

# CCSA Health & Safety Working Group

17/07/2025  
14:00 (GMT)



# House keeping & Introductions

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- Slides & Recording will be available for members after the meeting.
- CCSA Competition Law Policy notice is attached to the meeting invite and available on the CCSA website.
- If you are not speaking, please mute your microphone.
- Please **raise your hand** if you wish to comment, you will be invited to come off of mute, if you can also turn on your camera.
- Please also pose any **comments in the chat** and these will be picked up by the secretariat.
- **Introductions** of any new members joining the call.

# Agenda

	Time	Topic	Speaker
1.	14:00	<b>Introductions &amp; CCSA Competition Law Policy Notice</b>	Co-chair
2.	14:05	<b>Presentation/discussion of health &amp; safety areas of current interest</b>	Jenny Sutcliffe (P66) & Sebastien Cochet (DNV) / All
3.	14:35	<b>UK HSE Updates</b>	HSE
4.	14:55	<b>Consultation Overview: Regulatory proposals for Carbon Capture Utilisation and Storage and offshore hydrogen production</b>	HSE
5.	15:15	<b>Presentation: Cryogenic CO2 Impacts</b>	DNV
6.	15:50	<b>AOB and next meeting date</b>	Co-chair / CCSA Secretariat

**Presentation/discussion:**

**Health & Safety areas of  
current interest**

Jenny Sutcliffe (P66) & Sebastien Cochet  
(DNV) / All



# Identified H&S priorities for discussion and information sharing between CCSA technical members



- Offshore and nearshore SSIVs
- Acceptable ESDV leakage rates and how to test for them
- **Emergency responses – Onshore & Offshore**
- **CO<sub>2</sub> Hazard and Effects Criteria**
  - **Effect on people (workers onshore and offshore, members of public), on Escape and Evacuation functions**
  - **Effect on assets / equipment, escalation – e.g. Low temperature impact thresholds, structural response**
- ALARP Decisions, Good Practice Guidance
- Supply Chain & 3rd party assets (ability to work in CO<sub>2</sub> risk environment)
- CO<sub>2</sub> Gas Alarm Set points (High / Low etc)
- Subsea releases, including
  - effect on vessel buoyancy (CO<sub>2</sub> vs ‘typical’ high pressure NG),
  - hazard ranges for surface plume toxic concentrations

# Emergency Response

## Onshore

- Operator's Emergency Response Plans
  - Emitter Interfaces
  - Leak detection
  - Shut down and Isolation
  - etc
- Offsite / Local Authority
- Nearby Industries, Populated areas, Crossings / Proximity etc

## Offshore

- Detection, Isolation, Depressurisation
- Escape Sets
- Safe Refuges
  - Safe breathing duration / cold jet impingement etc
- Means of Escape (TEMPSC, direct to sea)
  - Breathing air, ICE, electric
- ERRV
  - Ability to function within CO<sub>2</sub>
- MCA

# CO<sub>2</sub> Hazard and Effects Criteria

## TOXIC Properties

- DTL / SLOT & SLOT
- COSHH & STEL/LTEL
- UK HSE CO<sub>2</sub> Hazard Guidance
- General Guidance on physiological effects
- DNV RISKMAN Guidelines
- EI Guidelines
- IOGP Guidelines
- **OTHERS ???**

## Low Temperature / Cryogenic

- Vulnerability of people - IOGP/DNV and Company criteria
- Eni Company damage / impairment criteria
- DNV RISKMAN & EI Guidelines
- **OTHERS ???**

## Basis and methodologies for Evaluation & Risk Management

- **QRA / Toxic Gas Dispersion**
  - **Failure mechanisms and data DFP etc**
- **Low Temperature Assessments**
- **Others ?**

# CO<sub>2</sub> Hazard and Effects Criteria – Group Discussion



- Variability in national/international exposure limits and modelling methods is flagged as a key issue by members
- Industry (internationally and domestically) relies on HSE's SLOT/SLOD approach - would benefit from updated UK-specific guidance
- Alignment required with Energy Institute CO<sub>2</sub> Hazard Analysis Guidelines – but CCSA effort may inform EI
- The term “toxic properties” is used to include impairment, incapacitation, or fatality risks, even if not chemically “toxic.”
- European Industrial Gases Association (EIGA) guidance is seen as useful but focussed on onshore.
  - Suggestion made to gather learnings from international CCS projects.

# CO<sub>2</sub> Hazard and Effects Criteria – Questions for HSE



- Whether to consider CO<sub>2</sub> as a toxic substance or “dangerous fluid”- UK HSE consultation, but under debate internationally as well.
- Expected in-depth studies on the CO<sub>2</sub> threshold, how the data can be linked to operational practice and applied practice.
- Need accepted guidance from HSE
- Exposure limits are varied in different guidance and projects and limits are likely too low – is there a role for the HSE to consolidate and update their guidance?
- Outcome of Initiative between HSE and EI on knowledge gaps and research needed to be shared

# CO<sub>2</sub> Hazard and Effects Criteria – Next Steps

- Follow up meeting with members to explore CO<sub>2</sub> toxicity criteria further, and discuss Low Temperature Effects.
- Knowledge sharing for Low-temperature cryogenic/impact both in terms of methodology for calculating the temperature gradients associated with a release jet or a plume, and the effect on receptors.
- Alignment on values to use alarm set points (see also ER action levels) across developments (on and offshore), similar to ‘accepted / good practice’ applied for HC, H<sub>2</sub>S etc
- Suggestion for follow up meeting with members to consolidate the level of interest and basis for active input from those engaged in design and development to share specific details

# UK HSE Updates

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HSE



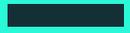
# HSE Consultation

## Regulatory proposals for Carbon Capture Utilisation and Storage and Offshore hydrogen production

HSE



**Presentation:**



# **Cryogenic CO2 Impacts**

PPG / DNV



# AOB & Conclusions

- Next meeting date
- CCSA consultation response process and next steps (members only)
- Call for open H&S co-chair position
- AOB

