



## Break-Out Session 2

# LPG/LNG Inspection Focus and Techniques

### Group 3

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

# 3. Technical Measures



Discussion about reliability of arm and hoses for loading and unloading LPG

- **Bunkering of ship should be made by loading arms.**
- **Small ships and can be loaded by hoses – in case it is normal steel hoses**
- **The hoses should be made of stainless steel – quality is important**
- **Loading arms – for permanent solution**
- **Hoses for back up situations – when arms are in maintenance work.**
- **Fire test in Sweden connected with steel loading hose – reduction of clearance (distance)**
- **Hoses have limited lifetime**
- **Fixed hoses – problems with inspection (test) of them.**

# 3. Technical Measures



- **Overpressure:**
- **Double check for tanks: high level and HH alarm**
- **Many countries have automatic system of preventing of overfilling – few second after alarm system stops**
- **When operator stops it take more of time**
- **To avoid overfilling of car tanks the drivers need to be special trained**
- **This could be a subject of Seveso inspections**
- **Overpressure valves are not mandatory**
- **There is a problem with valves when it comes to two phases leakage (cold conditions)**
- **Weather conditions need to be taken into account during loading of tanks**
- **Different level of maximum filling for underground and above ground tanks**
- **BLEVE accident during the transportation of LPG**