BUSINESS CHALLENGE

In today’s highly competitive market, it has become a priority for continuous operations, particularly in the Oil & Gas sector, to avoid any unplanned shutdowns. Additionally, worldwide regulatory incentives are also pushing for improved risk management aimed at protecting the environment and citizens from major industrial hazards. Companies must therefore ensure that their equipment is safe, reliable and does not create threats to the surrounding environment.

SOLUTION

What is Risk-Based Inspection (RBI)?
Risk-Based Inspection is a process that identifies, assesses and maps industrial risks, which can compromise equipment integrity in both pressurized equipment and structural elements. RBI addresses risks that can be controlled through proper inspections and analysis. During the RBI process, engineers design inspection strategies (what, when, how to inspect) that most efficiently match forecasted or observed degradation mechanisms.

What are the key benefits?
Operators implementing RBI can benefit from the following:
- Increased knowledge of equipment which may pose a potential risk;
- More reliable equipment and plant operation;
- Increased safety;
- Cost optimization while substituting non-invasive inspection techniques;
- Possibility to tailor shutdown scope;
- Option to extend run lengths where applicable national regulations permit it;
- Increased teamwork during the implementation process;
- Development of a knowledge database including equipment design, process features, damage mechanisms and inspection strategies.

WHY CHOOSE BUREAU VERITAS?

Bureau Veritas has developed an RBI approach following API 581, API 580 and EEMUA 159 (for tanks) principles and has created user-friendly software tools integrating RBI: “RB.eye” for quantitative analysis and “SOFFIA” for qualitative analysis. RB.eye is a Total R&M Corporate RBI tool.

More than 30 refineries worldwide currently use RB.eye and its user interface is available in many languages. Bureau Veritas is also licensed to use and distribute the Total E&P Corporate RBI tool called “Fame+”.

The services also include Pipelines Integrity Management and structural integrity management for fixed steel structures.
OUR APPROACH

Bureau Veritas offers clients various ways to implement RBI, from full involvement with the client to complete service outsourcing. RBI can be applied to a pilot or full-scale project. In both cases, the process is similar and involves:
- Identification of process streams / corrosion loops, marking up P&IDs;
- Data collection (equipment design, process data, inspection records) and analysis;
- Database population and risk assessment;
- Risk reduction through the selection of an adequate inspection strategy.

Long-term support is provided through on-site refresher courses, periodical audits and assistance.

FAQ

What type of defect to look for?
This problem is related to the types of damage mechanisms that may occur in all or a portion of the equipment being evaluated. In the first case, process conditions and equipment material need to be reviewed. In the later, inspection records need to be considered.

Where to find this defect?
The first step is to identify which piece of equipment is involved in the damaged mechanism. The second step is to define and prioritize which specific areas of the identified part need inspection (e.g. bends, dead ends, low points, nozzles, etc.).

What is the best technique to apply?
This depends on the defect in question and should be decided on a case-by-case basis.

Is there a best time to make inspections?
Defining inspection dates is key to the success of RBI and depends on the project unique configuration. Inspections normally take place regularly until all the criteria are met.

CONTACT

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FOR MORE INFORMATION

please visit:
- www.bureauveritas.com

CLIENT REFERENCES

Over the years, Bureau Veritas has earned the confidence of many leading companies, particularly the following ones in the Oil & Gas sector:
- Total R&M
- Total E&P
- CEPSA
- SINOPEC
- MOL
- OXY Ecuador
- Qatargas Petroleum
- Petrobras