

EMPLOYEE:

CLAIM #



Job Analysis Form

ALTERNATE FORMAT AVAILABLE

JOB TITLE Industrial Engine Mechanic

JOB CLASSIFICATION Industrial Engine Mechanic

DICTIONARY OF OCCUPATIONAL TITLES (DOT) NUMBER 955.585-010

DOT TITLE Wastewater Treatment-Plant Attendant

DEPARTMENT Natural Resources and Parks

DIVISION Wastewater

OF POSITIONS IN THE DEPARTMENT WITH THIS JOB TITLE 1

CONTACT'S NAME & TITLE Bill Lockinger, Wastewater Maintenance Supervisor

CONTACT'S PHONE 206-263-3901

ADDRESS OF WORKSITE

1400 Utah Street West
Seattle, WA 98199

VRC NAME Kyle Pletz

DATE COMPLETED 12/2/09

WORK HOURS

10 hours a day, 4 days a week, 6:00am-4:30pm, with 2 fifteen-minute breaks and one 30-minute lunch per shift.

OVERTIME (Note: Overtime requirements may change at the employer's discretion)

Required, on a rare occasion in accordance with business demand. The employee is on call on a rotating basis for weekends.

JOB DESCRIPTION

Performs skilled mechanical maintenance duties at a journey level to service maintain, and overhaul generating and pumping industrial engines and machinery related to wastewater treatment operations. Job is performed at multiple locations throughout King County.

ESSENTIAL ABILITIES FOR ALL KING COUNTY JOB CLASSIFICATIONS

1. Ability to demonstrate predictable, reliable, and timely attendance.
2. Ability to follow written and verbal directions and to complete assigned tasks on schedule.
3. Ability to read, write & communicate in English and understand basic math.
4. Ability to learn from directions, observations, and mistakes, and apply procedures using good judgment.
5. Ability to work independently or part of a team; ability to interact appropriately with others.
6. Ability to work with supervision, receiving instructions/feedback, coaching/counseling and/or action/discipline.

JOB SPECIFIC REQUIREMENTS

Must possess knowledge equivalent to five years journey-level experience in industrial engine maintenance practices; skill in large, industrial engine maintenance and overhaul; repair and overhaul of various types of compressors; troubleshooting, repairing and overhauling generator sets; ignition systems, governing systems, electronic control management systems, engine control; management; diesel and/or gaseous engine repairs up to 5000 hp; use of power and hand tools and rigging equipment; lubricating oils, precision measuring tools and devices; machine shop tools and equipment; low pressure boilers and steam systems; aligning large machinery; welding and pipefitting. Must have advanced knowledge of troubleshooting, welding methods, plumbing, pipefitting, pump and motor overhaul, machine shop practices, hazardous chemicals in the workplace, and mechanical repair technology. Must have skill in group presentation and oral and written communications, as well as equipment operation and installation, rigging, and hydraulics. Must also have skill in using a welder, solder, braze, MIG, TIG, and metallurgy. Must possess skills in leadership, teaching/coaching, negotiation/mediation, planning, and scheduling. The incumbent must possess a Washington State Driver's License and a basic first aid and medic card. Must be able to lift and move machinery up to 100 pounds. Must have the ability to be available to respond to 24-hour call and emergencies. Must be able to perform work near heavy operating equipment in areas with high temperatures and noise levels. A current and valid CDL license with tanker and haz-mat endorsement is highly desirable.

ESSENTIAL FUNCTIONS

1. Troubleshoot and/or perform preventative maintenance and routine service on a wide variety of industrial engines, pumps, generators, compressors, boilers and related assigned equipment.
2. Install large industrial engines, right-angle gear boxes and ancillary systems, as designed.
3. Perform preventive maintenance and routine service on a wide variety of industrial engines, generators, compressors and other assigned equipment.
4. Overhaul/rebuild industrial engines and various other components.
5. Maintain records of work performed on all engines; secure necessary tools, parts, and other material needed to complete work assignments.
6. Update technical documents; determine appropriate inventory of spare parts for critical machinery and equipment.
7. Review blueprints, work orders and shop drawings to facilitate coordination of maintenance efforts.
8. Provide assistance to contractors and facility engineers to inspect, witness and assess contractor's installed machinery during testing and commissioning.
9. Install and commission new equipment.
10. Operate, maintain and modify low-pressure steam systems.
11. Operate and maintain a wide variety of large and small multi-fuel engines and boilers.
12. Install, operate, maintain and troubleshoot a variety of solid state electronic ignition, rigging, electronic control management systems and governing systems.

PERSONAL PROTECTIVE EQUIPMENT USED

Respiratory Protection: Dust mask, 1/2 face, full face, supplied air, and a Self Contained Breathing Apparatus (SCBA),

Hearing Protection: Ear plugs and earmuffs.

Eye Protection: Safety glasses, face shield and goggles.

Foot Protection: Steel toe boots.

Hand protection: Gloves, welding gloves.

Face/Head Protection: Welding hood and hardhat.

Other: Safety vest, fall protection and coveralls.

OTHER TOOLS & EQUIPMENT USED

Computer, telephone, cellular phone, two-way radio, forklift, crane, hoist (manual and electric), truck crane, wrenches, pry bars, hammer, chisel, screwdrivers, grinders, welding equipment, plasma cutter, reciprocating saw, roto-hammer, 50-ton hydraulic press, lathes, vertical and horizontal mills, drills, pneumatic and electric impact wrench, truck, hydraulic gear puller, micrometer, carbon arc, cutting torch, dial indicator, bore scope, micrometer, come-along, laptop, emissions testing equipment, various testers, hydraulic torque wrench, rigging, various engine parts and various hand and power tools.

PHYSICAL DEMANDS AS JOB IS TYPICALLY PERFORMED

Continuously = occurs 66-100% of the time

Frequently = occurs 33-66% of the time

Occasionally = occurs 1-33% of the time

Rarely = may occur less than 1% of the time

Never = does not ever occur (such demands are not listed)

Highly Repetitive = Repeating the same motion every few seconds with little or no variation for more than two hours total per day.

This job is classified as

Heavy to Very Heavy:

Heavy—exerting 50-100 pounds of force occasionally, and/or 25-50 pounds of force frequently, and/or 10-20 pounds of force constantly to move objects.

Very Heavy—exerting in excess of 100 pounds of force occasionally, and/or in excess of 50 pounds of force frequently, and/or in excess of 20 pounds of force constantly to move objects.

Standing

Health Care Provider initials if restricted_____
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Frequently on flat cement, dirt, work platforms, gravel, and uneven surfaces for up to 30 minutes at a time for up to 4 hours total in a work shift. Most commonly occurs while maintaining and repairing engines as well as when using testing equipment.

Walking

Health Care Provider initials if restricted_____

Occasionally on flat cement, dirt, work platforms, gravel, and uneven surfaces for distances of ¼ mile at a time for 5 minutes at a time and up to 1-1.5 hours total in a work shift. Most commonly occurs while walking from work truck to pump station, engine room, shop and various other areas throughout the plant.

Sitting

Health Care Provider initials if restricted_____

Occasionally on automobile seat or office chair for up to 1.5 hours at a time for up to 3 hours total in a work shift. Most commonly occurs while driving to and from pump stations/engine rooms as well as performing computer work. The employee also sits when performing bench work (such as rebuilding carburetors, ordering parts and reviewing specifications for new equipment. The employee needs to be able to drive to various locations within King County such as Black Diamond, Renton, etc.

Climbing stairs

Health Care Provider initials if restricted_____

Occasionally for up to 5 minutes at a time while climbing up to 70 stairs for up to 15-20 minutes total in a work shift. Most commonly occurs while entering and exiting pump stations, engine rooms and various other locations such as at Montlake (under the University bridge).

Climbing

Health Care Provider initials if restricted_____

Occasionally on a ladder to heights of 10-20 feet for up to 20 seconds at a time for up to 5 minutes total in a work shift. Most commonly occurs while climbing on a ladder or on the side of an engine to perform maintenance or repair. The employee also climbs when running pipe, fixing leaks and changing air filters.

Balancing

Health Care Provider initials if restricted_____

Frequently on a ladder at heights of 10 feet for up to 45 minutes at a time for up to 4 hours total in a work shift. Most commonly occurs while maintaining/repairing engines and equipment which may require climbing on to the side of an engine or using a ladder to reach upper areas. The employee also needs a heightened sense of balance when working on slick surfaces such as oily or wet floors.

Bending neck up

Health Care Provider initials if restricted_____

Occasionally for up to 5 minutes at a time for up to 1 hour total in a work shift. Most commonly occurs while looking at upper engine parts, looking under engines, looking for leaks, inspecting piping and working on filters and carburetors.

Bending neck down

Health Care Provider initials if restricted_____

Occasionally for up to 5 minutes at a time for up to 2-3 hours total in a work shift. Most commonly occurs while looking at lower engine parts, looking under engines, using a laptop for diagnostics, performing bench work, inspecting piping and working on filters and carburetors.

Bending/Stooping

Health Care Provider initials if restricted_____

Occasionally on flat cement, dirt, gravel, and uneven surfaces for up to 15 minutes at a time for up to 1.5 hours total in a work shift. Most commonly occurs while working on engines, looking for leaks and maintaining equipment. The employee can alternate bending/stooping with kneeling or squatting as preferred on most occasions.

Kneeling

Health Care Provider initials if restricted_____

Occasionally on flat cement, dirt, gravel, and uneven surfaces for up to 45 minutes at a time for up to 1 hour total in a work shift. Most commonly occurs while removing or rebuilding a pump as well as performing plumbing duties. The employee can alternate kneeling with bending/stooping or squatting as preferred on most occasions.

Squatting

Health Care Provider initials if restricted_____

Occasionally on flat cement, dirt, gravel, and uneven surfaces for up to 45 minutes at a time for up to 1 hour total in a work shift. Most commonly occurs while removing or rebuilding a pump as well as performing plumbing duties. The employee can alternate squatting with bending/stooping or kneeling as preferred on most occasions.

Crawling

Health Care Provider initials if restricted_____

Rarely on cement surfaces for distances of up to 10 feet for up to 10 seconds at a time for up to 5 minutes total in a work shift. Most commonly occurs while getting under engines and pipes as well as when cleaning up oil/spills and performing inspections.

Operating Controls with Feet

Health Care Provider initials if restricted_____

Frequently for up to 1.5 hours at a time for up to 3 hours total in a work shift while driving a work truck or forklift as well as when operating overhead cranes. The employee needs to be able to drive to various locations within King County such as Black Diamond, Renton, etc.

Reaching above shoulder height

Health Care Provider initials if restricted_____

Frequently to continuously for up to 5-15 minutes at a time for up to 4-5 hours total in a work shift. Most commonly occurs while removing/installing or repairing exhaust components, carburetors, wiring and piping on engines.

Reaching at waist to shoulder height

Health Care Provider initials if restricted_____

Continuously for up to 3 at a time for up to 9 hours total in a work shift. Most commonly occurs while removing, rebuilding or repairing an engine as well as when performing bench work and computer duties. Worker also reaches while driving a work truck.

Reaching at knee to waist height

Health Care Provider initials if restricted_____

Occasionally for up to 15 minutes at a time for up to 1-1.5 hours total in a work shift. Most commonly occurs while removing or repairing engine components as well as when working on pipes and wiring.

Reaching at floor to knee height

Health Care Provider initials if restricted_____

Occasionally on flat cement, dirt, gravel, and uneven surfaces for up to 45 minutes at a time for up to 1 hour total in a work shift. Most commonly occurs while removing or rebuilding a pump as well as performing plumbing duties.

Lifting 1-10 pounds

Health Care Provider initials if restricted_____

Frequently for 30 minutes at a time for up to 3 hours total in a work shift. Most commonly occurs with weights of 3-5 pounds while using hand tools such as wrenches, sockets, hammers, testing equipment and pry bars.

Carrying 1-10 pounds

Health Care Provider initials if restricted_____

Occasionally for 5 minutes at a time for distances of up to 100 feet up to 1 hour total in a work shift. Most commonly occurs with weights of 3-5 pounds while transporting hand tools from truck to pump station, engine rooms and the shop. Hand tools may include wrenches, sockets, hammers, testing equipment and pry bars.

Lifting 11-20 pounds

Health Care Provider initials if restricted_____

Frequently for 30 minutes at a time for up to 3 hours total in a work shift. Most commonly occurs with weights of 15 pounds while using hand tools such as wrenches, impact wrenches, sockets, hammers, grinders, welding equipment, plasma cutter, hydraulic torque wrench, reciprocating saw, drills and pry bars.

Carrying 11-20 pounds

Health Care Provider initials if restricted_____

Occasionally for 5 minutes at a time for distances of up to 100 feet up to 30 minutes total in a work shift. Most commonly occurs with weights of 15 pounds while transporting hand and power tools from truck to pump station, engine rooms and the shop. Hand and power tools may include wrenches, impact wrenches, sockets, hammers, grinders, welding equipment, plasma cutter, reciprocating saw, drills and pry bars.

Lifting 21-50 pounds

Health Care Provider initials if restricted_____

Occasionally for 5 minutes at a time for up to 2 hours total in a work shift. Most commonly occurs with weights of 35-50 pounds while using power tools such as pneumatic and electric impact wrenches, grinders, engine parts, welding equipment, roto-hammer, and pry bars.

Carrying 21-50 pounds

Health Care Provider initials if restricted_____

Occasionally for 5 minutes at a time for distances of up to 100 feet up to 30 minutes total in a work shift. Most commonly occurs with weights of 35-50 pounds while transporting hand and power tools from truck to pump station, engine rooms and the shop. Power tools may include pneumatic and electric impact wrenches, grinders, welding equipment, engine parts, roto-hammer, and pry bars.

Lifting 51-100 pounds

Health Care Provider initials if restricted _____

Rarely for up to 5 seconds at a time for up to 5 seconds total in a work shift. Most commonly occurs with weights of 65-70 pounds while moving electric motors, batteries, cylinder heads, various engine parts or a bucket or toolbox containing multiple hand and power tools. The employer does not require lifting in excess of 50 pounds. Cranes, hoists and lifting assistance is available on most occasions.

Carrying 51-100 pounds

Health Care Provider initials if restricted _____

Rarely for up to 5 seconds at a time for distances of up to 10 feet up to 5 seconds total in a work shift. Most commonly occurs with weights of 65-70 pounds while moving electric motors, batteries, cylinder heads, various engine parts or a bucket or toolbox containing multiple hand and power tools. The employer does not require lifting in excess of 50 pounds. Cranes, hoists and lifting assistance is available on most occasions.

Pushing and Pulling

Health Care Provider initials if restricted _____

Occasionally for distances of 10 feet at a time with a force of up to 100 pounds for up to 30 minutes total in a work shift. Pushing and pulling most commonly occurs when tightening or loosening large bolts as well as moving a metal cart with engine parts on it as well as a welder or hydraulic torque wrench assembly. Engine parts can weigh anywhere from several hundred pounds to over one thousand pounds. The employee may also push/pull when using a hand truck or a barrel dolly to move 50 gallon drums of oil as well as manipulating engine parts in place while they are on a hoist. On a rare occasion the employee may also need to use a torque wrench with an amplifier bar to create over 100 foot pounds of torque. A hydraulic torque wrench is available for use to reduce pushing and pulling.

Handling

Health Care Provider initials if restricted _____

Continuously for 3 hours at a time for up to 8-9 hours total in a work shift while using and holding various hand tools as well as operating an automobile.

Operating Controls with Hands

Health Care Provider initials if restricted _____

Frequently for up to 1.5 hours at a time for up to 3 hours total in a work shift while operating an automobile, welding equipment, micrometer, shop machines or a crane. Shop equipment may include drill presses, lathe, mill, and hydraulic gear puller.

Fingering

Health Care Provider initials if restricted _____

Frequently for up to 1 hour at a time for up to 4 hours total in a work shift while loosening and tightening screws, nuts and bolts with fingers as well as when using testing equipment and micrometers. The employee also fingers when manipulating wires, typing and writing.

Feeling

Health Care Provider initials if restricted _____

Occasionally for up to 5 minutes at a time for up to 2 hours total in a work shift while touching an engine or piece of machinery to see if it is overheating, off balance or leaking. The employee also uses feeling to fit parts, feel for grooves or faulty parts, identify burrs, identifying faulty surfaces and threading bolts.

Talking

Health Care Provider initials if restricted

Occasionally for 5 minutes at a time for up to 1-1.5 hours total in a work shift while conversing with co-workers, receiving and giving instructions, roll call/checking in with station, ordering parts, utilizing a two-way radio and cellular phone as well as when interacting with vendors/manufacturers.

Hearing

Health Care Provider initials if restricted

Continuously for 3 hours at a time for up to 10 hours total in a work shift while listening for proper operation of machinery, listening for emergency sirens while driving, listening for danger alarms in wastewater treatment plant, conversing with co-workers, receiving and giving instructions, roll call/checking in with station, utilizing a two-way radio and cellular phone.

Seeing

Health Care Provider initials if restricted

Continuously for up to 3 hours at a time for up to 10 hours total in a work shift while assembling, disassembling, repairing, rebuilding, and inspecting engines, motors and machinery. Vision is also used while driving a work truck. Color vision is used while identifying danger alarms at wastewater treatment plant.

Working with Heightened Awareness

Health Care Provider initials if restricted

Continuously for up to 3 hours at a time for up to 10 hours total in a shift. The employee works in an industrial wastewater setting where the worker is exposed to or in close proximity to potentially injurious or fatal situations such as heavy operating machinery, high voltage, sewage, adverse weather conditions, uneven surfaces, cat walks/metal grating, noxious or toxic gasses and chemicals, as well as loud noises.

ENVIRONMENTAL FACTORS

Work is performed in an industrial wastewater setting where the worker is exposed to or in close proximity to heavy operating machinery, high voltage, sewage, adverse weather conditions, uneven surfaces, cat walks/metal grating, noxious or toxic gasses and chemicals, as well as loud noises. The noise level is quiet to very loud. Hearing protection and hard hats are required in some areas. The employee is occasionally exposed hazardous materials including chlorine, sulfur dioxide, sodium hydrochloride, sodium hydroxide, methane, and hydrogen sulfide. The employee is also exposed to high temperature machines (engine block 235 degrees or more and exhaust components 1000 degrees or more).

The noise level is

Approximately 114 decibels. The noise is caused by engines.

Work environment may include the following exposure(s):

Outside weather: Frequently

Non-weather related temperatures below 55 degrees: Rare

Non-weather related temperatures above 75 degrees: Frequently

Wet: Occasionally to Frequently

Humidity/dampness: Occasionally

Fumes: Frequently to Continuously

Odors: Continuously

HCP Initials if Restricted

HCP Initials if Restricted

KING COUNTY JOB ANALYSIS COMPLETED ON: 12/2/09
JOB TITLE: Industrial Engine Mechanic
EMPLOYEE:

DOT #: 955.585-010
CLAIM #

Dusts: Occasionally
Mists: Occasionally
Gases: Occasionally
Moving mechanical parts: Continuously
Vibration: Continuously
Working in high, exposed places: Rare to Occasionally
Radiation: Rare
Working with explosives: Rare
Toxic or caustic chemicals: Occasionally to Frequently
Confined spaces: Frequently
Other: Noise sufficient to cause marked distractions or
possible hearing loss: Frequently

POTENTIAL MODIFICATIONS TO JOB

Provide assistance to worker when removing or installing large engine parts as two people manipulating an engine part will reduce lifting, pushing, and pulling.
Use a Hydraulic torque wrench to reduce pushing and pulling.
Lifting assistance is available on most occasions for heavy items over 50 pounds.

SIGNATURES

Signatures on this page are obtained before the document becomes available for use and are not required each time the document is reused. Obtained signatures are kept on file at King County Safety & Claims. The Health Care Provider signature section is separate and appears on the following page.

Kyle Pletz, VRC, Vocational Consultant

Printed name & title of VRC evaluator

Signature of VRC evaluator

Date

Printed name & title of contact

Signature of contact

Date

Printed name & title of employee

Signature of employee

Date

HEALTH CARE PROVIDER SECTION
Check all that apply

- ☐ The employee is released to perform the described duties without restrictions on performance or work hours as of _____.
- ☐ The employee is released to perform the described duties on a reduced schedule as of _____. The recommended schedule is:

☐ Temporary until _____ ☐ Permanent as of _____
- ☐ The employee is released to perform the described job with the following modifications:

☐ Temporary until _____ ☐ Permanent as of _____
- ☐ The employee is not released to perform the described duties due to the following job functions:

☐ Temporary until _____ ☐ Permanent effective _____
- ☐ The employee is unable to work in any capacity.
A release to work is: ☐ anticipated by _____ ☐ Not expected

The limitations are due to the following objective medical findings:

Printed or typed name and phone number of Health Care Provider

Signature of Health Care Provider

Date