# HENDERSON MUNICIPAL POWER & LIGHT
# CLASSIFICATION SPECIFICATION

**CLASSIFICATION TITLE: ELECTRIC UTILITY SYSTEM ENGINEER**

## PURPOSE OF CLASSIFICATION

The purpose of this exempt position is to provide engineering support and project management for all phases of construction, maintenance, or rehabilitation projects, from inception to completion, including the programming, design, and construction phases. Scope of work for this class includes all aspects of the electric utility, including transmission and distribution (substation, protective relaying, metering, SCADA/OMS, etc.), environmental compliance, quality control, and related areas. Work is performed under the supervision of the Transmission and Distribution Director.

## ESSENTIAL FUNCTIONS

**The following duties are normal for this position. These are not to be construed as exclusive or all-inclusive. Other duties may be required and assigned.**

**PROJECT PLANNING & MANAGEMENT:**

- Provides oversight and management of all phases of construction projects for expansion, maintenance, or rehabilitation of the utility infrastructure: monitors the progress of the projects for conformance to the budget, quality control, schedule, and contract; supervises and serves as a liaison with consultants, contractors, and other parties; schedules and conducts inspections; and oversees compliance with regulatory issues on the worksite.

- Assists management with: programming and planning for operations and capital improvement projects: developing and maintaining list of potential projects; analyzing and prioritizing projects for maximum impact and return on investments; developing environmental audit standards; developing and maintaining reporting structures to monitor program profitability by forecasting expenses and revenues; and making recommendations.

- Interprets scope and requirements of system improvement projects; develops and evaluates alternatives and economic impacts; recommends action, project implementation and management.

- Represents the Utility externally as assigned and assists other departments on multi-disciplinary or cross departmental projects and studies: acts as a representative to other utility and industry organizations involved in the projects or studies; performs duties as the main contact for coordination of T&D facilities impacting road projects with state and local governmental agencies; prepares reports as necessary for compliance with Federal Department of Energy mandates; and coordinates with and serves as the project liaison to the public, property owners, media, other government agencies, and other interested parties.

- Inspects the installation of utilities and roadway infrastructure for private commercial and residential development/construction; alternatively inspects work completed by contractors working on public facilities for compliance with the approved plans, engineering specifications, quality expectations, and codes.

- Recommends equipment, engineering, and construction practices. Performs detailed evaluation of events, practices, and materials. Determines electrical and mechanical requirements for equipment

purchases. Prepares specifications for bid documents. Participates in the bid and contract process for capital improvement projects; prepares technical specifications and project documentation needed for bid packages; works with management to ensure bid documents and contracts are complete; provides information and answers technical engineering questions from potential bidders; and participates in the bid review and evaluation, selection and negotiation with contractors as appropriate.

**TRANSMISSION & DISTRIBUTION SYSTEM:**

- Utilizes electric system software models and load growth data to analyze electric system performance and forecast the need for expansion or reconfiguration of the utility infrastructure. Produces system studies, feeder modeling, load flows, voltage, fault current, var flow and loss analysis. Operates various computer aided engineering design and analysis programs or tools; produces work orders or studies to support projects; conducts modeling and planning studies in support of analysis and design; and reviews plans submitted by engineers.

- Performs engineering calculations, modeling, and other analysis in support of operations: prepares complex forecasts, studies, technical reports, and related items; calculates statistical averages, cumulative and rolling averages, statistical trends, rates of change, percentages, etc., and tabulates, plots, and formats the results; analyzes and calculates various operational and performance indices such as voltage regulator set points, power quality data, etc.; interprets analysis to make recommendations for improving system performance for the electrical power system.

- Receives, reviews, prepares and processes various documents including electric consumption reports, electrical diagrams, electric comparison reports, service tickets, job prints, field test results, and related information.

- Ensures conformity with standards set by the North American Reliability Corporation (NERC) and the SERC Reliability Corporation (SERC).

**SCADA AND AMI:**

- Designs and analyzes protection settings and coordination, Supervisory Control and Data Acquisition (SCADA), Advanced Meter Infrastructure (AMI), Geographic Information System (GIS) mapping programs, grounding systems, control circuits and electrical equipment.

**OPERATIONS SUPPORT:**

- Determines voltage control settings, relay coordination, testing, and settings, and equipment sizing. Reviews system operations to ensure adequate delivery voltage and operating ranges. Designs and recommends solutions to electrical system problems. May provide analysis and recommendations to solve/prevent problems related to customer interface including motor start, harmonic loads, and other power quality problems.

- May participate in after hours assistance with outage management response or system issue resolution.

- Operates various types of equipment including a personal computer, meter tester, voltage meter, RF meter, diagnostic equipment, and general hand tools. Maintains knowledge of SCADA, OMS and mapping systems.

- May drive HMP&L vehicles to and from various worksites, when required. Must have a valid driver's license.

- Maintains good attendance and punctuality. Adheres to and enforces all company safety rules and regulations and compliance standards.

## ADDITIONAL FUNCTIONS

Performs other related duties as required.

## MINIMUM QUALIFICATIONS

Bachelor's degree in electrical engineering or a related field; supplemented by five years of experience in engineering design or construction management for electrical transmission and distribution systems; or any equivalent combination of education, training, and experience which provides the requisite knowledge, skills, and abilities for this job. Requirements include: ability to have regular and predictable work attendance; residency within a reasonable distance from HMP&L Service Center; possess a valid Driver's License; must pass a drug/alcohol screen, physical exam, and background check upon conditional offer of employment with no DUI convictions in the previous five years. Preferred requirement include: residency in Henderson County; power flow study and distribution/transmission system experience.

## PERFORMANCE APTITUDES

**Data Utilization**: Requires the ability to coordinate, manage, and/or correlate data. Includes exercising judgment in determining time, place and/or sequence of operations, referencing data analyses to determine necessity for revision of organizational components, and in the formulation of operational strategy.

**Human Interaction**: Requires the ability to apply principles of persuasion and influence over others in coordinating activities of a project, program, or designated area of responsibility.

**Equipment, Machinery, Tools, and Materials Utilization**: Requires the ability to operate, maneuver and/or control the actions of equipment, machinery, tools, and/or materials used in performing essential functions.

**Verbal Aptitude**: Requires the ability to utilize consulting and advisory data and information, as well as reference, descriptive and/or design data and information as applicable.

**Mathematical Aptitude**: Requires the ability to apply advanced algebraic and/or calculus concepts, to include integration of related functions; ability to perform and interpret statistical calculations which include frequency distributions, reliability and validity of tests, correlation techniques, and factor analysis.

**Functional Reasoning**: Requires the ability to apply principles of logical or synthesis functions; to deal with several concrete and abstract variables; and to analyze major problems that require complex planning for interrelated activities that can span one or several work units.

**Situational Reasoning**: Requires the ability to exercise judgment, decisiveness and creativity in situations involving the evaluation of information against sensory, judgmental, or subjective criteria, as opposed to that which is clearly measurable or verifiable.

## ADA COMPLIANCE

**Physical Ability**: Tasks require the ability to exert very moderate physical effort in light work, typically involving some combination of stooping, kneeling, standing, crouching and crawling, twisting, reaching with hands and arms, using hand to handle or feel objects, tools, or controls, and which may involve some lifting, carrying, pushing and/or

pulling of objects and materials of moderate weight (12-20 pounds). Some tasks may involve extended periods of time at a keyboard, workstation, or in meetings.

**Sensory Requirements**: Some tasks require the ability to perceive and discriminate colors or shades of colors, depth, texture, and visual cues or signals. Some tasks require the ability to communicate orally and aurally.

**Environmental Factors**: Performance of essential functions are regularly performed without exposure to adverse environmental conditions. However, may include exposure to environmental conditions, such as dirt, dust, pollen, odors, fumes, noise extremes, machinery, and electric currents.

This job description does not constitute a contract of employment. Any oral or written statements or promises to the contrary are hereby expressly disavowed and should not be relied upon by any prospective or existing employees. This job description is subject to change by the employer (Henderson Municipal Power & Light) at the discretion of the employer, or as the needs of the employer and requirements of the job change. The employer explicitly reserves the right to modify any of the provisions of this job description at any time and without notice. The duties listed above are intended only as illustrations of the various types of work that may be performed. The omission of specific statements of duties or essential functions does not exclude them from the position if the work is similar, related, or a logical assignment to the position.

*Henderson Municipal Power & Light, HMP&L, is an Equal Opportunity Employer. In compliance with the Americans with Disabilities Act, HMP&L will provide reasonable accommodations to qualified individuals with disabilities and encourages both prospective and current employees to discuss potential accommodations with the employer.*