Job Class Profile: Power Engineer (Fourth Class) Shift-In-Charge

Pay Level: CG-27

Po

Point Band:

534-577

						Accountability		Development	Environmental	
		Interpersonal				& Decision		and	Working	Total
Factor	Knowledge	Skills	Physical Effort	Concentration	Complexity	Making	Impact	Leadership	Conditions	Points
Rating	3	3	4	6	3	3	2	3	6	
Points	140	50	25	29	90	65	41	64	64	568

JOB SUMMARY

The Power Engineer (Fourth Class) Shift-In-Charge is responsible for the overall operation of a heating plant and auxiliary equipment.

Key and Periodic Activities

- Operates a high pressure steam plant and auxiliary equipment such as steam boilers, air handling unit and cooling controls (heat exchanges and chillers), medical gas systems, compressed air systems, emergency power system, uninterruptible power supply system, and reverse osmosis system; checks safety controls.
- Performs demand and preventative maintenance on boilers and related equipment.
- Operates various power tools.
- Calibrates machinery such as oxygen concentrator.
- Records and interprets readings of all plant equipment and various systems; maintains records.
- Performs chemical test on water system for boiler and other equipment.
- Tests Emergency Power System.
- Schedules annual inspection and cleaning of high pressure steam boilers, hot water tanks, motors and pumps.
- Provides training to students and new employees; assigns and schedules work.

SKILL

Knowledge General and Specific Knowledge: — Policies and Procedures

- Safe Work Practices
- Occupational Health & Safety Guidelines
- Boiler Pressure Vessel Act and Regulations
- Mechanical Operation System
- Computerized Facility Management System

Formal Education and/or Certification(s):

 Minimum: High School Diploma. Completion of a 1 year Power Engineering (Fourth Class) Program. Possession of a valid fourth class power engineer's certificate as issued by the Province of Newfoundland and Labrador.

Years of Experience:

— Minimum: No experience required (entry level).

Competencies:

- Follow basic instructions and work processes
- Apply established techniques to the completion of activities
- Develop new solutions to deal with new problems
- Coordinate a range of related work or project activities such as scheduling equipment maintenance and annual inspections
- Operate a computer
- Write straightforward text for record keeping and maintaining log book
- Repair, calibrate and operate machinery
- Conduct analysis or assessment

Interpersonal Skills

- A range of interpersonal skills are used including listening to information from other people, asking questions to obtain information and providing routine and complex information and direction to others.
- Communications occur with employees within the immediate work area and department including supervisor/manager, co-workers and other government employees.
- The most significant contacts are with supervisors/managers to coordinate work activities and for advice/guidance on any problems related to equipment or plant operations; Chief Power Engineer regarding any problems or work being performed on steam boilers or related equipment and with co-workers in the assignment and coordination of daily work activities. There is occasional contact with Government Inspectors when equipment and safety controls are inspected.

EFFORT

Physical Effort

- The demands of the job occasionally results in fatigue, requiring periods of rest.
- Lifting or moving objects such as electric motors and pumps weighing over 50 lbs., is an occasional requirement.
- Work tasks typically involve standing or walking in the performance of daily activities. Climbing and/or sitting may be required occasionally.

— Manual or physical activities includes performing fine finger or precision work; using hand tools that require accurate control and steadiness such as drills and grinders; using gross motor skills; using machinery or equipment that requires very controlled movement; maintaining physical balance; and working in awkward or cramped positions or body movement when working in confined spaces such as boilers, hot water tank and other areas.

Concentration

- Visual concentration or alertness is required when using a computer to operate the facility management system; reading instruments and gauges such as a pressure gauge, temperature gauge, smoke monitor, etc; and when starting up and shutting down equipment to ensure it is performed in proper sequence.
- Auditory concentration or strain is experienced when working in a noisy power plant and listening to operational sounds of plant equipment to identify any unusual sounds that may require investigation.
- Other sensory demands such as smell is important to identify issues with the air handling unit, burnt belts or bearings and steam leaks.

Alertness and concentration are required when making repetitive rounds of plant to ensure equipment is operating properly and when reading gauges, recording information, etc.
 Higher than normal levels of attentiveness or alertness for the health and safety of others is required to identify different sounds and smells in the boiler room, mechanical room and other areas.

- **Time pressures and deadlines** are experienced when diagnosing and repairing equipment problems and when responding to emergency situations. **Interruptions and lack of control over work pace** can occur with equipment failure; during periods of annual maintenance/shut-down on boilers, air handling unit, and oxygen concentrator and when performing repairs to equipment.
- Eye/hand coordination is required when calibrating equipment.
- Exact results and precision are required when performing chemical tests on boilers to ensure that equipment is not damaged.

Complexity

- Work involves the operation of a high pressure steam plant which requires performing tasks that are different but use similar skills and knowledge.
- A typical problem or challenge is diagnosing a problem with equipment and determining the most appropriate method required to perform the repair while ensuring minimal downtime of equipment. Troubleshooting and diagnosis may require analysis and development of new solutions as technology changes.
- Reference material to assist in addressing problems, challenges and issues include manufacturer's specifications and operational procedures; policies and procedures; Boiler Pressure Vessel Act and Regulations and advice/guidance from supervisor/manager or Chief Power Engineer.

RESPONSIBILITY

Accountability and Decision-Making

- Work tasks and activities are highly monitored or controlled.
- Work independently in the performance of daily work activities within a highly controlled and regulated environment. Problems or issues can be referred to the supervisor/manager or the Chief Power Engineer.
- Supervisory approval is required for most day-to-day decisions such as purchasing new

equipment or tools.

 Discretion and independence of action may be exercised to shut down equipment for safety reasons and repairs; respond to all fire and equipment emergencies and schedule work for employees while in charge of a shift.

Impact

- Work results can have a positive impact within the immediate work area; department; organization and on customers/clients/patients/general public as well as on resources such as equipment; processes and systems; finances; facilities; health and safety and corporate image when power plant and auxiliary equipment is operated and maintained safely in accordance with applicable standards and regulations.
- Mistakes or errors can impact the operation of all utilities such as steam generation; electrical supplies including emergency power operations, heating and air conditioning which can cause equipment breakdown and system failures; damage to equipment resulting in increased cost in repairs or replacement; building closures or cancellation of scheduled operations such as laundry; air quality issues; health and safety issues for building occupants; and a negative impact on patient care, corporate image, etc.
- All readings and events are logged and recorded and work is typically reviewed by the Chief Power Engineer or a technical supervisor. Errors are typically identified and resolved within hours of problem identification.

Development and Leadership of Others

- Not responsible for the supervision of staff.
- Accountable for the activities on a shift and provide direction to other 4th Class Power Engineers with regards to scheduling, assigning and coordinating work to ensure the safe operation of the plant and associated equipment.

WORKING CONDITIONS

Environmental Working Conditions

- There is a requirement to wear safety equipment such as ear and eye protection, safety shoes, vest, gloves, etc.
- The likelihood of injuries or illnesses resulting from hazards in the job is limited.
- Work in a high pressure power plant and are exposed to undesirable working conditions such as unusual/distracting noise; dust (boiler combustion soot); diesel generator fumes; vibration from equipment; odours; sharp objects; heavy machinery; working in awkward or confining work spaces, temperature extremes and fire.