

Iowa Department of Administrative Services – Human Resources Enterprise
Job Classification Description

Electrical Maintenance Specialist

Definition

Designs, develops, directs, and coordinates the construction of electrical services for the statewide roadway and bridge lighting system; performs related work as required.

The work examples and competencies listed below are for illustrative purposes only and not intended to be the primary basis for position classification decisions.

Work Examples

Assists supervisor by performing such duties as instructing employees, answering questions, distributing and balancing the workload, and checking work; may make suggestions on selection, promotions, and reassignments.

Designs, develops, and constructs new electrical systems as well as maintains and improves current lighting systems statewide by determining priorities, scheduling work projects, and inspecting work in progress and upon completion.

Plans, designs, and develops emergency electric power supply systems to meet current and anticipated electrical needs; inventories all maintenance installations and other facilities' existing emergency electrical needs, future additional loadings, and proper generator sizing; inspects generators and develops a generator replacement program for the equipment procurement program.

Inspects work being done by independent contractors, city and county electrical crews, and utility companies; verifies compliance with bid and construction specifications.

Prepares preliminary cost estimates for materials, supplies, and equipment for proposed construction or renovation.

Coordinates the installation of power transmission lines, transformers, lighting, heating, or other circuits.

Develops preliminary schematic wiring diagrams of new installations and/or modifications.

Competencies Required

Knowledge:

- Building and Construction – Materials, methods, and the tools involved in the construction or repair of houses, buildings, or other structures such as highways and roads.
- Mathematics – Arithmetic, algebra, geometry, calculus, statistics, and their applications.
- Mechanical – Machines and tools, including their designs, uses, repair, and maintenance.
- Design – Design techniques, tools, and principles involved in production of precision technical plans, blueprints, drawings, and models.

Abilities:

- Problem Sensitivity – Tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.
- Deductive Reasoning – Apply general rules to specific problems to produce answers that make sense.
- Inductive Reasoning – Combine pieces of information to form general rules or conclusions.
- Near Vision – See details at close range (within a few feet of the observer).
- Oral Comprehension – Listen to and understand information and ideas presented through spoken words and sentences.
- Visual Color Discrimination – Match or detect differences between colors, including shades of color and brightness.
- Arm-Hand Steadiness – Keep your hand and arm steady while moving your arm or while holding your arm and hand in one position.
- Finger Dexterity – Make precisely coordinated movements of the fingers of one or both hands to grasp, manipulate, or assemble very small objects.
- Information Ordering – Arrange things or actions in a certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations).

Skills:

- Troubleshooting – Determining causes of operating errors and deciding what to do about it.
- Repairing – Repairing machines or systems using the needed tools.
- Active Listening – Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.
- Critical Thinking – Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.
- Judgment and Decision Making – Considering the relative costs and benefits of potential actions to choose the most appropriate one.
- Installation – Installing equipment, machines, wiring, or programs to meet specifications.
- Quality Control Analysis – Conducting tests and inspections of products, services, or processes to evaluate quality or performance.

Minimum Qualification Requirements

Applicants must meet at least one of the following minimum requirements to qualify for positions in this job classification:

- 1) Five years of full-time work experience in commercial, residential, or industrial electrical construction, repair, or inspection work.

- 2) A total of five years of education and/or full-time experience (as described in number one), where one semester of an approved trade school electrician program is equivalent to six months of full-time experience.
- 3) Possession of a valid license to perform electrical work in accordance with Iowa Code Chapter 103.

Notes

Within a timeframe determined by the appointing authority, persons in this class may be required to obtain a license to perform electrical work in accordance with Iowa Code Chapter 103.

Positions in this class require possession of a valid Commercial Learner's Permit upon hire. Within a timeframe determined by the appointing authority, a valid Commercial Driver's License with the required endorsements and applicable restrictions must be obtained and subsequently maintained to continue employment.

In conjunction with Title 49 of the Code of Federal Regulations (parts 40 and 382), this job requires a pre-employment drug screen and will require ongoing participation in the employer's random drug and alcohol testing program and will be subject to the regulations regarding the Federal drug and alcohol testing program.

Prior to starting employment, all persons are required to have a post offer, pre-employment physical verifying the physical ability to perform the duties described.

Effective date: 06/19 SA