

JOB DESCRIPTION
Machinist
Code Number: 42010

GENERAL PURPOSE

Under general supervision, performs a wide variety of skilled advanced journey-level duties in the design, fabrication, installation, maintenance, repair and servicing of mechanical equipment and machinery used in the production, treatment, storage, transmission and distribution of potable and reclaimed water and the collection, transmission and treatment of wastewater; sets-up, operates, and maintains machine shop equipment such as lathes, horizontal and vertical milling machines, surface grinders, and others; and performs related duties as assigned.

DISTINGUISHING CHARACTERISTICS

Machinist is the advanced journey-level class. Incumbents in this class perform difficult and complex assignments, requiring considerable independent judgment and initiative. Incumbents perform a variety of skilled, precision duties in the design, fabrication and installation of mechanical equipment, machinery and devices.

ESSENTIAL DUTIES AND RESPONSIBILITIES

The duties listed below are intended only as illustrations of the various types of work that may be performed. The omission of specific statements of duties does not exclude them from the position if the work is similar, related or a logical assignment to the class.

Performs a variety of skilled, precision duties involved in the design, fabrication, installation and repair of plant, field and shop parts, equipment, facilities, machinery and special purpose tools associated with the production, treatment, storage and transmission of potable and reclaimed water and the collection, transmission and treatment of wastewater, such as pipes, tubes, rods, seals, shafts, stuffing boxes, gears, motors, bearings, couplings, chemical storage and feed systems, flow stations, valves, deep wells and pumps.

Machines, fabricates, welds and fastens materials (metals, plastics, composites, etc.) using engine lathes, surface grinders, vertical milling machines, horizontal universal milling machine, drill press, hydraulic presses, metal shears, brake and power roll; uses precision measurement instruments such as micrometers, vernier calipers and dial

indicators and makes calculations necessary to maintain tolerances of less than one-thousandth of an inch.

Sets-up, operates, and maintains standard shop machines, including lathes, horizontal and vertical milling machines, surface grinders, drill press, and saws.

Repairs surfaces with TIG welder and/or spray equipment, including the restoration of shafting to bearing manufacturer's tolerances to provide proper fit and bearing service life.

Performs single point pipe threading.

Schedules and coordinates activities with other sections and divisions.

Requisitions necessary tools, equipment and supplies; maintains a stock of drive line shafting and other specialized materials.

Researches new operational methods, techniques and equipment and recommends their application.

Plans and lays out jobs from blueprints, drawings, sketches or verbal instructions; selects methods and materials for the fabrication and/or repair of equipment and facilities.

Designs and fabricates a variety of brackets, supports and other metal structures; performs sheet metal fabrication, using manual shears, brakes, and power rolls; joins sheet metal with spot welder and TIG machine.

Designs and constructs detailed drawings for use by outside vendors in fabrication of components and assemblies using independent design and/or existing components.

Designs and constructs proto-types.

Performs MIG and TIG welding on both steel and aluminum.

Responds to emergency situations as necessary.

May assist in training or instructing others in the work.

May lead the work of others as a project leader.

Performs related duties as assigned.

DESIRED MINIMUM QUALIFICATIONS

Knowledge of:

Principles, methods, techniques, tools and equipment used in the fabrication, installation, maintenance and repair of mechanical equipment and machinery common to a large water works system; machine shop procedures and practices; safety practices, safe work methods and safety regulations pertaining to the work; shop mathematics, including trigonometry; skilled use and operation of oxyacetylene, electric arc MIG and TIG welding and metal spray equipment and materials.

Ability to:

Set-up, operate, and maintain machine shop tools and equipment; diagnose and repair a wide variety of mechanical equipment, systems and machinery, such as valves, motors, pumps and other equipment common to the water works field; use precision and diagnostic instruments to measure required tolerances of mechanical parts; identify and implement effective courses of action to complete assigned work; read, interpret and work from blueprints, plans, specifications and manuals; exercise independent judgment and initiative within established guidelines; establish and maintain effective working relationships with those contacted in the course of work; follow and apply written and oral work instructions; communicate effectively, orally and in writing; make sound independent judgments within established guidelines; train others in work processes and procedures; coordinate work assignments with other sections, divisions or departments; follow and apply oral and written work instructions.

Training and Experience:

A typical way of obtaining the knowledge, skills and abilities outlined above is graduation from high school or G.E.D. equivalent; and four years of journey-level experience in machining, fabrication and welding of industrial equipment used in or equivalent to a large potable and/or waste water system; or an equivalent combination of training and experience.

Licenses; Certificates; Special Requirements:

A valid California driver's license and the ability to maintain insurability under the District's Vehicle Insurance Policy.

Achieve and maintain a forklift operators permit; maintain competence in crane rigging and operation, lockout/tagout procedures, respiratory protection, confined space entry and HAZCOM areas.

PHYSICAL AND MENTAL DEMANDS

The physical and mental demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this class. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

Physical Demands

While performing the duties of this job, the employee is frequently required to use hands to finger, handle, feel or operate objects, tools or controls; and reach with hands and arms. The employee frequently is required to stand and talk or hear; walk or sit; climb or balance; stoop, kneel, crouch or crawl; and smell.

The employee must frequently lift and/or move up to 50 pounds and occasionally over 100 pounds. Specific vision abilities required by this job include close vision, distance vision, color vision, peripheral vision, depth perception and the ability to adjust focus.

Mental Demands

While performing the duties of this class, the incumbent is frequently required to use written and oral communication skills; read and interpret data, information and documents; analyze and solve problems; use shop mathematics; observe and interpret situations; deal with changing, intensive deadlines; and interact with officials and the public.

WORK ENVIRONMENT

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this class. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

Employees may, at times, be required to wear appropriate personal protective equipment including respiratory protection while performing work in environments that could have the potential to contain wet or humid conditions, vapors or particulates, hazardous chemicals, and the risk of electric shock. The noise level in the work environment is frequently loud.

FLSA DETERMINATION: Non-exempt.