

Driving up equipment reliability

3 Day Workshop

23rd-25th November 2021
Brandon Hall Hotel & Spa
Coventry, CV 8 3FW



Equipment Reliability: How do the airlines achieve exceptional reliability in a cost cutting industry - and yet so many companies fail to achieve target performance levels and high OEE?

The development of Reliability Centred Maintenance (RCM) by the US aviation industry led to dramatic improvements in the reliability of civilian aircraft and major reductions in preventive maintenance requirements – a 'win-win' scenario. Industry, however, has been slow to adopt many of the principles of RCM. This has been due in part to RCM being extremely time consuming and difficult to undertake, and the fact that it does not address many of the issues faced by companies in the manufacturing and process industries.

To overcome these shortcomings, GGR Associates have developed two derivatives of RCM. These address all the issues which can adversely affect equipment reliability and plant performance - while still retaining the same rigorous logic of 'classic' RCM.

These derivatives are:

- **Fast-track RCM** for improving overall equipment reliability.
- **Review RCM** for optimising existing preventive maintenance routines.

Both these approaches are very much quicker and easier to use than 'classic' RCM, and the focus is on achieving step changes in equipment reliability.

These derivatives have been tried and tested over 25 years in more than 200 companies. Industries include food & drink, pharmaceuticals, automotive, electronics, paper & packaging, chemical & petrochemical, oil refineries, ethanol production, steel mills, utilities, airports, quarrying & mining and mineral processing.

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Location: Brandon Hall Coventry, CV8 3FW

Cost: £1150.00 per delegate plus VAT, (early booking discount second delegate half price.)

Price includes all course materials, refreshments and lunch on all 3 days.

Accommodation can be arranged at an additional cost.

Why attend this workshop?

The workshop will cover:

- **Failure Mode & Effect Analysis (FMEA/FMECA):** Developed by the US Military after WWII to address problems of premature failure of equipment and systems.
- **Reliability Centred Maintenance (RCM):** Developed by the US aviation industry to improve the reliability of civilian aircraft.
- **The limitations of RCM:** For the manufacturing, process & service industries
- **The development of RCM derivatives:** Fast-track RCM and Review RCM
- **Random failure:** The significance of random failure and how it affects the selection of preventive maintenance tasks - with the move away from time-based maintenance to condition-based maintenance.
- **Root Cause Analysis (RCA):** The importance of identifying the root causes of failures.
- **Consequences & Criticality:** Assessing the significance of failures.
- **Hidden Functions:** The importance of recognising Hidden Functions.
- **Operating Context:** How equipment's operating context affects its preventive maintenance requirements.
- **RCM Logic Chart:** Used to determine what preventive maintenance is needed and what other actions are required to improve equipment reliability
- **Criteria for PM task selection:** The technical and worth doing criteria for the selection of PM tasks
- **Other actions:** These include equipment modifications and redesigns, changes to operating procedures, revised changeover and setting methods, jigs & fixtures, training requirements, raw material changes, improved documentation and spares recommendations to improve performance.

- **Condition Monitoring techniques:** A summary of the most widely used condition monitoring techniques, and how the RCM logic can assist with their selection
- **Preventive maintenance task frequency:** Determining the optimum PM task frequency, particularly for condition-based maintenance tasks.
- **Manufacturers' recommendations:** Their limitations!
- **Early Equipment Management:** The use of Fast-track RCM to reduce the problems of commissioning new plant and equipment - and for identifying what spares need to be carried (usually significantly less than the manufacturer's recommendations)
- **MTBF and Life:** The difference between MTBF and Life and where each should be used
- **SMED:** A summary of the SMED approach for achieving quick changeovers
- **Spares:** Identifying what spares should be held
- **Undertaking Fast-track RCM and Review RCM projects:** How these approaches are carried out - usually starting with pilot projects.

Who should attend?

The workshop is designed to help those from engineering, maintenance and operations improve equipment reliability and plant performance. The approaches covered are applicable and complementary to the Lean, Continuous Improvement, TPM and Six Sigma toolsets.

The workshop combines theory, exercises and case studies to develop an understanding of the approaches available for driving up equipment reliability.

Workshop Leader

The workshop will be led by Michael Dixey, Director of GGR Associates.

Michael is a Chartered Engineer and has specialised in assisting companies improve the reliability and performance of their manufacturing and process plant for a wide range of industries for over 30 years. The industries in which he has worked include food & drink, pharmaceuticals, paper & packaging, chemical & petrochemical, oil refineries, steel, mining & mineral processing, automotive, electronics, airports and supermarkets. He has worked in the USA, Canada, East and West Africa, Hungary and Ireland.



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Date/Venue

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CV8 3FW

Timing

Day 1: 9:30 to 17:00
Day 2: 9:00 to 17:00
Day 3: 9:00 to 16:00

Workshop Fees: £1150 +VAT
Early booking discount, 2nd delegate half price.

3rd delegates 15% discount

Workshop fees include all course materials, refreshments, and lunch on all 3 days.

Accommodation can be arranged at an additional cost.

Full payment is required before places can be reserved. Cancellation charges apply.

8 weeks – no fee

6-8 weeks – 25% of fees due

4-6 weeks – 75% of fees due

2-6 weeks – 100% of fees due

We regret that bookings cannot be accepted from consultants

Complete and return this booking form to

**DAK Consulting, Chiltern House,
45 Station Road, Henley on Thames,
RG9 1AT**

Or contact Karen Aston on
Tel: +44(0)1491 845504
Karen.aston@dakconsulting.co.uk

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