

## INDEPENDENT GREEN HOUSE GAS VERIFICATION STATEMENT

### Introduction

DNV GL Business Assurance India Private Limited has been commissioned by the management of The Great Eastern Shipping Company Limited ('Great Eastern' or 'the Company') to carry out a verification engagement of its Greenhouse Gas (GHG) assertion (Scope 1 and Scope 2 emission data, 'the GHG assertion') in its 'GHG Assertion Report 2019-2020' (the Report). The Assertion Report has been prepared by the Company based on ISO 14064-1 (2006) 'Greenhouse Gases – Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals', and the Greenhouse Gas Protocol – A Corporate Accounting and Reporting Standard (Revised edition) published by World Business Council for Sustainable Development and World Resources Institute.

The verification exercise has been carried out for the period 1st April 2019 to 31st March 2020. Company is responsible for the collection, analysis, aggregation and presentation of GHG data provided in the Report. Our responsibility of performing this work is to the management of the Company and in accordance with scope of work agreed with the Company. The verification engagement is based on the assumption that the data and related information provided to us was complete, sufficient and true. The verification provides a moderate level of assurance as per DNV GL Verisustain<sup>TM1</sup> and applies a  $\pm 5\%$  uncertainty threshold towards errors and omissions. DNV GL disclaims any liability or co-responsibility for any decision a person or entity would make based on this verification statement. The remote verification of reported GHG data was carried out based on DNV GL remote verification approach in July - August 2020 by a team of qualified GHG assessors.

### Scope, Boundary and Limitations of Verification

The scope of work agreed upon with the Company includes the following:

- Verification of the Company's internal protocols, processes and controls related to the collection and collation of GHG emission data.
- The verification of GHG (Scope 1 and Scope 2) data covering the period 1st April 2019 to 31st March 2020:
  - Scope 1 emissions of company owned and managed vessels arising from a) combustion of fuel oil in main engines, auxiliary engines, boilers, inert gas generators (fitted on some of the tankers) and auxiliary engines for Framo hydraulic power units (fitted on some of the tankers) b) unintentional releases of hydro fluorocarbons (HFCs) used as refrigerants for air-conditioning, and provisioning of refrigeration.
  - Scope 2 emissions from consumption of purchased electricity used at Ocean House, the Head Office of the Company located at Mumbai, Maharashtra, Training and Assessment Department located at Kakad Chambers located at Worli, Mumbai and Great Eastern Institute of Maritime Studies, the Training Academy of the Company located at Lonavala, Maharashtra.

The organisational boundary decided by the Company includes vessels owned and managed by company on voyage and time charter during the financial year, which stood at 46 vessels (33 Tankers and 13 Bulk Carriers) totaling 3.7 million Deadweight Tonnes on 31<sup>st</sup> March 2020, as brought out in Section 2.1.1 of the Company's Assertion Report of GHG Emission, and the Company's Head Office, Training and Assessment Department at Worli, Mumbai and Training Academy at Lonavala.

During the verification process, we did not come across limitations to the scope of the agreed engagement except following exclusions:

- Emissions related to the assets of Greatship (India) Limited, a wholly owned subsidiary of Great Eastern Shipping Company Limited, due operational control approach adopted for consolidation of GHG assertions;

<sup>1</sup> The VeriSustain protocol is available on [www.dnvgl.com](http://www.dnvgl.com)  
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- Scope 1 Emissions from incineration of MARPOL Annex V Garbage of Categories C (domestic waste), D (used cooking oil) and F (operational waste) – (about 144.01 m3) on board vessels which have been estimated to be not materially significant.
- All Scope 3 emissions are excluded from scope of reporting.

## Verification Methodology

The verification of Scope 1 and Scope 2 GHG emissions was conducted by DNV GL based on DNV GL VeriSustain for a moderate level of verification. As part of the verification process, we obtained an understanding of:

- the systems used to generate, aggregate and report GHG emission data, and,
- the GHG data management system, including review of the completeness, accuracy and reliability of the data.

During the verification engagement, we have taken a risk-based approach, and we have verified the GHG assertion made in the Report and assessed the robustness of the underlying data management system, information flow and controls. In doing so, we have carried out desk review and examined the following information made available to us during our remote verification (considering Covid 19 situation) as per DNV GL remote audit process:

- Data related to fuel consumptions and unintentional releases of HFCs used as refrigerants in company owned and managed vessels on a sampling basis as per 'Noon Reports' and Departure reports captured in GE Nautical and Environment Management System Reports respectively for the Financial Year 2019-2020.
- Data related to purchased electricity at the Head Office and training academy on a sampling basis based on month-wise consolidated data from electricity bills.
- Review of emission factors used:
  - Emission Factors for different type of fuels used from MEPC.308(73) – 2018 Guidelines on the Method of Calculation of the Attained Energy Efficiency Design Index (EEDI) for New Ships;
  - Emission factors for Methane and Nitrous oxide from 3<sup>rd</sup> IMO GHG study table 34;
  - CO<sub>2</sub> emission Factor as per CO<sub>2</sub> Baseline Database for the Indian Power Sector (Version 15.0, December (2019) published by the Government of India.
- Review of calculation methodology as detailed in the Report and referenced to calculation procedures in the Fleet Operation Manual (Rev. No. 00) Section 7.7.1.4 and Section 7.7.1.5 of the Company.

## Conclusions

On the basis of our verification methodology nothing has come to our attention that would cause us not to believe that the GHG assertions brought out in the 'Assertion Report of GHG Emissions' and as detailed below are not materially correct and is not a fair representation of the Scope 1 and 2 GHG emissions included in the Report. Some data inaccuracies identified during the verification process were found to be attributable to transcription, interpretation and aggregation errors and the errors have been corrected. The data for the period 1<sup>st</sup> April 2019 to 31<sup>st</sup> March 2020 as verified during this verification assignment is as presented below:

Scope	Source	1 <sup>st</sup> April 2019 to 31 <sup>st</sup> March 2020 in tonnes of CO <sub>2</sub> e
Scope 1	1. Combustion of fuel oil in company owned and managed vessels' main engines, auxiliary engines, boilers, inert gas generators (fitted on some of the tankers) and auxiliary engines for Framo hydraulic power units (fitted on some of the tankers)  2. Unintentional releases of hydro fluorocarbons (HFCs) used as refrigerants for air-conditioning and refrigeration plants on company owned and managed vessels.	1,083,636.07 MT

<b>Scope 2</b>	1. Use of purchased electricity at Ocean House, the Head Office of the Company located at Worli, Mumbai, Maharashtra, Training and Assessment Department located at Kakad chambers, Worli Mumbai and Great Eastern Institute of Maritime Studies, the training academy of the Company located at Lonavala, Maharashtra.	<b>1,153.06 MT</b>

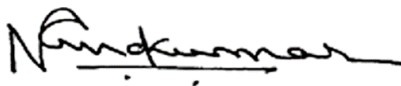
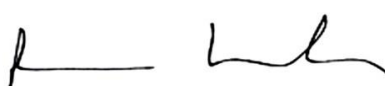
\* Scope 2 emission is based on the weighted average emission factor of 0.83 tCO<sub>2</sub>/MWh as per Central Electricity Authority's CO<sub>2</sub> Baseline Database for the Indian Power Sector, User Guide Version 15.0, December 2019.

The Company has restated its Scope 1 emissions for 2016-17 (782,239.76 tonnes of CO<sub>2</sub>e), 2017-18 (1,058,118.26 tonnes of CO<sub>2</sub>e), 2018-19 (1,103,794.18 tonnes of CO<sub>2</sub>e) to include certain amounts of fuel consumed which was not fully captured in the 'Noon Report' to further improve its completeness. The revised data is presented in Annexure -1 of Assertion Report of GHG Emissions - 2019-2020.

### DNV GL's Competence and Independence

DNV GL is a global provider of sustainability services, with qualified environmental and social assurance specialists working in over 100 countries. DNV GL states its independence and impartiality with regard to this verification engagement. We were not involved in the preparation of any statements or data related to GHG emissions except for this Verification Statement. While we did conduct other certification and assessment work with the Company in 2019-2020, in our judgment this does not compromise the independence or impartiality of our engagement or associated findings, conclusions and recommendations. DNV GL maintains complete impartiality toward any people interviewed.

For DNV GL Business Assurance India Private Limited,

 <p>Vadakepatth Nandkumar Lead Verifier Head - Regional Sustainability Operations DNV GL Business Assurance India Private Limited, India</p>	 <p>Prasun Kundu Assurance Reviewer DNV GL Business Assurance India Private Limited, India.</p>
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Bengaluru, India, 07th August 2020.