**MJV Workshop on Enforcement and Risk Management on
Liquefied Petroleum Gas (LPG) and Liquefied Natural Gas (LNG) Sites
26-28 September 2017, Nicosia, Cyprus**

**Session 3. Risk Assessment for Emergency and Land-Use Planning on LPG/LNG Sites**

***This session consists of a discussion of the focus of inspections surrounding different key topics, e.g., storage, loading/unloading, emergency response, transport interfaces, etc***

***Instructions:***

* ***Groups should cover at least 2 questions. There are no mandatory questions.***
* ***Please look at all the questions together and decide the group’s strategy for the session. You will not be able to answer all the questions so you must decide which questions the group will answer and in what order.***
* ***Rapporteurs/Presenters – Please label your sessions and presentations on the memory stick clearly (e.g., Group 1, Session 1)***

***Please note that Session 2 has an additional task compared to Session 1. You must identify questions and tips (inspection techniques) for inspections.***

***Therefore, your main tasks are:***

***1) The group should agree on the main questions and the order that they will be discussed. To get this decision on the table, the chair may want to ask group members the types of sites they cover (LPG, LNG; production, storage, distribution; upper vs. lower tier) or if anyone has a strong interest in a particular question.***

***2) The group should choose a rapporteur at the beginning of the session. Rapporteurs should take good notes on a pc and these should be provided to the Chair at the end of the session.***

***Please spend no more than 5 minutes on choosing questions and selecting a rapporteur.***

***3) Discuss the questions and try to provide concrete answers to each. Specific details such as inspection methods, inspection questions, strengths and weaknesses, best and worst case criteria, using real cases from inspections, are all good ways to make your experience useful for other inspectors.***

***4) Before leaving each question, the group should spend 5 minutes brainstorming on inspection questions and tips for inspecting the issues identified by the group. The rapporteur should record all the questions on the memory stick.***

***5) The group should use the last 10 minutes to structure the plenary presentation and decide who will give the presentation.***

***You have 90 minutes. Watch your time and please stay on topic!***

**Topics - Risk Assessment for Emergency and Land-Use Planning Planning on LPG/LNG Sites**

1. **Hazard identification and risk assessment process**

What are your expectations for hazard identification and risk assessment on different sites and how do you evaluate the outcomes?

**Questions to be considered**

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| *Minimum expectations.* Do you have different parameters regarding how many scenarios and level of detail that you expect for LPG/LNG sites? If so, what are they? *(Please indicate how your expectations may differ for different types of sites.)* |
| ***Typical scenarios.***Are there standard scenarios that you would want to see for LPG and LNG sites and in reference to the specific activities of the site (production, storage, distribution, loading/unloading) and/or equipment (rail wagons, ships, road tankers?) **LPG****LNG** |
| ***Operator approaches.*** * What process and methods do operators use to identify hazards typically, and how do they vary depending on the type of site? (e.g., staff expert vs. contractor, do they use Hazop or other method)?
* What are typical weaknesses and strengths?
* What do you consider good practice?
 |
| ***Management of change.***What typical changes occur on LPG/LNG sites that would require a new risk assessment? |
| ***Alignment with site risk management.***How do you evaluate and verify that the safety measures are in line with the risk assessment? |
| ***Communication of risks to workers****.* How are staff and subcontractors kept informed about hazards and risks identified on the site? |
| ***Inspection tips and questions for inspection checklists.***Groups should list questions that could be used to explore this topic during an inspection. |

1. **Zoning and land-use planning around LPG/LNG sites**

What are the main concerns that you have concerning risks around LPG/LNG sites and the surrounding area? Please give examples from your experience, if possible.

**Questions to be considered**

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| ***Land-use planning challenges**** What land-use situations in your opinion are more dangerous?
* What are typical «worst case scenarios» in this regard?
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| * ***Future outlook for LPG/LNG risks***
* Are there new risks emerging with increased use of LPG/LNG and if so, please describe them.
* How is your country planning to address them?
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| ***Incident history and land-use planning**** Have there been any incidents/accidents on LNG/LPG sites that have reached public attention?
* How did they affect future land-use planning and communication relations?
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| ***New land-use planning decisions**** What are typical challenges associated with new land-use planning decisions around LPG/LNG sites? (Issues involving the risk assessment, court challenges, citizen complaints, etc.) Use specific examples from your experience if possible.
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| ***Land-use planning distances**** Are there any recommended or required distances from LPG/LNG sites from specific uses, such as houses, office buildings, schools or other occupied buildings, etc.?
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| *Risk communication and perception in the community** Have there been risk communication issues associated with LPG/LNG sites in your country?
* Do you have any experience complaints on the nearness of existing LPG/LNG establishments to communities? How have these issues been resolved?
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| ***Information to the public in potentially affected areas.**** How are countries addressing the Article 14 requirement for upper-tier sites that “all persons likely to be affected by a major accident” should receive clear and intelligible information on safety measures and requisite behaviour in the event of major accident?
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1. **Emergency planning**

What do you think are the greatest challenges of LPG/LNG sites for emergency planning and response?

**Questions to be considered**

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| ***Emerging risks for emergency planning**** Are there new risks emerging with increased use of LPG/LNG and if so, please describe them.
* How is your country planning to address them?
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| ***Typical scenarios.*** What typical scenarios are used for emergency planning for different sites (production, distribution, storage? Most likely scenarios? Worst-case scenarios?* **LPG?**
* **LNG?**
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| ***Incident history and emergency planning**** Have any incidents/accidents occurred on LPG/LNG sites in your countries?
* Or have you observed any emergency response exercises?
* In these cases, how well di the emergency response work and were there any lessons learned
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| ***Operator and fire fighter competency**** How competent are operators in planning for emergencies on LPG/LNG sites?
* How confident are you in the competence of local fire fighters and co-ordination with LPG/LNG sites on emergency response?

*Give evidence/examples from your experience if possible.* |
| ***Mitigation and response measures.***Are there specific considerations for emergency planning/response to LPG/LNG site emergencies in the area of:* alarm systems/automated mitigation systems
* building construction
* personal protective equipment
* fire fighter methods, e.g., staging, fire exctinction methods/materials/equipmet
* medical services
* others?
 |
| ***Verification****.* What are questions and inspection techniques do you use to verify the emergency planning and response on LPG/LNG sites? |