



IDENTIFICATION

Department	Position Title	
Infrastructure	Operating Engineer	
Position Number	Community	Division/Region
33-2458	Fort Simpson	Deh Cho

PURPOSE OF THE POSITION

The Operating Engineer is responsible to operate, maintain, and repair the plumbing, heating, ventilating and domestic water supply systems in Government of the Northwest Territories (GNWT) owned and operated buildings. To complete annual inspections, boiler tear-downs, and respond to plumbing, heating and ventilating repair requests in all GNWT owned and operated buildings in the Deh Cho Area.

SCOPE

Located in Fort Simpson and reporting to the Area Manager, the Operating Engineer provides operational services on plumbing, heating, ventilating and domestic water supply systems in all GNWT owned and operated buildings throughout the Deh Cho Area. The inspection, maintenance and operation processes are performed in accordance with the Pressure Vessel Ordinance.

Activities undertaken include:

- Operate and monitor the performance of plumbing, heating, ventilating and domestic water supply systems in GNWT buildings to ensure safe and satisfactory operation.
- Conduct regular inspections as per the Maintenance Management System (MMS) Building Services Standards, and record all critical operating data in the Operating Log, as required, conducting specific inspections of all boilers, heat exchangers, and hot water heaters.
- Conduct any required system adjustments through changes in system controls, in accordance with findings from the regular inspections; and adjust systems in response to changes in ambient temperatures or occupancy levels.
- Conduct frequent combustion analysis of flue gases and adjust air/oil/propane ratio for peak efficiency.

- Respond to and complete repairs on plumbing, heating, ventilating and domestic water supply systems in GNWT buildings.
- Complete scheduled annual work, stemming from the MMS Standards in specific GNWT buildings.
- Perform other repairs, such as repairing commercial kitchen appliances, commercial refrigeration, freezer plant and heating plant.

The position works regular hours, plus overtime and on-call, pending emergencies as well as traveling frequently throughout the Deh Cho Area.

RESPONSIBILITIES

1. Operate and monitor the performance of plumbing, heating, ventilating and domestic water supply systems in GNWT buildings to ensure satisfactory operation, by:

- Conducting regular inspections of all components of the systems, as provided by the Maintenance Management System (MMS) Building Services Standards, and recording all critical operating data in the Operating Log, as required;
- Conducting specific inspections of all boilers, heat exchangers, and hot water heaters;
- Checking glycol and water levels and temperatures and pressures;
- Checking the operation of motors and pumps for continued reliable operation (fan belts, pulleys and drive gears for early signs of wear);
- Conducting any required system adjustments through changes in system controls, in accordance with findings from the regular inspections; and adjusting systems in response to changes in ambient temperatures or occupancy levels;
- Conducting frequent combustion analysis of flue gases and adjusting air/oil/ propane ratio for peak efficiency.

2. Service the boilers, heat exchangers, ventilating and water supply systems to ensure a safe and efficient operation, by:

- Cleaning fans, ductwork, grills, coils and filters;
- De-scaling humidifiers;
- Testing and adjusting heating system chemical balance;
- Calibrating meters and gauges;
- Cleaning chemical tanks and HPHT (High-Pressure, High-Temperature) system;
- Inspecting and clearing plumbing drain and vent lines;
- Inspecting and adjusting hot water supply system, as required;
- Performing scheduled cleaning and maintenance on air compressors, tanks, air lines, and sensors of the pneumatic control systems.

3. Respond to and complete repairs on plumbing, heating, ventilating and domestic water supply systems in GNWT buildings. Inspection, maintenance and operation processes must be in accordance with the Pressure Vessel Ordinance. Work is done by:

- Responding to alarm and emergency situations, resulting from a shutdown of complex and large heating systems.
 - Identifying the control or safety device that has tripped or stopped operation of the system, and isolating the cause of failure or alarm condition;
 - Rectifying system condition by replacement of defective components, adjustment of control settings, or repair of damaged components;
 - Restarting system and monitoring for continued operation, and testing for avoidance of repeat failure;
 - Reconstruction of valves after tear-down for replacement of leaking seals, packing, or unsatisfactory operation;
 - Trouble-shooting intermittent failures in the heating system, to determine the cause of high pressure, low flow or no-flow situations, and affect repairs to faulty components.
 - Removing, rebuilding and replacing defective damper motors, circulating pumps and motors, ventilating blower motors;
 - Replacing pneumatic and electrical heating controls.
- 4. Complete scheduled annual work, stemming from the MMS Standards in specific GNWT buildings, by:**
- Tearing down and retrofitting heat exchangers;
 - Tearing down, cleaning, adjusting, and reconstructing boilers;
 - Identifying faults within pressure vessels that may create a hazardous condition, and notifying the Territorial Boiler Inspector;
 - Repairing fire alarm systems at the points of connection to ventilating system, and at the tie to building audible alarms;
 - Repairing sprinkler systems, including piping, heads, dry valves, fire and jockey pumps, and other related controls.
- 5. Performs other duties, such as:**
- Repairing commercial kitchen appliances;
 - Repairing commercial refrigeration and freezer plant;
 - Maintaining a bench stock of critical components for the systems under control, such as: pump motors, burner nozzles, control relays, panel breakers, pump couplings, etc.

WORKING CONDITIONS

Physical Demands

Works in awkward positions, in small cramped spaces, in high places, carries heavy tools and equipment, operates hand and power tools and diagnostic equipment. Uses personal protective equipment (PPE) such as goggles, masks, gloves, coveralls and safety boots; in moderate to extreme weather conditions. Other special equipment may also be required. Minimal to moderate risk of injury; physical discomfort, fatigue and stress. Intensity: substantial. Frequency: 2-6 hours per day.

Environmental Conditions

Occasional exposure to toxic/unpleasant fumes, frequently works in extreme cold or heat (-50 or +50) conditions, and in sooty, dirty conditions. Occasionally Works with asbestos.

Intensity: moderate. Frequency: 1 hour per month. Frequently works with natural gas-fired appliances and boilers, Intensity: moderate. Frequency: 2 hours per day.

Sensory Demands

Occasionally exposed to chemical odors and to high noise levels. Intensity: moderate. Frequency: 2 hours per day.

Mental Demands

Normal conditions may require flying in small aircraft and travel by ice crossing and winter road to surrounding communities; may remain in the community away from home for a few days at a time. Intensity: moderate. Frequency: 40 hours per year. Responds to emergencies at all hours and in varied weather conditions. Intensity: moderate to substantial. Frequency: 4 hours per week.

KNOWLEDGE, SKILLS AND ABILITIES

- Knowledge and practical skills associated with the level obtained through 4th Class Operating Engineer Certification;
- Knowledge and skills in the operation, maintenance, trouble-shooting and repair of large boiler systems, ventilation systems, and pneumatic and electrical controls;
- Able to repair commercial kitchen appliances, commercial freezer and refrigeration systems;
- Able to maintain accurate records.

Typically, the above qualifications would be attained by:

- Completion of Grade 10 and a minimum certification as a 4th Class Stationary Engineer Certificate with two years of experience in the building maintenance field. The skills are normally acquired through experience working in a variety of building settings and completion of training or experience in each skill area.
- Class 5 Driver's License.
- As this is a position of trust involving work in health centres, schools, RCMP and correctional facilities, a clear enhanced criminal records check must be presented to the employer.

ADDITIONAL REQUIREMENTS

Position Security (check one)

- No criminal records check required
- Position of Trust – criminal records check required
- Highly sensitive position – requires verification of identity and a criminal records check

French Language (check one if applicable)

- French required (must identify required level below)
 - Level required for this Designated Position is:
 - ORAL EXPRESSION AND COMPREHENSION
 - Basic (B) Intermediate (I) Advanced (A)
 - READING COMPREHENSION:
 - Basic (B) Intermediate (I) Advanced (A)
 - WRITING SKILLS:
 - Basic (B) Intermediate (I) Advanced (A)
- French preferred

Indigenous Language:

- Required
- Preferred