



## Break-Out Session 1

# Recognising ageing sites and ageing site risk factors

Group 4

*Please save under a different name, e.g.  
"Break-out Session Group 4\_Presentation"*

# 1. Discuss typical signs of an ageing site, and how these can be identified



- **Equipment** (mechanical, electrical, maintenance back-logs)
- **Process control systems**, process software, instrumentation, alarm systems,
- **Infrastructure**, electrical,
- IT infrastructure, universal power supply (UPS)
- **Documentation** (update of P&I'Ds and other safety critical documentation)
- **Procedures**, (update of procedures, for older installations and equipment, etc.)
- **People** (competence), training content and structure
- **Change of ownership** (companies selling out plants that are expensive to maintain)
- **Interfaces of old and new elements**, new processes and old equipment, change in inputs and processes, etc.
- **Accidents and incidents**, alarm handling
- **Others?**

## 2. Discuss factors that could make ageing occur at a faster pace than normal or undermine effective risk management of ageing



- Change of process conditions without proper MOC
- Weather conditions, environmental conditions
- Temporary shutdown of the entire plant or units
- Dead legs caused by blinding of equipment taken out of use, but not removed and not maintained
- Lack of maintenance or postponed maintenance
- Lack of awareness regarding maintenance of equipment and pipes under ground/ isolated
- Lack of personnel on site (unmanned plants)
- Loss of competence
- Shared or unclear responsibilities between multiple owners
- Change of ownership
- Cost-cutting
- Down-sizing
- Others?

### 3. What skills does an inspector need (training and competency) to be able to review ageing plant issues?



#### Skill of

- Ask right questions
- Know best specialists
- Know that plant is like it is told to be
- Be sure that workers are suitable for their job
- Check that systems are like told