

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

Utilities Regulation Engineer 1

Definition

Under immediate to general supervision, performs entry-level operations research and evaluation or engineering work for the Utilities Division of the Iowa Department of Commerce in the investigation and regulation of one or more types of utility operations; 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

Learns and prepares for advanced-level assignments in public utility regulatory work by performing one or more of the following functions:

- Participating in the appraisal, evaluation, and depreciation studies of utility properties and engineering cost studies to evaluate compliance with Departmental ratemaking principles and determine the cost of service provided by the utility to the public by examining utility company books, records, operating data, and facilities in the field.
- Examining and evaluating information submitted with new service offerings in support of proposed rates to recommend approval, modification, or denial by analyzing construction, maintenance, and operating cost data.
- Participating in the investigation of customer complaints and of operation, service, and public safety conditions of utility facilities to determine safety and service by analyzing customer complaints, utility books and records, interviewing involved parties, and making on-site inspection tours.
- Informing the public of anticipated major utility facility additions in order to meet the requirements of the Code of Iowa by acting as the agency representative at informational meetings.
- Providing interpretations of professional engineering and regulatory codes to inform agency and public utility personnel.
- Utilizing computer models and engineering applications to analyze information regarding various aspects of utility operations to be used in Departmental policy making, rate cases, staff training, long-range planning, or drafting administrative rules or legislation by coordinating all the data gathered and applying acceptable analytical techniques.
- Performing as a project staff member in the conducting of research projects concerning public utility regulation issues by determining objectives, collecting and analyzing data, forming conclusions based on research and analysis, and summarizing and documenting results.
- Identifying and/or developing criteria and evaluating utility data to assure reasonable and adequate utility service to the public at the lowest possible cost by participating in engineering project studies of utility operation, planning, construction, and maintenance.

- Reviewing engineering data contained in franchise petitions, pipeline permits, and service modification requests to determine compliance with engineering standards and federal and state regulations and to make recommendations on adequacy of service by reading the available data and applying the appropriate evaluation criteria.

Competencies Required

Knowledge:

- 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.
- Utilities – Utility valuation principles, techniques, and standards in areas such as depreciation methods, cost allocation, and production cost allocation. Principles and techniques used in rate design and in classifying and allocating utility cost of service.
- Design – Design techniques, tools, and principles involved in production of precision technical plans, blueprints, drawings, and models.
- Mathematics – Arithmetic, algebra, geometry, calculus, statistics, and their applications.
- Customer Service – Principles and processes for providing customer services, including customer needs assessment, meeting quality standards for services, and evaluating customer satisfaction.
- Law and Government – Laws, legal codes, court procedures, precedents, government regulations, executive orders, agency rules, and the democratic political process.
- English Language – The structure and content of the English language, including the meaning and spelling of words, rules of composition, and grammar.

Abilities:

- Law and Government – Understand and adhere to applicable laws, legal codes, administrative rules, and regulations.
- Written Expression – Communicate information and ideas in writing so others will understand.
- 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.
- Near Vision – See details at close range (within a few feet of the observer).
- 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.
- 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).
- 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.

Skills:

- 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.
- Reading Comprehension – Understanding written sentences and paragraphs in work related documents.
- Speaking – Talking to others to convey information effectively.
- Science – Using scientific rules and methods to solve problems.
- Judgment and Decision Making – Considering the relative costs and benefits of potential actions to choose the most appropriate one.
- Complex Problem Solving – Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions.

Minimum Qualification Requirements

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

- 1) Graduation from an accredited four-year college or university with a degree in civil engineering, petroleum engineering, electrical engineering, mechanical engineering, nuclear engineering, valuation engineering, engineering economics, depreciation engineering, or industrial (i.e., engineering management, operations research, or engineering operations) engineering.
- 2) Certified as an engineer intern by the Iowa Engineering and Land Surveying Examination Board.
- 3) Licensed as a professional engineer by the Iowa Engineering and Land Surveying Examination Board.

Notes

Travel, including overnight travel, may be required for positions in this class. Employees must arrange transportation to and from assigned work areas. Some out-of-state travel may be required, as assigned by the employing agency. Select positions may require incumbents to provide their own means of transportation in order to conduct state business.

Effective date: 3/15 SA

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

Utilities Regulation Engineer 2

Definition

Under general supervision, performs operations research and evaluation or specialized engineering work for the Utilities Division of the Iowa Department of Commerce in the investigation and regulation of one or more types of utility operations; 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

Participates in the appraisal, evaluation, and depreciation studies of utility properties and engineering cost studies to evaluate compliance with Departmental ratemaking principles and determine the cost of service provided by the utility to the public by examining utility company books, records, operating data, and facilities in the field.

Examines and evaluates information submitted with new service offerings in support of proposed rates to recommend approval, modification, or denial by analyzing construction, maintenance, and operating cost data.

Conducts or directs the investigation of customer complaints and of operation, service, and public safety conditions of utility facilities to determine safety and service by analyzing customer complaints, utility books and records, interviewing involved parties, and making on-site inspection tours.

Provides information for Department presentations to elicit facts needed for proper disposition of contested cases by formulating cross-examination questions for public utility company witnesses and providing input in the preparation of briefs and oral agreements.

Presents and supports the staff position in formal proceedings to assure that all appropriate facts are brought forth by testifying and submitting to cross-examination on technical issues including cost effectiveness of utility systems and alternatives, performance measures, depreciation, cost of service, and other related engineering issues.

Informs the public of anticipated major utility facility additions in order to meet the requirements of the Code of Iowa by acting as the agency representative at informational meetings.

Provides interpretations of professional engineering and regulatory codes to inform agency and public utility personnel by reading and analyzing the appropriate material and applying knowledge previously learned.

Utilizes computer models and engineering applications to analyze information regarding various aspects of utility operations to be used in Departmental policy making, rate cases, staff training, long-range planning, or drafting administrative rules or legislation by coordinating all the data gathered and applying acceptable analytical techniques.

Performs as a project leader or project staff member in conducting research projects concerning public utility regulation issues by determining objectives, collecting and analyzing data, forming conclusions based on research and analysis, and summarizing and documenting results.

Identifies and/or develops criteria and evaluates utility data to assure reasonable and adequate utility service to the public at the lowest possible cost by participating in engineering project studies of utility operation, planning, construction, and maintenance.

Reviews engineering data contained in franchise petitions, pipeline permits, and service modification requests in order to determine compliance with engineering standards and federal and state regulations and to make recommendations on adequacy of service by reading the available data and applying the appropriate evaluation criteria.

Competencies Required

Knowledge:

- 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.
- Utilities – Utility valuation principles, techniques, and standards in areas such as depreciation methods, cost allocation, and production cost allocation. Principles and techniques used in rate design and in classifying and allocating utility cost of service.
- Design – Design techniques, tools, and principles involved in production of precision technical plans, blueprints, drawings, and models.
- Mathematics – Arithmetic, algebra, geometry, calculus, statistics, and their applications.
- Customer Service – Principles and processes for providing customer services, including customer needs assessment, meeting quality standards for services, and evaluating customer satisfaction.
- Law and Government – Laws, legal codes, court procedures, precedents, government regulations, executive orders, agency rules, and the democratic political process.
- English Language – The structure and content of the English language, including the meaning and spelling of words, rules of composition, and grammar.

Abilities:

- Law and Government – Understand and adhere to applicable laws, legal codes, administrative rules, and regulations.
- Written Expression – Communicate information and ideas in writing so others will understand.
- 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.
- Near Vision – See details at close range (within a few feet of the observer).
- 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.

- 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).
- 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.

Skills:

- 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.
- Reading Comprehension – Understanding written sentences and paragraphs in work related documents.
- Speaking – Talking to others to convey information effectively.
- Science – Using scientific rules and methods to solve problems.
- Judgment and Decision Making – Considering the relative costs and benefits of potential actions to choose the most appropriate one.
- Complex Problem Solving – Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions.

Minimum Qualification Requirements

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

- 1) Graduation from an accredited four-year college or university with a degree in civil engineering, petroleum engineering, electrical engineering, mechanical engineering, nuclear engineering, valuation engineering, engineering economics, depreciation engineering, or industrial (i.e., engineering management, operations research, or engineering operations) engineering, and experience equal to one year of full-time work in the planning, forecasting, researching, designing, managing, operating, or evaluating of electric, telecommunications, gas, or water facilities or systems.
- 2) Graduation from an accredited four-year college or university with a degree in civil engineering, petroleum engineering, electrical engineering, mechanical engineering, nuclear engineering, valuation engineering, engineering economics, depreciation engineering, or industrial (i.e., engineering management, operations research, or engineering operations) engineering, and thirty semester hours of postgraduate coursework in accounting, business administration, computer science, economics, finance, statistics, or any engineering discipline from an accredited college or university.
- 3) Licensed as a professional engineer by the Iowa Engineering and Land Surveying Examination Board.
- 4) Current, continuous experience in the state executive branch that includes experience equal to twelve months of full-time work as a Utilities Regulation Engineer 1.

Notes

Travel, including overnight travel, may be required for positions in this class. Employees must arrange transportation to and from assigned work areas. Some out-of-state travel may be required, as assigned by the employing agency. Select positions may require incumbents to provide their own means of transportation in order to conduct state business.

Effective date: 3/15 SA

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

Utilities Regulation Engineer 3

Definition

Under general direction, performs specialized engineering, project management, and operations research and evaluation work for the Utilities Division of the Iowa Department of Commerce by maintaining "lead" responsibility for the investigation and regulation of one or more types of utility operations; 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.

Participates in the appraisal, evaluation, and depreciation studies of utility properties and engineering cost studies to evaluate compliance with Departmental ratemaking principles and determine the cost of service provided by the utility to the public by examining utility company books, records, operating data, and facilities in the field.

Conducts or directs the investigation of customer complaints and of operation, service, and public safety conditions of utility facilities to determine safety and service by analyzing customer complaints, utility books and records, interviewing involved parties, and making on-site inspection tours.

Provides information for Departmental presentations to elicit facts needed for proper disposition of contested cases by formulating cross-examination questions for public utility company witnesses and providing input in the preparation of briefs and oral agreements.

Presents and supports the staff position in formal proceedings to assure that all appropriate facts are brought forth by testifying and submitting to cross-examination on technical issues including cost effectiveness of utility systems and alternatives, performance measures, depreciation, cost of service, and other related engineering issues.

Provides interpretations of professional engineering and regulatory codes to inform agency and public utility personnel by reading and analyzing the appropriate material and applying knowledge previously learned.

Utilizes computer models and engineering applications to analyze information regarding various aspects of utility operations to be used in Departmental policymaking, rate cases, staff training, long-range planning, or drafting administrative rules or legislation by coordinating all the data gathered and applying acceptable analytical techniques.

Performs as project leader or project staff member in conducting research projects concerning public utility regulation issues by determining objectives, collecting and analyzing data, forming conclusions based on research and analysis, and summarizing and documenting results.

Identifies and/or develops criteria and evaluates utility data to assure reasonable and adequate utility service to the public at the lowest possible cost by participating in engineering project studies of utility operation, planning, construction, and maintenance.

Competencies Required

Knowledge:

- 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.
- Utilities – Utility valuation principles, techniques, and standards in areas such as depreciation methods, cost allocation, and production cost allocation. Principles and techniques used in rate design and in classifying and allocating utility cost of service.
- Design – Design techniques, tools, and principles involved in production of precision technical plans, blueprints, drawings, and models.
- Mathematics – Arithmetic, algebra, geometry, calculus, statistics, and their applications.
- Customer Service – Principles and processes for providing customer services, including customer needs assessment, meeting quality standards for services, and evaluating customer satisfaction.
- Law and Government – Laws, legal codes, court procedures, precedents, government regulations, executive orders, agency rules, and the democratic political process.
- Public Safety and Security – Relevant equipment, policies, procedures, and strategies to promote effective local, state, or national security operations for the protection of people, data, property, and institutions.
- English Language – The structure and content of the English language, including the meaning and spelling of words, rules of composition, and grammar.

Abilities:

- Law and Government – Understand and adhere to applicable laws, legal codes, administrative rules, and regulations.
- Written Expression – Communicate information and ideas in writing so others will understand.
- 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.
- Near Vision – See details at close range (within a few feet of the observer).
- 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.
- 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).

- 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.

Skills:

- 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.
- Reading Comprehension – Understanding written sentences and paragraphs in work related documents.
- Speaking – Talking to others to convey information effectively.
- Science – Using scientific rules and methods to solve problems.
- Judgment and Decision Making – Considering the relative costs and benefits of potential actions to choose the most appropriate one.
- Complex Problem Solving – Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions.

Minimum Qualification Requirements

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

- 1) Graduation from an accredited four-year college or university with a degree in civil engineering, petroleum engineering, electrical engineering, mechanical engineering, nuclear engineering, valuation engineering, engineering economics, depreciation engineering, or industrial (i.e., engineering management, operations research, or engineering operations) engineering, and experience equal to three years of full-time work in the planning, forecasting, researching, designing, managing, operating, or evaluating of electric, telecommunications, gas, or water facilities or systems.
- 2) Number one above, where twenty-four semester hours of postgraduate coursework in accounting, business administration, computer science, economics, finance, statistics, or any engineering discipline from an accredited college or university may substitute for one year of the required full-time work experience.
- 3) Licensed as a professional engineer by the Iowa Engineering and Land Surveying Examination Board.
- 4) Current, continuous experience in the state executive branch that includes experience equal to twelve months of full-time work as a Utilities Regulation Engineer 2.

Notes

Travel, including overnight travel, may be required for positions in this class. Employees must arrange transportation to and from assigned work areas. Some out-of-state travel may be required, as assigned by the employing agency. Select positions may require incumbents to provide their own means of transportation in order to conduct state business.

Effective date: 10/19 KF