

AITG - RBIA

MOV

- ▶ Improve production efficiency
- ▶ Reduce integrity losses in the UKCS
- ▶ Cross industry collaboration
- ▶ Focus areas identified on the road map
- ▶ Sub groups created for each area
 - Risk based inspection



AITG - RBIA Process

Working Together to Achieve Our Objective



Objective

- Identify common RBIA process and establish good practices and opportunities to make the process more efficient
- Report of findings issued to the AITG members



Risk Based Assessment Process Review

TOR & Deliverable



Agenda

- Process map different Operators risk based assessment procedures
- Map deviations between Operators procedures
- Review deviations and make recommendations for good practise

Output

- Recommendations for Improvements to RBIA procedures and potential standardisation

Deliverable

- Working sub-group to present finding and recommendations at Q4 forum
- Issue report with good practise guidance

Risk Based Assessment Process Review

Terms of reference

RBIA Process Work Group

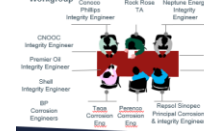
Focus

- Review of various Operators RBIA for pressure systems; pipework and equipment, procedures to identify good practice to share and collaborate.

Logistics

- Virtual - July to Jan 2020 (7 sessions)
- Repsol Sinopec House
- RSRIUK Principal Corrosion Engineer to facilitate

Workgroup



Agenda

- Process map different Operators risk based assessment procedures
- Map deviations between Operators procedures
- Review deviations and make recommendations for good practice

Output

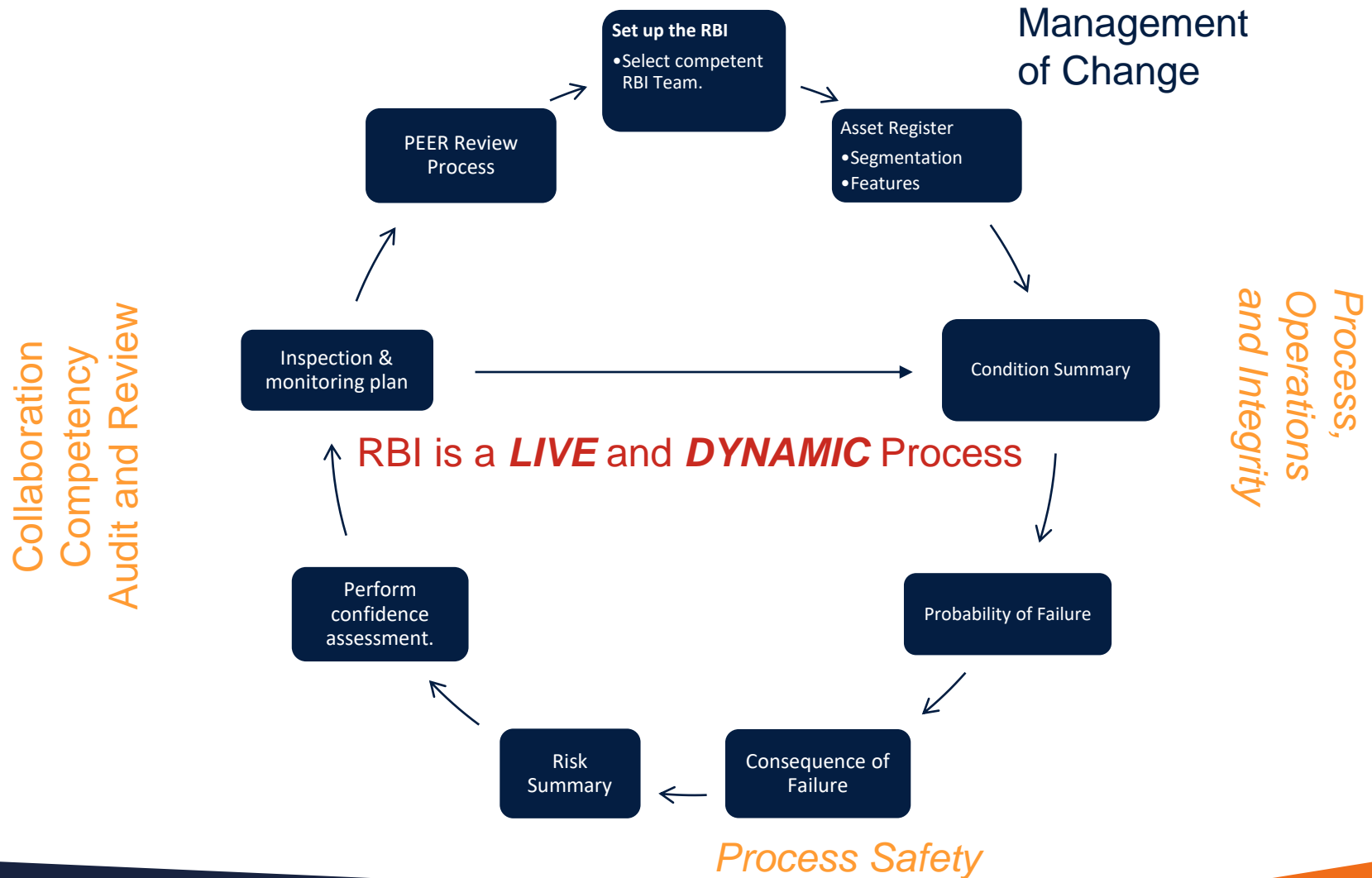
- Recommendations for improvements to RBIA procedures and potential standardisation

Deliverable

- Working sub-group to present finding and recommendations at Q4 forum

Expectations

- All members of work group are key to the process and the decision making
- All members of the workgroup to be punctual and present throughout the session



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Areas of Focus

The following areas of each Operators RBA process were reviewed :



RBIA Process Task being assessed

Bullets of examples of good practice in use



Compliance

All companies involved are in compliance of the good practice

Partial Compliance

More than 50% of companies are in compliance with the good practice identified

Non- Compliance

Less than 50% of companies are in compliance of this good practice.

The following areas for improvement were identified between each Operators RBA process:

Asset Register and Segmentation

- Require more clarity /confidence of having a comprehensive register of all lines and features.
- Lack of effective MOC.
- Compliance with logical rules for segmentation, if used.
- Alignment with WMS

RBA Methodology and clarity

- Awareness & Understanding of Operator RBI process in use.
- Visibility of what is going on in black box. (outsourced)
- Use of a tool more efficient

Collaboration & Condition

- Multidiscipline team involved in the process of gathering and analyzing data
- Competencies of personnel.
- Not just inspection data; monitoring process

Consequence of Failure

- Variable approach with little consideration for barriers, defect morphology (leak/burst) and their condition. Potential to be inconsistent with QRA
- Input from Process safety advantageous

Probability of Failure

- Typically qualitative or semi quantitative approach.
- Should be validating POF via more quantitative analysis of the large amount of inspection and monitoring. Semi quantitative approach good
- Credible threats only- ensures clarity in work programs

Risk Ranking

- Aligned with company risk matrix.
- Variations of risk per mechanism or rolled up to internal and external. More efficient to address risk for int and ext. Level of insp per threat can be assess as part of PEER review

PEER Review

- Varies from one to one to group meeting. Difficult to get everyone in the room. Multidiscipline team is key to prevent silos.
- Not always a step when done by 3rd party.

Confidence Grading/Factor

- Not everyone applies this factor.
- Can have significant impact on interval.
- Area for improvement- algorithm good practice

Inspection/Monitoring Execution

- Typically completed as separate exercise to remainder of RBIA..
- Important to develop at time of RBIA to ensure good practice and that the plan aligned with credible threats.

Review and Audit

- Not routinely performed but important step - Good practice to do this an ensure compliance with methodology



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Good Practice Key Points

► Key areas where improvements may be realised are in;

- pre screening process
- segmentation
- methodology clarity and compliance
- more use of data available to support a more semi-quantitative approach
- confidence factor rather than the IP grade
- process safety input to COF
- collaboration between key disciplines
- a robust PEER review process and the RBIA aligned with the WMS
- Ensure the next step is completed at the time of RBI – WSE/ workpack recommendations
- Review and audit process – both internal and independent

Task	Good Practice	Steps to Good Practice	Traffic Light Score
Asset Register and Segmentation	Complete & Controlled	A. Comprehensive Asset Register including features with hierarchy aligned with WMS B. Controlled set of marked up drawings, segments and features C. Clear logical rules applied consistently to segmentation	
RBIA Methodology & Understanding of Process	Clear Process using tool	A. Documented and consistently applied methodology B. Assessment and supporting data should be held in a controlled system to ensure repeatability and security C. Full visibility of process from start to finish	
Collaboration and Condition	Multi-discipline inputs	A. Competent multi-discipline team collaboration B. All inputs must be considered in the assessment of condition	
Consequence of Failure	Process Safety/ QRA	A. Use of QRA to validate scoring B. Process safety and process engineering input C. Assessments takes account of the type of failure and performance of other barriers in place	
Probability of Failure	Semi Quantitative	A. Quantitative (where data quality allows) B. Semi- quantitative analysis C. All credible mechanisms evaluated/considered	
Risk Ranking	Align with Company Risk Matrix	A. Risk ranking aligned with corporate risk matrix and QRA B. Risk ranking for external/internal threats or individual threats C. Additional scrutiny of risks within the ALARP and intolerable Risk region	
Confidence Grading/Factor	Confidence grade clarity	A. The factor must acknowledge the quality and quantity of monitoring and inspection data and the threats B. Use of IP grades or similar C. Use of a confidence factor with clear algorithm	
PEER Review	Multi-discipline Defined TOR	A. Defined terms of reference with supporting data/documentation provided B. Multi-discipline and collaborative approach C. Level of independence in PEER review team	
Inspection/Monitoring Scheme and Exec	Plan Complete & Controlled	A. Inspection & monitoring locations/coverage/techniques aligned with credible threats and degradation mechanisms B. Collaborative effort between corrosion, integrity & inspection resources as part of the RBIA process	
Review and Audit and Compliance	Defined Review and Audit Schedule	A. Inspection programme captured within maintenance management system B. Review and audit schedule incorporated within company programme C. Independent level of audit D. Review includes procedural compliance and best practice learning	

- ▶ Overall process generally the same, but has variations between different operators.
- ▶ Operators tend to use the more qualitative/semi- quantitative approach in the UK as opposed to more quantitative approach.
- ▶ Improvements to the process have been identified throughout the work flow by selecting good practise from each of the operators and service providers consulted
- ▶ Use of an RBIA tool is more efficient
- ▶ Cross operator collaboration lets us share learnings and work together to reach a common goal

Many thanks to all of those who contributed to the AITG subgroup RBIA

Thank you