

# Predictive Maintenance (PdM) Checklist

 Show only Checklist

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## Asset Identification & Prioritization

Ensuring accurate asset identification, classification, and prioritization based on criticality and risk.

### Asset ID

Enter a number...

### Asset Name/Description

Write something...



### Asset Category

- Motor
- Pump
- Gearbox
- Compressor
- Bearing
- Other

### Criticality Score (1-5, 1=Lowest, 5=Highest)

Enter a number...

### Justification for Criticality Score

Write something...

### Maintenance Strategy (Initial)

- Run-to-Failure
- Preventative
- Predictive
- Reliability-Centered

### Date of Last Inspection/Assessment

Enter date...

### Estimated Replacement Cost

Enter a number...

### Associated Hazards (if any)

- Environmental
- Safety
- Production Downtime
- Financial
- None

## Data Acquisition & Integration

Collecting relevant data from various sources (sensors, CMMS, historical records) and integrating it for analysis.

### Data Sources Identified?

- Yes
- No
- In Progress

### Which data sources are currently integrated?

- Vibration Sensors
- Temperature Sensors
- Pressure Sensors
- Oil Analysis Reports
- Ultrasonic Testing Data
- PLC Data (SCADA)
- CMMS/EAM System
- Historical Maintenance Records

### Number of connected sensors

Enter a number...

### Last Data Integration Validation Date

Enter date...

### Data Integration Challenges

Write something...

## Data Flow Diagram

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## Data Transmission Protocol

- Modbus
- OPC UA
- MQTT
- Ethernet/IP
- Other

## Data Security Measures in Place

Write something...

# Condition Monitoring Techniques

Implementation and verification of appropriate condition monitoring techniques (vibration analysis, thermography, oil analysis, ultrasonic testing, etc.).

## Selected Condition Monitoring Techniques

- Vibration Analysis
- Thermography
- Oil Analysis
- Ultrasonic Testing
- Motor Current Signature Analysis (MCSA)
- Infrared Inspection
- Acoustic Emission Testing

### Vibration Analysis - Frequency Range (Hz)

### Thermography - Camera Resolution (MP)

### Oil Analysis - Sample Volume (mL)

### Last Oil Analysis Date

### Time of Ultrasonic Measurement

### Notes on Condition Monitoring Results

### Upload Thermography Image

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# Data Analysis & Modeling

Analyzing collected data to identify trends, anomalies, and predict potential failures. Includes model validation and refinement.

## Vibration Analysis - RMS Amplitude (mm/s)

## Oil Analysis - Viscosity Index

## Thermography - Max Surface Temperature (°C)

## Anomaly Detected (Vibration)?

- Yes
- No
- Unsure

## Description of Observed Anomalies


### Date of Anomaly Detection

### Model Performance Confidence Level

- High
- Medium
- Low

### Remaining Useful Life (RUL) Estimate (Units of Operation)

### Upload Spectral Analysis Graph (Vibration)

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## Maintenance Planning & Scheduling

Developing and executing maintenance plans based on predictive insights, optimizing maintenance intervals and resource allocation.

### Predicted Remaining Useful Life (RUL) - Component X (in days)

### Scheduled Maintenance Start Date - Component Y

Enter date...

### Estimated Maintenance Duration - Component Z

Enter time...

### Maintenance Type (Based on PdM Prediction)

- Routine Inspection
- Lubrication
- Parts Replacement
- Repair
- Other (Specify)

### Detailed Maintenance Procedure Notes

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### Required Skills/Personnel

- Mechanical
- Electrical
- Instrumentation
- Lubrication Specialist
- Welding

### Supporting Documents (e.g., parts list, diagrams)

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### Work Order Priority (Based on PdM)

- Critical
- High
- Medium
- Low

## Reporting & Communication

Establishing clear reporting channels to communicate predictive maintenance findings to relevant stakeholders and track program effectiveness.

### Number of PdM Reports Generated Per Month

Enter a number...

### Report Distribution Method

- Email
- CMMS System
- Shared Drive
- Printed Report

### Date of Last Report Review with Stakeholders

Enter date...

### Summary of Stakeholder Feedback on Last Report

Write something...

### Which stakeholders receive the PdM Reports?

- Production Manager
- Maintenance Supervisor
- Engineering Team
- Plant Manager

### Communication Frequency for Critical Findings

- Immediately
- Daily
- Weekly

### Example of a Typical PdM Report

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## Program Review & Continuous Improvement

Regularly reviewing the PdM program's performance, identifying areas for improvement, and adapting strategies based on evolving needs.

### Number of Assets Covered by PdM

Enter a number...

### Number of Predicted Failures Avoided (estimated)

Enter a number...

### Overall PdM Program Cost Savings (estimated)

Enter a number...

### Summary of PdM Program Performance Trends (past review period)

Write something...

### Areas for Improvement Identified

- Data Quality
- Sensor Coverage
- Algorithm Accuracy
- Maintenance Team Training
- Integration with CMMS
- Other

### Action Items & Assigned Owners (for addressing identified areas for improvement)

Write something...

### Date of Next Program Review

Enter date...

### Overall PdM Program Effectiveness (Rating Scale)

- Very Poor
- Poor
- Fair
- Good
- Excellent

### Recommendations for future PdM expansion or refinement

Write something...

## Safety & Compliance

Ensuring all PdM activities adhere to safety regulations, environmental standards, and relevant compliance requirements.

### Safety Training Completion (PdM Personnel)

- Completed
- In Progress
- Not Started

### Permit to Work Compliance Score (Scale 1-10)

Enter a number...

### PPE Usage Verification (Routine Inspection)

- Compliant
- Minor Deviation
- Significant Deviation

### Last Safety Audit Date

Enter date...

### Record of Near Misses/Safety Incidents related to PdM activities

Write something...

### Compliance with Environmental Regulations (e.g., waste disposal)

- Compliant
- Minor Deviation
- Significant Deviation

**Documentation of Hazardous Material Handling Procedures (if applicable)**

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**Name of designated Safety Officer for PdM**

Write something...