

PREDICTIVE MAINTENANCE TECHNICIAN I  
PREDICTIVE MAINTENANCE TECHNICIAN II

DEFINITION

To perform a variety of technical duties related to the development and support of predictive, preventative and condition based maintenance programs including the collection, analysis, storage, retrieval and interpretation of vibration, infrared, ultrasonic, circuit, and oil analysis data and the completion of related repair and diagnostic tasks on plant and field based physical assets.

DISTINGUISHING CHARACTERISTICS

Predictive Maintenance Technician I – This is the entry level class in the Predictive Maintenance Technician series. Positions in this class must have apprentice level related work experience and work under immediate supervision while learning the job tasks. The Predictive Maintenance Technician I class is distinguished from the level II class by the performance of less than the full range of duties assigned to the level II Technician. Incumbents work under immediate supervision while learning job tasks, progressing to general supervision as the procedures and processes of assigned area of responsibility are learned.

Predictive Maintenance Technician II – This is the journey level class in the Predictive Maintenance Technician series and is distinguished from the I level class by the ability to perform the full range of duties assigned with only occasional instruction or assistance as unusual or unique situations arise. Positions in this class are flexibly staffed and are normally filled by advancement from level I positions.

SUPERVISION RECEIVED AND EXERCISED

Predictive Maintenance Technician I

Receives immediate supervision from the Maintenance Supervisor; and technical and functional supervision from a Preventative Maintenance Coordinator.

Predictive Maintenance Technician II

Receives general supervision from the Maintenance Supervisor; and technical and functional supervision from a Preventative Maintenance Coordinator.

EXAMPLES OF ESSENTIAL DUTIES - Duties may include, but are not limited to, the following:

Collect machinery health data from operating plant and field based physical assets for later analysis using data collectors, instrumentation, test equipment, cameras and associated tools and analysis software.

Prepare and present recommendations on appropriate maintenance and operations responses to machinery health findings derived from predictive data analysis; perform repairs and make modifications to plant and field based physical assets based on predictive and preventative data analysis; make recommendations for the improvement of equipment and process reliability and of the overall maintenance program.

Perform preventative maintenance inspections of plant and field equipment; record findings and use them to perform repairs and modifications to plant and field based physical assets based on preventative data analysis; make recommendations for the improvement of equipment and process reliability and of the overall maintenance program.

Perform planned repairs and adjustments to plant and field equipment to correct deficiencies identified by preventative and predictive maintenance inspections and analysis; perform unplanned repairs and overhaul plant and field equipment to like-new condition.

Prepare and present recommendations on improvements and changes to the maintenance program to advance and expand the use of predictive technologies.

Stay current with advances in predictive technologies, equipment and programs; make recommendations for the purchase, upgrade and repair of data collectors, cameras, instruments and analysis software and recommendations on enhancements to the maintenance program.

Utilize computers and applicable software to enter, retrieve and analyze information related to machinery health trends, work assignments, record keeping and timekeeping.

Build and maintain positive working relationships with co-workers, other City employees and the public using principles of good customer service.

Perform related duties as assigned.

## MINIMUM QUALIFICATIONS

### Predictive Maintenance Technician I

#### Knowledge of:

Methods, tools, and equipment used in the maintenance and repair of mechanical and electrical/electronic equipment.

Operation, maintenance, troubleshooting and repair of pumps, motors, valves and other mechanical and electrical equipment.

Principles of electrical circuits, process control systems, instrumentation, chemical analyzers and standard terms of the mechanical and electrical trades.

Principles and practices of complex maintenance and repair programs including preventative, condition based, investigative, reactive and reliability-centered maintenance, root cause analysis, and equipment criticality rating.

Basic computer operations; tools, equipment and materials used in the operations and maintenance of continuous treatment processes; basic mathematical principles and application.

Ability to:

Learn and apply departmental policies and procedures;

Learn modern office practices, procedures and equipment;

Maintain accurate records and reports;

Perform basic arithmetic calculations;

Communicate clearly and concisely, both orally and in writing;

Safely operate forklifts, pallet jacks and City vehicles (<14,000 GVW)

Intermittently, sit while completing forms and paperwork; bend, walk, stand, climb, kneel, crouch, twist to reach when operating equipment or using tools; perform simple or power grasping, pushing, pulling, or fine manipulation; regularly lift up to forty-five (45) pounds.

Be on-call evenings or weekends; work unusual/prolonged work schedules as required by workload and during emergencies or seasonally-caused circumstances.

Establish and maintain cooperative working relationships with those contacted in the course of work.

Experience and Training

Experience:

Multi-skill work experience is not required; however journey level experience in a mechanical or electrical trade is required. Journey level experience in predictive maintenance technologies in a mechanical or electrical trade is preferred.

Training:

Equivalent to completion of the twelfth grade, GED, or higher level degree.  
Course work towards a vocational certificate from an accredited institution in mechanical, electrical, electronic, communications, networking, instrumentation and controls trades or a related field is desired.

License or Certificate

Possession of a valid California driver's license.

Predictive Maintenance Technician II

In addition to the qualifications for the Predictive Maintenance Technician I:

Knowledge of:

Predictive maintenance data collection and analysis techniques, tools, instruments and software including vibration, infrared, ultrasonic, oil tribology, and electrical circuit analysis.

Repair, modification and overhaul techniques used for the restoration and improvement of continuous process plant and field equipment.

Record keeping methods and procedures, including computerized maintenance management systems, databases, spreadsheets, document management and retrieval systems.

Basic mathematical principles and application.

Ability to:

Analyze predictive data from vibration, infrared, ultrasonic, motor circuit, and oil analysis sources. Prepare reports summarizing the interpretation of data analysis with recommendations for corrective actions.

On a continuous basis, know and understand all aspects of the job; observe safety rules and traffic laws; analyze and problem solve; identify and locate necessary resources to successfully perform job duties; interpret technical documents; understand, interpret and explain department policies and procedures.

Intermittently sit while preparing reports and operating vehicles and equipment; walk, stand, bend, squat, climb, kneel and twist while collecting data and making repairs; perform simple and power grasping, pushing, pulling and fine manipulation; lift and carry weight of 50 pounds or less.

Prepare reports summarizing the interpretations of the data analysis with recommendations for corrective actions.

Operate a personal computer utilizing spreadsheet, word processing and database software and other applications in support of the maintenance program.

Maintain accurate records and generate reports.

### Experience and Training

#### Experience:

Journey level experience in the collection and analysis of predictive maintenance data in a continuous process, manufacturing or service industry maintenance trade similar to that of a Predictive Maintenance Technician I with the City of Roseville is required.

#### Training:

Equivalent to completion of the twelfth grade, GED, or higher level degree. A vocational certificate from an accredited institution in mechanical, electrical, electronic, communications, networking, instrumentation and controls trades or a related field is desired.

### License or Certificate

Possession of a valid California driver's license.

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