

# Root cause failure analysis



Energy lives here<sup>SM</sup>

- This service is designed to investigate the root cause of prior failures and prevent future ones.

## Description

Our expert field engineers work to determine the root cause of failures through on-site technical troubleshooting of equipment lubrication and mechanical problems. With a wide range of internal and external technical resources available, they use tools such as oil analysis, vibration analysis, infrared temperature scanning, and gear and bearing failure analysis. They are knowledgeable about plant and equipment builder requirements and analyze situations to quickly find the root cause of failure and recommend solutions to prevent them in the future.

## Application

We work with you to:

- Inspect failures and components operating under similar conditions
- Determine type of problem
- Gather necessary background data
- Consult with technical and service personnel
- Interview plant maintenance personnel and outside repair shops
- Correlate data from various monitoring tools and programs
- Recommend appropriate changes in design, lubrication, operating conditions, maintenance, cleanliness and flushing procedures

## Potential benefits



Avoidance of repeat failures, downtime and maintenance costs



Improved procedures to prolong equipment life



Additional training and knowledge for plant personnel



Extended equipment component life and improved operating efficiencies



Prompt resolution of problems



Close relationships with equipment builder's design and service personnel

# Root cause failure analysis



**Deliverable:** An Engineering Service Report identifies the root cause of failure, documents the findings, makes recommendations and estimates the value of implementing those changes.

## Common opportunity areas

- Shock loads
- Misalignment
- Coupling lockup
- Contamination of lubricant/system
- Incorrect temperatures
- Excessive vibration
- Improper balancing
- Incorrect lubricant or lubricant leakage
- Faulty installation
- Improper drain intervals

## Safety, health and environment

Our field engineers are attuned to the hazards of handling, storing and using petroleum products. They strictly observe safety and environmental rules, as well as ExxonMobil and customer safety practices. They coordinate efforts through designated plant personnel verifying electrical and mechanical lockout and proper tagging prior to working on equipment, and providing recommendations to help reduce hazards.

Industrial  
Lubricants



By helping you enhance equipment life and reliability — which minimizes maintenance costs and downtime — our expert services can help you achieve your safety, environmental care and productivity goals.