



Safeti™ RBI

Life cycle inspection management ensuring safer operation
and better business performance

DNV Software

Improve safety and reliability

Through risk-based inspection planning



Key Challenges

For any plant a major challenge is maximising production, minimising business down-time whilst not compromising on safety. In the current climate process safety receives ever increasing scrutiny whilst under continuing pressure to ensure excellent financial performance. To satisfy stakeholders, industry is required to demonstrate better business performance whilst experiencing fewer accidents and operating more safely and with less impact on the environment.

Our Innovation

The Safeti RBI package contains the latest technology required to address the challenges of meeting your operational objectives in an increasingly competitive marketplace.

Whether looking to improve safety or enhance operational performance, Safeti RBI package is the most advanced available in the market. The fully quantitative approach to Safeti RBI has gained acceptance by many regulatory authorities responsible for approving the use of RBI to manage inspection activities.

The broad range of well validated models available in the package make it the most comprehensive software available for managing your inspection activities.

What is Risk Based Inspection?

RBI is a method for using risk as a basis to prioritise and manage the efforts of an inspection programme. An effective programme can be designed to either reduce the level of risk for a given inspection activity level, or reduce the level of inspection activity required to maintain the level of risk, or indeed a combination of these.

How can RBI help your inspection planning?

RBI makes use of a broad range of technologies including consequence modelling, reliability and failure frequency analysis and limit-state approaches to provide industry with a risk-based method for evaluating and developing inspection plans.

RBI is used in calculating both the consequences of possible failures and the likelihood with which those failures are expected to occur. The product of consequences and likelihood is used to identify which equipment poses the greatest risk and therefore warrants the most inspection attention in order to manage that risk effectively.

Benefits from implementing an RBI programme

As plants become older, inspection activity increases and maintenance requirements can become more onerous. With operators wanting to improve safety and achieve optimum plant reliability and availability, investment in maintenance can be a substantial entry on the balance

Reduce risk – improve efficiency

For process plants, refineries, topsides and pipelines



sheet. By focusing your inspection efforts on high-risk areas, much unnecessary, prescriptive, low-value work can be eliminated thus reducing costs without compromising safety or reliability.

Key benefits from implementing an RBI programme using Safeti RBI are:

- Improved safety and reliability
- Reduced inspection
- Flexible assessment of risks using qualitative or quantitative techniques
- Identification of critical contributors to risk
- Optimisation of inspection intervals and methods
- Accurate consequence analysis results provided by Phast
- Integration with Orbit+ Inspection Databank System
- Open API for data exchange or full integration with other software tools including inspection management databases or asset management tools

Using Software for Risk Based Inspection

Given the vast amount of data required during Risk Based Inspection the use of software has a key role to play. Our Safeti RBI package includes modules for

- Quantitative and qualitative RBI
- Chemical plants and refineries
- Topsides and pipelines
- Inspection task list creation

The way forward

Safeti RBI is a lifecycle solution assisting you in managing your plant as conditions continuously change. By choosing DNV Software as your partner for risk based inspection you benefit from the world class risk modelling used throughout the Safeti suite of products.

Safeti RBI will communicate with your asset management database and, through integration with the world-class Phast consequence analysis engine, will calculate the resulting hazards posed by your operations. These hazards, when combined with accident frequency information will produce a risk picture of your activities. The risk information is then used to create an inspection schedule across all of your assets, ensuring a focussed and intelligent programme to support your business objectives.

The implementation of RBI, using DNV's ORBIT Onshore software, has allowed Lyondell in the Netherlands to extend inspection intervals, reduce the turnaround scope and improve inspection plans. The inspection scope reduction has allowed more money to be spent on continuing high value inspections of "Corrosion under Insulation" and "Stress Corrosion Cracking".

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