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## The Value of a Reliability Maturity Assessment

Most organizations want to drive ongoing improvements to reliability, but the challenge for many is knowing where to focus their efforts for maximum impact.

The reality is that a myriad of factors influence reliability. These range from the selection, procurement, storage, and installation of assets to how they are operated, monitored, and maintained. And underlying all of this, are several key asset management processes and systems with varying standards and performance. There are also factors like process and plan compliance, and quality of work execution.

So for an organization to determine exactly how to improve, it is critical to examine all these factors and understand where they are today. This is the purpose of a reliability maturity assessment.

### What is a reliability maturity assessment?

Typically carried out by an independent third-party, a reliability maturity assessment examines current maintenance and reliability practices by collecting and analyzing data, conducting interviews, and mapping workflows with an emphasis on understanding the following:

- What are the driving elements for performing maintenance work?
- What barriers exist in preventing continuous improvement?
- To what extent is risk and reliability taken into account in the asset management process?

These elements are compared to best practice, their interaction is mapped, and the benefits to closing the gap are estimated and quantified. A plan is then generated to close the gap. This plan should include actions and solutions to drive improvements in the short, medium, and long term.

It should be acknowledged that there is no one-size-fits-all approach to reliability maturity assessments or how they are conducted. For example, organizations may choose to conduct a single site assessment with input from a small number of stakeholders. Alternatively, they may decide to embark on an assessment of all sites and gather input from a larger cross-section of stakeholders.

Other aspects may vary including the commitment of time and resources, but here we share some best practices that can be applied to realize the full value of a reliability maturity assessment.

## Establish a framework for ongoing use

Organizations often engage a partner to carry out reliability maturity assessments. This not only helps them gain an independent perspective on their current state of reliability but allows them to leverage knowledge of best practices. Both these things can contribute to a successful outcome. However, when working with partners, organizations should ensure they have input to and ultimately own the assessment framework.

For starters, it is important that the framework reflect the structure and needs of the organization. Therefore, the organization should have input on things like what processes and practices are reviewed.

Owning the framework is important because it allows an organization to repeat the assessment at a later date to see where they have improved and where they need to focus more of their efforts. Generally, assessments are repeated after specific milestones or on a regularly scheduled basis such as every twelve months. This is not always feasible to do if using a partner's proprietary framework which may be subject to change.

## What to include in a reliability maturity assessment

For a comprehensive view of the current state of operations, a reliability maturity assessment should cover a broad range of topics and aspects of an organization's maintenance and reliability function and program. Some examples include:

- Maintenance strategy including defined mission, policies, budget preparation, and Asset Management Strategic Plan
- Organization and HR including maintenance staffing levels, organization structure and training
- Employee Involvement & Empowerment including operator-based maintenance, and continuous improvement teams
- Maintenance Tactics including percentage of emergency work and periodic maintenance and schedule compliance
- Reliability Analysis including equipment failure analysis and recurring failure prevention
- Performance Management & Benchmarking including equipment cost tracking, facility target setting, and KPI training and sharing
- Information Technology including suitability and use of CMMS and additional planning and scheduling tools
- Planning & Scheduling including plant equipment register, job plans, and work scheduling
- Materials Management including stockouts, spares availability, and stores location
- Continuous Improvement including process mapping and process redesign
- Capital Project Management including design for reliability, maintenance build, and life cycle costing analysis

## Engage employees in the assessment and ongoing improvements

Reliability maturity assessments are not a tool to uncover faults or assign blame. They are intended to identify opportunities for improvement, and this should be made clear to employees, especially those involved in interviews and providing evidence. If the purpose is not communicated clearly, employees may have cause for concern and be less forthcoming in talking about current processes or practices they perceive as less than ideal. In other words, they may present a view of what should be happening on site rather than shed light on what is actually occurring.

On the other hand, assessments can foster employee engagement if communicated in the right way. For example, they can signal that organizations are seriously committed to listening to employees and driving improvement. They can also be used to measure and demonstrate progress against reliability goals, helping to foster ongoing engagement.

## Seek varied perspectives and evidence

Organizations should always involve a cross-section of stakeholders in their reliability maturity assessments. These should include managers and process owners as well as technical staff involved in execution. Interviewing a range of stakeholders helps to provide an understanding of how things are meant to be run and what actually happens on the ground. It's important to engage with a broad cross section of the organization, going beyond maintenance reliability and inclusive of supply, engineering, and operations representatives.

Interviews should be backed up by evidence, either collected during the interview or as part of a larger fact-finding process.

## Validate initial findings

Any assessment should include time to validate findings with key stakeholders before developing final recommendations. The findings can be presented with initial recommendations and help to facilitate a conversation around timing and priorities. This will help to inform a roadmap that delivers meaningful improvements in an achievable timeframe.

## Aim to build baseline maturity across sites

Organization-wide maturity assessments often reveal different challenges and levels of maturity across sites, making it difficult to prioritize improvements. In these cases, it is best to focus on establishing a baseline and implement tactical plans to bring all sites up to the same level of maturity.

Once a baseline of maturity is achieved, the organization can focus on driving continuous improvement.

## Deliver a roadmap to reliability improvement

The end goal for any reliability maturity assessment is to have a prioritized roadmap based on the value of each identified gap. Understanding and quantifying the value of the gap enables an organization to build a robust business case to support the implementation of new systems, tools, and processes and to secure increased resourcing and capability.

To support this, the outcome of an assessment typically includes a visualization of an organization's strengths and weaknesses and where there is most urgency or opportunity to improve.

0 - 2	Innocence
3 - 4	Awareness
5 - 6	Understanding
7 - 8	Competence
9 - 10	Expert

Section	Asset Management Audit	Benchmark	Average Total	Average Total
1	Strategy	3.5	4.4	Awareness
2	Organization and HR	3.9	3.9	Awareness
3	Work Planning & Scheduling	3.0	3.1	Awareness
4	Maintenance Tactics	1.33	1.6	Innocence
5	Materials Management	5.4	5.7	Understanding
6	Performance Management	3.5	4.4	Awareness
7	Reliability Engineering	0.9	1.5	Innocence

Plans that are substantiated in this way help to address challenges like competing priorities and ensure that actions are based on fact rather than opinion. To be truly effective, however, they need a robust level of detail with clear tasks that teams and individuals can take to move the needle and drive visible improvement. While the identified tasks can range from small changes through to system changes or organizational adjustments, it is important to follow a structured solution development process such that cost effective actions are identified.

## Embed a culture of continuous improvement

As discussed at the outset, there are a wide range of factors that influence reliability and in every organization there will be a number of opinions and options on where to start making improvements.

Reliability maturity assessments enable an evidence-based approach that helps organizations focus on the activities that will have the most impact. They are also effective in galvanizing employees and ensuring their commitment to reliability.

Of course, what's most critical is that organizations deliver on their roadmaps and carry out the recommended actions. Reliability maturity assessments should then be repeated to measure progress and inform updates to the plan. In this way, reliability maturity assessments can be used to embed a culture of continuous improvement that delivers targeted outcomes.



**Jason Apps**

CEO  
ARMS Reliability

E [jason.apps@bakerhughes.com](mailto:jason.apps@bakerhughes.com)