

Addendum to our Application to incorporate an innovative concept Project 23000 TEU LNG Vessel

Reference is made to your letter dated July 14, 2022, please find our comments based on our discussions with the Technical Department inserted in blue.

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Dear Captain Wolfram Guntermann:

The California Air Resources Board's (CARB) At Berth Regulation (Regulation) provides that applications for innovative concepts must contain, at a minimum, the specific information detailed under section

93130.17. The application your organization submitted on December 1, 2021, did not contain the minimum information identified by the Regulation and is therefore incomplete. Specifically, the following information was not included in the application as required in sections 93130.17 (a) and 93130.17 (b)(1)(A)-(I):

- 93130.17 (a)(2) – A discussion regarding how the proposed innovative concept reduces oxides of nitrogen (NO<sub>x</sub>), fine particulate matter that are 2.5 micrometers or less in diameter (PM 2.5), and reactive organic gas (ROG) emissions equivalent to or greater than the level that would have been achieved by the Control Measure, while not increasing greenhouse gasses (GHG).

*A: See also response to 93130.17 (a)(3), we are not expecting an increase of GHG but a reduction in the range of 15 to 20 %.*

- 93130.17 (a)(3) – A discussion regarding how the proposed innovative concept achieves emissions reductions of NO<sub>x</sub>, PM 2.5, and ROG that are in excess of other requirements.

*A: The reductions of NO<sub>x</sub> to achieve Tier III will be accomplished by SCR (Selective Catalytic Reduction). Reactive organic gas (ROG) is not yet within the scope of IMO Regulations, but we understand them as a part of the Californian Regulation, which means we will have to conduct measurements in conjunction with the establishment of the Technical NO<sub>x</sub> Files.*

- 93130.17 (a)(4) – A discussion regarding how the proposed innovative concept achieves emissions reductions within three nautical miles of the port or marine terminal or in and around the port or marine terminal.

*A: Emission reductions will be achieved throughout the continuous operation of the ship, hence, a differentiation between a zone of three nautical miles of the port or marine terminal or in and around the port or marine terminal would not be applicable.*

- 93130.17 (a)(5) – A discussion regarding how the proposed innovative concept does not increase emissions at other ports or marine terminals.

*A: Since emission reductions will be achieved throughout the continuous operation of the ship, other ports and terminals will benefit equally.*

- 93130.17 (a)(6) – A discussion regarding how the proposed innovative concept provides reductions that are in excess of business as usual in accordance with section 93130.17 (a)(6) and a discussion regarding how the proposed innovative concept provides reductions that are real, quantifiable, verifiable, and enforceable in accordance with section 93130.17 (a)(6) (A) through (D).

A: Vessels are subject to IMO DCS (Data Collection System) where the whole annual fuel consumption has to be documented and verified prior submission to the IMO Database GISIS.

93130.17 (a)(7) – Information regarding how the innovative concept will have a compliance period no greater than five years and comply with all portions of section 93130.17 (a)(7) (A) through (C).

A: We are expecting a lifetime of the vessel of at least 25 years.

- 93130.17 (a)(9) – A discussion regarding how visits made under the innovative concept will not be used for vessel incident events (VIE), terminal incident events (TIE), or the remediation fund.

A: Assuming the vessel would be exempt from Onshore Power Supply during visits with LNG Operation, it is understood to not make usage for vessel incident events (VIE), terminal incident events (TIE), or the remediation fund.

93130.17 (a)(10) – A discussion regarding how reductions made during the proposed innovative concept compliance period will be used in the calendar year in which they are achieved or the following calendar year.

A: Vessels are subject to IMO DCS (Data Collection System), the reports are to be generated for every year.

- 93130.17 (a)(11) – A discussion regarding the possibility for early reductions under the innovative concept.

A: Reductions will be achieved once the vessels are being delivered from the shipyard in April 2023.

- 93130.17 (a)(12) – A demonstration that the innovative concept is not funded with a public incentive program.

A: The newbuilding series were not eligible to the German LNG Subsidy Scheme because the application time window did not match the execution of the building contract with the shipyard.

- 93130.17 (a)(13) – An explanation of how the applicant will maintain records including information regarding, but not limited to, fuel usage, routes, port calls, maintenance procedures, and emissions test results in a manner which complies with section 93130.17 (a)(13).

A: Since the vessels are subject to IMO DCS (Data Collection System) the whole annual fuel consumption will be documented and verified prior submission to the IMO Database GISIS. Routes and port calls have to be documented at least in the deck log book as well as company internal systems such as i.e. FIS Maintenance procedures are governed by Technical Fleet Management .

- 93130.17 (a)(14) – A statement of understanding that vessel operators and terminal operators intending to use the innovative concept shall comply with the provisions of this section, including the emission limits in sections 93130.7 and 93130.9 of this Control Measure prior to such approval.

A: It is understood once the innovative concept should be accepted, that a statement of understanding that vessel operators and terminal operators intending to use the innovative concept shall comply with the provisions of this section has to be executed.

- 93130.17 (a)(15) – A timeline showing how the innovative concept will be implementable within the timeframe needed to be used for compliance with this Control Measure, including any time needed for environmental review (if applicable).

A: The delivery for the first newbuilding is planned for April 2023. As already mentioned, the vessel will be deployed in the Europe Asia Service via the Suez Canal. At this stage we cannot make a judgment when this vessel type would be calling Californian Seaports.

93130.17 (b)(1)(A) – Contact information (Company name, address, and contact information).

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- 93130.17 (b)(1)(B) – A description of proposal including an overview of the source and scope of emission reductions, and a project site plan and location map.

Regret to advise we cannot publish the vessel's General Arrangement Plan and final documentation prior her delivery in Spring 2023.

- 93130.17 (b)(1)(C) – An estimate of the vessel emissions planned to be covered under the innovative concept for each pollutant NO<sub>x</sub>, PM 2.5, and ROG by multiplying the emission factor for a pollutant found in section 93130.5(d) of this Control Measure by the expected number of vessel visits, average visit duration, and expected power used during an average visit.

A: Assuming the vessel would be deployed in a Transpacific Schedule with a round voyage duration of six weeks calling POLA and OAK, we could estimate about 17 port calls p.a.

Depending on the increased cargo volume compared to the current vessel size, the duration of each port call will be in the range of 3 to 4 days. It is understood the vessels would be exempted from taking Onshore Power Supply.

- 93130.17 (b)(1)(D) – The proposed recordkeeping, reporting, monitoring, and testing procedures that the applicant plans to use to demonstrate reductions.

A: Measurements for the Technical NO<sub>x</sub> Files have not been executed yet, testing procedures will be conducted as requested by German Authorities in line with international regulations.

93130.17 (b)(1)(E) – Information regarding any Memorandum of Understanding or similar agreement between the applicant, any funding partners (if more than one entity is providing funding), owners and operators of controlled equipment for the innovative concept that shows agreement regarding the innovative concept's scope and requirements for using the innovative concept in compliance with this Control Measure. If this doesn't apply, please specify. If it is applicable, indicate if the Memorandum of Understanding or similar agreement was approved by the Executive Officer and in place prior to the start date of the innovative concept compliance period.

A: We can confirm there was not any Memorandum of Understanding or similar agreement between the applicant or any funding partners.

- 93130.17 (b)(1)(F) – The proposed length of time during which the innovative concept would be used (up to five years, as specified in subsection 93130.17(a)(8) of this Control Measure), as well as the number and duration of any anticipated time extension requests as set forth in that same subsection.

A: As stated in 93130.17 (a)(7) we are expecting a lifetime of at least 25 years.

1

- 93130.17 (b)(1)(G) – A summary of governmental approvals necessary to enable development of the innovative concept.

Main statutory document requested by the German Flag Administration to operate the vessel will be the IAPP (International Air Pollution Prevention )Certificate.

93130.17 (b)(1)(H) – A discussion regarding any environmental review requirements that may apply to the proposed innovative concept, including identification of which agency would serve as the lead agency for environmental review purposes.

A: Presume for the scope of Californian State Legislation this would be CARB, whereas matters pertaining to the international operation of the ship would fall under the responsibility of the German Flag Administration.

- 93130.17 (b)(1)(I) - Any information necessary to demonstrate that the proposed innovative concept meets all eligibility and applicability requirements in subsection 93130.17(a).

A: No further comments as elaborated to the requirements in subsection 93130.17(a)