

Nuclear Industry Job Descriptions

Boilermaker

Skilled craft who make, install, and repair boilers, closed vats, and other large vessels or containers that hold liquids and gases. Install and maintain boilers and other vessels, and help erect and repair air pollution equipment, blast furnaces, water treatment plants, storage and process tanks, and smoke stacks.

Carpenter

Skilled craft who construct, erect, install, and repair structures and fixtures made from wood and other materials. Includes constructing wooden forms for pouring concrete, erecting scaffolding and building tunnel bracing.

Cement Mason/Concrete Finisher

Skilled craft who place and finish concrete, fabricate concrete beams, columns, and panels and set the forms for holding the concrete and properly align them.

Chemist

Coordination of all aspects of a chemistry program and providing guidance on chemistry standards; conducting evaluations of plant chemistry programs; and addressing and resolving chemistry operating problems.

Chemistry Technician

Performance of normal shift functions such as chemical additions and laboratory routines including chemical analyses.

Chemical Engineer

Designs and supports installation and operation of chemical processing systems and equipment.

Civil/Structural Engineer

Designs and oversees site buildings, roads, bridges, and waterfront structures. Performs soils and foundations analyses, and reviews and approves hanger and support locations. Provides stress analysis and support evaluation services. Provides architecture and site layout services.

Computer Engineer

Responsible for hardware and software engineering associated with process computers, radiation monitoring system and other operational and support computer systems

Craft/Technician Training Specialist

Provides or coordinates all formal training for craft or technician staff including all regulatory required programs. Provides for instructor training and development and instructional system design and implementation.

D&D Engineer

Specializing in planning and execution of deactivation and decommissioning of nuclear systems, equipment and facilities.

Electrical Engineer

Designs and oversees the installation of high, medium and low voltage distribution systems (including DC and instrument power), related components (including motors, circuit breakers, transformers, batteries, chargers and inverters)

Electrical Technician

All activities associated with electrical maintenance and minor modification work within the power block. This includes routine electrical preventive maintenance, corrective maintenance and predictive maintenance.

Electrician

Skilled craft who install wiring systems, switchgear, breakers and motor control centers and conduct cable pulling.

Emergency Management Specialist

Responsible for developing and maintaining emergency management programs to comply with regulatory requirements.

Engineering Draftsman

Performs manual and computer-aided design functions. Resolves field questions, and maintains piping and instrument diagrams and electric power line diagrams.

Environmental Engineer

Responsible for establishing environmental programs conforming with regulations policy and implementing required monitoring program and related requirements such as environmental licenses, permits and audits.

Environmental Technician

Performs environmental monitoring, sampling and analysis activities to ensure conformance with the site environmental program.

Fire Protection Engineer

Administer the fire protection program including inspection and surveillance activities.

General Engineer

Engineers specializing in work planning, project management support, waste management and security activities.

Health Physicist

Responsible for technical support and oversight of health physics programs including the ALARA, respiratory protection and dosimetry programs. Also includes performing and evaluating radiation dose and shielding calculations.

Health Physics Technician

Includes radiation protection technicians, involved with such activities as routine and special radiation surveys, data reading and analysis and radiation area job coverage. Also includes persons collecting and analyzing radiation system samples and routine decontamination activities.

Heavy Equipment Operator

Operates specialized large construction equipment and vehicles such as graders, cranes, scrapers and shovels. Requires specialized training in equipment operations and safety.

Information Technologist

Responsible for dedicated software support for and data base management. Provides operations and system administration resources for hosts and servers. Also provides system hardware design, revisions, and user information services.

Instrumentation & Control Engineer

Designs and oversees the installation of safety and non-safety instrumentation and control systems and components.

Instrumentation & Control Technician

All activities associated with I&C maintenance and minor modification work within the power block. This includes routine I&C preventive maintenance, corrective maintenance, and predictive maintenance.

Insulator

Skilled craft who install new insulation around pipes and industrial machinery, and staple fiberglass or rock-wool batts to exterior walls and ceilings before drywall, paneling, or plaster walls are put in place.

Iron worker

Skilled craft who erect steel frames and assemble the cranes and derricks that move structural steel, reinforcing bars, buckets of concrete, lumber, and other materials and equipment around a construction site. Also includes connecting steel columns, beams, and girders and installing reinforcing iron and rebar.

Laborer

Skilled craft who clean and prepare construction sites, tend pumps, compressors and generators and build forms for pouring concrete. They also erect and disassemble scaffolding and other temporary structures.

Laborer (Nuclear Technician)

Specialized technician supporting nuclear maintenance work activities

Licensed Operator

Includes persons responsible for operating plant primary and secondary systems from the main control room in conformance with the plant operating license and for implementing alarm and emergency response procedures.

Operator Training Specialist

Provides or coordinates all formal training for licensed and plant (non-licensed) operators including initial licensing and requalification training. Provides for instructor training and development and instructional system design and implementation. Includes simulator training.

Machinist

Skilled craft who use machine tools, such as lathes, milling machines, and machining centers, to produce precision metal parts.

Materials Engineer

Performs complex materials analysis and design activities with focus on nuclear power components and materials such as high temperature alloys and stainless steel.

Mechanical Engineer

Designs and oversees the installation of mechanical primary, secondary, and auxiliary systems, and their associated components including pumps, piping, insulation and hangers.

Mechanical Technician

All activities associated with mechanical maintenance and minor modification work within the power block. This includes routine mechanical preventive maintenance, corrective maintenance, and predictive maintenance.

Millwright

Skilled craft who install, replace, dismantle, and repair machinery and heavy equipment. Also includes determination of the optimal placement of machinery in the plant and preparation of foundations.

NDE Technician

All activities associated with the non-destructive examination program including radiography, ultrasonic, eddy current, liquid penetrant and magnetic particle examinations.

Nuclear Engineer

Performs thermal, hydraulic and transient analyses for nuclear steam supply systems. Also conducts core reload safety evaluation and design analyses, estimates radiological inventories and performs radiation dose and shielding calculations.

Occupational Safety Specialist

All activities related to the preparation, research and interpretation of OSHA regulations, and implementation of safety procedures, industrial hygiene programs and medical services.

Pipefitter

Skilled craft who install and repair high-pressure and low-pressure pipe systems. They also install automatic controls used to regulate these systems.

Planner

Produces maintenance work packages and coordinates maintenance work schedules.

Plant Operator

Non-licensed operators responsible for operating primary, secondary, radwaste and auxiliary systems.

Project Manager

Directs, controls and monitors construction contractors. Establishes and monitors project milestone schedules and budgets.

Project Controls

Skilled craft who install wiring systems, switchgear, breakers and motor control centers and conduct cable pulling.

QC Technician

Implements inspection hold point program and performs associated inspections of on-going construction and maintenance activities. Reviews work activities to ensure compliance with QA program requirements. Performs receipt inspections for QA program materials. Analyzes non-destructive examination test results.

Quality Assurance Specialist

Develops and maintains required QA procedures and manuals. Reviews work activities to ensure compliance with QA program requirements. Includes reviews of operational and regulatory related documents; reviews of industry event reports for applicability and lessons learned. Includes self-assessment activities to identify areas for improvement.

Radio Chemist

Performance of normal shift functions such as chemical additions and laboratory routines specializing in radio-chemical analyses.

Rebar Worker

Skilled craft specializing in installation of rebar reinforced steel structures.

Records Management Specialist

Receives, prepares, and electronically captures plant quality and safety-related records and drawings. Controls and distributes plant controlled documents. Coordinates other aspects of document processing, record management, and central files and libraries.

Scientist/Engineer

Advanced degree specialty scientist or engineer directly supporting research and development (R&D) programs.

Sheet Metal Worker

Skilled craft who make, install, and maintain heating, ventilation, and air-conditioning duct systems; roofs; and siding. May work with fiberglass and plastic materials.

Software Developer

Provides software related system design, revision, user information services and dedicated software support.

Systems Engineer

Evaluates plant systems and components operating performance and provides engineering assistance to improve performance. Responsible for coordination of system and component testing programs.

Teamster

Non specialized craft labor including riggers, demolition workers, landscapers, pipeline construction workers, warehouse specialists, and heavy and light trucks operators.

Welder (General)

Skilled craft who uses appropriated techniques to join plant sub-assemblies, piping and other structures during installation of plant systems and components.

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