



JOB DESCRIPTION

Job Title: Maintenance Engineer - Mechanical **Position Number:** 95-37

Incumbent: Vacant **Effective Date:** January 2025

Employment Status: Permanent **Pay Level** 11 **Bargaining Unit:** Yes No

Supervisor's Title: Director, Mechanical Operations **Department:** Operations

SUMMARY

The Mechanical Maintenance Engineer plays a vital role in supporting the Operations department by ensuring the reliability, performance, and safety of mechanical assets in hydro and thermal generation plants. This position involves both planned and unplanned maintenance, troubleshooting, and assisting with the commissioning of capital projects. The engineer is responsible for reviewing periodic maintenance test reports, developing corrective actions, and collaborating with Asset Management and Engineering to formulate strategies for long-term asset management and optimization of mechanical systems, including turbines, pumps, compressors, fuel systems, and mechanical drives.

DESCRIPTION

1. Adhere to the corporation's high safety standards by following approved safe working plans and ensuring compliance during mechanical maintenance activities.
2. Assist in resolving unplanned maintenance issues, including failures of turbines, pumps, hydroelectric units, and other mechanical systems critical to operations.
3. Supports development of short-term and long-term maintenance planning and develops strategies for system upgrades and overhauls, while considering long-term maintenance costs
4. Assist in creating and implementing test plans for critical mechanical assets, such as turbines, pressure vessels, and rotating equipment.
5. Review preventive maintenance (PM) records, equipment inspection logs, and test sheets, creating follow-up work orders for mechanical systems as needed.
6. Investigate mechanical outages and develop corrective action work plans to restore functionality and prevent recurrence.
7. Identifies and implements business process improvement.



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8. Responsible for management of change (MOC) process for operations projects. Adhere to the Management of Change (MOC) process when modifying or making changes to an engineered system.
9. Utilizes the Enterprise Asset Management (EAM) system to analyze trends in equipment maintenance needs such as breakdown, preventative maintenance, and corrective maintenance, average time between failures, and time to repair. Make recommendations for improvements to maintenance practices and frequencies based on trends.
10. Mark up and redline technical drawings to reflect field conditions (as-builts).
11. Support the commissioning of capital projects, such as turbine overhauls and new mechanical unit installations, and participates in factory acceptance testing (FAT) as a representative of the Operations department.
12. Actively collaborate with engineering and maintenance scheduling to ensure project and maintenance support.
13. Review all engineering work orders and ensure a timely assignment within 7 days.
14. Prioritize electrical maintenance tasks to ensure critical work is completed first, and inform department leads about deferral risks.
15. Support the development and accuracy of the equipment asset registry by ensuring detailed documentation of mechanical assets.
16. Identify, document, and assist in sourcing and procuring spare parts for critical mechanical equipment to minimize downtime.
17. Provide technical guidance to technicians and contractors during mechanical maintenance and commissioning tasks.
18. Supervise contractors performing critical mechanical maintenance tasks to ensure quality and compliance with safety standards.
19. Review equipment test results, inspection reports, and condition assessments, providing recommendations to the Engineering and Capital Group.
20. Work collaboratively with Asset Management, Engineering, and Operations to optimize mechanical asset reliability and maintenance strategies.
21. Establish and maintain effective working relationships with third-party contractors and suppliers involved in mechanical maintenance activities.



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22. May be assigned as project manager of minor maintenance capital project.

23. Other related duties.

KNOWLEDGE, SKILLS, AND ABILITIES

- Registered Professional Mechanical Engineer, eligible for registration in Yukon.
- Minimum 4 years of experience in utilities, including technical and operational experience in mechanical systems.
- Good working knowledge of various mechanical generating assets, including diesel and LNG-fueled generators, hydro turbines, pumps, compressors, and renewable generation sources (wind)
- Strong understanding of mechanical systems and equipment, such as turbines, pumps, cooling systems, mechanical drives, and associated control systems.
- Experience troubleshooting mechanical and control systems in generation facilities, with sufficient knowledge to provide guidance.
- Knowledge of mechanical system instrumentation and control, including vibration analysis, temperature monitoring, and pressure systems.
- Ability to read and interpret mechanical drawings, schematics, equipment manuals, and maintenance documentation.
- Experience supporting field infrastructure commissioning, including mechanical system installations and performance testing.
- Strong working knowledge of mechanical hazards and safety protocols in power generation.
- Ability to administer and enforce safe work practices, including creating and assessing Job Safety Analysis (JSA) and conducting tailboard safety meetings.
- Familiarity with control systems in mechanical applications and the ability to troubleshoot small mechanical control systems.
- Solid problem-solving and analytical skills, particularly in diagnosing mechanical failures and developing corrective actions.
- Strong organizational skills with the ability to multi-task, prioritize, and optimize maintenance schedules.
- Excellent interpersonal skills and client-service orientation, with the ability to work effectively with internal teams and external stakeholders.
- Proficiency in Windows-based software applications for work order management and documentation.
- A valid class 5 driver's license.
- A valid first aid certificate.
- Ability to work effectively in a team and diverse cultural environment.



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WORKING CONDITIONS

This position works in a variety of environments, including power production plants, and office settings. Work includes outdoor environments, often in varying weather conditions, such as heat, cold, and inclement weather, to support field operations. Travel to remote communities and operational sites is required, occasionally involving extended stays.