



This abstract will be presented during LNG2023 conference on 10-13 July in Vancouver, Canada among many other innovative projects. LNG2023 will provide a unique platform for the global LNG industry and key stakeholders to discuss, debate, and showcase the latest industry developments and opportunities.

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ABSTRACT TITLE: “Offshore LNG: Carriers & FSRU storage, operations and emissions management”

Floating storage and regasification units (FSRUs) are marine vessels having the onboard capacity to vaporise LNG and to deliver natural gas to end users. Several projects are now being developed in Europe and are expected to acquire a major role in LNG imports by sea, as Europe seeks to reduce its dependence on Russian gas. LNG is delivered to FSRUs by LNG carriers, which number increases as well, as more LNG from the US is shipped to Asia and Europe. To ensure safe operations and reduce methane and carbon emissions, it is essential to monitor the LNG during its transfer or storage phase, as well as boil-off gas (BOG) production. When LNG is unloaded from storage tanks to others, LNG mixing is not systematic and layers can appear, resulting in stratification and rollover. The outcome is a rapid release of BOG, resulting in venting, flaring and/or structural damage. ENGIE Lab CRIGEN® developed a software called LNGMaster, capable of simulating several scenarios to predict LNG behavior. The team performed studies on typical FSRUs and LNG carriers to identify differences between both and parameters having a significant impact on safety and emissions. Results show that being able to predict and simulate LNG behavior is needed to avoid unwanted events such as stratification, rollovers, pressure increase and excess BOG. Rigorous simulation tools also allow the proper design of the site compressors, for BOG and pressure management, as well as flaring and venting systems, to avoid their excessive use during operations.

To view the full conference agenda, visit <https://www.lng2023.org/lng-programme-overview>