KL1: A Maintenance Programme: Recollections and Reflections

Abstract: The evolution, over more than forty years, of a series of educational programmes in Maintenance Engineering and Physical Asset Management (a.k.a. 'Terotechnology') is described. It is suggested that teaching and practice in this area would be helped if we could agree on a general philosophy of the discipline, a template for its strategic analysis. Various schools of thought are reviewed with a view to identifying an approach that might offer the best way forward.

About Speaker: John Harris MSc CPhys FIInstP CEng FI MechE

After graduating (Physics, Birmingham), worked on engineering research for the Atomic Energy Authority, being involved with the development of the Calder Hall nuclear power plant (the world's first) and its successor stations – and also with the Windscale reactor accident (helping to deal with it and to investigate its causes). He then joined the Engineering Department at the University of Manchester where, as a member of the Nuclear Engineering group he taught and researched various aspects of that technology. In the early 1970s the group's focus on nuclear plant safety led him to an interest in reliability engineering which, in turn, resulted in an involvement, which has continued ever since, with the general problem of plant maintenance management - co-authoring, with Tony Kelly, one of the earliest textbooks on this. He was one of the founders of the Manchester MSc in Terotechnology (forerunner of the current programme in Reliability Engineering and Asset Management) and has been the Technical Editor of the bi-monthly 'Maintenance and Asset Management" for twenty five years.

In the 1980s he briefed Counsel to the Public Inquiry into the Sizewell 'B' nuclear power plant proposal (one of the longest running of such events in British legal history), scrutinising aspects of the safety case and contributing to the subsequent report to the Secretary of State for Energy. He has published research papers, on topics as diverse as: nuclear fuel heat transfer, aspects of neutron behaviour in reactors, modelling nuclear reactor containment systems, and managing the maintenance of major hazard plant. He was a founder member, and for over five years Chairman, of the IMechE's Mechanical Reliability Committee, co-authoring its guidebook 'The Reliability of Mechanical Systems'. He has presented short courses, publicly and within specific industries, in nuclear engineering, reliability engineering and maintenance – in the UK, Ireland, Scandinavia, Holland, and the Gulf area. For eight years he contributed - as a Subject Matter Expert in Reliability, Risk Assessment and Maintenance - to the School of MACE's BP Engineering Management programme.
Abstract: Most mature businesses today follow a robust and structured methodology to drive towards a zero accident culture. In this environment it is not be acceptable to have a safety accident, incident or even a near miss without fully investigating, documenting the findings and communicating throughout the organisation to share learnings. This paper explains, how the lessons learnt from this proven safety management approach can be applied to focus on improved reliability performance of assets.

About Speaker: Mick Saltzer MSc CEng FIMechE

Mick Saltzer is Director of Consulting Services for Advanced Technology Services (ATS) working with a global remit but based in the UK.

A Chartered Engineer, Fellow of IMechE, with a first degree in Mechanical Engineering and a Master’s Degree in Maintenance Engineering and Asset Management (MEAM) from Manchester University and former “UK Maintenance professional “of the year.

Mick Saltzer is passionate about Maintenance Excellence and works across a range of Industry sectors to help make their business run better. He has over 25 years’ experience as a Maintenance leader and Global Consultant and regularly writes papers and delivers key note presentations.

Working for ATS he has improved productivity and profitability for some of the world’s most sophisticated companies through a portfolio of Factory Maintenance and Consultancy solutions. The focus is on the specific needs of each customer and providing a solution that delivers maximum results.
KL3: What does the Future of Maintenance look like?

Abstract: It has been nearly forty years since the last major shift in maintenance practices, brought about by the publication of Nolan & Heaps paper which led to the creation of the Reliability Centred Maintenance practices that are prevalent today. But if such a time period has passed, why do so many companies still struggle with the uncertainties that maintenance activities bring to a business? Why do major reliability, and unfortunately safety, events still occur?

This talk will look at the typical practices employed by modern companies, briefly review the recent history that maintenance professionals have lived and look to the future as to where current trends may take us based upon this. There will be a discussion on the impact that vendors can have upon maintenance strategies, and why selecting the right partners is key to success.

About Speaker: Gary Knight Senior Reliability Engineer, SABIC Petrochemicals

Gary started his career with Caterpillar in Peterlee, Co. Durham, as an apprentice fitter. He quickly moved into a quality assurance/quality control role after completion of his apprenticeship where he gained skills in multi-discipline problem solving, statistical tools and continuous improvement. This lead into a role in supplier quality assurance as a natural progression, helping vendors to ensure delivered parts assemblies met quality standards. This role was followed by a brief interlude as a buyer, which strengthened Gary’s skills in balancing customer and supplier needs and also adding commercial acumen. After twelve years with Caterpillar, Gary moved back into a technical role as a Manufacturing Engineer at Tetley’s manufacturing plant in Eaglescliffe; the sole UK manufacturing site for Tetley tea bags. Overall effectiveness of the equipment was the key focus of this role, which encompassed both the operating principles and maintenance strategy employed. After two years in this role, an opportunity arose to lead a maintenance team at Corus’s steelworks at Redcar. Gary lead a team of around thirty, split between team leaders, inspectors, planners and craftsmen on the coke ovens by-products plant – a petrochemical operation – and the solids handing equipment. This developed skills in maintenance management and petrochemical operations.

Currently employed with SABIC on Teesside for a little over five years, the roles held have been varied both in asset base and nature. Gary has covered typical petrochemical plant as a support engineer, along with some niche technologies such as marine loading arms and underground hydrocarbon storage cavities. Natural progression led to Gary’s promotion to his current position, where he acts as overall technical authority in the field of reliability engineering for all of SABIC UK’s assets. Responsible for both the Root Cause Analysis and Reliability Centred Maintenance work streams, along with advising senior management on improvement strategies to tackle the myriad of operational and engineering problems that arise both in day to day activities and upcoming projects.

Gary holds a Bachelor’s degree in mechanical engineering from the University of Teesside, and an MSc in Maintenance Engineering & Asset Management (MEAM) from the University of Manchester.