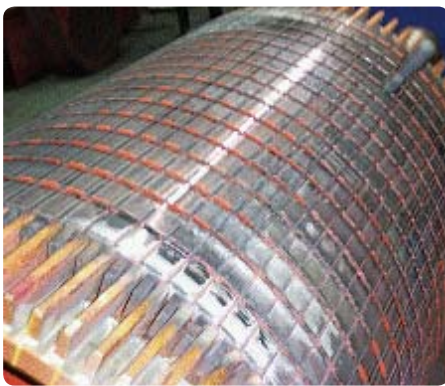


ERA provides independent, specialist technical consultancy to owners and operators of rotating equipment, both electrical and mechanical. With over 30 years experience of analysing rotating equipment, ERA understands the issues facing operators and users seeking to optimise the performance of their plant.

Operators demand high reliability and performance from their assets. When equipment fails, it is a valuable exercise to determine the root cause of the failure so it could possibly be prevented from being repeated, or happening again on similar assets. ERA has world-leading expertise in condition assessment and failure analysis techniques for rotating equipment, such as:

- Gas Turbines
- Steam Turbines
- Gearboxes
- Compressors
- Diesel or gas engines
- Generators
- Pumps
- Motors
- Auxiliary equipment.



Increasing Reliability and Availability

Embracing the continuous improvement of operational processes and the elimination of “bad actors” or weak links where systems/equipment regularly fail dramatically improves the reliability and availability of a process.

ERA applies a systematic approach to assessing rotating equipment and has a highly experienced team who understand how best to operate the equipment under the local conditions and can apply cross-industry experience to help eliminate identified areas



of potential problems. This, coupled with advanced condition assessment techniques, leads to a reduction in unplanned operational downtime and improves availability and reliability.

This is particularly important for operators of critical infrastructure where in-built redundancy is not cost-effective and the failure of a single machine can result in large financial losses.

Operation and Maintenance

Extending the useful operating life of rotating equipment whilst maintaining reliability is a key aim for most operators. Condition-based maintenance practices are recognised as techniques to increase plant availability and reliability while reducing maintenance costs.

ERA has advanced static and dynamic machine condition assessment, inspection and online monitoring skills and, combined with plenty of on-site experience and reference data, can provide an early warning of an impending problem from the analysis of data from DCS monitoring either on-site, or remotely if data download is available.

ERA provides monitoring and analysis of rotating equipment vibration, partial discharge, temperature, pressure, speed and acceleration.

ERA also provides reviews of maintenance practices and applies lean engineering and value-stream mapping to maintenance tasks, using trusted techniques such as Kaizens, to identify and eliminate waste in business processes, improve reliability, increase productivity and save the operator money.

Failure Investigation

Inevitably equipment fails. ERA provide a fast and efficient, end-to-end service to help our client's identify the mechanism and cause of the machine failure and provide effective solutions to help avoid the risk of further occurrences.



ERA assembles an expert team who cover on-site failure examinations, sampling for further laboratory analysis, contributing to and/or chairing Root Cause Analysis activities, operational data analysis, and Return To Service in the most efficient and cost-effective way. A good RCA on a failure will identify a change of process, equipment, or maintenance technique to improve reliability.

ERA's skill set includes:

- Electrical, mechanical and metallurgical analysis
- On-site and remote analysis services to evaluate static and dynamic behaviour
- Scanning Electron Microscopy
- 3rd Party witness testing and validation
- Start-up testing
- Set-up and implementation of condition monitoring systems
- Fault diagnosis using portable and permanently installed equipment
- Remote surveillance of condition and performance
- On-line monitoring.



ERA Technology Ltd

Since its foundation in 1920, ERA has evolved from its roots as a research association to become a centre of excellence in engineering technology with a strong brand and reputation, sitting at the forefront of specialist asset integrity service provision.

ERA is committed to delivering professional services to our customers across all business sectors, assisting them in reducing technical and commercial risk, improving the operational

performance of their assets and developing and enhancing the competitiveness of their products and systems.

ERA Offers the Following Services:

AccessERA

(Publications, Training Courses, Newsletters & Information Services)

EMC and Radiocomms

(EM Management, Measurement and Modelling)

Engineering Consultancy Services

(Condition Assessment, Power Systems Analysis, ERACS Software, LV Electrical Product Testing, Failure Analysis and Materials & Design Consultancy)

Reliability and Failure Analysis

(Forensic, Analytical and Environmental Compliance Services)

System Safety Engineering and Assurance

(ISA, Safety Management Consultancy, Safety Process Audits, Software Assurance, Product Safety Assessments and Standards Compliance, RAM Engineering and Assurance).



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