ABB’s safety critical machine assessment program has delivered a cost effective approach to reducing risks from major hazard machinery on COMAH sites.

Demonstration of the suitability of process equipment for the application is a fundamental requirement of EC and UK regulations. Operators of machinery and rotating equipment for higher hazard processes also have a duty of care for sustaining the equipment in a safe state. The HSE design code for COMAH sites defines good practice for the hazard assessment of machinery. In the case of failure of the machine or protective system which would lead to an unacceptable consequence then the machine system may be classified as a critical machine system.

To demonstrate good practice on a COMAH site a proactive approach to high hazard machinery care should be incorporated into your asset management strategy.

**Our approach**
The process has been adopted by many major operators of COMAH sites, with an initial assessment to rapidly identify the 10% to 15% of equipment that should be regarded as critical machine systems. Such an approach leads to:

- Recognition of the significant hazards
- Understanding of the operating scope of the equipment
- Identification of essential protective systems and devices
- Defining requirements for inspection, maintenance and testing
- Operating and maintenance procedures which mitigate risks
- Robust control of change (repairs and modifications)
- Hazards
- Process
- Hydrocarbon release
- Toxic release
- Isolation issues
- Mechanical
- Overspeed
- Operational
- Start up / shut down
- Maintenance

Background
- Operational aspects
- Design features

Main components
- Electric Motor
- Pump
- Gear box

Support systems
- Seal system
- Lubrication supply
- Cooling

Benefits
- Reduced operator injuries
- Improved reliability of machine operations
- Reduced risks from equipment failure
- Design and integration of new equipment meets all operating conditions
- High integrity protective systems are only used where demonstrably necessary
- Compliance issues are identified with suppliers with a process for achieving and maintaining compliant certification

Why ABB?
ABB can help tailor a machinery care policy which ensures that money is only spent to achieve your business goals of safe and profitable operation.

We do this via:
- Implementing pragmatic solutions - that working in an operating environment
- Rotating equipment specialists with a long history of operating experience
- A track record of cost effective machinery care programmes

Above: Understanding of technology and operational issues.