

FERC Standards of Conduct Compliance: Job Titles and Job Descriptions of Transmission Function Employees

Transmission Function Employees ("TFEs") are actively and personally engaged, on a day-to-day basis, in any of the following: planning, directing, organizing or carrying out of day-to-day transmission operations. Transmission operations includes:

- Granting/denying of transmission service requests.
- Coordinating physical flows of power.
- Balancing load with energy or capacity.
- Isolation of parts of the system to prevent cascade.
- Imposing transmission loading relief.

Business Operations Manager: Directs electric system grid operations engineering by monitoring, planning, analyzing, directing and executing 24/7 grid operations. Takes responsibility for managing Company transmission grid operations and engineering functions to maintain safe and reliable electric service to prevent power outages, in accordance with mandatory Federal Energy Regulatory Commission (FERC), North American Electric Reliability Corporation (NERC) and Western Electricity Coordinating Council (WECC) grid operations regulations. Balances real time and planned electricity operating system parameters including voltages, line and equipment loading and supply availability in coordination with the California Independent Systems Operator (CAISO) and interconnecting utilities. Monitors multiple switching and distribution operations centers showing operating conditions of lines and equipment throughout the system and makes adjustments or directs workers to make adjustments as conditions warrant. Takes responsibility for substation operations and other field personnel to de-energize malfunctioning circuits or adjust switches to ensure safety of all crews and the public as well as ensure safe and reliable operation of SCE's transmission and distribution electrical systems, including all substations. Directs restoration efforts during storms and emergencies with other organizational units to effectively restore power for customers.

Chief Hydro Station Operator: Supervises and controls the operation of hydroelectric generating stations and related equipment; dams, intakes, forebays, spillways, and water conduits to assure efficient loading and operations of the Hydro Division plants. Provides direction and assistance to other Hydro Station Operators in the performance of switching orders, plants start-up and shutdown procedures, and other operating instructions. Initiates maintenance work to maintain plants, checks work clearances and work of crews. Keeps advised of equipment conditions and progress of repairs. Determines jointly with SOM maintenance costs and materials required. Requisitions materials and equipment, and prepares required forms and reports associated in the operation of the Hydro facilities. Evaluates subordinate personnel, including preparation of performance appraisals. Instructs and coaches crew members in job duties and safety practices; provides on-the-job training; counsels crew members on job performance; and prepares/updates documentation as required. Schedules daily work assignments and vacations. Reviews and approves Automatic Timekeeping System (ATS) entries of crew. Prepares/maintains required records, uses the computerized Hydro work management system to initiate and record work status. Assist in preparing budgets and planning future jobs. Uses latest computer technology to monitor, operate, and report on all station equipment. Supervises and participates in the application of algaecides, herbicides, and chemicals to company facilities as trained. Supervises hazmat storage and disposal program and reporting as determined by supervision. Monitors generation production.

Construction Supervisor: Provide work direction and work with Construction Electricians and other SCE workers. Coordinate activities on assigned jobs/projects utilizing various electrical crafts in the construction and modification of substations, generating stations, hydro facilities and any other electrical related projects. Interact with the direct activities of Construction Electricians and other SCE employees on such jobs as erecting structural steel, installing switch rack equipment, installing various conductors, conduit and grounds, installing relay and automation systems, rigging and loading/unloading heavy equipment. Keep records and submit reports of work performed. Recommend and report engineering problems. Perform switching operations as directed. Perform primary switching/operations in substation facilities.

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Distribution Operations Center Dispatch Clerk/Specialist: Performs dispatching activities utilizing computer systems such as SCE's outage management system, SCE's customer service system and SCE's work management systems. Performs meter order activities in order to prioritize, assign and dispatch orders. Contacts customers to arrange for service to be performed and updates outage information. Supports storm order activities through the identification of problems affected by circuit outages. Assigns and updates orders to SCE crews including trouble orders. Arranges customer callbacks. Establishes, reviews and maintains logs. Analyzes and updates distribution system performance and trends.

Electrician: Constructs and remodels substation facilities and installs and connects electrical equipment in stations. Loads and unloads heavy electrical equipment. Assembles prefabricated steel and pipe for bus and switch racks. Rigs gins poles, lines and guys; climbs ladders, racks or towers to bolt steel assemblies, cuts, bends, fits and installs copper bus tubing bar and conduit. Installs relays, terminal boxes and similar devices, and wiring on switchboards. Places and assembles synchronous condensers, frequency changers, power transformers, motors, and various other devices associated with substation construction.

Electric Transmission/Distribution Technical specialist: Manages Grid Operations projects and is actively engaged in transmission operations. Performs duties involved in intimate decisions regarding outage activities.

Electric Transmission Operations Manager: Directs electric system grid operations engineering by monitoring, planning, analyzing, directing and executing 24/7 grid operations. Takes responsibility for managing Company transmission grid operations and engineering functions to maintain safe and reliable electric service to prevent power outages, in accordance with mandatory Federal Energy Regulatory Commission (FERC), North American Electric Reliability Corporation (NERC) and Western Electricity Coordinating Council (WECC) grid operations regulations. Balances real time and planned electricity operating system parameters including voltages, line and equipment loading and supply availability in coordination with the California Independent Systems Operator (CAISO) and interconnecting utilities. Monitors multiple switching and distribution operations centers showing operating conditions of lines and equipment throughout the system and makes adjustments or directs workers to make adjustments as conditions warrant. Takes responsibility for substation operations and other field personnel to de-energize malfunctioning circuits or adjust switches to ensure safety of all crews and the public as well as ensure safe and reliable operation of SCE's transmission and distribution electrical systems, including all substations. Directs restoration efforts during storms and emergencies with other organizational units to effectively restore power for customers.

Energy Delivery/Distribution Manager: Directs electric system grid operations engineering by monitoring, planning, analyzing, directing and executing 24/7 grid operations. Takes responsibility for managing Company transmission grid operations and engineering functions to maintain safe and reliable electric service to prevent power outages, in accordance with mandatory Federal Energy Regulatory Commission (FERC), North American Electric Reliability Corporation (NERC) and Western Electricity Coordinating Council (WECC) grid operations regulations. Balances real time and planned electricity operating system parameters including voltages, line and equipment loading and supply availability in coordination with the California Independent Systems Operator (CAISO) and interconnecting utilities. Monitors multiple switching and distribution operations centers showing operating conditions of lines and equipment throughout the system and makes adjustments or directs workers to make adjustments as conditions warrant. Takes responsibility for substation operations and other field personnel to de-energize malfunctioning circuits or adjust switches to ensure safety of all crews and the public as well as ensure safe and reliable operation of SCE's transmission and distribution electrical systems, including all substations. Directs restoration efforts during storms and emergencies with other organizational units to effectively restore power for customers.

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Foreman (Includes Electric Construction Foreman): Provide work direction and work with Construction Electricians and other SCE workers. Coordinate activities on assigned jobs/projects utilizing various electrical crafts in the construction and modification of substations, generating stations, hydro facilities and any other electrical related projects. Interact with the direct activities of Construction Electricians and other SCE employees on such jobs as erecting structural steel, installing switch rack equipment, installing various conductors, conduit and grounds, installing relay and automation systems, rigging and loading/unloading heavy equipment. Keep records and submit reports of work performed. Recommend and report engineering problems. Perform switching operations as directed. Perform primary switching/operations in substation facilities.

Grid Operations Director: Directs managers of SCE's electric system grid operations. Has oversight for managing SCE's transmission grid operations and engineering functions to maintain safe and reliable electric service to prevent power outages, in accordance with mandatory Federal Energy Regulatory Commission (FERC), North American Electric Reliability Corporation (NERC) and Western Electricity Coordinating Council (WECC) grid operations regulations. Ensures real-time and planned electricity operating system parameters including voltages, line and equipment loading and supply availability in coordination with the California Independent Systems Operator (CAISO) and interconnecting utilities.

Grid Operations Manager: Directs electric system grid operations engineering by monitoring, planning, analyzing, directing and executing 24/7 grid operations. Takes responsibility for managing Company transmission grid operations and engineering functions to maintain safe and reliable electric service to prevent power outages, in accordance with mandatory Federal Energy Regulatory Commission (FERC), North American Electric Reliability Corporation (NERC) and Western Electricity Coordinating Council (WECC) grid operations regulations. Balances real time and planned electricity operating system parameters including voltages, line and equipment loading and supply availability in coordination with the California Independent Systems Operator (CAISO) and interconnecting utilities. Monitors multiple switching and distribution operations centers showing operating conditions of lines and equipment throughout the system and makes adjustments or directs workers to make adjustments as conditions warrant. Takes responsibility for substation operations and other field personnel to de-energize malfunctioning circuits or adjust switches to ensure safety of all crews and the public as well as ensure safe and reliable operation of SCE's transmission and distribution electrical systems, including all substations. Directs restoration efforts during storms and emergencies with other organizational units to effectively restore power for customers.

Hydro Manager: Takes responsibility for an integrated hydroelectric project with multiple plant locations and personnel engaged in operating and maintaining hydroelectric generators and associated systems and equipment. Creates strategies that address operational requirements and critical functions to meet changing energy market requirements in real time. Implements short- and long-term maintenance planning and scheduling activities including associated budgeting and procurement activities. Creates policies addressing electric energy infrastructure requirements from the North American Electric Reliability Corporation (NERC) and the Western Electricity Coordinating Council (WECC) that have a major impact on the Company. Develops operational and maintenance strategies to maximize performance objectives, maintain reliable generation and ensure agency compliance. Creates long-term business plans and initiatives to meet electric system requirements, including water management, energy market demands and related transmission system demands. Designs and implements maintenance activities that meet compliance requirements from multiple state and federal agencies.

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Hydro Station Operator: Operates one or more stream flow or lake storage hydro-electric generating stations. Operates and inspects intakes, forebays, and water conduits, as necessary. Operates remote and/or manual controls which control reaction and impulse turbines, generators, transformer banks, waterways, and 115kv and lower voltage transmission and distribution equipment. Makes inspections and checks operations of station mechanical, electrical, hydraulic and pneumatic equipment. Determines abnormal operating conditions by checking oil levels, temperatures, sounds and other observations. Determines cause and nature of station or system trouble and performs emergency operations to restore equipment to service. Reports all operating problems to the Switching Center and supervisor. Receives and issues work clearances. Maintains the station log and records all pertinent information. Starts and stops units and adjusts load as required. Cleans and lubricates equipment and performs incidental maintenance as required. Prepares routine operating and trouble reports, reads and records various indicating instruments, and changes charts as required. Performs general clean-up and utility duties in and about Company facilities. Uses computer terminal to prepare reports on-line. Troubleshoots and calibrates automation equipment and instrumentation. Uses radio for communications. Operates over-the-snow vehicles in some locations. Operates hoists, cranes and trams.

Hydro Station System Operator: The duties may vary between northern and eastern regions. Direct shift activities, including giving functional direction to operating personnel, and operate equipment at a substation switching center. Determine operating status from previous shift personnel, station and equipment logs, dispatch board or automated system monitoring devices and inspection of station instruments and equipment. Operate or direct the operation of station equipment through manual or automated systems. Develop, issue, and verify step-by-step instructions to implement switching programs with consideration for impact on system status. Issue, transfer, or release work clearance. Perform switching and logging to bring third party generation on and off line to the system. Determine cause and nature of abnormal station, equipment or system conditions and takes action to operate or direct operation of equipment to restore lines and equipment to normal operating conditions. Maintain logs, records, report and pertinent information through manual and automated methods. Operate telephone and radio equipment. Initiate corrective action on customer trouble calls. Control the operation of major attended and unattended hydroelectric generation station equipment. Maintain normal operating conditions. Monitor hydro project operations compliance with regard to demand instructions from governmental agencies and outage information. Responsible for decisions regarding the operation of the electric or water storage and conveyance systems. Take necessary action to maintain normal operating conditions. Monitor project operations compliance requirement. Monitor hydro project compliance with various agencies. Provide outage information as required. Compute water schedules, water flow estimates, and performs calculations to reconcile water flow and usage levels. Provide weather and reservoir storage data to utility and government agency personnel. Responsible for decisions regarding the operation of the electric or Water Storage / Conveyance system which typically have a major impact at the Corporate and/or department level methods. Performs other operator duties as required. Operates motor vehicle.

IT Operations Manager: Directs electric system grid operations engineering by monitoring, planning, analyzing, directing and executing 24/7 grid operations. Takes responsibility for managing Company transmission grid operations and engineering functions to maintain safe and reliable electric service to prevent power outages, in accordance with mandatory Federal Energy Regulatory Commission (FERC), North American Electric Reliability Corporation (NERC) and Western Electricity Coordinating Council (WECC) grid operations regulations. Balances real time and planned electricity operating system parameters including voltages, line and equipment loading and supply availability in coordination with the California Independent Systems Operator (CAISO) and interconnecting utilities. Monitors multiple switching and distribution operations centers showing operating conditions of lines and equipment throughout the system and makes adjustments or directs workers to make adjustments as conditions warrant. Takes responsibility for substation operations and other field personnel to de-energize malfunctioning circuits or adjust switches to ensure safety of all crews and the public as well as ensure safe and reliable operation of SCE's transmission and distribution electrical systems, including all substations. Directs restoration efforts during storms and emergencies with other organizational units to effectively restore power for customers.

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Operational Midpoint Manager: Directs electric system grid operations engineering by monitoring, planning, analyzing, directing and executing 24/7 grid operations. Takes responsibility for managing Company transmission grid operations and engineering functions to maintain safe and reliable electric service to prevent power outages, in accordance with mandatory Federal Energy Regulatory Commission (FERC), North American Electric Reliability Corporation (NERC) and Western Electricity Coordinating Council (WECC) grid operations regulations. Balances real time and planned electricity operating system parameters including voltages, line and equipment loading and supply availability in coordination with the California Independent Systems Operator (CAISO) and interconnecting utilities. Monitors multiple switching and distribution operations centers showing operating conditions of lines and equipment throughout the system and makes adjustments or directs workers to make adjustments as conditions warrant. Takes responsibility for substation operations and other field personnel to de-energize malfunctioning circuits or adjust switches to ensure safety of all crews and the public as well as ensure safe and reliable operation of SCE's transmission and distribution electrical systems, including all substations. Directs restoration efforts during storms and emergencies with other organizational units to effectively restore power for customers.

Power Systems Operations Manager: Directs electric system grid operations engineering by monitoring, planning, analyzing, directing and executing 24/7 grid operations. Takes responsibility for managing Company transmission grid operations and engineering functions to maintain safe and reliable electric service to prevent power outages, in accordance with mandatory Federal Energy Regulatory Commission (FERC), North American Electric Reliability Corporation (NERC) and Western Electricity Coordinating Council (WECC) grid operations regulations. Balances real time and planned electricity operating system parameters including voltages, line and equipment loading and supply availability in coordination with the California Independent Systems Operator (CAISO) and interconnecting utilities. Monitors multiple switching and distribution operations centers showing operating conditions of lines and equipment throughout the system and makes adjustments or directs workers to make adjustments as conditions warrant. Takes responsibility for substation operations and other field personnel to de-energize malfunctioning circuits or adjust switches to ensure safety of all crews and the public as well as ensure safe and reliable operation of SCE's transmission and distribution electrical systems, including all substations. Directs restoration efforts during storms and emergencies with other organizational units to effectively restore power for customers.

Power Systems Operations Manager: Directs electric system grid operations engineering by monitoring, planning, analyzing, directing and executing 24/7 grid operations. Takes responsibility for managing Company transmission grid operations and engineering functions to maintain safe and reliable electric service to prevent power outages, in accordance with mandatory Federal Energy Regulatory Commission (FERC), North American Electric Reliability Corporation (NERC) and Western Electricity Coordinating Council (WECC) grid operations regulations. Balances real time and planned electricity operating system parameters including voltages, line and equipment loading and supply availability in coordination with the California Independent Systems Operator (CAISO) and interconnecting utilities. Monitors multiple switching and distribution operations centers showing operating conditions of lines and equipment throughout the system and makes adjustments or directs workers to make adjustments as conditions warrant. Takes responsibility for substation operations and other field personnel to de-energize malfunctioning circuits or adjust switches to ensure safety of all crews and the public as well as ensure safe and reliable operation of SCE's transmission and distribution electrical systems, including all substations. Directs restoration efforts during storms and emergencies with other organizational units to effectively restore power for customers.

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Power Systems Operations Specialist: Performs power system operation functions such as dispatching, power scheduling, resource planning, analysis, and development of system operator training. Coordinates generation and transmission outages and the development of computer based operational tools. Performs operational coordination with other departments in the design and construction of power system facilities. Influences, anticipates, and communicates conditions, trends, and corrective actions in operational areas.

Power Systems Planner: Develops competitive assessments, integrated systems analyses, business, and facility strategies and plans, customer and market assessments. Develops integrated strategies and policies associated with the planning, licensing, pricing, marketing, utilization, operation and maintenance of the Company's supply and transmission systems. Develops studies, plans regulatory support and testimony, guidelines, quantitative models, specifications, contracts, evaluations, performance assessments and forecasts.

Senior Advisor: Manages Grid Operations projects and is actively engaged in transmission operations. Performs duties involved in intimate decisions regarding outage activities.

Splicer: Installs, maintains, and repairs all types of power cable (including lead and pipe systems) and major electoral equipment and related facilities.

Substation Electrician

Installs, maintains and repairs high voltage electrical substation apparatus. Utilizing various meters, testing and diagnostic devices, performs routine testing, troubleshoots equipment problems, performs wiring of substation equipment, dismantles and overhauls circuit breakers, transformers, regulators, and associated substation equipment. Performs primary electrical switching as directed by the switching center to de-energize equipment for routine and emergency purposes. Trains and directs apprentice electricians.

Substation Operator - Under the direction of a Switching Center Operator, works on shift in and from a switching center, or at an attended substation to operate substation equipment and attend station facilities. Determines operating status of stations or station from previous shift personnel, log book, dispatch board and inspection of station instruments and equipment. Performs switching or directs switching according to step-by-step instructions. Issues, transfers or releases work clearances according to operating practices. Inspects station equipment such as transformers, disconnect switches, lines, power circuit breakers, insulators, condensers, fuses, station batteries, auxiliaries, switchboard instruments, water softeners, and fire conditions and perform required operations to protect equipment and restore service according to station instructions or orders from the switching center. Keeps station log, records and reports studies station instructions and system under jurisdiction to maintenance of station manuals, and preparation of monthly reports. Greases, oils, and cleans equipment. Performs general housekeeping and gardening duties.

Supervisor(s) (Includes Superintendent, Construction, Project Management, etc.): Responsible for providing direction, coaching, and monitoring of specific or multiple tasks involved with assigned work. Participates in establishing, developing, and implementing business objectives and plans. Supervises and allocates employee resources. Provides supervision including counseling, training and development, salary administration, selection of personnel, affirmative action, equal opportunity, and disciplinary action.

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Systems Operator: Under the direction of a Switching Center Operator, works on shift in and from a switching center, or at an attended substation to operate substation equipment and attend station facilities. Determines operating status of stations or station from previous shift personnel, log book, dispatch board and inspection of station instruments and equipment. Performs switching or directs switching according to step-by-step instructions. Issues, transfers or releases work clearances according to operating practices. Inspects station equipment such as transformers, disconnect switches, lines, power circuit breakers, insulators, condensers, fuses, station batteries, auxiliaries, switchboard instruments, water softeners, and fire conditions and perform required operations to protect equipment and restore service according to station instructions or orders from the switching center. Keeps station log, records and reports studies station instructions and system under jurisdiction to maintenance of station manuals, and preparation of monthly reports. Greases, oils, and cleans equipment. Performs general housekeeping and gardening duties.

Systems Operations Manager: Directs electric system grid operations engineering by monitoring, planning, analyzing, directing and executing 24/7 grid operations. Takes responsibility for managing Company transmission grid operations and engineering functions to maintain safe and reliable electric service to prevent power outages, in accordance with mandatory Federal Energy Regulatory Commission (FERC), North American Electric Reliability Corporation (NERC) and Western Electricity Coordinating Council (WECC) grid operations regulations. Balances real time and planned electricity operating system parameters including voltages, line and equipment loading and supply availability in coordination with the California Independent Systems Operator (CAISO) and interconnecting utilities. Monitors multiple switching and distribution operations centers showing operating conditions of lines and equipment throughout the system and makes adjustments or directs workers to make adjustments as conditions warrant. Takes responsibility for substation operations and other field personnel to de-energize malfunctioning circuits or adjust switches to ensure safety of all crews and the public as well as ensure safe and reliable operation of SCE's transmission and distribution electrical systems, including all substations. Directs restoration efforts during storms and emergencies with other organizational units to effectively restore power for customers.

Test Technician: Assists in or as qualified, tests, inspects, repairs and adjusts relays, instrumentation equipment, local controllers, pilot wire equipment, battery chargers and associated devices for the protection, control, and indication of system equipment. Use software programs utilized in programming, testing, inspecting, repairing and adjusting system equipment. Tests and inspects, generators, synchronous machines, motors, transformers, voltage regulators, instrument transformers, circuit breakers, cables, capacitors, and other electrical apparatus used in generation transmission and distribution. Performs high voltage and power factor insulation tests. Install meters, relays and associated devices. Tests the phase relation of overhead and underground lines, transformers and relays. Tests the synchronizing and phase rotation of generators. Maintains electrical drawings and required documentation. Acts as a substation operator and electrical checker. Performs general cleaning and housekeeping duties.

Transmission Systems Operator: Directs shift activities, including giving functional direction to operating personnel, and operates equipment at a substation switching center with jurisdiction over assigned bulk transmission lines, sub-transmission lines, distribution lines and substations. Determines operating status from previous shift personnel, station and equipment logs, dispatch board or automated system monitoring devices and inspection of station instruments and equipment. Operates or directs the operation of station equipment through manual or automated systems. Develops, issues and verifies step-by-step instructions to implement switching programs with consideration for impact on system status. Issues, transfers or releases work clearances. Performs switching and logging to bring third party generation on and off line to the system. Determines cause and nature of abnormal station, equipment or system conditions and takes action to operate or direct operation of equipment to restore lines and equipment to normal operating conditions. Maintains logs, records, report and pertinent information through manual and automated methods. Operates telephone and radio equipment. Initiates corrective action on customer trouble calls.