



# Break-Out Session 1

## LPG/LNG Inspection Strategy

### Group 3

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# 1. Main challenges in inspecting LPG/LNG sites



## Main similarities and differences

- Small scale LNG facilities can be treated as LPG-facilities, large are more difficult
- Both very regulated industry sectors, high starting point
- Highly standardized equipment
- All LNG- large scale installations
- Not as much experience with LNG as with LPG
- Major accident scenarios are well known for LPG, not as much known for LNG. A lot more can go wrong with LNG?
- Italy – long experience with LNG (local not widespread)
- No LPG-offshore floating storage
- Different accident scenarios –different speed of evaporation

# 1. Main challenges in inspecting LPG/LNG sites



Main challenges in inspecting:

- LPG-sites old, and very often being extended, LUP-challenges
  - Old plants, older technology,
- Different technical standards due to age of LPG-plants, modifications/upgrading can't always be forced (different from one country to another)
- Operator competency and understanding of risk
- Few people working on the sites, important for handling emergencies
- Verifying the notification in filling facilities when they have bulk storage as well as bottle storage - do they have more storage than notified.
- Unmanned sites, truck drivers in and out (leave the trucks there), special safety requirements, surveillance, gas detection to compensate for lack of personnel.
- Some countries - no activity to be seen on site during inspections.

19 March 2013

## 4. Large sites, small and medium-sized companies, unmanned sites (Part 1)



### Part 1: Large vs. small and medium-size sites

- Some authorities use identical checklists, must be adapted to the size of the site.
- Some countries have more details in the lower tier checklist.
- Some countries have no checklists.
- Some companies follow ISO and OSHA-standards for SMS. Sometimes documentation is in the main office, sometimes it is not available online due to poor broadband connection
- Large companies have more competency, sometimes more arrogant to authorities.
- Strengths of smaller companies: local knowledge, more personal responsibility, SMS might not be as familiar to them, they do what they always did.
- More risk awareness in larger sites, more corporate standards
- SMS are often produced by 3<sup>rd</sup> party. Smaller companies more often buy their systems.
- 1. • Operators of biogas producing facilities have little competency on LNG.

## 4. Large sites, small and medium-sized companies, unmanned sites (Part 2)



### Part 2. Unmanned LPG/LNG sites

- Some countries don't allow unmanned sites.
- Different understanding of what is unmanned sites.
- Unmanned sites, truck drivers in and out (leave the trucks there), special safety requirements, surveillance, gas detection to compensate for lack of personnel.
- People from main office are called in when you have an inspection.
- Some countries have remotely controlled unmanned sites, others not. Unmanned sites must still have emergency plans, and arrangements with 3<sup>rd</sup> party to respond to emergencies.
- Very few countries have unmanned sites and allow truck drivers to come in and fill the trucks if they have necessary training. In case of an emergency the driver must be trained to respond. More countries see an increasing amount of foreign drivers.