Abid Khan

Principal Engineer
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Professional Summary

Certified vibration analyst with 12+ years of experience in predictive maintenance, fault diagnostics, condition monitoring, finite element analysis, and database development. My goal is to bridge the gap between traditional practices and advanced data-driven insights, helping organizations minimize downtime and maximize reliability.

Education

Master of Science – Mechanical Engineering (2010 – 2012)
Pakistan Institute of Engineering & Applied Sciences, Islamabad, Pakistan

Bachelor of Science – Mechanical Engineering (2006 – 2010)
University of Engineering & Technology, Peshawar, Pakistan

Professional Experience

Principal Engineer
Center for Vibration Analysis and Condition Monitoring (CVCM)
2022 – Present

- Led the two (02) years condition monitoring services agreement with Oil & Gas Development Company Ltd (OGDCL) and supplied inspection and corrective services for rotary/reciprocating equipment.
- Resolved high vibration issue of OGDCL, preventing spool pipe weld failure of critical compressor and avoiding appx. 12 hours of production loss (8 MMSCFD) per failure incident.
- Installed and commissioned lab testing equipment, including rotor balancing machine (capacity: 30 tons) and vibration shaker table (capacity: 300 kg).
- Developed and implemented a robust Microsoft Access-based database system for efficient record-keeping and generation of technical reports, correspondences, financial documents, lab inventory and equipment calibration, ensuring efficient data management and accessibility.

Senior Engineer
Center for Vibration Analysis and Condition Monitoring (CVCM)
2014 – 2022

- Delivered condition monitoring services to Pakistan Petroleum Ltd (PPL), Adhi Field for three (03) years.
- Performed vibration analysis and fault diagnostics of critical equipment at OGDCL, Qadirpur Gas Field and corrected several faults including laser shaft alignment and modification of structure after ODS and FEA modal analysis.
- Implemented a comprehensive condition monitoring and reliability program during the commissioning and power operation of K-2/K-3 Nuclear Power Plants.
- Participated in Borescopic inspection of two gas turbines at PPL, Adhi Field performed by professional of Siemens, UK.
- Provided condition monitoring services to Bestway Cement Ltd plants across the country for 03 – 04 years.
- Led thermal evaluation of spent nuclear fuel casks under IAEA guidelines using ANSYS simulations and validated the results in decay heat testing of prototype casks.

- Provided calibration services for vibration sensors, proximity probes, condition monitoring systems, portable vibration meters, analyzers, and IR (Infrared) cameras.

Junior Engineer
Center for Vibration Analysis and Condition Monitoring (CVCM)
2012 – 2014

- Provided condition monitoring and corrective services (field balancing & laser shaft alignment) to various industries.
- Designed and fabricated machinery fault simulator for demonstration of various faults during training sessions.
- Played a key role in ISO 17020 accreditation by drafting quality manuals and policies.

Certifications & Trainings

- Certified Vibration Analyst – Category: III (Mobius Institute, Australia)
- Training Course on Windrock Analysis of Engines & Compressors (Zita Solutions Pvt. Ltd, Pakistan)
- Integrated Training Course on Ultrasound Inspection – Category: I (CVCM, Pakistan)

Core Competencies & Skills

- Condition Monitoring & Reliability Engineering
- Predictive Maintenance Techniques
- Vibration Analysis (Route based/Real-time)
- Operating Deflection Shape, Modal Testing
- Infrared Thermography
- Borescopic Inspection
- Dynamic Balancing (Workshop and In-situ)
- Laser Shaft/Pulley Alignment
- Windrock Analysis, Ultrasound Analysis
- Database Software Development (MS Access)
- Equipment Calibration
- Finite Element Analysis (ANSYS: Mechanical, CFX)

Instructional Engagements

- Conducted training sessions on condition monitoring techniques, rotor balancing, shaft alignment and vibration analysis Level I, II, & III at CVCM.

Technical Proficiency

- Emerson CSI-2140, AMS Suite, Pruftechnik VibXpert-II, Omnitrend (Legacy, Center)
- Windrock Reciprocating Analysis, OROS NVGate/ORBIGate
- FLIR T660, SDT 270 Ultrasound Detector
- SKF TKSA 31/TKBA 40
- ME'ScopeVES, ANSYS, Office Automation

Languages

- **Urdu** – Native Speaker
- **English** – Proficient