

CCSA Working Group Summary Minutes

Working Group	Health & Safety
Date	1 st May
CCSA Lead	Despoina Tsimpridou
Chair	Toby St Leger (Harbour Energy)
Co-chairs	Jenny Sutcliffe (Phillips 66), Sebastien Cochet (DNV) , John Entwistle (ENI)
# in attendance	38
Recording	https://vimeo.com/1080535978/866d04c8e2?ts=0&share=copy
Summary Minutes	<p>Rachel McCann and Kare Jeffrey, Health and Safety Executive (HSE) <i>“Updates on HSE workstreams”</i></p> <ul style="list-style-type: none"> • The HSE are keen to hear CCSA members’ interests and views on technical health & safety gaps. • Upcoming public consultation on health & safety regulations for CCUS, however details or timeline have not been finalised yet. <p>Simon Gant, Health and Safety Executive (HSE) presented on: <i>“Current CCUS projects at HSE”</i></p> <p><i>Please see the meeting slides and recording for presentation content.</i></p> <p>Q&A</p> <ul style="list-style-type: none"> • The Energy Institute (EI) and HSE workshop (12 May) was flagged: The purpose of this workshop is to see where there is opportunity for collaboration. The scope is complementary rather than intending to create overlap. • Query was raised regarding HSE industry engagement. <ul style="list-style-type: none"> ○ HSE: Planned industry engagement through workshop with EI and CCSA working groups as well as future consultations. ○ The formal consultation is likely to be published towards the end of this calendar year and will be circulated with members of this group via the CCSA. • Will this Working Group cover both EU and UK topics? <ul style="list-style-type: none"> ○ CCSA: The Technical Forum is a joint forum for both EU and UK topics sharing experience and information. This WG is meant to be UK-focused but will consider the option to cover topics from both jurisdictions. • Concerns were raised regarding sharing project commercial and confidential information to enable knowledge exchange due to the competition issue.

- Through this WG, members can have general discussions without bringing in details of specific projects and strive to find a common industry position.
- It will be useful to take a step back and look at the future project issues to be addressed, such as CO₂ stream pipelines – whether EI or CCSA will be the appropriate organisation to cover this. Useful to draw on experiences of members of this WG.
- HSE: looking for those commonalities and points that can bring together rather than details specifics on engineering challenges and for specific project engagement.
- CCSA: Can collate confidential data anonymously, and happy to collaborate and align with the EI as much as possible.
- HSE: Extending to offshore topics will also be useful. Would like to hear from the industry about the impurities in the stream, the dispersal analysis, etc.

Sebastien Cochet, Dan Allason & Rob Crewe, DNV presented on:
“Industry initiatives / JIP Updates”

Please see the meeting slides and recording for presentation content.

Q&A

- Concern about the gas leak and carbon seal –progressive failure?
 - There is work being done on this with an innovation project with National Gas, but results have not yet been published. May also try to put some blending loads on the pieces of steel.
 - HSE at Buxton is currently on the late design stage and doing smaller-scale tests on the same topic of cold embrittlement, complementary to the work.
- There are experiments ongoing, measuring material temperatures following releases from pipeline / material defects. i.e measuring temperatures close to the release point.
- Would be useful to instrument the nozzle / release point in future tests. I.e. to assess the risk of escalation from leak to rupture by embrittlement of the area the release point.

Discussion on CCSA Health & Safety Priority topics:

We conducted a live poll to gather members’ feedback on prioritising topics – Please find the list of identified topics here:

- *Offshore and nearshore SSIVs*
- *Acceptable ESDV leakage rates and how to test for them*
- *Emergency responses – Onshore*

	<ul style="list-style-type: none"> • <i>Emergency responses - Offshore</i> • <i>CO2 Hazard and Effects Criteria</i> <ul style="list-style-type: none"> ○ <i>Effect on people (workers onshore and offshore, members of public), on Escape and Evacuation functions</i> ○ <i>Effect on assets / equipment, escalation – e.g. Low temperature impact thresholds, structural response</i> • <i>ALARP Decisions, Good Practice Guidance</i> • <i>Supply Chain & 3rd party assets (ability to work in CO2 risk environment)</i> • <i>CO2 Gas Alarm Set points (High / Low etc)</i> • <i>Subsea releases, including</i> <ul style="list-style-type: none"> ○ <i>effect on vessel buoyancy (CO2 vs ‘typical’ high pressure NG),</i> ○ <i>hazard ranges for surface plume toxic concentrations</i> <p>Please also find the results of the poll of identified topics below:</p> <p>The live poll (17 participants) indicates the most & least important topics as: 1) <i>CO2 Hazard and Effects Criteria</i>; 2) <i>Emergency responses – Onshore & Offshore</i>; 3) <i>Emergency responses – Onshore & Offshore; Offshore and nearshore SSIVs</i>; 4) <i>ALARP Decisions, Good Practice Guidance</i>; 5) <i>CO2 Gas Alarm Set points (High / Low etc)</i>; 6) <i>Supply Chain & 3rd party assets (ability to work in CO2 risk environment)</i>; <i>Acceptable ESDV leakage rates and how to test for them</i>; 7) <i>CO2 Gas Alarm Set points (High / Low etc)</i>; 8) <i>Subsea releases</i></p> <p>Members also noted: Overlap between emergency response offshore/onshore, and the topic on CO2 hazard and effects criteria (effects on escape and evacuation functions)</p> <p>Additional suggested topics by members include:</p> <ul style="list-style-type: none"> • Validation of dispersion models for vertical releases • Whether there are additional impacts of the impurities in tandem & Corrosion rate assessment for CO2 with impurities • Cold BLEVE • Rupture frequency assessment for heavy wall CO2 T&S pipeline • Pipeline risk assessment, e.g. failure rates
Actions	<ul style="list-style-type: none"> • The CCSA is establishing smaller groups of members, sitting under the H&S Working Group, to action work on the presented H&S topics. Please indicate your interest by submitting a response here. • The CCSA will consider including EU-related health & safety topics in future meetings. • The Health & Safety Working Group will align with the Energy Institute CO2 hazard analysis work.

	<ul style="list-style-type: none">• Interested members to reach out to DNV if interested in participating in Skylark JIP.• Interested members to reach out to Richard Holliday (holliday@ppg.com) for more information on the 2-phase project on CO2 releases.
Other Comments	
Next Meeting Date	June 2025 (date TBC)
All working group materials can be found here	