

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

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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.

**Chief Hydro Station Operator:** Supervises and controls the operation of hydro electric 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 algacides, herbicides, and chemicals to company facilities as trained. Supervises hazmat storage and disposal program and reporting as determined by supervision. Monitors generation production.

**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 hydro electric 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

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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.

**Hydro Station Operator 3:** 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.

## **Mechanic, Hydro Operator**

Operates attended and unattended hydroelectric generation stations; dams, intakes, fore bays, spillways, and water conduits; and related electronic, electrical, mechanical, hydraulic and pneumatic equipment. Operates computer control systems, switchboard and manually operated controls to operate equipment such as impulse or reaction turbines, electric generators, power circuit breakers and transformers, pumps, cooling and lubrication systems, and flow line gates and valves. Receives, verifies and performs step-by-step operating procedures. Issues, transfers and releases work authorizations to include approvals, permissions and clearances. Checks computer screen displays, takes instrumentation readings and conducts inspections of equipment and facilities. Determines nature and cause of abnormalities and initiates corrective action. Maintains manual or terminal entry station logs and operating and various other reports and records. Maintains recording instrument readings. Services, cleans, and lubricates equipment. Operates telecommunication equipment. Performs housekeeping and material handling. Operates motor vehicles. Operates switching up to 230kv on Transmission & Distribution equipment. Writes switching programs. Performs periodic, preventive, corrective, and emergency maintenance such as disassembling, repairing, and assembling of plant equipment; replacing, adjusting packing; lubricates equipment; assist others such as mechanics, and technicians; troubleshoot malfunctions. Trains peers and others to enable them become more proficient. Diagnose, report, and record equipment problems. Write maintenance orders. Operate equipment such as snow vehicles, station cranes, and hoists.

## **Technician, Hydro Electrician & Instrument Control**

Inspects, tests, services, repairs and installs indicating, recording and automatic control instruments such as flow-meters, pressure gages, thermometers, controllers, regulators, chlorinators and similar components. Maintains, repairs and installs computerized control systems both hardware and software components. Following general diagnostic and characteristic instructions, locates cause of defective performance of digital and analog logic control systems and equipment. Reports test findings to his immediate supervisor and replaces or repairs electronic, pneumatic, or mechanical component parts as required. Uses portable pressure gages, manometers, potentiometers, conductivity bridges, signal generators, oscilloscopes and similar test equipment. Performs preventive maintenance including cleaning and lubricating parts, fitting shafts and bearings, cleaning and adjusting timers and contacts, replacing defective electrical and pneumatic parts and wiring, installing and repairing tubing, adjusting and calibrating instruments, and repairing various electronic and pneumatic components associated with the maintenance of digital and analog control systems, and similar system control instrumentation. Analyzes

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and replaces or recalibrates faulty component parts as required. Tests, reads meters, records data and prepares reports as required. Installs and maintains electrical equipment in station and allied properties, Test and inspects generators, synchronous cables, capacitors, other electrical apparatus used in generation, transmission, and distribution. Performs high voltage and power factor insulation tests. Tests the synchronizing and phase rotation of generators. Tests for and locates faults on control, power, and lighting circuits; potential and current transformer and switchboard wiring; motors and starters; and similar devices on AC and DC circuits. Works on energized electrical equipment using required personal protective equipment and/or live line tools as directed and instructed. Performs general cleaning and housekeeping duties.

**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.

**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.

## **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.

## **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.

## **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

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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.

## **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.