

## **NSTAR Electric Transmission Function Job Summaries**

### **Electric Field Operations Organization**

#### **Vice President, Electric Field Operations (Transmission)**

This position has primary responsibility for the planning, operations and control of the electric distribution system. The position will direct the maintenance, protection and improvement of all distribution lines and facilities. The position will also assist the Senior Vice President, Operations develop the organization's short and long-range plans and, in turn, develop and implement business unit objectives that are aligned with and support the strategic and tactical goals of the Company. This position establishes the direction of the system infrastructure strategy and operating philosophy including development of safe operating procedures and work practices that are consistent with industry best practice's, drive continuous improvement and exceed regulatory and customer expectations. The position will work with subordinate positions to instill a philosophy of ownership and accountability for outcomes and a high level of productivity and quality of work. In collaboration with Electric Systems Operations & Transmission Development, Engineering, Supply Chain Management and others, this position will establish the blueprint for system restoration during emergencies.

#### **Director, Planning, Scheduling & Contract Services (Transmission)**

This position is responsible for driving the efficient execution of engineering, maintenance and construction work by providing effective planning, scheduling, productivity measurement and evaluation of work management processes. This position is also responsible for contract services related to the operations and construction of the distribution system, vegetation trimming and control, paving, and storm and emergency restoration. This position will ensure contracts for outside services are consistent with good procurement practices, provide low cost and high quality, adhere to all contract provisions and are sensitive to the working agreements with Company employees. The position will oversee the management of major distribution and transmission substation and transmission line construction activities.

#### **Director, Station Operations (Transmission)**

This position is jointly accountable with other Electric Operations' Directors for providing safe, reliable and cost-effective electric service to customers. Responsible for the operations, restoration, construction and corrective maintenance of the Company's substations. This position manages the field engineering and lab services for the transmission and distribution system. Integrates substation operations and maintenance activities with operations of various Electric Operations' areas. Develops, plans and implements technical, systemic and work process changes needed to improve efficiency, quality and productivity. This position oversees managers responsible for supervisors and multi-skilled works crews.

#### **Director, Electric Maintenance & Construction (Transmission)**

This position is jointly accountable with other Electric Operations Directors for providing safe, reliable and cost-effective electric service to customers. Responsible for the delivery of field activities within a geographic region in order to carry out the operations, restoration, maintenance and construction of the electric transmission and distribution systems. This position provides overhead and underground work crews on a 24 hour, 7-day per week basis to execute these processes. This position also oversees managers responsible for supervisors and multi-skilled work crews within their region.

### **Manager, Electric Maintenance & Construction (Transmission)**

This position is jointly accountable, with other Electric Operations managers, for providing safe, reliable and cost-effective electric service to customers. Under general direction, the manager is responsible for the delivery of field activities for a site within a geographic region in order to carry out the operations, restoration, maintenance and construction of the electric transmission and distribution systems. Provides overhead and underground work crews on a 24 hour, 7-day per week basis to execute these processes. This position oversees supervisors and multi-skilled work crews and clerical support within their site.

### **Project Manager, Construction (Transmission)**

This position is jointly accountable with Electric Operations and Engineering for the effective coordination and oversight of the Company's major transmission and distribution substation and line construction projects. Responsible for developing and obtaining approval for budgets, schedules, plans, tracking, goals and overall integration of construction projects and resources.

### **Manager, Station Construction (Transmission)**

This position is jointly accountable with other Electric Operations' Managers for providing safe, reliable and cost-effective electric service to customers. Under the general direction of the Director of Project Management, this position is responsible for the effective management of the Company's distribution and transmission substation and transmission line construction activities. Also responsible for developing the budget, setting plans and goals and overall management of area personnel and resources.

### **Manager, Field Engineering (Transmission)**

This position is accountable for managing the field engineering and lab services process for NSTAR's transmission and distribution system. This position has shared responsibility, with the other area maintenance managers, for providing cost effective implementation of maintenance projects to world class standards. This position manages supervisors of multi-skilled work crews performing maintenance tasks the service territory.

### **Manager, Field Communications (Transmission)**

This position is jointly accountable, with other Electric Operations' Managers, for providing safe, reliable and cost-effective electric service to customers. This position is responsible for the effective management of the Company's transmission and distribution communications systems' assets and activities. This position is also responsible for the installation, operation, maintenance and quality control of all communications systems including: RadSec radio controls, fiber communications and testing, telephone systems, voice radio/base stations, VOIP, master radio sites, repeaters, integrated communication dispatch consoles, microwave, digital grid/Hazeltine, and recloser controls. Responsible for developing the budget, setting plans and goals and overall management of area personnel and resources.

### **Manager, Station Operations (Transmission)**

This position is jointly accountable with other Electric Operations' Managers for providing safe, reliable and cost-effective electric service to customers. Under the general direction of the Director of Station Operations, this position is responsible for the effective management of the Company's distribution and transmission substation operations and maintenance activities, within a geographic region. Also responsible for developing the budget, setting plans and goals and overall management of area personnel and resources.

### **Supervisor/Senior Supervisor, Electric Operations (Transmission)**

This position provides customers with safe, reliable, competitively priced and environmentally sound electric service through ensuring that the NSTAR transmission and distribution systems are constructed, maintained and operated to high quality standards. Provides customers with accurately and timely information with regards to construction, service and restoration activities.

The Supervisor's role is multifaceted with responsibilities including; work planning and coordination, scheduling, execution of fieldwork activities (e.g. substation, UG, OH), performance measurement, coaching, mentoring and various administrative duties. Emphasis is placed on various aspects of these responsibilities through rotational assignments into positions throughout the organization. This position supervises work planning staff and multi-skilled work crews engaged in the execution of processes to operate, maintain, restore, and construct the NSTAR transmission and distribution systems.

At the senior level, supervisor will also be responsible for taking the lead in coordinating across/within work location processes, drive innovation and change in business processes and coach and mentor other supervisors.

### **Principal Engineer, Engineering (Transmission)**

This position is the highest level of professional engineering work, responsible for accomplishing major, complex engineering projects. At this level, individuals will have demonstrated creativity, foresight and mature engineering judgment in anticipating and solving engineering problems. The incumbent should be a recognized technical expert in a broad area of specialization or in a narrow, but specialized, field. Responsible for planning and conducting research in problem areas of considerable scope and complexity. Performs general supervision of projects assigned to engineers junior to this position. Coordinates junior staff as assigned to provide technical support to all groups who design, procure, install and test systems and devices that will repair, replace, improve or increase the electrical transmission and distribution system.

### **Senior Supervising Engineer, Electric Operations (Transmission)**

This position is responsible for the completion of difficult engineering assignments, and the supervision of subordinate Engineers, Technicians and Inspectors engaged on a large and important engineering project, or on a number of small projects with complex features. This position ensures the efficient installation and testing of all relays, meters, circuit breakers, cable, power transformers, and specialized power system equipment and all of their associated control schemes through routine and special testing and supervision of the appropriate technical personnel. This position also has a major responsibility for the constant operation and maintenance of the Company's communication infrastructure including microwave, radio and fiber-optic systems. Incumbents provide engineering consulting services to other departments and serve as technical experts in an engineering capacity in the areas of Distribution, Transmission and Sub- Stations. The Field Support Group makes decisions on engineering problems and methods, independently, and serves as the technical authority on the job site. The incumbent represents the organization in resolving important cross-functional questions and in planning and coordinating work across departments.

## **Electric System Operations & Transmission Development**

### **Vice President, Electric System Operations & Transmission Development (Transmission)**

This position has primary responsibility for leveraging the Company's investment in the transmission business and maximizing the operations of the electric transmission and distribution systems. The position will oversee every aspect of the electric transmission business, including the identification and implementation of reliability projects, development of regional utility consortiums and the execution of joint venture projects. This position will work closely with NE ISO, the North American Electric Reliability Corporation (NERC) and others in the development and execution of transmission policies and standards. The position will ensure the Company remains in compliance with all NERC and Northeast Power Coordinating Council (NPCC) standards regarding cyber security, critical infrastructure, facility ratings methodology and reporting, emergency operations and transmission planning. This position will develop the Company's electric transmission regulatory and rate recovery strategies. This position will also oversee the management and operation of the transmission, sub-transmission, network and distribution electric systems, including the Transmission Local Control Center. The position will work closely with Field Operations, Engineering, Regulatory Relations and Power Supply to ensure all critical issues relating to the transmission business are properly integrated.

### **Director, Transmission & Distribution Electric Service (Transmission)**

This position is responsible for the management and operation of the NSTAR transmission, sub-transmission, network and distribution electric systems, including responsibility for managing the NSTAR Transmission Local Control Center and NSTAR's relationship with ISO-NE. This position is accountable for the overall management of electric system security, dispatching and switching activities and coordinating all work performed on NSTAR electric systems. This position has overall responsibility for managing and restoring all electric system events with an emphasis on customer restoration utilizing Electric Service overhead and underground troubleshooters and all other Electric Operations personnel as required.

This position has responsibility for the readiness, planning and management of the NSTAR emergency preparedness processes, procedures and plans. Emergency preparedness includes, but is not limited to, events attributed to major weather storms, municipal, state or federal government emergencies, NSTAR infrastructure emergencies (e.g. Black Start, Network Restoration, Loss of SCADA/Communications) and NSTAR business continuity emergencies.

### **Project Director, 345kV Transmission Development Project (Transmission)**

This position is responsible for the development and integration of all planning, scheduling, coordination and implementation of activities related to the 345kV Transmission Development Project. Also responsible for managing a team of NSTAR Directors charged with determining technical standards; educating and gaining the support of federal, state and local governments and agencies; securing necessary property, permits and licenses; and providing legal representation and support. Assists with negotiations with manufacturers, architectural and engineering firms and construction companies regarding all materials and services required for project completion.

### **Manager, Electric Service (Transmission)**

This position is jointly accountable, with other Electric Operations Managers, for providing safe, reliable and cost-effective electric service to customers. This position is primarily responsible for coordinating work performed on the electric system and response to customer outage. This position oversees a highly skilled system operations and troubleshooting personnel at energy management/service centers on a 24 hour, 7-day per week basis. This position also requires frequent off-hour interactions with staff and other stakeholders.

### **Manager, Bulk Power Systems Operations (Transmission)**

This position is jointly accountable, with other Electric Operations Managers, for providing safe, reliable and cost-effective electric service to customers. Responsible for coordinating operation of the bulk power system in conjunction with NE ISO. This position oversees system staff at energy management/service centers on a 24 hour, 7-day per week basis. This position also requires frequent off-hour interactions with staff and other stakeholders.

### **Manager, Power Systems Operations (Transmission)**

This position is jointly accountable, with other Electric Operations Managers, for providing safe, reliable and cost-effective electric service to customers. Responsible for managing NSTAR control center IT applications, such as M3i, PI, SCADA, TOA and Transmission EMS applications, along with other IT business applications in collaboration with NSTAR Information Services (NIS), ISO/NE and other stakeholders. This position ensures IT systems are current, accurate and operational in order to meet NSTAR and external stakeholder operating requirements. This position oversees staff located at the Energy Management Center on a 24 hour, 7-day per week basis. This position also requires frequent off-hour interactions with staff and other stakeholders.

### **Manager, Electric Operations (Transmission)**

This position is jointly accountable, with other Electric Operations managers, for providing safe, reliable and cost-effective electric service to customers. Under general direction, the manager is responsible for the delivery of field activities for a site within a geographic region in order to carry out the operations, restoration, maintenance and construction of the electric transmission and distribution systems. Provides overhead and underground work crews on a 24 hour, 7-day per week basis to execute these processes. This position oversees supervisors and multi-skilled work crews and clerical support within their site.

### **Supervisor/Senior Supervisor, Dispatch (Transmission)**

This position provides customers with safe, reliable, competitively priced and environmentally sound electric service through the supervision of NSTAR's transmission, system and distribution dispatching activities. Provides customers with accurately and timely information with regards to construction, service and restoration activities.

The Supervisor's role is multifaceted with responsibilities including work process and systems coordination, direct supervision of systems, distribution and bulk power supply work activities, performance measurement, coaching, mentoring and various administrative duties. Emphasis is placed on various aspects of these responsibilities through rotational assignments into various roles within the dispatch operation. This position supervises energy center staff who maintain systems integrity and initiate corrective action, prioritize and expedite network operations and repairs, prepare electrical system permits and accurately maintain records, and ensures that work is conducted in a safe manner in accordance with policies, work methods, standards, switching and tagging and operating procedures.

At the senior level, supervisors will also be responsible for providing overall coordination and leadership of dispatching activities, integration of new technology, services, workforce management and workflow processes, coordination and scheduling of functions to ensure smooth operations of the Energy Management Center, and coaches and mentors other supervisors. The senior level will have lead accountability for administration at an energy center.

### **Supervisor/Senior Supervisor, Electric Operations (Transmission)**

This position provides customers with safe, reliable, competitively priced and environmentally sound electric service through ensuring that the NSTAR transmission and distribution systems are constructed, maintained and operated to high quality standards. Provides customers with accurately and timely information with regards to construction, service and restoration activities.

The Supervisor's role is multifaceted with responsibilities including; work planning and coordination, scheduling, execution of fieldwork activities (e.g. substation, UG, OH), performance measurement, coaching, mentoring and various administrative duties. Emphasis is placed on various aspects of these responsibilities through rotational assignments into positions throughout the organization. This position supervises work planning staff and multi-skilled work crews engaged in the execution of processes to operate, maintain, restore, and construct the NSTAR transmission and distribution systems.

At the senior level, supervisor will also be responsible for taking the lead in coordinating across/within work location processes, drive innovation and change in business processes and coach and mentor other supervisors.

### **Senior Operations Support Engineer (Transmission)**

This position is responsible for operating support and maintenance of the Energy Management System (EMS) applications including, State Estimator (SE), Real Time Contingency Analysis (RTCA), Loadflow and Dispatcher Training Simulator (DTS) software. Maintains complex computer simulation software used for analyses in support of system adequacy evaluations, technical analysis of system reliability during equipment outages and monitoring/evaluating the reliability of the electric system on a real time basis.

### **Supervisor, Transmission System (Transmission)**

This position has the responsibility and authority to implement real-time actions to ensure the stable and reliable operation of the Bulk Electric System. This position is also responsible for monitoring and controlling NSTAR's Electric Transmission System on a continuous basis during normal and emergency conditions to ensure safe, reliable and economic operations. Issues clearances and switching orders and directs the tagging of transmission equipment. Directs the restoration of the transmission system following a major system outage, load shedding or blackout. Using Energy Management System (EMS) software, this position evaluates transmission system reliability then develops and implements appropriate action plans. Ensures transmission system activities and conditions are communicated and coordinated with ISO-NE, other Control Centers and NSTAR personnel. The position coordinates and prioritizes repairs and schedule equipment outages for construction/maintenance activities.

### **Lead Transmission Analyst (Transmission)**

This position develops, negotiates, updates, implements and administers transmission contracts including interconnections and support arrangements. Represents the Company on committees and in joint work with New England Power Pool (NEPOOL), ISO New England (ISO-NE) and the Federal Energy Regulatory Commission (FERC), and other industry groups and regulatory agencies to ensure the interests of the Company are pursued in a consistent manner. Administers ISO/NEPOOL billings and Open Access Same Time Information System (OASIS) transmission access. Supports the development and implementation of NSTAR's transmission business plan.

### **Transmission Contracts Administration Analyst (Transmission)**

This position is responsible for all transmission contracts and ISO billings, reconciliation and associated document management. This position also supports the monitoring of the Open Access Same Time Information System (OASIS).

### **Distribution Dispatcher (Transmission)**

Under directive supervision, assists the Distribution Dispatch Supervisor in the emergency and normal operation of the electric distribution system. Exercised independent judgment in determining the cause and associated corrective action(s) for abnormal conditions that may occur on the distribution system. Assists, as directed, in the proper operation of other systems under the control of the Distribution Dispatch Supervisor. Under general supervision, has responsibility for the operation and restoration of the electric distribution system, during system trouble as determined by the Distribution Dispatch Supervisor.

## **Engineering Organization**

### **Vice President, Engineering (Transmission)**

This position has primary responsibility for the engineering and technical requirements as well as the strategic and tactical direction of the Company's delivery systems for electric operations. This encompasses system expansion planning, design engineering and related construction of new and major retrofit projects for electrical systems, including transmission lines, bulk substations, system protection and relaying. The incumbent will assist the Senior Vice President Operations and other Senior Officers develop the Organization's short and long-range plans and, in turn, develop and implement business unit objectives, which support the strategic and tactical goals of NSTAR. The position ensures the operating plans, systems and budgets of all departments are fully integrated in order to maximize the business units capability, thereby, providing superior customer service.

### **Director, System Planning (Transmission)**

This position, in conjunction with other areas of the Engineering Organization, shares accountability for ensuring the optimal performance and utilization of system assets through the management of the System Planning area. This position is responsible for the assessment of system adequacy and reliability, completion of risk management analysis, defining the need, size, location, priority, timing and justification of major system projects (transmission lines and substations providing bulk power delivery to the distribution system), incorporation of system capital investment proposals into the budget process, managing the submission and regulatory review of these projects and completion of interconnection studies for customer requesting transmission service.

### **Director, Substation & Transmission Engineering (Transmission)**

This position, in conjunction with other areas of the Engineering Organization, shares accountability for ensuring the optimal performance, utilization and management of the substation system assets. This position develops strategy to enable cost effective and reliable operation of substation assets in serving customers. This position directs a team of managers, engineers and technical support personnel who, in turn, collaborates closely with Engineering teams, field operations and maintenance organizations and other business partners in creating, designing and budgeting for major projects and developing the life cycle plan for all substation assets and adjusting the plan accordingly. This position defines work, mutual commitments and expectations with other departments through service contracts or agreements in order to produce continuing improvement in system performance and customer service.

### **Manager, Technical Engineering (Transmission)**

This position, in conjunction with other areas of the Asset Management process, shares accountability for optimizing the cost and performance of distribution system assets through the management of the Distribution Asset Strategy Area. The Manager(s) of Technical Engineering is primarily responsible for the overall strategic implementation of the asset strategy as it specifically relates to system components (transformers, wire, relays, communications etc.). He/she is responsible for managing, leading, coaching and evaluating the performance of the technical team members to enable the organization to successfully

meet its goals and objectives. The manager plays a critical role in developing and managing a consistent strategy amongst members in order to optimize the cost and performance of the equipment and technology utilized on the distribution system. He/she is responsible for ensuring timely response in support of, root cause analysis, and follow up on, system events. In addition, this position is responsible for the development and cost justification of programs (e.g., preventive maintenance optimization) and projects (e.g., breaker replacements) for inclusion in the Life Cycle Plan, a long-term plan for the asset base.

#### **Manager, Substation Performance & Reliability (Transmission)**

This position is responsible for condition monitoring and performance of all substation and transmission equipment and components, including substation transformers, circuit breakers and protective relaying equipment. Evaluates performance of substation equipment and components to determine methods for improving performance and reliability. Oversees preparation and dissemination of monthly reports on substation equipment performance. Assists the Substation Technical Support Group on capital and reliability improvement projects. Collaborates with Electric Operations to develop the annual plan and budget for substation operation and maintenance.

#### **Manager, System Control & Protection Engineering (Transmission)**

This position is responsible for the design and engineering standards and specifications for control and protection of new substations and modifications to existing substations. Responsible for reviewing and analyzing performance of substation relays and other control and protection equipment and components. Interfaces with manufacturers and the Substation Performance and Reliability Group to recommend and provide estimates for new projects and upgrades of existing equipment. Responsible for ensuring that NSTAR's relay and control schemes are in compliance with the Northeast Power Coordination Council (NPCC) and ISO-NE standards. Oversees the development of new technologies in control and protection, and integrates them into existing systems.

#### **Manager, Substation Design Engineering (Transmission)**

This position is responsible for the engineering and design of new substations and modifications to existing substations. Responsible for preparing equipment and construction specifications for all substation projects. Responsible for the accuracy and maintenance of drawings detailing equipment and reflecting field changes. Conducts feasibility and cost studies on new substations, substation upgrades and modifications. Interfaces with the Department of Telecommunications & Energy (DTE) and local towns to secure regulatory and local permitting support for substations.

#### **Manager, Overhead Transmission Lines (job title Manager, Transmission Lines) (Transmission)**

This position in conjunction with other areas of the Asset Management Department shares accountability for ensuring the optimal performance, utilization and management of Transmission system assets. The Manager develops strategy to enable cost effective and reliable operation of transmission line assets in serving customers. This position manages a team of engineers from several technical disciplines and technical support personnel. This position collaborates closely with Asset Management teams, field operations and maintenance organizations and other business partners in creating, designing, and budgeting for major projects and developing the life cycle plan for all work related to overhead and underground electric transmission facilities.

#### **Principal Engineer, Engineering (Transmission)**

This position is the highest level of professional engineering work, responsible for accomplishing major, complex engineering projects. At this level, individuals will have demonstrated creativity, foresight and mature engineering judgment in anticipating and solving engineering problems. The incumbent should be a recognized technical expert in a broad area of specialization or in a narrow, but specialized, field. Responsible for planning and conducting research in problem areas of considerable scope and complexity.

Performs general supervision of projects assigned to engineers junior to this position. Coordinates junior staff as assigned to provide technical support to all groups who design, procure, install and test systems and devices that will repair, replace, improve or increase the electrical transmission and distribution system.

#### **Senior Engineer, System Planning (Transmission)**

This position is responsible for completing difficult engineering assignments requiring the application of intensive and diversified knowledge of engineering principles, including project development, design, equipment performance evaluation, and life cycle plan development for electric transmission and substation plant. This position performs complex computer simulation and analysis in support of system adequacy evaluations, technical analysis of competing reliability improvement solutions, and interconnection studies.

#### **Lead Engineer (Transmission)**

This position has shared responsibility for optimizing the cost and performance of the assets of the transmission/distribution system. This position is responsible for the strategic development, expansion, planning, design, maintenance and operation of the system and its equipment to meet the mission and objectives of the organization. In addition, this position coordinates the evaluation of system failures, and the appropriate resolutions, in order to provide support to operations on unplanned maintenance. This position shares accountability with peers in the strategy, development, and design of the organization's Life Cycle Plan, a comprehensive long-term plan for the transmission/distribution system. Responsible for supervising, assigning, prioritizing and directing the work performed by other Engineers. Depending on the specific assignment, this position could be situated in various service centers, accountable for specific asset systems (circuits, feeders, substations etc.) or centralized with accountability for component assets (cable, relays, transmission lines, breakers etc.). This position may require on-call responsibilities.

#### **Supervisor, Engineering (Transmission)**

This position is responsible for ensuring that the NSTAR transmission and distribution systems are designed to high quality standards that provide customers with safe, reliable, competitively priced and environmentally sound electric service. Ensures the timely obtaining and processing of rights, permits and easements from federal, state and municipal authorities, as well as private property owners, and the processing of customer service work orders. This position is also responsible for providing customers with accurate and timely information regarding construction, service and restoration activities. Interfaces with Customer Care, Electric Operations and other departments to ensure that new customer connections are processed in an accurate and timely fashion. This position supervises a staff engaged in the engineering and design of processes to operate, maintain, restore and construct the NSTAR distribution systems.

#### **Senior Engineer, Asset Strategy (Transmission)**

This position has shared responsibility for optimizing the cost and performance of the assets of the transmission/distribution system. The person in this position is responsible for the strategic development, expansion, planning, design, maintenance and operation of the system and its equipment to meet the mission and objectives of the organization. In addition, he/she coordinates the evaluation of system failures, and the appropriate resolutions, in order to provide support to operations on unplanned maintenance. This position shares accountability with peers in the strategy, development, and design of the organization's Life Cycle Plan, a comprehensive long-term plan for the delivery system. Depending on the specific assignment, this position could be situated in various service centers, accountable for specific asset systems (circuits, feeders, substations etc.) or centralized with accountability for component assets (cable, transmission lines, relays, breakers etc.). This position may require on-call responsibilities.

**Lead Senior Designer II (this includes Designers, Senior Designers and Lead Senior Designers)  
(Transmission)**

Under general supervision and in accordance with the Company's Engineering Policies, the Lead Senior Designer II performs duties requiring a high degree of proficiency in connection with design drafting activities. Analyzes and interprets engineering work scopes, engineering data, construction details, manufacturer's drawings and prints as required, to create complete project design packages for bidding and construction, as well as built completion and design package close outs. When required, will check design drafting progress at any stage, perform related field checking, as well as instruct and direct employees of the same or lower ratings in this work.

The Lead Senior Designer II position includes all the responsibilities and duties of a Senior Designer and Lead Senior Designer with the addition of peer-to-peer training of the associated department's material and mentoring of Senior Designers and Lead Senior Designers.