

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

Transmitter Engineer Senior

Definition

Performs complex technical and analytical work in the operation, diagnosis, repair, and maintenance of transmission facilities and broadcast equipment for Iowa PBS at network transmitter and translator sites, with detailed specialization in transmitters and transmission systems, applying advanced knowledge of audio, video, transmitter remote control systems, and TCP/IP based hardware at those sites; 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

Performs all duties of the Transmitter Engineer.

Operates, diagnoses, and makes difficult repairs/adjustments on transmitting, electronic, and electrical equipment associated with the production and broadcasting of educational radio/television programs; diagnoses and repairs more complex building and broadcast equipment mechanics (e.g., HVAC, plumbing cooling system, electrical and pneumatic controls, polyphase motors, etc.).

Responsible for the diagnosis, repair, and maintenance of equipment, and for the observation of applicable federal engineering rules/regulations and day-to-day compliance with Federal Communications Commission (FCC) and Federal Aviation Administration (FAA) regulations applicable to transmitter/translator facilities.

Conducts RF performance measurements and the FCC proof of performance measurements on transmitter systems.

Works with less experienced engineers in the repair of more complex equipment; assists with training personnel in the operation, diagnosis, and repair of equipment as necessary.

Provides field assistance to other Iowa PBS transmitter engineers.

Competencies Required

Knowledge:

- Communications and Media – Media production, communication, and dissemination techniques and methods. This includes alternative ways to inform and entertain via written, oral, and visual media.
- Engineering and Technology – The practical application of engineering science and technology. This includes applying principles, techniques, procedures, and equipment to the design and production of various goods and services.
- Computers and Electronics – Circuit boards, processors, chips, electronic equipment, and computer hardware and software, including applications and programming.

- Design – Design techniques, tools, and principles involved in production of precision technical plans, blueprints, drawings, and models.
- English Language – Structure and content of the English language including the meaning and spelling of words, and rules of composition and grammar.
- Law and Government – Laws, legal codes, court procedures, precedents, government regulations, executive orders, agency rules, and the democratic political process.
- Mechanical – Machines and tools, including their designs, uses, repair, and maintenance.
- Telecommunications – Transmission, broadcasting, switching, control, and operation of telecommunications systems.

Abilities:

- Control Precision – Quickly and repeatedly adjust the controls of a machine or a vehicle to exact positions.
- Deductive Reasoning – Apply general rules to specific problems to produce answers that make sense.
- Fluency of Ideas – Come up with a number of ideas about a topic (the number of ideas is important, not their quality, correctness, or creativity).
- Inductive Reasoning – Combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events).
- 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).
- Mathematical Reasoning – Choose the right mathematical methods or formulas to solve a problem.
- Oral Comprehension – Listen to and understand information and ideas presented through spoken words and sentences.
- Oral Expression – Communicate information and ideas in speaking so others will understand.
- Originality – Come up with unusual or clever ideas about a given topic or situation, or to develop creative ways to solve a problem.
- Problem Sensitivity – Tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing that there is a problem.
- Speech Clarity – Speak clearly so others can understand you.
- Speech Recognition – Identify and understand the speech of another person.
- Visualization – Imagine how something will look after it is moved around or when its parts are moved or rearranged.
- Written Comprehension – Read and understand information and ideas presented in writing.
- Written Expression – Communicate information and ideas in writing so others will understand.

Skills:

- Active Learning – Understanding the implications of new information for both current and future problem-solving and decision-making.

- 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.
- Complex Problem Solving – Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions.
- Critical Thinking – Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions, or approaches to problems.
- Equipment Maintenance – Performing routine maintenance on equipment and determining when and what kind of maintenance is needed.
- Installation – Installing equipment, machines, wiring, or programs to meet specifications.
- Judgment and Decision Making – Considering the relative costs and benefits of potential actions to choose the most appropriate one.
- Learning Strategies – Selecting and using training/instructional methods and procedures appropriate for the situation when learning or teaching new things.
- Mathematics – Using mathematics to solve problems.
- Operation and Control – Controlling operations of equipment or systems.
- Operations Monitoring – Watching gauges, dials, or other indicators to make sure a machine is working properly.
- Quality Control Analysis – Conducting tests and inspections of products, services, or processes to evaluate quality or performance.
- Reading Comprehension – Understanding written sentences and paragraphs in work-related documents.
- Repairing – Repairing machines or systems using the needed tools.
- Service Orientation – Actively looking for ways to help people.
- Speaking – Talking to others to convey information effectively.
- Systems Evaluation – Identifying measures or indicators of system performance and the actions needed to improve or correct performance, relative to the goals of the system.
- Writing – Communicating effectively in writing as appropriate for the needs of the audience.

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 operating, maintaining, or repairing complex electronic equipment in a radio or television transmitter/translator or network studio.
- 2) Graduation from an accredited college or university with an associate's degree in electronic technology, broadcast engineering technology, or a closely-related field, and experience equal to three years of full-time work in operating, maintaining, or repairing complex electronic equipment in a radio or television transmitter/translator or network studio.
- 3) All of the following (a and b):

- a. One year of full-time work experience in operating, maintaining, or repairing complex electronic equipment in a radio or television transmitter/translator or network studio; and
 - b. A total of four years of education and/or full-time experience (as described in part a), where thirty semester hours of accredited college or university coursework in electronic technology, broadcast engineering technology, or a closely-related field equals one year of full-time experience.
- 4) Graduation from an accredited four-year college or university with a degree in electronic technology, broadcast engineering technology, or a closely-related field, and experience equal to one year of full-time work in operating, maintaining, or repairing complex electronic equipment.
- 5) All of the following (a and b):
- a. Four years of full-time work experience in operating, maintaining, or repairing complex electronic equipment in a radio or television transmitter/translator or network studio; and
 - b. Possession of a certificate in electronic technology, broadcast engineering technology, or a closely-related field from a recognized technical, military, business, college, or university certificate program.
- 6) Current, continuous experience in the state executive branch that includes one year of full-time work as a Transmitter Engineer at Iowa PBS.

Notes

Employees in this class are required to possess and maintain a current, valid Driver's License.

Effective date: 01/26 KC