

RBI - Risk Based Inspection



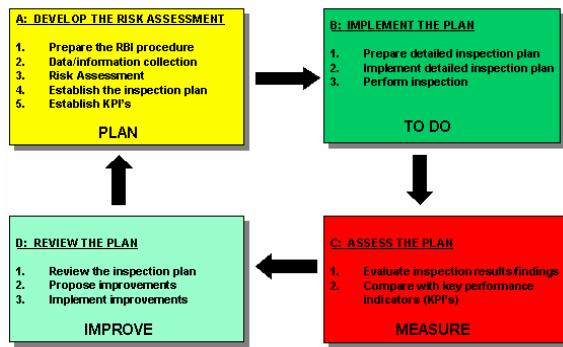
Risk Based Inspection (RBI) is a methodology to optimize inspection. The objective is to ensure focus of inspection to areas with high risk, while inspection in areas with low risk will be reduced or excluded from the normal inspection program.

Features and Advantages

Risk Based Inspection (RBI) planning is a methodology for systematic decision making to identify components which are more likely to fail, causing damage to personnel and environment in addition to expensive production shutdowns. It combines the principles of risk (likelihood of a failure multiplied by its consequences) with operational experience to obtain a cost effective inspection program targeting inspection where and when it is needed.

FORCE Technology Norway AS is responsible for RBI planning at a number of offshore and onshore locations around the world. The scope varies from a single asset to comprehensive contracts including training, RBI planning for process system and structures, and corrosion management contracts.

RBI - A continual working process



FORCE Technology RBI Methodology

Risk-based inspection refers to risk mitigation through inspection programs, using risk analysis methodologies. RBI has been applied in industries such as oil/gas industry, power generation, refineries, petrochemical plants and pipelines.

The FORCE RBI Methodology can be applied for static equipment such as:

- Pipework
- Pressure and atmospheric vessels
- Heat exchangers/coolers
- Filters
- Other static equipment.



Basic steps in conducting an RBI analysis are:

- Preparation and acceptance of the procedure for RBI/Inspection planning
- Adjustment of database/software in accordance with accepted procedure
- Collection and systemization of data
- Risk screening process
- Detailed RBI analysis
 - Probability of Failure (PoF)
 - Consequence of Failure (CoF)
 - Define Risk level
 - Time to next inspection/inspection interval
- Inspection planning
 - Selection of inspection methods
 - Preparation of inspection programs
 - Preparation of inspection drawings.

Tagline	Desc	Type	PRID	System	Design Pressure	Corrosion Loops	Corr Rate Loops	Design Life Time (override)	Startup Year (override)	PoF Est	Risk Est	Interval	CoF Est	CoF Econ	CoF Pers
1-FG-4035-A	FUEL GAS HEADER	Pipe	EPT 77001	77	10	34	0.021	50.00	6.53	2	H	1	4	2	1
1-FG-4036-A	CP-1501 FLARE PILOT COM	Pipe	EPT 76005	77	10	34	0.021	50.00	6.53	2	H	1	4	2	1
1-FG-4010-A	CP-1501 HP FLARE TIP	Pipe	EPT 76005	77	10	34	0.021	50.00	6.53	2	H	1	4	2	1

FORCE Technology Norway AS has developed an MS Access based software for handling and organization of all data considered necessary for carrying out an RBI analysis in addition to the detailed inspection planning. The database can also be applied for later update of the RBI analysis and inspection programs.



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