

Break-Out Session 2

Special Topics Group 1

A. Ageing of physical assets

What sort of physical assets, both equipment and infrastructure, do you regard to be most relevant for this discussion?

- 1) Piping**
- 2) Safety critical components**
- 3) Bunds/secondary containment**
- 4) Fire fighting systems (protection and fighting)**

WHAT DO YOU REGARD AS THE LARGEST THREAT TO THE PLANT INTEGRITY REGARDING AGEING OF PHYSICAL ASSETS? GIVE SPECIFIC EXAMPLES

WHENEVER POSSIBLE.

It depends on the plant you are inspecting.

Example:

Ammonia storage; deterioration of gland packing.

General; CUI

With environmental hazards; bunds and sealing of bunds

WHAT DOCUMENTATION WOULD YOU REQUEST TO SEE BEFORE A VISIT?

- Ask for the same documentation for both upper and lower tier establishments.
- Maintenance plans and procedures before the inspection.
- 3rd. Party control reports (in Estonia and New Zealand the inspectors have access to site inspection reports before the inspection). For other type of equipment; ask for the maintenance records from the company.
- Inspectors need to be aware that records may not be accurate.

What information/evidence will you look for during a visit?

- *Maintenance and inspection records*
- *Training records for the maintenance personnel*
- *Dangerous occurrence records*
- *Risk based inspection plan and the risk assessment prior to the plan*
- *Alarm records on the DCS-system*

How can you achieve change within an organisation without enforcement action?

- Information and guidance on the subject
- Publish the inspection criteria on the subject
- Close out meeting and give feedback on expectations
- Give them time to develop an ageing program

C2. In what circumstances, would the following inspection approach be useful:



a. Use of standards to determine the level of ageing risk, e.g., gap analysis against a standard?

- For what sort of equipment? What standards could be used?*
- What gaps are acceptable and what would require action?*

Use standards on RBI

The sites have to set their own criteria, for some sectors there are stronger standards to follow.

b. Following a checklist (produced from this workshop)?

- When would this be useful?*
- List some suggestions of questions on the checklist.*

Yes

c. Asking open questions?

- When would this be useful?*
- List some questions that would be useful.*

Stop

A1. Provide your perspective on how to approach inspection of ageing of physical assets.



- *What sort of physical assets, both equipment and infrastructure, do you regard to be most relevant for this discussion?*
- *What do you regard as the largest threat to the plant integrity regarding ageing of physical assets? Give specific examples whenever possible.*
- *What documentation would you request to see before a visit?*
- *What information/evidence will you look for during a visit?
How do you expect this to be reflected in*
 - *The safety management system?*
 - *Consequences of the audit cycle?*
 - *Incident analysis?*
 - *Maintenance records?*
- *What techniques can be used to engage with the operator and achieve action by the operator?*
- *How can you achieve change within an organisation without enforcement action?*

A2. Ageing plant issues are integral with maintenance systems. So what do we look for in a maintenance system?



- *What do we expect to see in a capital (equipment) replacement programme? How would a risk based approach affect this?*
- *What do we expect to see in terms of a maintenance and replacement programme for utilities (e.g., electricity, power) and for mitigation and response systems?*
- *How valid is a safety critical equipment approach in an ageing plant situation?*
- *Are there any specific maintenance issues when engaging contractors to work on ageing plant?*

A3. In what circumstances, would the following inspection approach be useful:



a. Use of standards to determine the level of ageing risk, e.g., gap analysis against a standard?

- For what sort of equipment? What standards could be used?*
- What gaps are acceptable and what would require action?*

b. Following a checklist (produced from this workshop)?

- When would this be useful?*
- List some suggestions of questions on the checklist.*

c. Asking open questions?

- When would this be useful?*
- List some questions that would be useful.*

d. Other?

B. Ageing of instrumentation and other software and hardware

B1. How often has each inspector in the group inspected ageing of IT systems?



Country	Frequency 1 - Very often 2 – Sometimes 3 - Never	Comments

B2. Provide your perspective on how to inspect ageing of instrumentation and other IT software and hardware



- *What sort of systems do you regard to be most relevant for this discussion?*
- *What do you regard as the largest threat to the plant integrity regarding ageing of instrumentation and other IT software and hardware?*
- *What documentation would you request to see before a visit?*
- *What information/evidence will you look for during a visit?*
- *How do you expect this to be reflected in*
 - *The safety management system?*
 - *Consequences of the audit cycle?*
 - *Incident analysis?*
 - *Maintenance records?*
- *Which requirements can authorities set on the companies with a view of reducing the risk of system failure?*
- *What techniques can be used to engage with the operator and achieve action by the operator?*
- *How can you achieve change within an organisation without enforcement action?*

B3. What requirements and strategies can authorities expect on sites to reduce the risk of IT system failure?



- *What kind of programmatic elements would you expect for a proactive approach to reduce risk from ageing of IT sites? From accidents? From cyber attacks?*
- *How can a site deal with the procurement challenges to reduce the risk of getting stuck with a patchwork of parts that have varying degrees of compatibility, creating a safety and security risk?*
- *How can authorities get a better picture of the challenges the companies are facing with the industrial control systems?*
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- *How far can inspectors go in examining security concerns with ageing IT systems, especially in view of the interconnections across the entire industrial information and control systems?*

B4. In what circumstances, would the following inspection approach be useful:



a. Use of standards to determine the level of ageing risk, e.g., gap analysis against a standard?

- For what sort of equipment? What standards could be used?*
- What gaps are acceptable and what would require action?*

b. Following a checklist (produced from this workshop)?

- When would this be useful?*
- List some suggestions of questions on the checklist.*

c. Asking open questions?

- When would this be useful?*
- List some questions that would be useful.*

d. Other?

B. Ageing and organisational change (people, procedures, management)

C1. Provide your perspective on how to inspect ageing management in light of organisational change.



- *What sort of organizational elements do you regard to be most relevant for this discussion?*
- *What types of ageing are covered under this topic?*
- *Consider elements of organizational change discussed in Session 1 (change of operator, downsizing, etc.). What kinds of influences on ageing do you foresee that they could each have?*
- *What documentation would you request to see before a visit?*
- *What information/evidence will you look for during a visit?*
- *How do you expect this to be reflected in*
 - *The safety management system?*
 - *Consequences of the audit cycle?*
 - *Incident analysis?*
 - *Maintenance records?*
- *Which requirements can authorities set on the companies with a view of reducing the risk of system failure?*
- *What techniques can be used to engage with the operator and achieve action by the operator?*
- *How can you achieve change within an organisation without enforcement action?*

C2. In what circumstances, would the following inspection approach be useful:



a. Use of standards to determine the level of ageing risk, e.g., gap analysis against a standard?

- For what sort of equipment? What standards could be used?*
- What gaps are acceptable and what would require action?*

Use standards on RBI

The sites have to set their own criteria, for some sectors there are stronger standards to follow.

b. Following a checklist (produced from this workshop)?

- When would this be useful?*
- List some suggestions of questions on the checklist.*

Yes

c. Asking open questions?

- When would this be useful?*
- List some questions that would be useful.*