This abstract will be presented during LNG2023 conference on 10-13 July in Vancouver, Canada among many other innovative projects, ideas and outlooks. 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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## THE ESTABLISHMENT OF MRV METHODOLOGY FOR METHANE AND GHG EMISSIONS HARMONIZED WITH INTERNATIONAL GUIDELINES

JGC and JOGMEC have jointly developed and issued an original MRV method that does not impose a significant amount of additional load on operators but can quantify GHG emissions from LNG/hydrogen/ammonia plants with substantial accuracy.
The advantages of this MRV methodology are shown below;

1.Complies with the regulations of each country through analyzing the MRV methodology published earlier.
2.Proposes the optimal mix of measurements and calculations.
3.Is verified in actual plants and is continuously updated based on the results.
4.Is verified by JGC's own methane leak test facility.
5.Is based on JGC's and JOGMEC's extensive knowledge of the gas industry.
6.Can be used for LNG, hydrogen, and ammonia production / receiving plants.
7.Appropriately asserts the effect of efforts by CCUS/carbon offset.
8.Emphasizes on methane emission measurement.

A pilot project was completed in an actual facility in Indonesia to conduct assessments on the effectiveness of the methodology.
As the next step, based on the results of the pilot project and the know-how gained from such measurements, the methodology will be upgraded.
We believe that this methodology will play an important role in accurately measuring the current GHG emissions, promoting the strategic reduction of methane leaks and GHG emissions, and accelerating the use of low-carbon natural gas. It will also play an important role in energy transition over the next decade.