



Electrical Designer Senior

General Description

An individual classified as an Electrical Designer Senior is a member of the Electrical and Instrumentation Group reporting to the E&I Manager. An Electrical Designer Senior receives direction from the E&I Manager, E&I Engineers and Designers assigned. Coordination with other disciplines, as needed, is also expected for this position. Electrical Designer Senior provide project electrical drafting services, preparing electrical layouts, equipment drawings, standard details and construction drawings in compliance with process and client requirements to the level of competency outlined in this document.

Duties & Responsibilities

Project Deliverable Documents and Drawings for Client Projects:

- Prepares, revises or creates the following drawings under the direction of assigned Project Engineers or Designers:
 - Electrical Single Line Drawings
 - Motor Schematics
 - MCC Layout Drawings and Bill of Material
 - Hazardous Area Drawings and Details
 - Wiring Schedules or Drawings for junction boxes, PLC or DCS cabinets
 - Cable and Conduit Schedules and interconnect Drawings
 - Power Distributions Drawings, including Panel Box Layouts
 - Lighting Drawings and Details
 - Grounding drawings and Details
 - Heat Trace Schedules
 - Bills of Material, as required
 - P&ID's
 - Loop drawings
 - Instrument Location Drawings
 - Instrument Installation Drawings

Project Expectations:

- Attends Project Coordination meetings as directed, prepared to discuss current progress and coordination needs.
- Prepares the project drawings to customer expected drawing standards. Maintains consistent drafting standards in the drawing presentation.
- Assists Project Engineers and Designers design and complete accurate drawings to properly communicate engineering and design characteristics and construction requirements.

Project Skills:

- Works in a team environment contributing design input in areas of expertise to accomplish project specific goals, taking design direction from project engineers and more experienced designers in all project disciplines and providing design information to all project personnel as needed.
- Provides direction and training to Designers 1 and 2 and project drafters.
- Sets personal goals and meet project objectives and schedules.
- Sets and accomplishes personal development goals.



Position Description

Tools Skills:

- Uses recent versions of AutoCAD in 2D drawings with high efficiency.
- Navigates and designs with strong ability using recent versions of AutoCAD 2010 drawing models in 3D.
- Customizes with strong ability in recent versions of AutoCAD to improve drafting efficiency.
- Uses recent versions of MicroStation with strong ability.
- Uses database applications with high proficiency.

Knowledge Skills:

- Completes designs with a high level of proficiency in three of the areas of electrical design and two of three areas of Instrumentation Design.
 1. Electrical Design Areas:
 - Electrical Design including preparation of single line drawings, MCC layout and electric motor schematics.
 - Hazardous area designation and drawings, including details.
 - Wiring and component design including junction box layout and control cabinet drawings, cable and conduit schedules, wiring, drawings and bills of material.
 - Power distribution design including panel board schedules, lighting plans, grounding drawings, heat trace schedules and bills of material.
 - Electrical Team leadership and coordination
 - Capable of using the NEC Code with a moderate degree of knowledge and ability.
 2. Instrumentation Design.
 - P&ID development
 - Loop drawings
 - Instrument Location
 - Instrumentation selection
- Provides project coordination to identify and correct errors on project design documents in areas of expertise.
- Applies the NEC Code with a high degree of knowledge and ability.
- Ability to provide project coordination to identify and correct errors on project design documents in areas of expertise.

Application Skills, in the area of High Proficiency, identified above:

- Establishes design objectives for specific projects and recommends practicability and suitability of design, material and other criteria.
- Prepares preliminary design studies.
- Prepares difficult designs for segments of assigned projects.
- Evaluates effects of changes and modifications on form, function and positional relationships of total design or component.
- Performs duties within a client's operating facility or in the field in support of a construction project if required.
- Duties may include extended, but temporary out-of-town assignments.



Position Description

Minimum Qualifications

- Two years of applicable experience as a Designer 2, with at least four years in heavy industrial experience -OR-
- Associates degree or two-year college/ technical school training in Computer Aided Design/ Drafting Technology and 6 years experience.
- Minimum of eight years design experience using AutoCAD in electrical drafting, with at least six years in industrial applications including power distribution, electrical plans and cable and conduit layout and design.

Preferred Qualifications

- Coursework in Engineering, Math, Physics and CAD design.
- Associates degree or two-year college/ technical school training in Computer Aided Design/ Drafting Technology.
- Work experience with recent versions of AutoCAD and MicroStation.
- Heavy industrial experience.
- PLC or DCS wiring and system design.
- Membership in Professional Associations is not required, but encouraged in organizations such as ISA, IEEE, NFPA.

Classification

Exempt

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