



Break-Out Session 3

The Seveso Inspector's Toolkit for Ageing Sites

Group 2

*Please save under a different name, e.g.
"Break-out Session 3 _Group 2_Presentation"*



10 Questions/Key Topics for inspection of ageing sites

19 March 2013

Joint
Research
Centre

2

1. Create a list of central topics or questions for inspecting an ageing type.



- *Please provide an explanation of each question.*
 - *Maintenance records (capital procurement) How to manage to keep plans up to date?*
 - *Equipment*
 - *Controls*
 - *IT (way down?)*
- *Introduction about the topic where ageing is part of the agenda. Ask for in advance regarding Asset management, maintenance records (announced vs un-announced inspection).*
- *Ask open questions.*
- *How do you deal with ageing of your assets?*
- *What do you think is your most critical part of the plant/process/facilities?*
- *Do you have a system related to ageing regarding lessons learnt of incidents (both internal and external ageing incidents)?*

1. Create a list of central topics or questions for inspecting an ageing type.



- *Please provide an explanation of each question.*
 - *Do you have a general maintenance program covering ageing issues?*
 - *Show me*
 - *What are your most critical degradation mechanisms of this site?*
 - *What is your most critical equipment? How do you deal with that? (Risk assessment, see below)*
 - *What actions/schedule are you taking?*
 - *How does the legislation fit into your maintenance program?*
 - *Inspection programs (pressurized equipment)? How does your records look like? Does it cover all safety critical or equipment critical for ageing? Have you done a risk assessment regarding ageing equipment? (e.g. there could be valves that are not inspected?)*
- *Indicate any standards or criteria that can assist the inspector in evaluating this element.*

1. Create a list of central topics or questions for inspecting an ageing type.



- *Please provide an explanation of each question.*
- *Management of change, how do you transfer knowledge of what has been done? Updating drawings? Back-up of records paper/electronic?*
- *Back-log, back-up, a plan for a successful succession of personnel. There must be a plan of how the employees knowledge is transferred to the successors.*
- *Training of personnel/staff. Updated instructions.*
- *How do you keep the instructions living in the company?*
- *Third party contractors/maintenance, how do they know what do to? Do they do enough? Do they keep track of records and what has been done so we know what is changed? Can they put their in the overall context of the facilities?*
- *Indicate any standards or criteria that can assist the inspector in evaluating this element.*

1. Create a list of central topics or questions for inspecting an ageing type.



- *Please provide an explanation of each question.*
- *Internal/External Audits (environmental management systems, etc/ISO. How good are they? Do they correspond to the reality and do they look at the risk and what has to be done, quality of policy? Plan Do Check Act PDCA System)? Do you handle ageing questions within your internal audits? How? What have you found out? How do you handle it? Action plans/internal audit reports? Show me!*
- *Ageing regarding to climate conditions? How it was built e.g. 50 years ago and how climate is now? Or regarding the future? Flooding, earthquakes (protection good enough?), really dry weather, wet weather, windy conditions, high snow loads? (Natural causes).*
- *Maintenance plan – are you considering changes in the plan regarding to climate changes? Hot, wet, dry? Do we have to change maintenance interval from let us say 4 years to 3 years on this and this equipment?*

19 March 2013 *Indicate any standards or criteria that can assist the inspector in evaluating this element*

1. Create a list of central topics or questions for inspecting an ageing type.



- *Please provide an explanation of each question.*
 - *How can we address obsolescence / obsolete equipment? How do we recognize what is most critical?*
 - *New sensing, more modern technique/smart technology that monitors all time. When do you decide what to do/not to do? Monitoring of the surrounding instead of doing mechanical work or just as a complement? Policy? Will they change the equipment instead or also?*
 - *Risk evaluation of new technology / sensors? How do you test the new technology?*
 - *How do you handle isolation materials such as asbestos containing when setting up your maintenance/installing technology for keeping tracks of leaks, etc.? (Asbestos is phased out due to legislation, different in different countries how you handle this and when.)*
- *Indicate any standards or criteria that can assist the inspector in evaluating this element.*

1. Create a list of central topics or questions for inspecting an ageing type.



- *Please provide an explanation of each question.*
- *How do you inspect your piping and vessels with asbestos? When did you last inspect your piping and vessels containing asbestos isolation? How do you know the status of your pipes? Are calculations enough and where do you have to draw a line when that it is not enough? How do you keep track of corrosion etc if you cannot inspect the piping? Alternative techniques?*
- *Specialized companies removing asbestos / contractors.*
- *Indicate any standards or criteria that can assist the inspector in evaluating this element.*

1. Create a list of central topics or questions for inspecting an ageing type.



- *Please provide an explanation of each question.*
- *Indicate any standards or criteria that can assist the inspector in evaluating this element.*

2. What does good practice look like?



- *Using the list you created, review each topic and come up with ideas for each one to answer the question*

What does good practice look like?

- ***A general comprehensive maintenance program that also covers ageing issues.***
- ***A good system that handles lessons learnt of incidents also regarding ageing (both internal and external ageing incidents). Good branch approach of ageing.***
- ***A system of risk assessment with corresponding plans of critical processes related to ageing. With support technology and measurements, e.g. sensors.***

2. What does good practice look like?



- *Using the list you created, review each topic and come up with ideas for each one to answer the question*

What does good practice look like?

- ***Program to adjust older installations to fulfill new legislation even though they might still be legal. The conclusion could be that they have to replace equipment due to safety issues.***
- ***Adjust the periods of maintenance regarding to tendencies within the facilities and compared to other plants in the industry. For example that you have to do maintenance earlier since they found out that it corrodes faster than they thought.***