrical calculations.
  - Pier S, Berths S102-S110 Backlands, Port of Long Beach, CA. Lead Electrical Engineer/Electrical Project Manager for development of 160 acres into an active container terminal. Package included distribution planning, gate, 12 post-Panamax cranes, reefer electrical distribution design as well as lighting calculations.
  - Pier S, Berths S102-S110 Wharf, Port of Long Beach, CA. Electrical Project Manager/Lead Electrical Engineer for the development of a 3600' concrete wharf structure. Package included dual 10MVA transformer installation implemented for reliability and continuous operational crane power for the wharf. Project also included design of Alternative Maritime Power (AMP/cold ironing utilities) that allow berthed vessels to shutdown engines, connect to the serving electrical utility grid, thus reducing in-port vessel emissions.
  - Pier S, Berths S102-S110 Container Terminal Backlands & Buildings; Port of Long Beach, CA. Electrical Project Manager/Lead Electrical Engineer with responsibility for backlands electrical distribution planning and design including inbound and outbound terminal gate with OCR and RPM technologies, 12 post-Panamax cranes, reefer electrical distribution, and lighting calculations for 160 acre terminal and two 20 acre satellite storage yards. Electrical design included high-mast lighting for storage yards and terminal building power and lighting systems including a 15,000 SF terminal administration building designed for USGBC LEED™ Silver Certification.
  - Pier S, Berths S102-S110 Terminal Buildings; Port of Long Beach, CA. Lead Electrical Engineer for design of building power and lighting systems. Design considerations included the incorporation of USGBC LEED™ compliant (Silver Certification) building systems.
  - Security Command & Control Center; Port of Long Beach, CA. Project Manager and Lead Electrical Engineer for development of planning documents for a new centralized facility to house Port of Long Beach security operations and facilitate port-wide (Long Beach/Los Angeles) security operations. Center designed to house port-wide CCTV surveillance equipment and viewing/monitoring rooms as well as provide facilities such as offices and secure communication rooms for the Long Beach Harbor Patrol, U.S. Customs Border Patrol, U.S. Coast Guard and other local, State and Federal law enforcement agencies. Development of planning documents included review to ensure compliance with current TSA standards.
  - Pier G, Berth G214, Sulex Terminal; Port of Long Beach, CA. Lead Electrical Engineer for various projects at a dry bulk (sulfur) marine terminal. Work to date has focused on facility condition assessments of the terminal's sulfur storage silos and electrical distribution including terminal lighting and interior silo lighting systems.
  - Harbor Village Marina, Ventura CA. Lead Electrical Engineer in support of new floating piers. Project involved improvements to an existing marina under the jurisdiction of the Ventura Port District. Responsibilities included a new electrical service drop, interface with the serving utility, research and study of proper waterside grounding system application, construction support and interface with jurisdiction having authority.
  - Portofino Marina, Redondo Beach, CA. Project Manager and Lead Electrical Engineer in support of construction of new floating piers and associated landside improvements. Project included a new electrical service drop, coordination of numerous utilities, interface with the serving utility and fire department, construction support, coordination and management of landside paving, grading and utilities, and interface with jurisdiction having authority.
  - Portofino Marina Seawall Condition Survey; Redondo Beach, CA. Project Manager/Lead Engineer for preparation of a condition survey of seawalls at the Portofino Marina. Work involved field inspection to visually inspect in-place condition of gravity-based, cast-in-place concrete seawalls and identify any signs of major damage, undermining, and/or distress. Work included preparation of a written report with observations and recommendations for (minor) repairs such as epoxy injection to repair cracks and restoration of migrated rockwork.
  - Santa Barbara Marina 1 Fingers A-P, Santa Barbara, CA. Project Manager and Lead Electrical Engineer in support of construction of new floating piers and associated landside improvements. Project included a new electrical service drop, coordination of numerous utilities, interface with the serving utility and fire department, ADA compliance evaluation, construction support, coordination and management of landside paving, grading and utilities, and interface with jurisdiction having authority.
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Project is being designed to be constructed in multiple phases over the next 10 years, beginning with the main headwalk and all primary utilities.

- Coral Cays Marina, Huntington Beach, CA. Project Manager in support of construction of new floating piers and associated landside improvements. Project included design drawings and permitting for dredging the mudline to a required to prevent the new docks from bottoming out.



## Heavy Industrial/Petrochemical

- SA Recycling, Regenerative Thermal Oxidizer; San Pedro, CA. Project Manager/Lead Electrical Engineer for design of landside supporting infrastructure improvements to support the addition of a new AQMD mandated Regenerative Thermal Oxidizer (RTO) for an existing automobile shredder. Project included preparation of electrical capacity analysis and coordination with RTO supplier and LADWP representatives, confirmation of the adequacy of existing electrical service to support additional power loads.
  - BreitBurn Energy, Santa Fe Springs, CA. Project Manager/Lead Electrical Engineer for design of a temporary 12MVA, 66kV/12.47kV transformer and permanent 18MVA transformer and 66kV metal clad circuit breaker to replace existing, aged 10MVA transformer. Project included significant coordination with local inspection, SCE and county, preparation of electrical plans and details for both the permanent and temporary installations and pre-purchase specifications for the 66kV circuit breaker.
  - Pacific Coast Recycling, LLC, Landside Infrastructure; Long Beach, CA. Project Manager/Lead Electrical Engineer for design of landside infrastructure improvements to support the addition of a new Gottwald Portal Harbor Crane and to develop infrastructure that allows the new crane and existing cranes to operate simultaneously. Included preparation of electrical capacity analysis and coordination with Gottwald and SCE representatives, confirmation of the adequacy of existing electrical service to support additional crane power loads and evaluation of energy saving opportunities.
  - Pacific Coast Recycling, LLC, Ferrous Metal Recycling Facility; Rancho Cucamonga, CA. Project Manager for the design of electrical, structural and civil infrastructure improvements for the addition of a new Auto Shredding Facility. Project included submittal to city of Rancho Cucamonga for Conditional Use Permit and right-of-way acquisition as part of city of Rancho Cucamonga site development criteria. Addressing numerous site constraints and issues including zero storm water run off; noise abatement; fire department access plans; and significant electrical improvements for a new service.
  - Fairway Salvage, Baler Installation; Southgate, CA. Project Manager for the design of electrical and structural infrastructure improvements for the addition of a new Baler facility. Project included submittal to city plan check and local serving utility; and coordination with equipment supplier.
  - Metropolitan Stevedore, Long Beach, CA. Project Manager/Lead Electrical Engineer for the design of a new wastewater treatment system. Work included Programmable Controller programming and Man-Machine Interface graphic programming for central control and monitoring.
  - Land Level Transfer Facility, Bath Iron Works, Maine. Design of electrical power system for a new Land Level Transfer Facility at Bath Iron Works, Bath, Maine. Work included design of redundant primary and 12kV distribution as well as permanent 12kV connections to portable power substations for maintenance, repair and testing of U.S. Navy vessel security systems.
  - Berths 408-409 Crude Oil Terminal; Port of Los Angeles, CA. Project Manager/Lead Electrical Engineer for design of primary site electrical power, lighting, grounding, communication and cathodic protection systems, as well as design and coordination of new DWP service. Design work included development of construction documents for Alternative Maritime Power (AMP) utilities to reduce in-port vessel emissions.
  - Vopak Terminal Ethanol Loading Facilities; Long Beach, CA. Project Manager/Lead Engineer for conversion of an existing inspection station into an ethanol loading station. Work involved various modifications to an existing building and conversion of multiple 3M gallon fixed roof tanks to floating roof tanks. Work included design for hazardous area classifications in compliance National Electrical Code, NFPA 497 and API RP500 requirements. Existing utilities were evaluated to ensure compliance with NEC requirements and demand load.
  - Unocal Refinery, Electrical Reliability, Wilmington, CA. Project Engineer for the conversion of existing radial services at the refinery to a loop feed system. Project included interface with numerous plants throughout the refinery; construction of several medium voltage substations; overhead line interface and construction; relay coordination and short circuit studies.
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## Facility/Critical Systems

- Confidential Clients. Project Manager/Electrical Engineer of Record for numerous Point of Presence communication and Data Center sites located throughout the United States and ranging in size from 5,000 to 100,000 square feet. Electrical responsibilities included lighting, communications and security systems with CCTV, diesel generator sizing, UPS sizing and configurations up to 1100kVA, systems grounding with lightning protection and Title 24.
  - Facility Expansion; Gulfstream, Long Beach, CA. Lead Electrical Engineer with responsibility for electrical engineering and design to expand an existing finishing shop with hazardous area classifications. Work included Title 24 compliance and preparation of voltage drop and short circuit calculations.
  - Security Office Complex; Lockheed Martin, Palmdale, CA. Lead Electrical Engineer for development of construction documents to add a 45,000 SF high security office complex at an existing Lockheed Martin Plant. Work included significant security systems design between three levels of security, as well as interface with existing electrical systems, and preparation of short circuit calculations.
  - MCTSSA Division, Southwest Division NAVFACENGCOM; USMC Base Camp Pendleton, Oceanside, CA. Project Manager/Lead Electrical Engineer for conversion of an existing 12kV radial system to a loop system implementing SF6 switches. Work included extensive field investigation, short circuit and voltage drop calculations, as well as implementation of existing service switchgear.
  - Southwest Division; USMC Base Camp Pendleton, Oceanside, CA. Electrical Engineer of Record for design and installation of emergency generators for numerous pump stations located throughout Marine Corps Base, Camp Pendleton. Project included extensive field investigation, evaluation of numerous makes of emergency generators to ensure space availability, and preparation of fuel capacity calculations based on run time characteristics for each generator.
  - Process Tank Line; Lockheed Martin, Palmdale, CA. Lead Electrical Engineer of Record for the addition of a process tank line. Project elements included hazardous area classifications, interface with existing electrical systems, and new uninterrupted power supply (UPS) to achieve compliance with Uniform Fire Code requirements for continuous air circulation throughout the hazardous area.
  - Equipment Installation; Lockheed Martin, Palmdale, CA. Project Manager/Lead Electrical Engineer of Record for the addition of a new water jet spray machine. Work included management of structural design to achieve tolerances of .001 inch to facilitate equipment installation, as well as interface with existing electrical utility and equipment supplier.
  - Plant Entrance Enhancements; The Boeing Company, Long Beach, CA. Project Manager for preparation of a study to support implementation of a new, more visually pleasing plant entry. Study components included evaluation of existing parking, investigation of existing underground utilities, and preparation of a traffic circulation study and restriping plan.
  - Facility Relocation; The Boeing Company, Long Beach, CA. Electrical Engineer of Record for technical personnel operation relocation and facility remodel. Work included a study of existing test equipment and implementation of existing normal and emergency power supplies.
  - Antenna Additions; The Boeing Company, Long Beach, CA. Project Manager/Lead Electrical Engineer for the addition of RF shielded antennas to an existing roof structure. Project scope included interface with officials at the adjacent Long Beach Airport to ensure that new antennas did not encroach on airport's existing flight cone boundary.
  - United States Postal Service Huntington Park Station; Maywood, Inglewood, CA. Project Manager/Lead Electrical Engineer for replacement of an existing, antiquated Air Cooled Chiller HVAC Central System with a new Constant Volume (CV) System. Project included interface with existing roof level and lower level platforms, roof screening per city zoning commission, existing steam boiler interface and replacement of ductwork. Because space to be cooled was primarily open with high ceilings, CV was selected as the most cost effective system.
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