Total Points

777

Job Class Profile:

Marine Engineer (Second Class)

Pay Level:		CG-35			Point Band:			766-789		
						Accountability		Development	Environmental	
		Interpersonal				& Decision		and	Working	
Factor	Knowledge	Skills	Physical Effort	Concentration	Complexity	Making	Impact	Leadership	Conditions	
Rating	5	3	4	6	4	4	4	4	6	ſ

29

JOB SUMMARY

233

50

25

Points

The Marine Engineer (Second Class) performs technical and supervisory work as Chief Engineer aboard a passenger/vehicle ferry operating between coastal points throughout Newfoundland. Work includes responsibility for the overall operation and monitoring of the vessel's diverse and complex mechanical equipment and systems.

120

87

83

86

64

Key and Periodic Activities

- Maintains control of the engine room and auxiliaries through the supervision of, and participation in, activating, operating and controlling the speed of the main engine.
- Supervises and inspects the work of subordinates while performing maintenance tasks.
- Ensures conformance with the departmental preventative maintenance schedules while maintaining an adequate supply of standard parts, oils and grease.
- Maintains repair/maintenance logs, supply orders, equipment lists and other required documentation.
- Accompanies the vessel during refit and assists personnel in carrying out repairs and alterations.
- Participates in security watches during non-operational periods.
- Ensures the safe and efficient operation and functioning of all machinery and equipment (i.e. controls panel, generators, compressors, pumps, deck machinery and facility) on the vessel.
- Performs electrical welding on machinery.
- Acts as a first point of contact when dealing with contractors.
- Performs routine inspections of primary machinery, equipment and back-up systems to ensure functionality.
- Performs cleaning and preventative maintenance repairs to electrical, electronic, plumbing, mechanical and hydraulic systems.
- Greases and oils machines and equipment.
- Disassembles machinery and related equipment to replace parts and makes repairs and/or adjustments when required.
- Performs periodic inspections of heating system to ensure functionality and adequate fuel supply and monitoring of all fire-fighting and safety equipment.

Knowledge

General and Specific Knowledge:

- Knowledge of operation and maintenance of marine diesel, hydraulic and electrical equipment.
- Knowledge of electrical codes and subsequent changes.

Formal Education and/or Certification(s):

- Minimum: 4-Year Post Secondary Diploma in Marine Engineering Technology. Possession of a Second Class Motor Engineer's Certificate as issued by Transport Canada and associated endorsements such as MED (Marine Equipment Directive) Certificate; Marine Basic First Aid and Marine Medical.
- Years of Experience:
- Minimum: 4 5 years.

Competencies:

Ability to apply established techniques to the completion of activities.

Ability to coordinate a range of related work or project activities.

Ability to develop new solutions to deal with new problems.

Ability to design/develop new methods, procedures.

Ability to provide advice to others on how to solve a problem or address an issue.

Ability to repair, calibrate and operate machinery; and conduct analysis or assessment.

Written and verbal communication skills.

Interpersonal Skills

- A range of interpersonal skills are used such as listening, asking questions, providing routine and specialized information, gaining the cooperation of others and providing expert advice occurs on a regular basis when dealing with engineering staff regarding machinery operation and malfunctions, negotiating contracts and agreements, providing training and coaching or mentoring.
- Most significant contacts are with: Marine Superintendent (to discuss mechanical problems that arise which requires input and approval); Captain (to obtain daily orders/assignments); and Marine Buyer (to discuss ordering of supplies, parts, etc.).

EFFORT

Physical Effort						
	The demands of the job occasionally result in considerable fatigue, requiring periods of rest.					
	Lifting or moving objects over 50 lbs such as oil drums and working in cramped positions for the purpose of removing piping, pumps and motors is occasionally required. Physically handling materials or other objects such as piping and pulling on wrenches and sockets occurs on an occasional basis.					
—	Sitting, standing, walking and climbing are all required in the performance of daily tasks and activities.					
_	The use of fine finger/precision work, using hand tools that require accurate control and					

steadiness, using gross motor skills and maintaining physical balance are a regular occurrence. — Occasionally uses machinery or equipment that requires very controlled movement.

Concentration

- Visual concentration is required when studying service manuals, reviewing electrical printouts, using micrometers and making adjustments to pressure switches.
- **Auditory** demands are required to listen for unusual noises anywhere on the vessel, especially in the engine room which is a high noise environment.
- Other sensory demands such as **touch** and **smell** are used to determine if machinery is malfunctioning or overheating.
- Activities such as starting engines and pumps to ensure working order can be repetitious and require alertness.
- Higher than normal level of attentiveness/alertness is required when an engine is overhauled or when experiencing rough seas which can cause a vessel to hit the dock and/or lose balance.
- Time pressures and deadlines are experienced as a result of route schedules. Positions in this class are always cognizant of machinery and system failures. When a vessel is on refit a lack of control over work pace is experienced.
- Making adjustments to machinery; determining its temperature through **touch** and using a voltage meter requires **eye/hand coordination**.
- Exact results and precision are required when installing piping to ensure it does not leak; performing engine inspections or maintenance; setting up overload switches when installing new electrical equipment using very fine measuring tools; and making repairs.

Complexity

- Tasks and activities are different/unrelated requiring the use of a broad range of skills and diversity of knowledge. Activities range from responsibility for the overall operation and monitoring of a vessel's diverse and complex mechanical systems to the supervision of staff. While work is performed with defined and standard work processes, tasks and activities are highly technical and periodically must be defined and practical solutions found.
- Work requires keeping abreast of changes to relevant standards and codes.
- Challenges/problems/issues can be addressed by discussing with other engineers in a team setting.
- Reference material available includes service manuals, Occupational Health & Safety Regulations, departmental policies and procedures, Transport Canada Shipping Act, etc.

RESPONSIBILITY

Accountability and Decision-Making

- Work tasks and activities are generally prescribed or controlled and are regulated by Transport Canada.
- Can recommend changes to policies and procedures and request additional staff if required without formal approval.
- Policy changes, purchasing of supplies such as oil and parts, equipment replacement and overtime must be approved by supervisor.

- Some discretion to exercise within predetermined limits occurs during refit where the Dockyard has an open account for supplies, pipe fittings, bolts, etc.
- Work is performed independently, exercising a high degree of independent discretion and judgement when prioritizing work and solving problems.

Impact

- Impacts are felt internally within the immediate work area/department/government as well as externally on vessel passengers.
- Work activities impact resources such as equipment, finances, facilities, material resources, health/safety and corporate image. If the vessel is not in operation due to mechanical failure, it affects all of the above. If certain machinery has failed, it can affect crew members or in some cases the Captain with handling of the vessel.
- The consequences of a mistake or error can have a moderate to extreme impact on the immediate work area and on customers and the general public as it affects transportation with increased costs being incurred as a result of providing a back-up vessel.
- The risk or consequences of an error that occurs can be mitigated by following standard preventative maintenance standards and procedures and providing immediate attention to problems as they arise.

Development and Leadership of Others

- Typically responsible for direct and ongoing bargaining unit supervisory activities for a small size work group of employees (1 to 4 employees).
- Development and leadership responsibilities include on-the-job advice/guidance, direction, orientation, on-the-job training, acting as technical mentor or advisor, building morale and delegating/allocating tasks, providing input to others about staffing and recruitment and organizing, coordinating and checking or reviewing the work of contractors, students, etc.

WORKING CONDITIONS

Environmental Working Conditions

- Safety equipment such as safety harness, face shields, glasses, ear protection, welding jacket, gloves and other personal protective equipment are required.
- There is a moderate likelihood for minor cuts, bruises, abrasions or minor illnesses and limited likelihood of injuries or occupational illnesses resulting from hazards given that all health and safety regulations are followed.
- Exposure to unusual/distracting noise occurs on a constant basis as a result of working in an engine room. Regularly exposed to dirt, dust, filth or garbage, fumes, limited ventilation and lighting, vibration, toxic or poisonous substances, odours, wet or slippery surfaces, awkward or confining workspaces and temperature extremes with occasional exposure to glare, bodily fluids and waste, dangerous heights or depths, lack of privacy, isolation, radiation, physical dangers, sharp objects, heavy machinery, adverse weather conditions and travel.