

CORPORATE INFORMATION

Performance Asset Management - Assess Opportunities for Best ROI

Introduction

Clockwork Solutions has the expertise, experience, technology, and methodology to solve complex problems in asset management. Clockwork's SPAR™ simulation and modeling technology is unique in being able to predict accurately asset performance and life cycle costs. Clockwork offers consulting services to help clients identify potential opportunities for improving the performance of capital assets. Clients rely on this expertise to assist in ranking opportunities for maximum return on investment and best results.

Identify Best Opportunities to Improve Asset Performance

Clockwork assists its clients in Opportunity Assessment - determining where asset management value can best be realized within budget and time constraints. A typical opportunity assessment will evaluate potential opportunities to:

- Predict the performance enhancements provided by redesign of existing plants and evolutionary design of new plants.
- Increase maintenance effectiveness by estimating the residual life of plant equipment at each unplanned maintenance opportunity.
- Determine optimal preventive maintenance schedules and quantify the effects of changing turn-around schedules.
- Identify optimal sparing strategies.
- Optimize storage capacity for feedstock, product, and intermediates.

To qualify these potential opportunities properly, the assessment will identify:

- Plant equipment that should be included in a system model.
- Failure and repair characteristics of the equipment.
- Current reliability and throughput metrics for the plant, their current levels, and goal levels.
- Current maintenance logistics, rules, and turnaround schedules.
- Sparing and redundancy strategies.
- Supply chain and tankage policies, availability, and use.
- Reliability of feedstock supply to and product movement from the plant.
- Operating costs and the economic and performance metrics of the plant that will be used to rank opportunities.

Opportunity Assessment Activities

Assess Plant Equipment Status

Clockwork will conduct a study with the client to review plant equipment and its reliability characteristics. In essence, this will be an initial FMECA (Failure Modes Effects and Criticality Analysis) study and will determine what equipment to include in the model, the criticality of that equipment, redundancy, and the effect on the system if the equipment fails. The study will review and assess the condition, completeness, validity and definition of component relationships involving equipment failures and repairs.

Derive Failure and Repair Data

Clockwork will derive equipment failure and repair data with the client. The client will be expected to provide any information available in the form of failure and repair distributions, failure and repair data from maintenance logs, etc. Options for equipment without data will be identified including using published data, Clockwork data, or other sources.

Measure Current Reliability

Clockwork will analyze historical plant operating data with client personnel to assess a reasonable baseline availability and throughput for the system. Potential and objectives for these metrics will also be assessed. This gives the client an indication of potential qualitative availability and throughput improvements.

Obtain Current Maintenance Logistics / Turnaround Schedules

Clockwork will work with client personnel to obtain basic maintenance and logistics information. Such information includes preventive maintenance schedules, inspection schedules, personnel staffing, and repair locations.

Analyze Sparing and Redundancy

Clockwork will interview client personnel to obtain sparing and redundancy practices for the plant. Information obtained here includes time and sequences for starting and stopping on-line spares. The effect of starting and stopping equipment on system performance is also identified.

Determine Storage / Supply Chain Reliability Policies

Delays in shipping and receiving material are frequently a plant disturbance that affects plant reliability. Clockwork will review supply and product inventory resources to determine if these are a potential reliability risk.

Identify Operating Cost / Economic Metrics

Clockwork will review cost and economic metrics that would be used to rank the opportunities. Identified costs include spare parts, maintenance costs, cost of lost production, and cost of alternative feedstock and product usage. Economic metrics include those used to measure plant performance.

Deliver Results

The results of this consulting study will be detailed in a report to be reviewed with the client. The report will identify opportunities for improving the performance of the plant and the time, effort, and cost required to exploit those opportunities.

Contact:

Email: info@clockwork-solutions.com

Website: www.clockwork-solutions.com