Juan Avila

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Experienced Electrical Engineer/Project Manager with vast experience in power System Design, Construction Management, Inspection and Project Management of Heavy Industrial, Pharmaceutical, Biotech, Bulk Chemical, High Commercial, Government, Military, Higher Education and Health Care projects.
Over 27 years of experience in the Design and Construction Engineering Fields.
Design and Certification of electrical low and medium voltage (up to 46 kV) distribution systems (including Short Circuit Analysis and Coordination studies)
Design of Solar PV systems, Wind turbines, Microgrid Systems and On-Shore Power for Vessels.
Consultant in NFPA, NEC, IBC, IECC, ASHRAE 90.1, PREPA, UFC and IEEE Codes and Standards.
Functioned as Government Agency and Utility designated Site Inspectors.
Functioned as Project Manager for the design team consisting of; the electrical, mechanical, architectural, structural, instrumentation & controls, process and civil leads.
In the construction stage, managed the design team, construction team, procurement team, scheduling team and the project control team.
Performed QA/QC of electrical plans for other PE engineers in the company.
Performed ROM Construction Cost Estimates.
Provided estimated design fee in manhours to Proposal Managers in order to bid the design jobs.

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Work Experience

Senior Application Engineer (Integrator)

ABB Group
May 2021 to Present

-- Performed electrical shore power design for Vessels including battery storage, transformers, DC/DC & DC/AC Inverters, LV & MV switchgears specification.
-- Designed 20MVA system with and without frequency converter for shore to ship power connection in the ports of Miami.
-- Vessels type varied from Tug boats to Cruises. Tug Boats/Ferry Boats power distribution was designed at
LV (690Vac or 950Vdc). Cruises power distribution was designed at MV (11KV and/or 6.6KV).
-- Coordinated with Local Utility Company Standards to add metering equipment, MV disconnect switched,
Anti-Islanding protection scheme and other requirements to the Client side electrical system.
-- Specified LFP or NMC type Lithium battery type energy storage system ion order to peak shave the power used by the Boat charging facility. Sizes ranged from 300KWH to 4MWH systems.
-- Contacted equipment manufacturer in order to obtain pricing for the entire electrical scope.

Senior Design Engineer/Project Associate

TYLin International / Lindbergh & Associate
April 2010 to May 2021

-- Performed electrical design for different renewable systems. Examples are:
--13MWdc Utility Grade Solar Farm, 15KV.
--1MW microgrid at 15 KV distribution Voltage (consisting of wind, PV solar, four 500KW back up diesel generator, and a Battery storage)
--200KVA microgrid system consisting of future carport PV Solar panels, Emergency Generator, Utility Transformer and 50KVA Battery storage.
--Ground-mounted 100KW PV solar system (15KV) for Private Developer in South Carolina.
-- Designed interior and exterior lighting following IES guidelines, ASHRAE, IECC requirements and clients design guidelines.
-- Designed exterior grounding system, as well as lightning protection system, for new and existing buildings.
-- Designed power distribution from the Medium Voltage power utility service down to the 120 V utilization equipment.
-- Designed special systems such as paging, telecommunication, security, nurse call, Code bleu systems, and CCTV systems.
-- Performed building electrical system condition assessments in order to identify faulty electrical system.
-- Developed proposals including man-hour design phase estimates, completion schedules and assumptions and clarification.
-- Designed of Emergency/Standby Generator System to comply with NEC & NFPA. Generators size ranged from 20KW to 2000KW including paralleling system of multiple generators.
-- Assisted the Mechanical Engineer in energy studies (Co-generation or CHP) by sizing steam, gas and diesel turbine-generator sets based on facility electrical demand and steam demand. Also, provided input as to optimum location of CHP unit and electrical connection logistics.
-- Performed Reliability Studies based on IEEE 493 for Military Clients.
-- Coordinated point of connection details with local power utility for newly developed projects.
-- In-charged of maintaining specifications updated with industry latest standards.
-- Performed QA/QC for electrical discipline.
-- Performed ROM construction cost estimates.
-- Performed Roadway Lighting for DOT projects.
-- Design UPS and generator system for multiple campus style building facilities.
Electrical Department Manager:
-- Managed up to four (4) subordinates (two designers and two engineers). Review and approved timesheets on a weekly basis.
-- Provided technical directives to lead engineers to have a final end-product that would comply with all company & clients electrical standards and Codes.
-- Monitored all project development including quality, schedule and budget on a weekly basis. And distributed the design load evenly across the lead engineers and other professionals.
-- In charged of seeking new possible talent by means of interviews.
-- Resolved conflicts between engineers, and engineers and clients.
-- Provided budget man-hours, assumptions and clarifications, strategic approach and scope of work to Proposal Managers based on clients RFP’s, with the goal of winning projects.
-- Provided feedback to upper management on how to improved and enhance company performance and efficiency.
-- Evaluated subordinates on a yearly basis and provided recommendations for seminars and continuing education necessary to become a well-rounded professional.
-- Reached out to clients on a regular basis in order to keep communication open for more possible work.

Construction Engineering Manager

Mactec Engineering
November 2009 to April 2010

Sr. Electrical QA/QC Engineer:
-- Worked for the USA Corps of Engineer in new IBCT project at FT. Stewart, Savannah, GA.
-- Responsible for the project construction Quality Control in the electrical discipline. Reviewed and approved all designs from five (5) different design firms.
-- Resolved conflicts in a fast manner in the field in order to maintain continuity of field electrical work due to fast track design-built project requirements.
-- Reviewed and approved shop drawings and submittal from five (5) different electrical contractors.
-- Provided Construction Cost Estimates in order to compare with Contractors change orders.
-- Reviewed drawings from different designers against RFP from the Government, and provided feedback comments.
-- Provided daily reports of field work and non-compliances found in the field.
-- Participated in Preparatory Meetings with all contractors to ensure construction be done according to COE, DOIM and DPW requirements.

Construction Project Manager

Fluor Daniel Caribbean, Inc.
April 2001 to August 2009

-- Provided construction management services to Amgen Biotech.
-- Made decisions on the spot to solve conflicts during construction considering all applicable regulations, codes, and best industry standards and clients requirements.
-- Made periodic alignment meetings to coordinate between electrical, mechanical, fire protection and architectural subcontractors, as well as the Fluor procurement and contract teams.
-- Served as the link between the Engineering, the client and the construction team.
-- Made daily field inspections of the work and provided periodic feedback to client on performance of work.
-- Approved work overtime and daily work plans for employees.
-- Worked with equipment suppliers to expedite equipment to site on time for installation.
-- Reviewed and approved shop drawings for construction.
-- Identified deviations to original scope that were requested by the Client.

Design Electrical Engineer

UNIPRO Architects, Engineers and Planners
July 1994 to April 2001

-- Performed electrical design for Glaxo SmithKline, Bristol Myers Squibb, Pfizer, Ortho Biologics, Eli Lilly Pharmaceutical, Abbott, PREPA Power Plant, Janssen, and Johnson & Johnson.
-- Designed of Fire Alarm Systems to comply with NFPA and UBC requirements.
-- Designed of Telecommunication Systems to meet client’s needs
-- Designed of interior and exterior Illumination System following IES guidelines and customers’ requirements.
-- Design grounding and lightning protection for buildings.
-- Designed of electrical distribution system at 13.2KV, 4.16KV. 480V, 240V and 208 Volts, to comply with NEC, NESC and PREPA; including system short circuit studies and coordination up to 5KV level.
-- Designed of Emergency/Standby Generator System to comply with NEC. NFPA, Junta De Calidad Ambiental and clients needs. Generators size ranged from 20KW to 2000KW.
-- Prepared design scope of work base on client’s requirements including design cost estimate.

-- Inspected the field work according to Government and Utility Company requirements by performing periodic visits to the construction site and preparing reports on construction work progress and observations.

Electrical Technician Internship

United Illuminating Company (Power Plant)
August 1992 to August 1993

-- Provided support to the electrical plant technician as far as maintaining all electrical systems associated with the 636MW Power Plant.
-- Troubleshooted PA system components throughout the power plant.
-- performed inspection of Turbines DC carbon brushes on a weekly basis.
-- Inspected and recorder turbine operating pressure and temperatures and a weekly basis.
-- Troubleshooted heat tracing system through the facility.
-- Checked acid levels on backup batteries regularly.
-- Inspected and replaced non-working hoppers on Precipitators.
-- Inspected high voltage electrostatic plates inside the Precipitators.
-- Cleaned medium voltage Air Power Breakers contacts and arc-chuts on a regular basis.
-- Replaced HID bulbs and ballasts on lighting fixtures when required.

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Construction Engineer

Amgen
-- Provided construction management services to Amgen Biotech.
-- Responsible for the successful execution of the Electrical and Instrumentation contracts.
-- Developed the Technical Scope of work for all E&IC contracts.
-- Served as the link between the Client and the Contractor for technical and financial project issues.
-- Worked closely with Contracting officer, Project Manager, Project Director and Accounting in order to identify change orders and schedule issues.
-- Provided technical bid evaluation to upper management.
-- Ensured that contractors, provided on a timely basis, daily reports, weekly progress reports, T&M cost reports, etc…
-- Worked closely with the Electrical and Instrumentation Superintendent in order to ensure that field installation was performed according to contract documents and that field issues were properly attended.
-- Was involved in the resolution of RFI’s and submittals review process.
-- Worked closely with the Quality Department to ensure that quality documents from the Contractor were properly done and submitted.
-- Negotiated lump sum change orders and T&M rates with contractors.
-- Ensured that contract document revisions were properly passed on to the Contractor’s.
-- Reviewed and approved Contractor’s monthly invoices.
-- Approved documentation as part of the Turnover package to the client and coordinated mechanical completion and start-up of systems for client.

Senior Design Engineer

Pfizer
-- Performed electrical design for Glaxo SmithKline, Bristol Myers Squibb, Pfizer, Wyeth, Ortho Biologics, Eli
Lilly Pharmaceutical, Amgen Biotech, Abbott, and Merck Sharp & Dohme.
-- Designed interior and exterior Illumination System following IES guidelines, CGMP Standards, and customers’ requirements.

-- Designed interior and exterior grounding system, as well as lightning protection system, for new and existing buildings.
-- Designed power distribution from the substation (38.2 kV) to utilization equipment at 480V, 208V or 120 V.
-- Designed special systems such as paging, telephone, security, fire alarm, CCTV systems inside the facility.
-- Prepared design scope of work based on client's requirements including design cost estimate.
-- Assembled a task force group of skill people to help on the design and development of the project. Also, ensured compliance with budgeted man-hours and schedule.
-- Provided day-to-day supervision of assigned personnel and ensured that all work performed met applicable codes, standards, specifications and company and industry standards.
-- Served as the focal point of communication from and to electrical discipline personnel on the task force, with department management, project management, the client and any third party.
-- Performed short circuit studies and coordination studies up to 5KV level for substation.
-- Assisted with development of construction cost estimates for the estimating department.
Project Engineer
-- Responsible for the outcome of the entire project as far as schedule, cost and quality is concerned.
-- Conducted weekly meetings with design team to go over coming milestones, budget to go, scope of work issues and possible scope change orders.
-- Guarantied coordination between Process, Electrical, HVAC, Structural, Piping, Architecture and Instrumentation disciplines.
-- Provided project control by keeping track of man-hours spent vs percent scope completed.
-- Served as the link between the Fluor construction team and design team. Request for information from construction were evaluated.
-- Ensured that individual discipline deliverable schedules were met.
-- Identified and processed scope changes to prompt client approval.
-- Prepared proposals to get work for the company. This included identifying people in the firm that can sell the project. Prepared the proposal Scope of Facilities, Scope of Services, Execution approach, Executive Summary, Project Organization, milestone schedule, commercial terms and general assumptions and clarification.
-- Participated in client relations activities, kept engaged with client after project completion in order to seek out repetitive work.

Education

Bachelor of Science in Elect Eng
University of Bridgeport - Bridgeport, CT

Skills

- Fluent in Spanish
- SKM
- AutoCad
- ETAP Power Tools
- AGI-32 Lighting Design
- MS Project

- Visual Lighting Design
- MS Word
- Power Point
- MS Excell
- PVWatt
- SolarEdge
- Kohler Power System
- Certified Energy Manager (CEM)
- EasyPower _ _ _