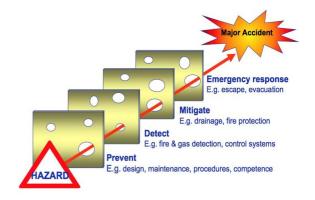


Reliability Engineering Deliverables

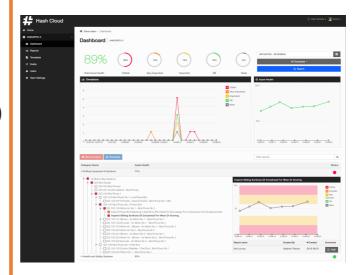
- Asset Catalogue Development
- Criticality Analysis
- RCA—RCM
- FMA—FMECA
- Equipment Maintenance Plans
- Consequence Classification
- Spares Optimisation
- Workflow Optimisation
- Maintenance Optimisation
- Lean Manufacturing
- Gap Analysis (Operations & Maintenance)
- Reliability Excellence

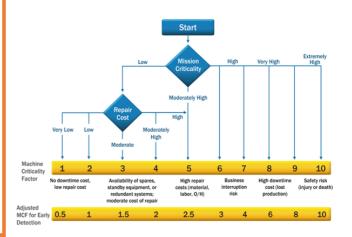
CM Deliverables

- Vibration Analysis
- Ultrasound Analysis
- Infrared Analysis
- Steam Trap Analysis
- Oil Sampling and Analysis
- Grease Handling
- Fluid Management
- Remote Control
- Operational checks
- CM Assessments



The optimum approach to implementing and improving Reliability Engineering Programmes





The best way to predict the future is to create it with PSW Integrity Reliability Programs







Equip Maint. Plans Walkdowns/Asset catalog

RCM - RCA - FMA -FMECA

PM Evaluations

Engineering Reliability

Optimisation Spare Parts

Classification /Consequence Criticality

Design Verification

Assessments Maintenance

Risk Assessments

BOM, ...

PSW Integrity,

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Management

IS, SPS and

Modifications











prediction to optimise product, systems, reliability and maintainability. PSW Integrity is a body of knowledge and applied technologies which KPI Dashboard Development, training and the ability to develop Reliability facilitation over the entire product and system life delivers, however are not limited to, Failure Modes and Effects Analysis, understanding human factors in Reliability, Planning and Scheduling At PSW Integrity, our certified reliability engineers are professionals who fully understand the principles of performance evaluation and

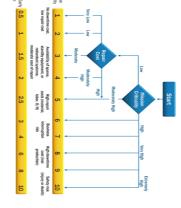
Walkdown—Asset Catalogue

reliability initiatives will be flawed, leaving the asset without effective management. asset catalogue is considered 'foundational' relates to effective management of assets. If there are errors, all maintenance and also includes system descriptions, component configurations, component attribute data, hierarchy structure, etc. The reason an asset catalogue is the foundational element of any maintenance or reliability initiative and consists of not only the list of assets but An accurate and 'live' Asset Catalogue, developed by the relevant personnel and verified in the field is considered best practice. An



Equipment Maintenance Plan

work hours should be Planned Maintenance (PM), Condition Monitoring and also follow up work created from those inspections. and deliver optimum feedback and history in to the CMMS All tasks must be well written and designed to effectively eliminate, manage or inspect failure modes, reduce risk of human error work. It is proven that planned work is 50% more efficient and causes less infant mortality than reactive. A high percentage of daily modes present in assets. Best practice programmes plan and schedule at least 80% of daily tasks to drive efficiency and proactive An Equipment Maintanance Plan Identifies what tasks should be deployed/implemented to most effectively manage the failure



Criticality / Consequence Classification

Analysis on all assets to identify which have the biggest impact on operations, safety and environment. Best practice approach is to involve personnel from each area of the team and can be facilitated by PSW certified engineers. The results of the analysis enables the most effective deployment of the limited resources (spares, manpower, time, business (cross functional team) i.e. operations, maintenance, health and safety etc. to gain consensus. A Criticality Assessment must to be executed by a cross functional Criticality Analysis / Consequence Classification is the relative ranking of equipment within a system/plant based on specific criteria. It is important to carry out Criticality

condition monitoring) within an organisation

ensure all tasks effectively address failure modes, reduce human error, drive repeatable and consistent results, maximise ability to plan and schedule/load practice asset management programmes have a balance of PM and CM and asset care routines to maximise reliability and operational integrity driven programme. PSW will optimise existing maintenance programmes and compare the PM tasks with world leaders or best practice PM/CM and dependent on experienced personnel and can be changed to condition monitoring tasks. A best practice asset management programme is a failure modes PSW has proven that most existing Asset Management programmes contain tasks which are not value adding, do not address failure modes, are highly level, identify the defect before it causes failure and enable senior personnel to make informed decisions based on scientifically proven technologies. Best

Spare Parts Optimisation

you with the optimum approach in MRO analysis Organisations require a different approach to that of the classical min/max method team members to solve the problem. PSW Integrity can facilitate this in helping merely left in the hands of a single person. It requires an integrated approach by all Operations or Overhaul) items are critical for effective operations and cannot be in order to optimise spare parts. Knowledge of MRO (Maintenance, Repair and

RCM—RCA—FMA—FMECA

track record of delivering best practice maintenance programmes using our programmes there is a need for RCM, FMECA, RCA, etc. PSW have a proven operation and optimise the performances and reliability. To develop these are failure modes driven. This approach enables them to understand the World class organisations ensure that their maintenance programmes and tasks methodologies and best in class tools for efficient and highly effective