



UTILITIES FOCUSED REVIEW

GENERAL

Purpose of a Utilities Focused Review (UFR) is to identify and mitigate utility threats that could prevent the refinery from achieving its reliability targets. Quite often, serious utilities failures have led to Big Hit incidents. The probability of these occurrences is increasing, as the utilities centres of many refineries are aging far beyond their original design life.

Operating experience has shown that problems in all site-wide distributed utilities (steam, cooling water, instrument air, demineralised water and fuel gas) can cause a complete refinery shutdown.

THE EPS UFR APPROACH

An UFR will address the probability, consequences and mitigation options for potential utilities Big Hits with a proven suite of modules, that is usually started with an:

URSA UTILITIES ROBUSTNESS WORKSHOP

In this one week Utilities Robustness Strength Assessment (URSA) workshop, a checklist (with useful graphical explanations of potential risks) will lead the team through a large number of scenarios and questions to evaluate whether the incident could happen at the refinery.

An URSA will require full time attendance of a panel operator, a day supervisor and a utilities technologist from the site together with an EPS Principal Consultant Utilities and part time involvement of site's rotating, electrical and maintenance engineers. Where relevant amounts of utilities are generated in a process unit (e.g. CO-boiler), the technologist of that unit is only required part time.

During the URSA workshop, a spread sheet will be filled with a risk ranking and, where possible, a preliminary proposal for mitigation of the risk.



SPORT - OPERATOR RESPONSE TRAINING

In a one day per shift Simulation Package for Operator Response Training (SPORT) session, operators will be discussing upset or emergency scenarios as a group. Practice has shown that with some scenarios that could occur (or have occurred) at the site, operators choose a suboptimal response path, unnecessarily posing risks to the continuity of the refinery operations.

The URSA spread sheet will be filled with additional risks as they are identified. Many of these risks can be mitigated by updated procedures, operating manuals or specific follow up training only.

TRAINING MODULES

For staff at the refinery, training modules are available for general understanding of the theory and functioning of various utilities elements. A typical audience consists of technologist, engineers, day supervisors, shift team leaders and a selection of panel operators. Training will be tailored to the specific needs of the refinery and could be 1 to 3 day sessions.

OPERATING MANUAL & PROCEDURE REVIEW

After URSA and SPORT sessions are completed, the operating manuals and procedures will be reviewed by the site's Utilities Technologist, together with the EPS Consultant. This will ensure that the reasons for implemented mitigations will be captured for future generations of operators and technologists, ensuring the improved reliability will be sustained.

TECHNICAL MONITORING SUPPORT

The EPS consultant can review the system for monitoring the operation of the utilities. If required, monthly data (e.g. water treatment vendor reports, Process Computer data, lab analysis results) can be sent to EPS for remote review. Within 5 days, feedback on the utilities operation is provided in a report.

FOLLOW UP & IMPLEMENTATION SUPPORT

Experienced EPS consultants are available to support the customer with implementation and “helpdesk” support.



UFR BENEFITS FOR THE REFINERY

Industry statistics show, that typically 15 – 30% of the Big Hit reliability incidents originate from Utilities problems.

This EPS UFR approach supports the refinery utilities operation in a structured way with the emphasis on giving refinery staff the tools to achieve continuous improvement of the reliability of the Utility systems. An URSA workshop is recommended as a first step, the next steps can be selected as required.

WHY SELECT EPS?

The above support will be provided by a principal consultant with 30+ years, world class experience in the technology and operation of Refinery Utilities Systems. Other EPS experts are available for support on Rotating equipment, Combustion technology, Instrumentation and Energy Management.

CONTACT

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