



Global Leaders In Maintenance & Reliability

## Energy Maintenance Effectiveness Assessment

### Big Goals Deserve Big Results.

Make It Happen With Marshall Institute.

The assessment - which has been delivered at over 100 exploration and production assets - reviews 21 elements of your maintenance and reliability operation. Within two weeks, our assessment team will provide you with a custom roadmap to achieving superior maintenance as well as reliability and integrity performance - ultimately leading to operational excellence.

#### **The Challenge:** Boosting Maintenance, Reliability, & Asset Integrity Performance

Our clients are often aware of what needs to be improved within their maintenance and reliability operations, but they are not always sure how to approach these improvements. Our Energy Maintenance Effectiveness Assessment will give you a targeted improvement plan to meet your organizational and departmental objectives.

#### We will:

- 1 Assess your maintenance program against our database of key metrics and industry best practices
- 2 Generate a comprehensive GAP analysis identifying strengths and opportunities specific to your operation
- 3 Build a custom plan to close the gap between the current and desired future state effectiveness

Our assessment plans have helped companies achieve:

- Higher equipment reliability (higher MTBF-Mean Time Between Failure)
- Greater profitable utilization of equipment assets
- Reduced downtime and unscheduled deferment
- Reduced repair costs and consumption of spare materials
- Lower maintenance labor associated with maintenance and repair

... and more

#### Marshall Institute Delivers a Measurable Difference:

- Our world class assessment process helps you take your maintenance vision further
- You'll have the information at hand to adopt proactive, best-practice maintenance
- Higher equipment reliability means maximum plant uptime and more operating profit

*Contact us to develop, improve, optimize, and sustain world class energy maintenance assessment programs.*

1	Asset Integrity	Asset Integrity is the ability of an asset to perform its required function effectively and efficiently while safeguarding life and the environment. The related management activities ensure that the people, systems, processes, and resources, which deliver integrity, are in place, in use, and fit for purpose over the whole life-cycle of the asset.
2	Leadership/Strategic Planning	This element refers to the role of leadership, strategic planning, budgeting, and goal and objective setting.
3	Operational Teamwork	In high performing organizations Maintenance and Operations staff partner together to add capability, improve reliability, increase uptime, and ultimately reduce costs.
4	Maintenance & Integrity Organization	Maintenance and Integrity Organization refers to the way that Maintenance and Integrity in an organization is designed, structured, staffed, and controlled.
5	Competence & Skills	This element refers to how organizations manage the competency and skills of their employees. The demand for technical expertise, competence, and the need to meet changing technical requirements have placed greater emphasis on providing training programs that meet specific business needs.
6	Performance Management	Performance management provides the means to monitor staff performance, give feedback, and provide opportunities to improve. Clear job descriptions, defined roles and expectations, measurable annual goals, personal development plans, and rewards and recognition are vital to building and developing motivated management and staff.
7	Continuous Improvement	There is a need to create a positive working environment that stimulates and rewards continuous improvements at all levels. The organization should have the capability to form teams, identify and solve problems, design and create business processes, measure performance, and continuously improve their processes.
8	Communication	Communication is the glue that binds an organization together. All staff needs to be fully informed at all times on direction and performance.
9	Maintenance Planning & Scheduling	The aim of maintenance planning and scheduling is to ensure that work is identified, then planned with a defined scope, a sequence of activities, craft requirements, labor hours, estimated duration, material kitted and staged, with supporting documents available in advance of execution and appropriately scheduled.
10	Procurement & Materials Management	Optimum configuration of the supply chain is required to provide the right materials at the right time in the right condition in support of all Maintenance and Integrity activities.
11	Contract Strategy & Management	Service contractors execute a significant proportion of Maintenance and Integrity-related activities. Selection of an appropriate contract strategy, backed up by robust management of the contract over its life cycle, ensures that contractor performance visibly contributes to the overall maintenance and reliability goals.
12	Work Execution	Work execution is the progression of work and resources from commencement of the job through close out. This includes distributing a work order, preparing the work site, doing the job, restoring equipment to a safe operational condition and closing the work order to include the capturing of all data.
13	Information Management	Accessibility and organization of information can help streamline business processes by providing accurate information to expedite decision-making. This would include all the data repositories of Maintenance systems such as CMMS, corrosion management, availability modeling, and reliability review.
14	Performance Standard Verification	The purpose of performance standards is to identify the performance required of safety critical systems used as the basis for managing a major accident hazard, and hence maintain personnel safety during significant events as identified and described in the HSE Cases.
15	Quality Assurance & Inspection	The purpose of Quality Assurance is to confirm that the Maintenance and Integrity tasks are being carried out as specified in the Maintenance and Inspection standards. An audit process is used to measure conformance to Maintenance and Inspection standards.
16	Management of Change	Management of Change (MoC) is the process used to capture, review, agree, and implement technical changes. The principal objective is to provide assurance that new risks are not unknowingly incurred, or the prevailing risk profile is not adversely changed without appropriate mitigation.
17	Risk & Reliability Management	Reliability Centered Maintenance (RCM) and Preventive Maintenance Optimization (PMO) are key strategies used in Maintenance and Integrity improvement efforts and includes the inspection and detection actions required to retain an item in a specified condition.
18	Overall Equipment Condition	With aging facilities, the 'basic care' of the fabric and equipment through autonomous maintenance or front line maintenance through operators can have a positive impact on reliability. Studies show that maintaining 'basic conditions' can prevent up to 50% of all failures.
19	Root Cause Analysis	Root Cause Analysis (RCA) provides a powerful means to thoroughly analyze the underlying causes of defects and failures. Implementing Corrective Action Plans developed from the findings reduces the chance of recurrence and improves reliability.
20	Condition-based Maintenance	Condition-based Maintenance (CBM) applies modern measurement techniques to diagnose the condition of equipment and the level of deterioration during the Operations phase.
21	Total Cost of Ownership	Tracking life cycle costs is an essential element of the maintenance and reliability process. Life cycle analysis involves collecting detailed cost and failure records of all equipment in an asset, so that informed decisions can be made as to which types of equipment provide the best return over the entire life cycle of the asset.

*We know that your time is limited, and so are your resources. We are here to provide the necessary support, guidance, and expertise to achieve your goals.*

To improve the Maintenance and Reliability performance of your organization, contact **Marshall Institute** at (919) 834-3722.  
**EMAIL:** info@marshallinstitute.com  
**WEB:** marshallinstitute.com  
**ADDRESS:** 1800 Tillery Pl, Suite 1  
 Raleigh, NC 27604