

# GAS FORM-C

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## CLIPPER VICTORY



«Industry leading provider of LPG and petrochemical tonnage»

BASED ON:  
OCIMF/SIGTTO  
Ship Information Questionnaire for Gas Carriers  
2nd Edition 1998

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Solvang ASA dates back to 1936. From very modest beginnings, the shipping company has now developed into one of the world's leading transporters of LPG and petrochemical gases. Solvang ASA has its headquarters in Stavanger, with offices in Oslo and the Philippines.

Solvang has a fleet of modern and efficient vessels - all built in the accordance with the most up to date specifications and fitted with new and efficient technology. Perhaps of greater importance than the modern technology is the way in which the vessels are operated – the people onboard. Good seamanship represents the very core of our business, and we place a firm focus on this area in the form of education, working on attitudes and training.

On every single sailing, we are required to demonstrate the full range of our experience and expertise. Our strength lies in reliable, high-quality deliveries. It is our goal to maintain a steady course towards the future, at the same time as making good use of the experience we have gained.

**«Industry leading provider of LPG and petrochemical tonnage»**

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## **1. SECTION A – GENERAL INFORMATION**

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## 1.1 PRINCIPAL SHIP PARTICULARS

| A1     | PRINCIPAL SHIP PARTICULARS   |         | CLIPPER VICTORY                                                              |
|--------|------------------------------|---------|------------------------------------------------------------------------------|
| 1.0    | Date Questionnaire Completed |         | 30.03.2020                                                                   |
| 1.1    | Name of vessel               |         | Clipper Victory                                                              |
| 1.2    | LR/IMO Number                |         | IMO 9379399                                                                  |
| 1.3    | Last Previous Name           |         | N/A                                                                          |
| 1.3.1  | Date of Name change          |         | N/A                                                                          |
| 1.4    | Second Last Name Change      |         | N/A                                                                          |
| 1.4.1  | Date of Name change          |         | N/A                                                                          |
| 1.5    | Third Last Name Change       |         | N/A                                                                          |
| 1.5.1  | Date of Name change          |         | N/A                                                                          |
| 1.6    | Fourth Last Name Change      |         | N/A                                                                          |
| 1.6.1  | Date of Name change          |         | N/A                                                                          |
| 1.7    | Flag                         |         | NIS                                                                          |
| 1.8    | Port Of Registry             |         | Stavanger                                                                    |
| 1.9    | Official Number              |         |                                                                              |
| 1.10   | Call Sign                    |         | LAIN6                                                                        |
| 1.11   | VSAT                         |         | +44 122 467 2511                                                             |
| 1.12   | Fleet 77                     |         | +87 076 487 6178                                                             |
| 1.13   | Fax                          |         | +87 076 487 6180                                                             |
| 1.14   | Mini – M                     |         |                                                                              |
| 1.15   | E-mail                       |         | clipper.victory@solvangship.no                                               |
| 1.16   | GSM Mobile                   |         | +47 415 10 260                                                               |
| 1.17   | SAT C                        |         |                                                                              |
| 1.18   | Vessel's MMSI Number         |         | 258 655 000                                                                  |
| 1.19   | Max tank pressure            | UNIT    |                                                                              |
| 1.19.1 | (1) Pressurized              | [bar g] |                                                                              |
| 1.19.2 | (2) Semi- Refrigerated       | [bar g] |                                                                              |
| 1.19.3 | (3) Refrigerated             | [bar g] | 0.275                                                                        |
| 1.20   | Minimum tank temperature     | UNIT    |                                                                              |
| 1.20.1 | (1) Pressurized              | [°C]    |                                                                              |
| 1.20.2 | (2) Semi- Refrigerated       | [°C]    |                                                                              |
| 1.20.3 | (3) Refrigerated             | [°C]    | -50                                                                          |
| A1     | OWNERSHIP AND OPERATION      |         |                                                                              |
| 1.21   | REGISTERED OWNER             |         | P/R CLIPPER VICTORY DA                                                       |
| 1.22   | Visitor's address            |         | Strandkaien 36                                                               |
| 1.22.1 | City                         |         | N-4005 Stavanger                                                             |
| 1.22.2 | Country                      |         | Norway                                                                       |
| 1.23   | Postal address               |         | P.O. Box 90                                                                  |
| 1.23.1 | City                         |         | N-4001 Stavanger                                                             |
| 1.23.2 | Country                      |         | Norway                                                                       |
| 1.24   | Office Telephone Number      |         | +47 51 84 84 00                                                              |
| 1.25   | Office Fax Number            |         | +47 51 84 84 11                                                              |
| 1.26   | Office Telex Number          |         |                                                                              |
| 1.27   | Office e-mail Address        |         | <a href="mailto:solvang-vlgc@solvangship.no">solvang-vlgc@solvangship.no</a> |
| 1.28   | Number of Years Vessel Owned |         | 11.0                                                                         |
| 1.29   | NAME OF TECHNICAL OPERATOR   |         | Solvang ASA                                                                  |
| 1.30   | Visitor's address            |         | Strandkaien 36                                                               |
| 1.30.1 | City                         |         | N-4005 Stavanger                                                             |
| 1.30.2 | Country                      |         | Norway                                                                       |
| 1.31   | Postal address               |         | P.O. Box 90                                                                  |
| 1.31.1 | City                         |         | N-4001 Stavanger                                                             |
| 1.31.2 | Country                      |         | Norway                                                                       |
| 1.32   | Office Telephone Number      |         | (+47) 51 84 84 00                                                            |

|        |                                                    |          |                                                                              |
|--------|----------------------------------------------------|----------|------------------------------------------------------------------------------|
| 1.33   | Office Fax Number                                  |          | (+47) 51 84 84 11                                                            |
| 1.34   | Office Telex Number                                |          |                                                                              |
| 1.35   | Office e-mail Address                              |          | <a href="mailto:solvang-vlgc@solvangship.no">solvang-vlgc@solvangship.no</a> |
| 1.36   | Number of Years as vessel Operator                 |          | 11.0                                                                         |
| 1.37   | Total number of vessels, Operator                  |          | 27                                                                           |
| 1.38   | COMMERCIAL OPERATOR                                |          | Solvang ASA                                                                  |
| 1.39   | Visitor's address                                  |          | Haakon VII's gt 6                                                            |
| 1.39.1 | City                                               |          | N-0121 Oslo                                                                  |
| 1.39.2 | Country                                            |          | Norway                                                                       |
| 1.40   | Postal address                                     |          | P.O.Box 1737 Vika                                                            |
| 1.40.1 | City                                               |          | N-0121 Oslo                                                                  |
| 1.40.2 | Country                                            |          | Norway                                                                       |
| 1.41   | Office Telephone Number                            |          | (+47) 22 47 19 50                                                            |
| 1.42   | Office e-mail Address                              |          | <a href="mailto:chartering@solvangship.no">chartering@solvangship.no</a>     |
| 1.42.1 | Office e-mail Address 2                            |          | <a href="mailto:operation@solvangship.no">operation@solvangship.no</a>       |
| 1.43   | Number of Years as vessel Operator                 |          | 11.2                                                                         |
| 1.44   | Builder                                            |          | Hyundai HI                                                                   |
| 1.45   | Name of Yard Vessel Built At                       |          | Ulsan, Korea                                                                 |
| 1.46   | Hull Number                                        |          | 1915                                                                         |
| 1.47   | Date Keel Laid                                     |          | 21.07.2008                                                                   |
| 1.48   | Date Launched                                      |          | 10.10.2008                                                                   |
| 1.49   | Date Delivered                                     |          | 05.01.2009                                                                   |
| 1.50   | Date of Completion of Major Hull Changes (If Any)  |          | N/A                                                                          |
| 1.51   | If Changes were made, specify changes and yard     |          | N/A                                                                          |
| A1     | CLASSIFICATION                                     | UNIT     | CLIPPER VICTORY                                                              |
| 1.52   | Classification Society                             | [Text]   | DNV GL                                                                       |
| 1.53   | Class Notation                                     | [Text]   | 1A1, Tanker for Liquefied Gas,                                               |
| 1.53.1 | Cont.                                              | [Text]   | Ship Type 2G, BWM-E(S), EO                                                   |
| 1.53.2 | Cont.                                              | [Text]   | NAUTICUS, PLUS-1, NAUT-OC, TMON                                              |
| 1.54   | If Class Society Changed, Name of Previous society | [Text]   | N/A                                                                          |
| 1.55   | If Class Society Changed, Date of Change           | [Date]   | N/A                                                                          |
| 1.56   | Built in accordance with Regulations:              |          | Approval recieved                                                            |
| 1.56.1 | IMO                                                | [Yes/No] | YES                                                                          |
| 1.56.2 | USCG                                               | [Yes/No] | YES                                                                          |
| 1.56.3 | RINA                                               | [Yes/No] | NO                                                                           |
| 1.56.4 | Other                                              | [Yes/No] | NO                                                                           |
| 1.57   | IMO Certification Certificate of Fitness           |          | Approval recieved                                                            |
| 1.57.1 | IGC                                                | [Yes/No] | YES                                                                          |
| 1.57.2 | A328                                               | [Yes/No] | NO                                                                           |
| 1.57.3 | A329                                               | [Yes/No] | NO                                                                           |
| 1.57.4 | Letter of compliance                               | [Yes/No] | YES                                                                          |
| 1.57.5 | Issued By                                          | [Text]   | DNV GL                                                                       |
| 1.58   | Unattended Machinery Space certificate             | [Yes/No] | Yes (24h)                                                                    |
| A1     | TONNAGES                                           | UNIT     | CLIPPER VICTORY                                                              |
| 1.59   | Nett Registered Tonnage                            | [NT]     | 16755                                                                        |
| 1.60   | Gross Tonnage                                      | [GT]     | 43284                                                                        |
| 1.61   | Suez Canal Tonnage                                 |          |                                                                              |
| 1.61.1 | Net Tonnage                                        | [NT]     | 41114.84                                                                     |
| 1.61.2 | Gross Tonnage                                      | [GT]     | 46252.25                                                                     |
| 1.62   | Panama Canal Tonnage                               |          |                                                                              |
| 1.62.1 | Net Tonnage                                        | [NT]     | 36774                                                                        |
| 1.62.2 | Gross Tonnage                                      | [GT]     |                                                                              |

## 1.2 HULL DIMENSIONS

| A2   | HULL DIMENSIONS                                      | UNIT  | CLIPPER VICTORY |
|------|------------------------------------------------------|-------|-----------------|
| 2.1  | Length Overall                                       | [m]   | 227.2           |
| 2.2  | Length Between Perpendiculars                        | [m]   | 217.0           |
| 2.3  | Distance Bow to Bridge                               | [m]   | 188.4           |
| 2.4  | Distance Bridge Front to Mid-Point Manifold          | [m]   | 77.1            |
| 2.5  | Distance Bow to Mid-Point Manifold                   | [m]   | 111.3           |
| 2.6  | Extreme Breadth                                      | [m]   | 32.3            |
| 2.7  | Extreme Depth                                        | [m]   | 22.2            |
| 2.8  | Summer Draught                                       | [m]   | 12.8            |
| 2.9  | Corresponding Deadweight                             | [ton] | 54048.0         |
| 2.10 | Light Displacement/weight                            | [ton] | 17957.0         |
| 2.11 | Loaded Displacement (Summer)                         | [ton] | 72005.0         |
| 2.12 | Cargo Tank Cubic Capacity (100% full)                | [m3]  | 75041.0         |
| 2.13 | Distance from Keel to Highest Point (With mast down) | [m]   | 49.2            |
| 2.14 | Air Draught normal ballast (With mast down)          | [m]   | 42.0            |

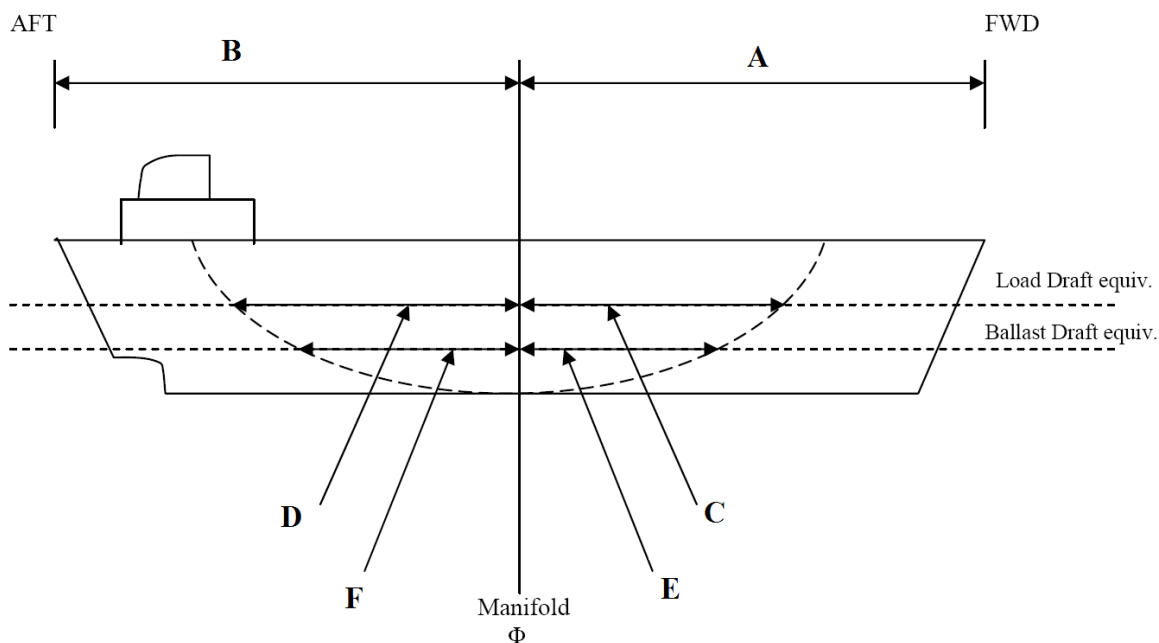
## 1.3 IMMERSION

| A3    | IMMERSION                     | UNIT  | CLIPPER VICTORY |
|-------|-------------------------------|-------|-----------------|
| 3.1   | <b>Normal Ballast Draught</b> | [TPC] | 58.40           |
| 3.1.1 | Draught                       | [m]   | 7.2             |
| 3.2   | <b>Loaded Draught</b>         | [TPC] | 63.96           |
| 3.2.1 | Draught                       | [m]   | 12.82           |

## 1.4 LOADED PARTICULARS

| A4     | LOADED PARTICULARS       | UNIT     | CLIPPER VICTORY |             |             |
|--------|--------------------------|----------|-----------------|-------------|-------------|
| 4.1    | <b>Cargo:</b>            |          | Propane         | VCM         | Ammonia     |
| 4.2    | Density:                 | [ton/m3] | 0.58            | 0.97        | 0.68        |
| 4.3    | Cargo                    | [ton]    | 42654.00        | 50077       | 50008       |
| 4.4    | Bunkers                  | [ton]    | 3283.57         | 3283.572214 | 3283.572214 |
| 4.5    | DO                       | [ton]    |                 |             |             |
| 4.6    | Fresh Water              | [ton]    | 310.00          | 310         | 310         |
| 4.7    | Stores/Spares            | [ton]    |                 |             |             |
| 4.8    | Lube Oil                 | [ton]    | 120             | 120         | 120         |
| 4.9    | Ballast                  | [ton]    |                 |             |             |
| 4.10   | Deadweight Const.        | [ton]    | 114             | 114.00      | 114.00      |
| 4.11   | <b>Draught – Forward</b> | [m]      | 10.95           | 12.76       | 12.74       |
| 4.11.1 | Aft                      | [m]      | 12.25           | 12.86       | 12.85       |
| 4.11.2 | Equiv.                   | [m]      | 11.6            | 12.81       | 12.8        |

## 1.5 PARALLEL MID-BODY DIMENSIONS



| A5    | PARALLEL MID-BODY DIMENSIONS        | UNIT | CLIPPER VICTORY |
|-------|-------------------------------------|------|-----------------|
| 5.1   | A Manifold to FWD                   | [m]  | 111.30          |
| 5.2   | B Manifold to AFT                   | [m]  | 115.8           |
| 5.3   | <b>Loaded draft equiv-</b>          |      |                 |
| 5.3.1 | C Manifold to FWD side tangent line | [m]  | 55              |
| 5.3.2 | D Manifold to AFT side tangent line | [m]  | 65.6            |
| 5.4   | <b>Ballast draft equiv.</b>         |      |                 |
| 5.4.1 | E Manifold to FWD                   | [m]  | 46              |
| 5.4.2 | F Manifold to AFT                   | [m]  | 54              |

## 1.6 BUNKER CAPACITIES

| A6    | BUNKER CAPACITIES | UNIT    | CLIPPER VICTORY    |
|-------|-------------------|---------|--------------------|
| 6.1   | <b>HFO</b>        | [Grade] | IFO 380 (Standard) |
| 6.1.1 | Capacity @ 100 %  | [m3]    | 2634               |
| 6.2   | <b>LSHFO</b>      | [Grade] | N/A                |
| 6.2.1 | Capacity @ 100 %  | [m3]    | N/A                |
| 6.3   | <b>Diesel Oil</b> | [Grade] | D0                 |
| 6.3.1 | Capacity @ 100 %  | [m3]    | 812.2              |



## 1.7 FUEL CONSUMPTION DETAILS

Average speed and consumption, based on max force 4 Beaufort and 15% Sea Margin.

Vessel use mainly HFO for all consumers. DO/GO for INCN and when Rules & Regulations demands it for other consumers

| A7     | FUEL CONSUMPTION DETAILS                           | UNIT      | CLIPPER VICTORY |
|--------|----------------------------------------------------|-----------|-----------------|
| 7.1    | LOADED CONDITION                                   |           | *About          |
| 7.2    | Average speed over 12 months                       | [kn]      | 16.0            |
| 7.3    | Average consumption, Main engine                   | [ton/day] | 44.0            |
| 7.4    | Consumption, AUX                                   |           |                 |
| 7.4.1  | Butane                                             | [ton/day] | 4               |
| 7.4.2  | Ammonia                                            | [ton/day] | 4-8             |
| 7.5    | Average consumption, AUX                           |           |                 |
| 7.5.1  | Ammonia                                            | [ton/day] | 5.5             |
| 7.5.2  |                                                    | [ton/day] |                 |
| 7.6    | BALLAST CONDITION                                  |           |                 |
| 7.7    | Average speed over 12 months                       | [kn]      | 16.0            |
| 7.8    | Average consumption, Main engine                   | [ton/day] | 42.0            |
| 7.9    | Average consumption, AUX                           | [ton/day] | 4               |
| 7.10   | PORT/IDLE                                          |           |                 |
| 7.11   | Average consumption, AUX, Loading                  | [ton/day] | 8               |
| 7.12   | Average consumption, AUX, Discharging              | [ton/day] | 5.5             |
| 7.13   | Average consumption, AUX, Idle                     | [ton/day] | 4               |
| 7.14   | Average consumption, Boiler (depending on weather) | [ton/day] | 2,0-3,0         |
| 7.15   | OTHER                                              |           |                 |
| 7.16   | INCN (When operating) - MDO/MGO                    | [ton/day] | 0.2             |
| 7.17   | IGG-plant (When operating)                         | [ton/day] | 0.2             |
| 7.18   | ME CONSUMPTION GRAPH/KNOTS                         |           | LOADED BALLAST  |
| 7.18.1 | 17                                                 | [ton/day] | 51.0 49.0       |
| 7.18.2 | 16                                                 | [ton/day] | 44.0 42.0       |
| 7.18.3 | 15                                                 | [ton/day] | 37.0 35.0       |
| 7.18.4 | 14                                                 | [ton/day] | 31.0 30.0       |
| 7.18.5 | 12                                                 | [ton/day] | 23.0 22.0       |

\*\*Consumption of AUX will increase with 0,2-1,0 MT/24h when systems for exhaust gas cleaning is running, depending on sulfur content in fuel oil, load of engines, alkalinity, degree of cleaning, etc

## 1.8 MAIN ENGINE PARTICULARS

| A8    | MAIN ENGINE PARTICULARS         | UNIT   | CLIPPER VICTORY         |
|-------|---------------------------------|--------|-------------------------|
| 8.1   | Main Engine Make and Type       | [Text] | HYUNDAI-B&W<br>6S60MC-C |
| 8.2   | No of Units                     | Pcs    | 1                       |
| 8.3   | Maximum Continuous Rating (MCR) | [kW]   | 12270                   |
| 8.3.1 | RPM                             | [RPM]  | 96                      |
| 8.4   | Total Available Power           | kW     | 12 270                  |
| 8.5   | Normal service Power            | kW     | 11 043                  |

## 1.9 AUXILIARY PLANT

| A9    | AUXILIARY PLANT                       | UNIT   | CLIPPER VICTORY  |
|-------|---------------------------------------|--------|------------------|
| 9.1   | Make and Type of Auxiliary Generators | [Text] | HHI-EES, 8H21/32 |
| 9.2   | Main Generators                       | [Pcs]  |                  |
| 9.2.1 | No of Units                           | [Pcs]  | 3                |
| 9.2.2 | Maximum Generator Output per Unit     | [kW]   | 1 200            |

|       |                                              |          |                      |
|-------|----------------------------------------------|----------|----------------------|
| 9.3   | <b>Generators, other</b>                     | [Yes/No] | NO                   |
| 9.3.1 | No of Units                                  | [Pcs]    | N/A                  |
| 9.3.2 | Maximum Generator Output per Unit            | [kW]     | N/A                  |
| 9.4   | Shaft Generator                              | [kW]     | N/A                  |
| 9.5   | Total Available Power                        | [kW]     | 3600                 |
| 9.6   | Emergency Generator                          | [kW]     | 130                  |
| 9.7   | <b>Emergency Fire Pump</b>                   | [Text]   |                      |
| 9.7.1 | Type                                         | [Text]   | Vertical Centrifugal |
| 9.7.2 | Delivery Pressure                            | [Bar]    | 10                   |
| 9.7.3 | Motive Power                                 | [Text]   | Electric             |
| 9.7.4 | If Electrical, Indicate Power Required in kW | [kW]     | 55                   |
| 9.8   | <b>Steering Gear Type</b>                    |          | Cylinder             |
| 9.8.1 | kW to Steer the Vessel with One Pump Unit    | [kW]     | 45.75                |

## 1.10 POWER/SPEED INFORMATION

| A10    | POWER/SPEED INFORMATION     | UNIT | CLIPPER VICTORY |
|--------|-----------------------------|------|-----------------|
| 10.1   | <b>Trial Data</b>           |      |                 |
| 10.1.1 | NCR                         | [kW] | 11 043          |
| 10.1.2 | MCR                         | [kW] | 12 270          |
| 10.1.3 | Speed                       | [kn] | 16              |
| 10.1.4 | Draught                     | [m]  | 6.67            |
| 10.2   | <b>Normal Service Speed</b> |      |                 |
| 10.2.1 | NCR                         | [kW] | 11045           |
| 10.2.2 | MCR                         | [kW] | 11707           |
| 10.2.3 | Speed                       | [kn] | 16.1            |
| 10.2.4 | Draught                     | [m]  | 11.9            |

## 1.11 THRUSTERS

| A11  | THRUSTERS                                    | UNIT   | CLIPPER VICTORY    |
|------|----------------------------------------------|--------|--------------------|
| 11.1 | Make and Type                                | [Text] | Kawasaki, KT-157B5 |
| 11.2 | No. Installed                                | [Pcs]  | 1.00               |
| 11.3 | Location and Rated Bollard Pull or kW output | [kW]   | 1500               |

## 1.12 FRESH WATER

| A12  | FRESH WATER                 | UNIT      | CLIPPER VICTORY |
|------|-----------------------------|-----------|-----------------|
| 12.1 | Capacity of Distilled Tanks | [ton]     | N/A             |
| 12.2 | Capacity of F/D.W. Ts       | [ton]     | 310.00          |
| 12.3 | Daily Consumption           | [ton/day] | 8.00            |
| 12.4 | Daily Evaporator Output     | [ton/day] | 20.00           |

## 1.13 BALLAST CAPACITIES AND PUMPS

| A13    | BALLAST CAPACITIES AND PUMPS | UNIT   | CLIPPER VICTORY             |                    |
|--------|------------------------------|--------|-----------------------------|--------------------|
| 13.1   | <b>Tank Capacities</b>       |        | <b>Capacity [m3]</b>        | <b>Tanks [Pcs]</b> |
| 13.1.1 | Forepeak                     | [Col]  | 773.10                      | 1                  |
| 13.1.2 | Wing or Side tanks           | [Col]  | 16381.2                     | 8                  |
| 13.1.3 | Aft Peak                     | [Col]  | 1381.1                      | 1                  |
| 13.1.4 | Other                        | [Col]  |                             |                    |
| 13.1.5 | Other                        | [Col]  |                             |                    |
| 13.1.6 | <b>Total</b>                 | [Col]  | <b>18 535.40</b>            | <b>10</b>          |
| 13.2   | <b>Ballast Pumps</b>         |        |                             |                    |
| 13.2.1 | Capacity per pump            | [m3/h] | 800                         |                    |
| 13.2.2 | Model                        | [Text] | Shinko                      |                    |
| 13.2.3 | Type                         | [Text] | Electric                    |                    |
| 13.2.4 | Setting                      | [Text] | Vertical Centrifugal        |                    |
| 13.3   | No of Pumps                  | [Pcs]  | 2                           |                    |
| 13.4   | Total Capacity               | [m3/h] | 1600                        |                    |
| 13.5   | Location                     | [Text] | Engine Room                 |                    |
| 13.6   | Control Location             | [Text] | Cargo Control Room (A-Deck) |                    |

## 1.14 MOORING

| A14    | MOORING EQUIPMENT               | UNIT     | CLIPPER VICTORY |                 |                 |             |
|--------|---------------------------------|----------|-----------------|-----------------|-----------------|-------------|
| 14.1   | <b>Mooring wires (On drums)</b> |          | <b>FWD</b>      | <b>FWD DECK</b> | <b>AFT DECK</b> | <b>POOP</b> |
| 14.1.1 | Number                          | [Pcs]    |                 |                 |                 |             |
| 14.1.2 | Diameter                        | [mm]     |                 |                 |                 |             |
| 14.1.3 | Length                          | [m]      |                 |                 |                 |             |
| 14.1.4 | Maximum Breaking Load           | [ton]    |                 |                 |                 |             |
| 14.2   | <b>Mooring wire tails</b>       |          | <b>FWD</b>      | <b>FWD DECK</b> | <b>AFT DECK</b> | <b>POOP</b> |
| 14.2.1 | Number                          | [Pcs]    |                 |                 |                 |             |
| 14.2.2 | Type                            | [Text]   |                 |                 |                 |             |
| 14.2.3 | Diameter                        | [mm]     |                 |                 |                 |             |
| 14.2.4 | Length                          | [m]      |                 |                 |                 |             |
| 14.2.5 | Maximum Breaking Load           | [ton]    |                 |                 |                 |             |
| 14.3   | <b>Mooring ropes (On drums)</b> |          | <b>FWD</b>      | <b>FWD DECK</b> | <b>AFT DECK</b> | <b>POOP</b> |
| 14.3.1 | Number                          | [Pcs]    | 6               | 2               | 2               | 6           |
| 14.3.2 | Type                            | [Text]   | MAXI-CARAT      | MAXI-CARAT      | MAXI-CARAT      | MAXI-CARAT  |
| 14.3.3 | Diameter                        | [mm]     | 64              | 64              | 64              | 64          |
| 14.3.4 | Length                          | [m]      | 220             | 220             | 220             | 220         |
| 14.3.5 | Maximum Breaking Load           | [ton]    | 78              | 78              | 78              | 78          |
| 14.4   | <b>Mooring winches</b>          |          | <b>FWD</b>      | <b>FWD DECK</b> | <b>AFT DECK</b> | <b>POOP</b> |
| 14.4.1 | Number                          | [Pcs]    | 3               | 1               | 1               | 3           |
| 14.4.2 | [S]ingle/[D]ouble drums         | [S/D]    | Double          | Double          | Double          | Double      |
| 14.4.3 | Split drums                     | [Yes/No] | YES             | YES             | YES             | YES         |
| 14.4.4 | Motive power                    | [Text]   | Hydraulic       | Hydraulic       | Hydraulic       | Hydraulic   |
| 14.4.5 | Heaving power                   | [ton]    | 75              | 75              | 75              | 75          |
| 14.4.6 | Brake capacity                  | [ton]    | 60              | 60              | 60              | 60          |
| 14.4.7 | Hauling speed                   | [m/s]    | 1               | 1               | 1               | 1           |
| 14.5   | <b>Wires/ropes not on drums</b> |          | <b>WIRES</b>    | <b>ROPES</b>    | <b>EM'GENCY</b> |             |
| 14.5.1 | Number                          | [Pcs]    |                 | 2/2             |                 |             |
| 14.5.2 | Type                            | [Text]   |                 | MAXI-CARAT      |                 |             |
| 14.5.3 | Diameter                        | [mm]     |                 | 64              |                 |             |
| 14.5.4 | Length                          | [m]      |                 | 220             |                 |             |
| 14.5.5 | Maximum Breaking Load           | [ton]    |                 | 78              |                 |             |

| A14    | ANCHORS AND WINDLASSES                         | UNIT     | CLIPPER VICTORY    |
|--------|------------------------------------------------|----------|--------------------|
| 14.5.1 | Windlass Motive Power (e.g. Steam, Hydraulic)  | [Text]   | Hydraulic          |
| 14.5.2 | Hauling Power                                  | [ton]    | 28.9               |
| 14.5.3 | Brake Holding Power                            | [ton]    | 206.4              |
| 14.5.4 | Anchor Type                                    | [Text]   | High Holding Power |
| 14.5.5 | Weight                                         | [kg]     | 7 875              |
| 14.5.6 | Is Spare Carried                               | [Yes/No] | NO                 |
| 14.5.7 | Cable Diameter                                 | [mm]     | 78                 |
| 14.5.8 | No of Shackles Port                            | [Pcs]    | 12                 |
| 14.5.9 | No of Shackles Starboard                       | [Pcs]    | 12                 |
| 14.6   | TOWING EQUIPMENT                               |          |                    |
| 14.6.1 | Is Ship fitted with a Towing Bracket AFT(drum) | [Yes/No] | YES                |
| 14.6.2 | If Yes, state SWL                              | [ton]    | 200                |
| 14.6.3 | Is Towing Chain provided                       | [Yes/No] | YES                |
| 14.6.4 | Dimensions of Towing Wire – Diameter           | [mm]     | 57                 |
| 14.6.5 | Length                                         | [m]      | 86                 |
| 14.7   | Windage on Ballast Draught                     |          |                    |
| 14.7.1 | End-on                                         | [m2]     | 956                |
| 14.7.2 | Lateral                                        | [m2]     | 3970               |

Mooring diagram is provided in the appendix.

## 1.15 NAVIGATIONAL EQUIPMENT

| A15     | NAVIGATIONAL EQUIPMENT                                  | UNIT     | CLIPPER VICTORY |
|---------|---------------------------------------------------------|----------|-----------------|
| 15.1    | Magnetic Compass                                        | [Yes/No] | YES             |
| 15.2    | Off Course Alarm – Magnetic                             | [Yes/No] | YES             |
| 15.3    | <b>Gyro Compass</b>                                     | [Yes/No] | YES             |
| 15.3.1  | Specify number                                          | [Pcs]    | 2               |
| 15.4    | Off Course Alarm – Gyro                                 | [Yes/No] | YES             |
| 15.5    | <b>Bridge Repeaters</b>                                 | [Yes/No] | YES             |
| 15.5.1  | Specify Number                                          | [Pcs]    | 2               |
| 15.6    | Radar 3 GHz                                             | [Yes/No] | YES             |
| 15.7    | Radar 9 GHz                                             | [Yes/No] | YES             |
| 15.8    | Are Radars Gyro Stabilized                              | [Yes/No] | YES             |
| 15.9    | Radar Plotting Equipment                                | [Yes/No] | YES             |
| 15.10   | ARPA                                                    | [Yes/No] | YES             |
| 15.11   | ECDIS (Electric Display and Information System)         | [Yes/No] | YES             |
| 15.11.1 | Make/Type                                               | [Text]   | Kongsberg       |
| 15.12   | Depth Echo Sounder with Recorder                        | [Yes/No] | YES             |
| 15.13   | Depth Echo Sounder without Recorder                     | [Yes/No] | NO              |
| 15.14   | Speed/Distance Indicator                                | [Yes/No] | YES             |
| 15.15   | Doppler Log                                             | [Yes/No] | YES             |
| 15.16   | Speed of Approach Doppler                               | [Yes/No] | YES             |
| 15.17   | Rudder Angle Indicator                                  | [Yes/No] | YES             |
| 15.18   | Rudder Angle Indicator on Each Bridge Wing              | [Yes/No] | YES             |
| 15.19   | R.P.M Indicator                                         | [Yes/No] | YES             |
| 15.20   | R.P.M Indicator on Each Bridge Wing                     | [Yes/No] | YES             |
| 15.21   | Controllable Propeller Pitch Indicator                  | [Yes/No] | NO              |
| 15.22   | Thruster (s) indicator                                  | [Yes/No] | YES             |
| 15.23   | Rate of turn Indicator                                  | [Yes/No] | YES             |
| 15.24   | Radio Direction Finder                                  | [Yes/No] | NO              |
| 15.25   | NAVTEX Receiver                                         | [Yes/No] | YES             |
| 15.26   | GPS                                                     | [Yes/No] | YES             |
| 15.27   | Transit SATNAV                                          | [Yes/No] | NO              |
| 15.28   | DECCA navigator                                         | [Yes/No] | NO              |
| 15.29   | Omega                                                   | [Yes/No] | NO              |
| 15.30   | Loran C                                                 | [Yes/No] | NO              |
| 15.31   | Weather Route System                                    | [Yes/No] | YES             |
| 15.32   | Sextant(s)                                              | [Yes/No] | YES             |
| 15.33   | Signal Lamp ALDIS                                       | [Yes/No] | YES             |
| 15.34   | Anemometer                                              | [Yes/No] | YES             |
| 15.35   | Engine Order Recorder                                   | [Yes/No] | YES             |
| 15.36   | Course Recorder                                         | [Yes/No] | YES             |
| 15.37   | Steering motor controls controls fitted on bridge wings | [Yes/No] | YES             |
| 15.38   | Is bridge Equipped with a “Dead Man” Alarm Equipment    | [Yes/No] | YES             |
| 15.39   | <b>What chart outfit coverage is provided</b>           | [Yes/No] |                 |
| 15.39.1 | Worldwide                                               | [Yes/No] | NO              |
| 15.39.2 | Limited                                                 | [Yes/No] | NO              |
| 15.39.3 | <b>If Limited Please Indicate</b>                       | [Text]   |                 |
| 15.40   | Formal Chart Correction System in use                   | [Yes/No] | YES             |
| 15.41   | Electronic Chart System in use                          | [Yes/No] | YES             |

## 1.16 COMMUNICATIONS EQUIPMENT

| A16     | COMMUNICATIONS EQUIPMENT                                                 | UNIT     | CLIPPER VICTORY |
|---------|--------------------------------------------------------------------------|----------|-----------------|
| 16.1    | Main Transmitted Including Radio Telephone Distress Frequency            | [Yes/No] | YES             |
| 16.2    | Main Receiver Including Radio Telephone Distress Frequency               | [Yes/No] | YES             |
| 16.3    | Radio Telephone Distress Frequency Watch Receiver                        | [Yes/No] | YES             |
| 16.4    | Main Radio Antenna                                                       | [Yes/No] | YES             |
| 16.5    | Reserve Radio Antenna                                                    | [Yes/No] | NO              |
| 16.6    | Main and Reserve Installations Electrically Separate and Independent     | [Yes/No] | YES             |
| 16.7    | 2182 kHz Bridge auto Alarm                                               | [Yes/No] | YES             |
| 16.8    | Alarm Signal Generating Device                                           | [Yes/No] | YES             |
| 16.9    | <b>VHF Radio (s)</b>                                                     | [Yes/No] | YES             |
| 16.9.1  | Specify Number                                                           | [Pcs]    | 3               |
| 16.10   | <b>Portable VHF/UHF Radios</b>                                           | [Yes/No] | YES             |
| 16.10.1 | Specify Type and Number                                                  | [Pcs]    | 3/4(OFE)        |
| 16.11   | Are Sets Intrinsically Safe                                              | [Yes/No] | YES             |
| 16.12   | Inmarsat Satellite System                                                | [Yes/No] | YES             |
| 16.13   | Specify System Type A, B, C, F or VSAT                                   | [Text]   | C, F, VSAT      |
| 16.14   | Is the ship equipped as per GMDSS Requirements                           | [Yes/No] | YES             |
| 16.15   | <b>If Yes, which area of operation is vessel certified to operate in</b> | [Text]   | A1, A2, A3      |
| 16.15.1 | EPIRB                                                                    | [Yes/No] | YES             |
| 16.15.2 | SARTS                                                                    | [Yes/No] | YES             |
| 16.16   | Emergency Lifeboat Transceiver                                           | [Yes/No] | Incl. in EPIRB  |
| 16.17   | At least Three Survival craft Two-way Radio Telephone Apparatus          | [Yes/No] | YES             |
| 16.18   | Full Set of Publications                                                 | [Yes/No] | YES             |

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## **2. SECTION B – CARGO SYSTEMS**

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## 2.1 GENERAL INFORMATION

| B1     | CARGO - GENERAL INFORMATION                             |                | CLIPPER VICTORY |           |
|--------|---------------------------------------------------------|----------------|-----------------|-----------|
| 1.1    | List Products Which the Ship is Certified to Carry      |                |                 |           |
| 1.1.1  | 1.                                                      | Ammonia        |                 |           |
| 1.1.2  | 2.                                                      | Butadiene      |                 |           |
| 1.1.3  | 3.                                                      | Butane         |                 |           |
| 1.1.4  | 4.                                                      | Butane-propane |                 |           |
| 1.1.5  | 5.                                                      | Butylenes      |                 |           |
| 1.1.6  | 6.                                                      | Propane        |                 |           |
| 1.1.7  | 7.                                                      | Propylene      |                 |           |
| 1.1.8  | 8.                                                      | VCM            |                 |           |
| 1.1.9  | 9.                                                      |                |                 |           |
| 1.1.10 | 10.                                                     |                |                 |           |
| 1.1.11 | 11.                                                     |                |                 |           |
| 1.1.12 | 12.                                                     |                |                 |           |
| 1.1.13 | 13.                                                     |                |                 |           |
| 1.1.14 | 14.                                                     |                |                 |           |
| 1.1.15 | 15.                                                     |                |                 |           |
| 1.1.16 | 16.                                                     |                |                 |           |
| 1.1.17 | 17.                                                     |                |                 |           |
| 1.1.18 | 18.                                                     |                |                 |           |
| 1.1.19 | 19.                                                     |                |                 |           |
| 1.1.20 | 20.                                                     |                |                 |           |
| 1.1.21 | 21.                                                     |                |                 |           |
| 1.1.22 | 22.                                                     |                |                 |           |
| 1.1.23 | 23.                                                     |                |                 |           |
| 1.1.24 | 24.                                                     |                |                 |           |
| 1.2    | Transport and Carriage Condition                        |                | UNIT            |           |
| 1.3    | Minimum Allowable Tank Temperature                      |                | [Celsius]       | -50       |
| 1.3.1  | Maximum Allowable Tank Pressure (Seagoing setting)      |                | [bar g]         | 0.275     |
| 1.3.2  | Maximum Allowable Tank Pressure (Harbour setting)       |                | [bar g]         | 0.4       |
| 1.4    | Grades which can be Loaded or Discharged Simultaneously |                | [Pcs]           | 2         |
| 1.5    | Grades which can be Transported Simultaneously          |                | [Pcs]           | 2         |
| 1.6    | Number of Products Re-liquefied Simultaneously          |                | [Pcs]           | 2         |
| 1.7    | State Natural Tank Segregations (Possible combinations) |                | UNIT            |           |
| 1.7.1  | 1.                                                      |                | [Tank]          | 1+3 & 2+4 |
| 1.7.2  | 2.                                                      |                | [Tank]          | 2 & 1+3+4 |
| 1.7.3  | 3.                                                      |                | [Tank]          | 1+2+3+4   |



## 2.2 CARGO TANKS

| B2    | CARGO TANKS                                                        | UNIT    | CLIPPER VICTORY     |
|-------|--------------------------------------------------------------------|---------|---------------------|
| 2.1   | Cargo Tanks                                                        |         |                     |
| 2.1.1 | Type                                                               | [Text]  | NV 4-4-MOD32        |
| 2.1.2 | Material                                                           | [Text]  | Carbon Manganese LT |
| 2.2   | Maximum Allowable Relief Valve setting                             | [bar g] | 0.4                 |
| 2.3   | Safety Valve Set Pressure – If Variable Give Range of Pilot Valves |         |                     |
| 2.3.1 | Seagoing setting                                                   | [bar g] | 0.275               |
| 2.3.2 | Harbour setting                                                    | [bar g] | 0.4                 |
| 2.4   | Maximum Vacuum                                                     | [bar g] | -0.05               |
| 2.5   | Maximum Cargo Density (98% full)                                   | [kg/m3] | 690                 |
| 2.6   | Maximum Rate of Cool-Down                                          | [C/h]   | 10                  |
| 2.7   | State any Limitations regarding Partially Filled Tanks             | [Text]  | VCM=68,7%           |
| 2.7.1 | Cont.                                                              | [Text]  |                     |
| 2.8   | State Allowable Combinations of Filled and Empty Tanks             | [Text]  |                     |
| 2.8.1 | Cont.                                                              | [Text]  |                     |

## 2.3 CARGO TANK CAPACITIES

| B3    | CARGO TANK CAPACITIES | UNIT  | CLIPPER VICTORY |       |       |       |       |
|-------|-----------------------|-------|-----------------|-------|-------|-------|-------|
| 3.1   | Capacity              | Tank  | 1               | 2     | 3     | 4     | Total |
| 3.1.1 | 100 %                 | [m3]  | 16788           | 19614 | 19608 | 19031 | 75041 |
| 3.1.2 | 98 %                  | [m3]  | 16452           | 19222 | 19216 | 18651 | 73541 |
| 3.2   | Cargo                 |       |                 |       |       |       |       |
| 3.2.1 | iso-butane            | [ton] | 9772            | 11418 | 11414 | 11079 | 43683 |
| 3.2.2 | Propane               | [ton] | 9542            | 11149 | 11145 | 10817 | 42654 |
| 3.2.3 | Butadiene             | [ton] | 10710           | 12513 | 12510 | 12142 | 47875 |
| 3.2.4 | Propylene             | [ton] | 10036           | 11725 | 11722 | 11377 | 44860 |
| 3.2.5 | Ammonia               | [ton] | 11187           | 13071 | 13067 | 12683 | 50008 |
| 3.2.6 | Butylene/Butenes      | [ton] | 9772            | 11418 | 11414 | 11079 | 43683 |
| 3.2.7 | n-butane              | [ton] | 9888            | 11552 | 11549 | 11209 | 44198 |
| 3.2.8 | Ethylene              | [ton] |                 |       |       |       |       |

- Cargoes may not be applicable for vessel. Check which cargoes the vessel is certified to carry.

## 2.4 LOADING RATES

VR = Vapour Return, W/O VPR = Without Vapour Return

| B4     | LOADING RATES |                  | UNIT   | CLIPPER VICTORY |        |          |        |
|--------|---------------|------------------|--------|-----------------|--------|----------|--------|
|        |               |                  |        | REFRIGERATED    |        | PRESSURE |        |
| 4.1    | Cargo         |                  | [m3/h] | VR              | W/O VR | VR       | W/O VR |
| 4.1.1  | 1             | Propylene        | [m3/h] | 2700            | 1200   |          |        |
| 4.1.2  | 2             | Propane          | [m3/h] | 2600            | 1200   |          |        |
| 4.1.3  | 3             | Ammonia          | [m3/h] | 3000            | 1200   |          |        |
| 4.1.4  | 4             | Iso butane (0°C) | [m3/h] |                 |        |          | 420    |
| 4.1.5  | 5             | Propane (0°C)    | [m3/h] |                 |        |          | 50     |
| 4.1.6  | 6             | Propane (10°C)   | [m3/h] |                 |        |          | 40     |
| 4.1.7  | 7             | Propane (20°C)   | [m3/h] |                 |        |          | 30     |
| 4.1.8  | 8             | Propane (30°C)   | [m3/h] |                 |        |          | 20     |
| 4.1.9  | 9             |                  | [m3/h] |                 |        |          |        |
| 4.1.10 | 10            |                  | [m3/h] |                 |        |          |        |
| 4.1.11 | 11            |                  | [m3/h] |                 |        |          |        |
| 4.1.12 | 12            |                  | [m3/h] |                 |        |          |        |
| 4.1.13 | 13            |                  | [m3/h] |                 |        |          |        |
| 4.1.14 | 14            |                  | [m3/h] |                 |        |          |        |
| 4.1.15 | 15            |                  | [m3/h] |                 |        |          |        |
| 4.1.16 | 16            |                  | [m3/h] |                 |        |          |        |
| 4.1.17 | 17            |                  | [m3/h] |                 |        |          |        |
| 4.1.18 | 18            |                  | [m3/h] |                 |        |          |        |
| 4.1.19 | 19            |                  | [m3/h] |                 |        |          |        |
| 4.1.20 | 20            |                  | [m3/h] |                 |        |          |        |

## 2.5 DISCHARGING – GENERAL

Pumping curves for cargo main pumps and booster pumps are given in the appendix.

| B5    | DISCHARGING – GENERAL | UNIT    | CLIPPER VICTORY |
|-------|-----------------------|---------|-----------------|
| 5.1   | <b>Cargo Pumps</b>    | [Text]  | Deepwell        |
| 5.1.1 | Type of Pumps         | [Text]  | Centrifugal     |
| 5.1.2 | Number per Tank       | [Pcs]   | 2               |
| 5.1.3 | Rate (per pump)       | [m3/h]  | 550             |
| 5.1.4 | Delivery Head         | [mlc]   | 120             |
| 5.1.5 | Maximum Density       | [kg/m3] | 970             |
| 5.2   | <b>Booster Pumps</b>  |         |                 |
| 5.2.1 | Type of Pumps         | [Text]  | Centrifugal     |
| 5.2.2 | Number                | [Pcs]   | 2               |
| 5.2.3 | Rate (per pump)       | [m3/h]  | 550             |
| 5.2.4 | Delivery Head         | [mlc]   | 115             |
| 5.2.5 | Maximum Density       | [kg/m3] | 690             |

## 2.6 DISCHARGE PRESSURE

| B6    | DISCHARGE PERFORMANCE                                              | UNIT | CLIPPER VICTORY |
|-------|--------------------------------------------------------------------|------|-----------------|
| 6.1   | <b>Fully Refrigerated, Full Cargo Discharge Times (all pumps):</b> |      | VR W/O VR       |
| 6.1.1 | Manifold Back Pressure (1 kg/cm2) x                                | [h]  | 17 17           |
| 6.1.2 | Manifold Back Pressure (5 kg/cm2) x                                | [h]  | 18 18           |
| 6.1.3 | Manifold Back Pressure (10 kg/cm2) ^                               | [h]  | 70 70           |
| 6.2   | <b>Pressurized, Full Cargo Discharge Times (all pumps):</b>        |      | VR W/O VR       |
| 6.2.1 | Manifold Back Pressure (1 kg/cm2) ^                                | [h]  |                 |
| 6.2.2 | Manifold Back Pressure (5 kg/cm2) ^                                | [h]  |                 |
| 6.2.3 | Manifold Back Pressure (10 kg/cm2) ^                               | [h]  |                 |

x = Based on largest single tank volume

^ = Based on discharging tanks one at a time

## 2.7 UNPUMPABLES

| B7    | UNPUMPABLES                | UNIT | CLIPPER VICTORY |
|-------|----------------------------|------|-----------------|
| 7.1   | <b>Unpumpables, liquid</b> |      |                 |
| 7.1.1 | Tank 1                     | [m3] | 17              |
| 7.1.2 | Tank 2                     | [m3] | 18              |
| 7.1.3 | Tank 3                     | [m3] | 18              |
| 7.1.4 | Tank 4                     | [m3] | 17              |
| 7.1.5 | Total                      | [m3] | 70              |

## 2.8 VAPORISING UNPUMPABLES

| B8    | VAPORISING UNPUMPABLES                                      | UNIT   | CLIPPER VICTORY          |
|-------|-------------------------------------------------------------|--------|--------------------------|
| 8.1   | Process Used                                                | [Text] | Hot Gas / Puddle heating |
| 8.2   | <b>Time to Vaporize Liquid Unpumpables After Discharge:</b> |        |                          |
| 8.2.1 | Propane                                                     | [h]    | 24                       |
| 8.2.2 | iso-Butane                                                  | [h]    | 30                       |
| 8.2.3 | n-Butane                                                    | [h]    | 36                       |
| 8.2.4 | Ammonia                                                     | [h]    | 52                       |
| 8.2.5 |                                                             | [h]    |                          |

## 2.9 RELIQUEFACTION PLANT

| B9    | RELIQUEFACTION PLANT           | UNIT     | CLIPPER VICTORY     |
|-------|--------------------------------|----------|---------------------|
| 9.1   | <b>Plant Design Conditions</b> |          |                     |
| 9.1.1 | Air Temperature                | [°C]     | 45                  |
| 9.1.2 | Sea Temperature                | [°C]     | 32                  |
| 9.2   | <b>Plant Type</b>              |          |                     |
| 9.2.1 | Single Stage/Direct            | [Yes/No] | YES                 |
| 9.2.2 | Two Stage / Direct             | [Yes/No] | YES                 |
| 9.2.3 | Three Stage / Direct           | [Yes/No] | NO                  |
| 9.2.4 | Coolant Type                   | [Text]   | Seawater            |
| 9.3   | <b>Compressors</b>             |          |                     |
| 9.3.1 | Type                           | [Text]   | Sulzer + Burckhardt |
| 9.3.2 | Model                          | [Text]   | 2K 160-2F           |
| 9.3.3 | Number                         | [Psc]    | 4                   |
| 9.3.4 | Capacity (per unit)            | [m3/h]   | Varies              |
| 9.3.5 | Are they oil free?             | [Yes/No] | YES                 |

## 2.10 COOLING CAPACITY

| B10    | COOLING CAPACITY                                                      | UNIT     | CLIPPER VICTORY       |
|--------|-----------------------------------------------------------------------|----------|-----------------------|
| 10.1   | <b>State Cooling Capacity</b> (per compressor, 2-stage @ - 0.4 bar g) |          | SW 32 [°C] SW 15 [°C] |
| 10.1.1 | 1 Propane @ -42 [°C]                                                  | [kcal/h] | 250000                |
| 10.1.2 | 2 Com. Propane (5 mol.% ethane) @ -42 [°C]                            | [kcal/h] | 245000                |
| 10.1.3 | 3 Propane @ -20 [°C]                                                  | [kcal/h] |                       |
| 10.1.4 | 4 n-Butane @ -5[°C]                                                   | [kcal/h] | 380000                |
| 10.1.5 | 5 Iso-Butane @ -5 [°C]                                                | [kcal/h] | 320000                |
| 10.1.6 | 6 Ammonia @ -33 [°C]                                                  | [kcal/h] | 390000                |
| 10.1.7 | 7 VCM @ -11 [°C]                                                      | [kcal/h] | 350000                |

## 2.11 CARGO TEMP. LOWERING CAPABILITY

| B11   | CARGO TEMPERATURE LOWERING CAPABILITY   | UNIT | CLIPPER VICTORY |
|-------|-----------------------------------------|------|-----------------|
| 11.0  | <b>Time taken to lower the temp of:</b> |      |                 |
| 11.1  | Propane from ...0 [°C] to -42 [°C]      | [h]  |                 |
| 11.2  | -5[°C] to -42[°C]                       | [h]  |                 |
| 11.3  | -38[°C] to -42[°C]                      | [h]  | 144             |
| 11.4  | +20[°C] to -42[°C]                      | [h]  |                 |
| 11.5  | +10[°C] to -42[°C]                      | [h]  |                 |
| 11.6  | Iso-Butane from +20[°C] to -0.5[°C]     | [h]  |                 |
| 11.7  | +10[°C] to -0.5[°C]                     | [h]  |                 |
| 11.8  | +10[°C] to -5[°C]                       | [h]  |                 |
| 11.9  | -5[°C] to -12[°C]                       | [h]  | 84              |
| 11.10 | Ammonia from -30[°C] to -33[°C]         | [h]  | 177             |
| 11.11 | VCM from -8,2[°C] to -13[°C]            | [h]  | 62              |

## 2.12 INERT GAS

| B12    | INERT GAS                             | UNIT     | CLIPPER VICTORY       |
|--------|---------------------------------------|----------|-----------------------|
| 12.1   | <b>Main IG Plant</b>                  |          |                       |
| 12.1.1 | Type of System                        | [Text]   | Gin 5500-0.4BUFD      |
| 12.1.2 | Capacity                              | [m3/h]   | 5500                  |
| 12.1.3 | Type of Fuel Used                     | [Text]   | MGO                   |
| 12.1.4 | <b>Composition of I.G.</b>            |          |                       |
| 12.1.5 | Max O2                                | [%]      | 0.5                   |
| 12.1.6 | Max CO2                               | [%]      | 14                    |
| 12.1.7 | Max Nox                               | [%]      | Traces                |
| 12.1.8 | Max N2                                | [%]      | Balance               |
| 12.2   | Lowest Dewpoint Achievable            | [°C]     | -45                   |
| 12.3   | Used for                              | [Text]   | Inerting/purging      |
| 12.4   | <b>Auxiliary IG or Nitrogen Plant</b> |          | Unitor Marine Systems |
| 12.4.1 | Type of System                        | [Text]   | Nitrogen Generator    |
| 12.4.2 | Capacity                              | [m3/h]   | 6                     |
| 12.5   | Lowest Dewpoint Achievable            | [°C]     | -70                   |
| 12.6   | Used for                              | [Text]   | Inerting/topping      |
| 12.7   | <b>Nitrogen generator installed?</b>  | [Yes/No] | NO                    |
| 12.7.1 | Liquid storage Capacity               | [m3]     | N/A                   |
| 12.7.2 | Daily Boil-Off Loss                   | [m3]     | N/A                   |
| 12.7.3 | Maximum Supply Pressure               | [Bar]    | N/A                   |
| 12.7.4 | Supply Capacity                       | [m3/h]   | N/A                   |
| 12.7.5 | Used For                              | [Text]   | N/A                   |
| 12.7.6 | HP Nitrogen                           | [Nm3]    | N/A                   |

## 2.13 CARGO TANK INTERTING/DE-INERTING

| B13    | CARGO TANK INERTING/DE-INERTING                                     | UNIT | CLIPPER VICTORY |
|--------|---------------------------------------------------------------------|------|-----------------|
| 13.1   | Time Taken From Fresh Air to Under 5% O2 at -25oC Dewpoint          | [h]  | 41              |
| 13.2   | Time taken from cargo Vapor to Fully Inert at - 25oC Dewpoint when: |      |                 |
| 13.2.1 | IG density less than product                                        | [h]  | N/A             |
| 13.2.2 | IG density greater than product                                     | [h]  | 41              |

## 2.14 GAS FREEING TO FRESH AIR

| B14    | GAS FREEING TO FRESH AIR                                      | UNIT   | CLIPPER VICTORY     |
|--------|---------------------------------------------------------------|--------|---------------------|
| 14.1   | Plant Used                                                    | [Text] | IGG Plant – Dry Air |
| 14.1.1 | Number of fans                                                | [Pcs]  | 2                   |
| 14.1.2 | Total capacity                                                | [m3/h] | 20000               |
| 14.2   | Time taken from Fully Inert Condition to Fully Breathable Air | [h]    | 16                  |

## 2.15 CHANGING CARGO GRADES

The table below show the number of hours needed to change grades from the removal of unumpables to tanks fit to load. The quantity of inert gas consumed during the operation is also indicated.

| B15    | CHANGING CARGO GRADES | UNIT  | CLIPPER VICTORY |
|--------|-----------------------|-------|-----------------|
| 15.1   | From propane to:      | [h]   | [m3]            |
| 15.1.1 | Iso-butane            | [COL] | 24/0            |
| 15.1.2 | Ammonia               | [COL] | 106 225000      |
| 15.2   | From Iso-butane to:   | [h]   | [m3]            |
| 15.2.1 | Propane               | [COL] | 32/0            |
| 15.2.2 | Ammonia               | [COL] | 112 225000      |
| 15.3   | From ammonia to:      | [h]   | [m3]            |
| 15.3.1 | Propane               | [COL] | 134 225000      |
| 15.3.2 | Iso-butane            | [COL] | 134 225000      |

## 2.16 DECK TANK CAPACITIES

| B16    | DECK TANK CAPACITIES                   | UNIT     | CLIPPER VICTORY |
|--------|----------------------------------------|----------|-----------------|
| 16.1   | Deck tank                              | [Yes/No] | NO              |
| 16.2   | Deck tank capacities                   |          |                 |
| 16.2.1 | 1 Propane                              | [ton]    | N/A             |
| 16.2.2 | 2 Ammonia                              | [ton]    | N/A             |
| 16.2.3 | 3 Ethylene                             | [ton]    | N/A             |
| 16.3   | Maximum Allowable Relief Valve Setting | [bar g]  | N/A             |
| 16.4   | Lowest Permissible Temperature         | [°C]     | N/A             |
| 16.5   | Materials                              | [Text]   | N/A             |

## 2.17 PRE-LOADING CONDITIONS

The table below indicates time and quantity of coolant required to cool down cargo tanks from ambient temperature and fully gassed up state sufficient to allow loading to commence.

| B17    | PRE-LOADING CONDITIONS | UNIT           | CLIPPER VICTORY     |
|--------|------------------------|----------------|---------------------|
| 17.1   | Product                | Quantity [ton] | VPR [h] W/O VPR [h] |
| 17.1.1 | Propane                | [COL]          | 220 24 24           |
| 17.1.2 | Butane                 | [COL]          | 220 24 24           |
| 17.1.3 | Butadiene              | [COL]          | 220 24 24           |
| 17.1.4 | Propylene              | [COL]          |                     |
| 17.1.5 | Ammonia                | [COL]          |                     |
| 17.1.6 | VCM                    | [COL]          |                     |

## 2.18 VAPORISER

| B18    | VAPORISER                     | UNIT    | CLIPPER VICTORY |
|--------|-------------------------------|---------|-----------------|
| 18.1   | Type of Vaporizer             | [Text]  | Shell and tube  |
| 18.2   | Number Fitted                 | [Pcs]   | 1               |
| 18.3   | Capacity (per unit) – Propane | [Nm3/h] | 4800            |
| 18.3.1 | Liquid Supply rate            | [m3/h]  | 16.9            |
| 18.3.2 | Delivery temperature          | [°C]    |                 |
| 18.4   | Capacity (per unit) – Ammonia | [Nm3/h] | 4800            |
| 18.4.1 | Liquid Supply rate            | [m3/h]  | 5.48            |
| 18.4.2 | Delivery temperature          | [°C]    |                 |
| 18.5   |                               | [Nm3/h] |                 |
| 18.5.1 |                               | [m3/h]  |                 |
| 18.5.2 |                               | [°C]    |                 |

## 2.19 BLOWER

| B19  | BLOWER                    | UNIT    | CLIPPER VICTORY               |
|------|---------------------------|---------|-------------------------------|
| 19.1 | Type of Blower            | [Text]  | High pressure centrifugal fan |
| 19.2 | Number fitted             | [Pcs]   | 2                             |
| 19.3 | Rated Capacity (per unit) | [Nm3/h] | 10000                         |
| 19.4 | Delivery Pressure         | [Bar]   | 0.12                          |

## 2.20 CARGO RE-HEATER

Cargo re-heater capacities are given in the appendix.

| B20    | CARGO RE-HEATER                                                    | UNIT     | CLIPPER VICTORY |
|--------|--------------------------------------------------------------------|----------|-----------------|
| 20.1   | Type of re-heater                                                  | [Text]   | Shell/tube      |
| 20.2   | Number Fitted                                                      | [Pcs]    | 1               |
| 20.3   | Heating Medium                                                     | [Medium] | Seawater        |
| 20.4   | <b>Discharge rates, SW = 15[°C], to raise product temperature:</b> |          |                 |
| 20.4.1 | Propane from –42[°C] to 0[°C]                                      | [ton/h]  | 335             |
| 20.4.2 | Ammonia from –33[°C] to 0[°C]                                      | [ton/h]  | 240             |
| 20.5   | Cargo Heater Curve:                                                | [Yes/No] | YES             |

## 2.21 HYDRATE CONTROL

| B21  | HYDRATE CONTROL                       | UNIT     | CLIPPER VICTORY |
|------|---------------------------------------|----------|-----------------|
| 21.1 | Type of Depressant                    | [Medium] | Ethanol         |
| 21.2 | Depressant Freezing Point Temperature | [°C]     | -114            |
| 21.3 | Max capacity of depressant            | [Liter]  | 2000            |
| 21.4 | Means of Injection                    | [Text]   | Hand pump       |
| 21.5 | Any other system used                 | [Text]   | Hot gas         |

## 2.22 CARGO MEASUREMENT

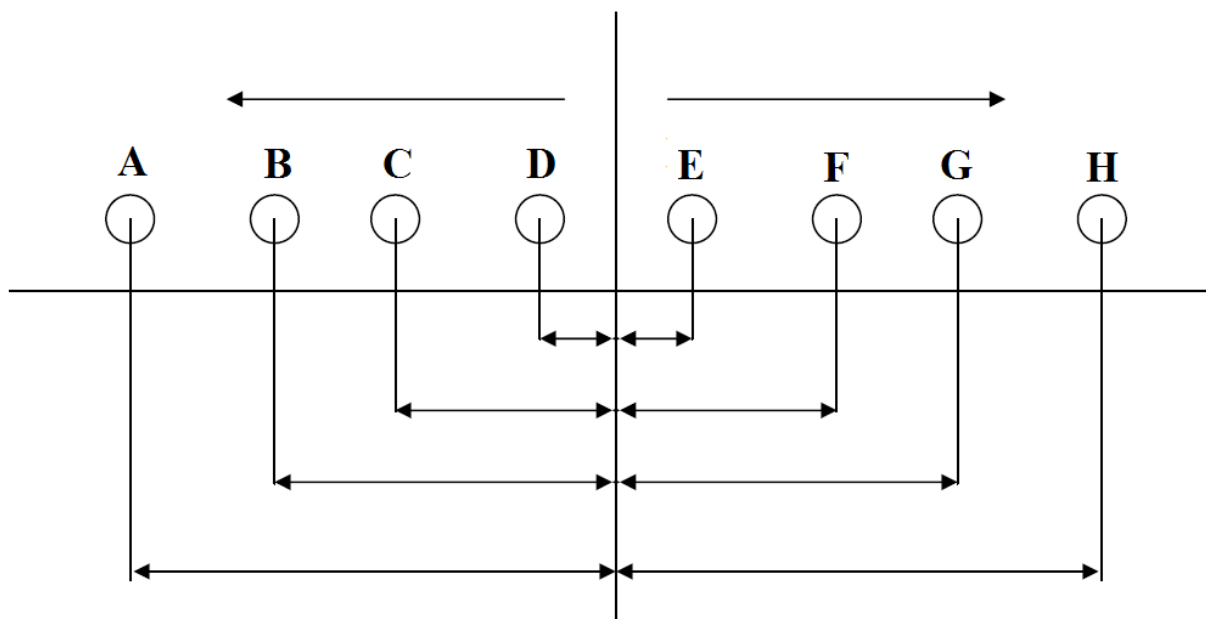
| B22    | CARGO MEASUREMENT                            | UNIT     | CLIPPER VICTORY               |
|--------|----------------------------------------------|----------|-------------------------------|
| 22.1   | <b>Level Gauges</b>                          |          |                               |
| 22.1.1 | Are level gauges Local or Remote             | [Text]   | Both                          |
| 22.1.2 | Manufacturer                                 | [Text]   | HENRI                         |
| 22.1.3 | Type                                         | [Text]   | Float                         |
| 22.1.4 | Rated Accuracy                               | [-]      | ± 5 mm                        |
| 22.1.5 | Certifying Authority                         | [Text]   | DNV                           |
| 22.2   | <b>Temperature Transmitter</b>               |          |                               |
| 22.2.1 | Manufacturer                                 | [Text]   | ABB                           |
| 22.2.2 | Type                                         | [Text]   | Electronic                    |
| 22.2.3 | Rated Accuracy                               | [-]      | ±0.02 %                       |
| 22.2.4 | Certifying Authority                         | [Text]   | Intertek Caleb Brett – Kimsco |
| 22.3   | <b>Pressure Transmitter</b>                  |          |                               |
| 22.3.1 | Manufacturer                                 | [Text]   | ABB                           |
| 22.3.2 | Type                                         | [Text]   | Electronic                    |
| 22.3.3 | Rated Accuracy                               | [-]      | ± 0.075 %                     |
| 22.3.4 | Certifying Authority                         | [Text]   | Intertek Caleb Brett – Kimsco |
| 22.4   | <b>Oxygen Analyzer</b>                       |          |                               |
| 22.4.1 | Manufacturer                                 | [Text]   | Riken                         |
| 22.4.2 | Type                                         | [Text]   | RX 415OX or OX-227A           |
| 22.4.3 | Lowest Level Measurable                      |          |                               |
| 22.5   | <b>Fixed Gas Analyzer</b>                    |          |                               |
| 22.5.1 | Manufacturer                                 | [Text]   | Consilium                     |
| 22.5.2 | Type                                         | [Text]   | Salwico SW2020 (sampling)     |
| 22.6   | <b>Cargo Tank Calibration Tables</b>         |          |                               |
| 22.6.1 | Are Cargo Tank Calibration tables available  | [Yes/No] | YES                           |
| 22.6.2 | Measuring Company                            | [Text]   | Intertek Caleb Brett – Kimsco |
| 22.6.3 | Certifying Authority                         | [Text]   | Intertek Caleb Brett – Kimsco |
| 22.6.4 | Calibration calculated to .....cm ½ cm.....  | [Yes/No] | YES                           |
| 22.6.5 | Tables established to .....cm .....cm.....mm | [Yes/No] |                               |
| 22.6.6 | Trim and List corrections Available          | [YES/NO] | YES                           |
| 22.6.7 | Temperature Corrections available            | [YES/NO] | YES                           |
| 22.6.8 | Float Gauge Tape Corrections Available       | [YES/NO] | YES                           |

## 2.23 CARGO SAMPLING

| B23    | CARGO SAMPLING                   | UNIT     | CLIPPER VICTORY      |
|--------|----------------------------------|----------|----------------------|
| 23.1   | Cargo tank sample level          | [Tank]   | 1 2 3 4              |
| 23.1.1 | Top                              | [Yes/No] | Yes Yes Yes Yes      |
| 23.1.2 | Middle                           | [Yes/No] | Yes Yes Yes Yes      |
| 23.1.3 | Bottom                           | [Yes/No] | Yes Yes Yes Yes      |
| 23.2   | <b>Can sample be drawn from?</b> |          |                      |
| 23.2.1 | Tank Vapor Outlet                | [Yes/No] | YES                  |
| 23.2.2 | Manifold Liquid Line             | [Yes/No] | YES                  |
| 23.2.3 | Manifold Vapor Line              | [Yes/No] | YES                  |
| 23.2.4 | Pump Discharge Line              | [Yes/No] | YES                  |
| 23.3   | <b>State connection</b>          |          |                      |
| 23.3.1 | Type                             | [Text]   | Female, double valve |
| 23.3.2 | Size                             | [Inch]   | 0.5                  |



## 2.24 CARGO MANIFOLD



| B24     | CARGO MANIFOLD                         | UNIT  | CLIPPER VICTORY |     |          |                 |
|---------|----------------------------------------|-------|-----------------|-----|----------|-----------------|
| 24.1    | Distance from center of manifold to:   |       |                 |     |          |                 |
| 24.1.1  | Stern                                  | [m]   | 115.17          |     |          |                 |
| 24.1.2  | Bow                                    | [m]   | 112.04          |     |          |                 |
| 24.1.3  | A                                      | [mm]  | 5950            |     |          |                 |
| 24.1.4  | B                                      | [mm]  | 5450            |     |          |                 |
| 24.1.5  | C                                      | [mm]  | 3450            |     |          |                 |
| 24.1.6  | D                                      | [mm]  | 1150            |     |          |                 |
| 24.1.7  | E                                      | [mm]  | 1150            |     |          |                 |
| 24.1.8  | F                                      | [mm]  | 3450            |     |          |                 |
| 24.1.9  | G                                      | [mm]  | 5450            |     |          |                 |
| 24.1.10 | H                                      | [mm]  |                 |     |          |                 |
| 24.2    | Flange                                 |       | Duty [Bar]      | ASA | Size ["] | [R]aised/[F]lat |
| 24.2.1  | A                                      | [COL] | Diesel Oil      | 150 | 4        | F               |
| 24.2.2  | B                                      | [COL] | Fuel Oil        | 150 | 8        | F               |
| 24.2.3  | C                                      | [COL] | Cargo Liquid    | 300 | 14       | R               |
| 24.2.4  | D                                      | [COL] | Cargo Vapour    | 150 | 10       | R               |
| 24.2.5  | E                                      | [COL] | Cargo Vapour    | 150 | 10       | R               |
| 24.2.6  | F                                      | [COL] | Cargo Liquid    | 300 | 14       | R               |
| 24.2.7  | G                                      | [COL] | Fuel Oil        | 150 | 8        | F               |
| 24.2.8  | H                                      | [COL] |                 |     |          |                 |
| 24.3    | Height above uppermost continuous deck | [mm]  | 1600            |     |          |                 |
| 24.4    | Distance from ship side                | [mm]  | 3700            |     |          |                 |
| 24.5    | Height above load waterline            | [mm]  | 10978           |     |          |                 |
| 24.6    | Height above light waterline           | [mm]  | 16800           |     |          |                 |

## 2.25 CARGO REDUCERS

| B25  | CARGO REDUCERS                | CLIPPER VICTORY               |
|------|-------------------------------|-------------------------------|
| 25.0 | ANSI 300                      | ANSI 300 -150                 |
| 25.1 | 2 off 16"NB 300# ' 14"NB 300# | 2 off 14"NB 300# ' 16"NB 150# |
| 25.2 | 2 off 14"NB 300# ' 12"NB 300# | 2 off 14"NB 300# ' 12"NB 150# |
| 25.3 | 2 off 14"NB 300# ' 10"NB 300# | 2 off 14"NB 300# ' 10"NB 150# |
| 25.4 | 2 off 14"NB 300# ' 8"NB 300#  | 2 off 14"NB 300# ' 8"NB 150#  |
| 25.5 | 1 off 14"NB 300# ' 6"NB 300#  |                               |
| 25.6 |                               |                               |
| 25.7 |                               |                               |
| 25.8 |                               |                               |
| 25.9 |                               |                               |
| 25.0 | ANSI 150                      | FUEL                          |
| 25.1 | 2 off 10"NB 150# ' 12"NB 150# | 1 off 12"NB 150# ' 8"NB 150#  |
| 25.2 | 2 off 10"NB 150# ' 10"NB 150# | 1 off 10"NB 150# ' 8"NB 150#  |
| 25.3 | 2 off 10"NB 150# ' 8"NB 150#  | 1 off 8"NB 150# ' 8"NB 150#   |
| 25.4 | 2 off 10"NB 150# ' 6"NB 150#  | 1 off 8"NB 150# ' 6"NB 150#   |
| 25.5 |                               |                               |
| 25.6 |                               |                               |
| 25.7 |                               |                               |
| 25.8 |                               |                               |
| 25.9 |                               |                               |

## 2.26 CONNECTION TO SHORE FOR ESD/COM SYSTEMS

| B26    | CONNECTIONS TO SHORE FOR ESD AND COM. SYSTEMS | UNIT     | CLIPPER VICTORY |
|--------|-----------------------------------------------|----------|-----------------|
| 26.1   | Is ESD connection to Shore available?         | [Yes/No] | YES             |
| 26.1.1 | System                                        | [Text]   | Electric        |
| 26.1.2 | Type of plug                                  | [Text]   | Electric        |
| 26.3   | Is Hose or cables Available on Board          | [Yes/No] | YES             |
| 26.3.1 | Specify Length                                | [m]      | 30              |
| 26.3.2 | Specify type                                  | [Text]   | Electric        |

## 2.27 MANIFOLD DERRICK/CRANE

| B27    | MANIFOLD DERRICK/CRANE          | UNIT     | CLIPPER VICTORY |
|--------|---------------------------------|----------|-----------------|
| 27.1   | Is Manifold Derrick Provided?   | [Yes/No] | NO              |
| 27.2   | Is Manifold Crane Provided?     | [Yes/No] | YES             |
| 27.3   | Is Lifting equipment Same P&SB? | [Yes/No] | YES             |
| 27.3.1 | If NO, give details             | [Text]   |                 |
| 27.3.2 | Maximum outreach                | [m]      | 21              |
| 27.3.3 | Capacity at max. Outreach       | [ton]    | 7.5             |

## 2.28 STORES HANDLING

| B28    | STORES HANDLING  | UNIT   | CLIPPER VICTORY |
|--------|------------------|--------|-----------------|
| 28.1   | Number of cranes | [Pcs]  | 2               |
| 28.1.1 | Location(s)      | [Text] | Port/starboard  |

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### **3. SECTION C – Machinery**

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### 3.1 NOX FACTOR TIER II

| C1.1    | NOx factor                | UNIT    | CLIPPER VICTORY |
|---------|---------------------------|---------|-----------------|
| 1.1.1.0 | <b>Main engine</b>        |         | Tier II         |
| 1.1.1.1 | Power                     | [kW]    | 12270           |
| 1.1.1.2 | RPM                       | [RPM]   | 96              |
| 1.1.1.3 | NOx limit                 | [g/kWh] | 17              |
| 1.1.1.4 | NOx factor                | [g/kWh] | 12.3            |
| 1.1.1.5 | EIAPP                     | [Ref]   | EIAPP-752-3-A   |
| 1.1.1.6 | Issued                    | [Date]  | 30.10.2008      |
| 1.1.2.0 | <b>Auxiliary engine 1</b> |         | Tier II         |
| 1.1.2.1 | Power                     | [kW]    | 1280            |
| 1.1.2.2 | RPM                       | [RPM]   | 720             |
| 1.1.2.3 | NOx limit                 | [g/kWh] | 12.1            |
| 1.1.2.4 | NOx factor                | [g/kWh] | 11.4            |
| 1.1.2.5 | EIAPP                     | [Ref]   | EIAPP-730-7-A   |
| 1.1.2.6 | Issued                    | [Date]  | 08.08.2008      |
| 1.1.3.0 | <b>Auxiliary engine 2</b> |         | Tier II         |
| 1.1.3.1 | Power                     | [kW]    | 1280            |
| 1.1.3.2 | RPM                       | [RPM]   | 720             |
| 1.1.3.3 | NOx limit                 | [g/kWh] | 12.1            |
| 1.1.3.4 | NOx factor                | [g/kWh] | 11.4            |
| 1.1.3.5 | EIAPP                     | [Ref]   | EIAPP-730-8-A   |
| 1.1.3.6 | Issued                    | [Date]  | 08.08.2008      |
| 1.1.4.0 | <b>Auxiliary engine 3</b> |         | Tier II         |
| 1.1.4.1 | Power                     | [kW]    | 1280            |
| 1.1.4.2 | RPM                       | [RPM]   | 720             |
| 1.1.4.3 | NOx limit                 | [g/kWh] | 12.1            |
| 1.1.4.4 | NOx factor                | [g/kWh] | 11.4            |
| 1.1.4.5 | EIAPP                     | [Ref]   | EIAPP-730-9-A   |
| 1.1.4.6 | Issued                    | [Date]  | 08.08.2008      |
| 1.1.5.0 | <b>Auxiliary engine 4</b> |         | Tier II         |
| 1.1.5.1 | Power                     | [kW]    |                 |
| 1.1.5.2 | RPM                       | [RPM]   |                 |
| 1.1.5.3 | NOx limit                 | [g/kWh] |                 |
| 1.1.5.4 | NOx factor                | [g/kWh] |                 |
| 1.1.5.5 | EIAPP                     | [Ref]   |                 |
| 1.1.5.6 | Issued                    | [Date]  |                 |

## 3.2 NOX FACTOR TIER III

| C1.2    | NOx factor                | UNIT    | CLIPPER VICTORY |
|---------|---------------------------|---------|-----------------|
| 1.2.1.0 | <b>Main engine</b>        |         | Tier III        |
| 1.2.1.1 | Power                     | [kW]    | 0               |
| 1.2.1.2 | RPM                       | [RPM]   | 0               |
| 1.2.1.3 | NOx limit                 | [g/kWh] | 0               |
| 1.2.1.4 | NOx factor                | [g/kWh] | 0               |
| 1.2.1.5 | EIAPP                     | [Ref]   | 0               |
| 1.2.1.6 | Issued                    | [Date]  | 00.01.1900      |
| 1.2.2.0 | <b>Auxiliary engine 1</b> |         | Tier III        |
| 1.2.2.1 | Power                     | [kW]    | 0               |
| 1.2.2.2 | RPM                       | [RPM]   | 0               |
| 1.2.2.3 | NOx limit                 | [g/kWh] | 0               |
| 1.2.2.4 | NOx factor                | [g/kWh] | 0               |
| 1.2.2.5 | EIAPP                     | [Ref]   | 0               |
| 1.2.2.6 | Issued                    | [Date]  | 00.01.1900      |
| 1.2.3.0 | <b>Auxiliary engine 2</b> |         | Tier III        |
| 1.2.3.1 | Power                     | [kW]    | 0               |
| 1.2.3.2 | RPM                       | [RPM]   | 0               |
| 1.2.3.3 | NOx limit                 | [g/kWh] | 0               |
| 1.2.3.4 | NOx factor                | [g/kWh] | 0               |
| 1.2.3.5 | EIAPP                     | [Ref]   | 0               |
| 1.2.3.6 | Issued                    | [Date]  | 00.01.1900      |
| 1.2.4.0 | <b>Auxiliary engine 3</b> |         | Tier III        |
| 1.2.4.1 | Power                     | [kW]    | 0               |
| 1.2.4.2 | RPM                       | [RPM]   | 0               |
| 1.2.4.3 | NOx limit                 | [g/kWh] | 0               |
| 1.2.4.4 | NOx factor                | [g/kWh] | 0               |
| 1.2.4.5 | EIAPP                     | [Ref]   | 0               |
| 1.2.4.6 | Issued                    | [Date]  | 00.01.1900      |
| 1.2.5.0 | <b>Auxiliary engine 4</b> |         | Tier III        |
| 1.2.5.1 | Power                     | [kW]    |                 |
| 1.2.5.2 | RPM                       | [RPM]   |                 |
| 1.2.5.3 | NOx limit                 | [g/kWh] |                 |
| 1.2.5.4 | NOx factor                | [g/kWh] |                 |
| 1.2.5.5 | EIAPP                     | [Ref]   |                 |
| 1.2.5.6 | Issued                    | [Date]  |                 |

### 3.3 EGCS/SCRUBBER

| C2    | EGCS/SCRUBBER                    | UNIT              | CLIPPER VICTORY |
|-------|----------------------------------|-------------------|-----------------|
| 2.1.0 | <b>Main engine</b>               |                   |                 |
| 2.1.1 | Scrubber installed               | [Yes/No]          | YES             |
| 2.1.2 | Maker                            | [Text]            | Wärtsila        |
| 2.1.3 | Type                             | [Text]            | Open-loop       |
| 2.1.4 | VGP compliant                    | [Yes/No]          | YES             |
| 2.2.0 | <b>Auxiliary engines</b>         |                   |                 |
| 2.2.1 | Scrubber installed               | [Yes/No]          | YES             |
| 2.2.2 | Maker                            | [Text]            | Wärtsila        |
| 2.2.3 | Type                             | [Text]            | Open-loop       |
| 2.2.4 | VGP compliant                    | [Yes/No]          | YES             |
| 2.3.0 | <b>Tank capacity closed loop</b> |                   |                 |
| 2.3.1 | NaOH tank                        | [Days]            | 0               |
| 2.3.2 | NaOH tank                        | [m <sup>3</sup> ] | 0               |
| 2.3.3 | Sludge tank                      | [Days]            | 0               |
| 2.3.4 | Sludge tank                      | [m <sup>3</sup> ] | 0               |
| 2.3.5 | Scrubbing water holding tank     | [Days]            | 0               |
| 2.3.6 | Scrubbing water holding tank     | [m <sup>3</sup> ] | 0               |

### 3.4 HEAT RECOVERY

| C3    | HEAT RECOVERY            | UNIT     | CLIPPER VICTORY |
|-------|--------------------------|----------|-----------------|
| 3.1.0 | <b>Main engine</b>       |          |                 |
| 3.1.1 | Economizer installed     | [Yes/No] | YES             |
| 3.1.2 | Type                     | [Text]   | Water tube      |
| 3.1.3 | Capacity                 | [kW]     | 1002.9          |
| 3.1.4 | <b>Auxiliary engines</b> |          |                 |
| 3.1.5 | Economizer installed     | [Yes/No] | NO              |
| 3.1.6 | Type                     | [Text]   | 0               |
| 3.1.7 | Capacity                 | [kW]     | 0               |

### 3.5 OTHER RELEVANT TECHNICAL INFORMATION

| C4    | OTHER RELEVANT TECHNICAL INFORMATION | UNIT     | CLIPPER VICTORY |
|-------|--------------------------------------|----------|-----------------|
| 4.0   | Rudder type                          | [Text]   | Conventional    |
| 4.0.1 | Number of rudders                    | [Pcs]    | 1               |
| 4.1   | Type of propeller                    | [Text]   | Fixed propeller |
| 4.1.1 | Blades                               | [Pcs]    | 4               |
| 4.2   | Mewis Duct                           | [Yes/No] | NO              |
| 4.3   | Ballast Water Treatment System       | [Yes/No] | 0               |
| 4.3.1 | Type                                 | [Text]   | 0               |
| 4.4   | Oily Water Separator                 | [Yes/No] | 0               |
| 4.4.1 | Type                                 | [Text]   | 0               |
| 4.4.2 | Concentration                        | [ppm]    | 0               |

### 3.6 ENVIRONMENTAL/PERFORMANCE TECHNOLOGIES INSTALLED

| CODE  | C5 ENVIRONMENTAL/PERFORMANCE TECHNOLOGIES INSTALLED | UNIT              | CLIPPER VICTORY |
|-------|-----------------------------------------------------|-------------------|-----------------|
| 5.0   | EEDI (Energy Efficiency Design Index)               | [-]               | 6.40            |
| 5.1   | ESI (Environmental Ship Index)                      | [-]               | 22.18           |
| 5.2   | Electronic Vessel Performance Monitoring            | [Yes/No]          | 0               |
| 5.3   | Selective Catalytic Reduction                       | [Yes/No]          | 0               |
| 5.3.1 | Urea Storage Tank Capacity                          | [Days]            | 0               |
| 5.3.2 | Urea Storage Tank Capacity                          | [m <sup>3</sup> ] | 0               |
| 5.4   | Trim optimization tests                             | [Yes/No]          | 0               |
| 5.5   | Antifouling                                         | [Text]            | 0               |

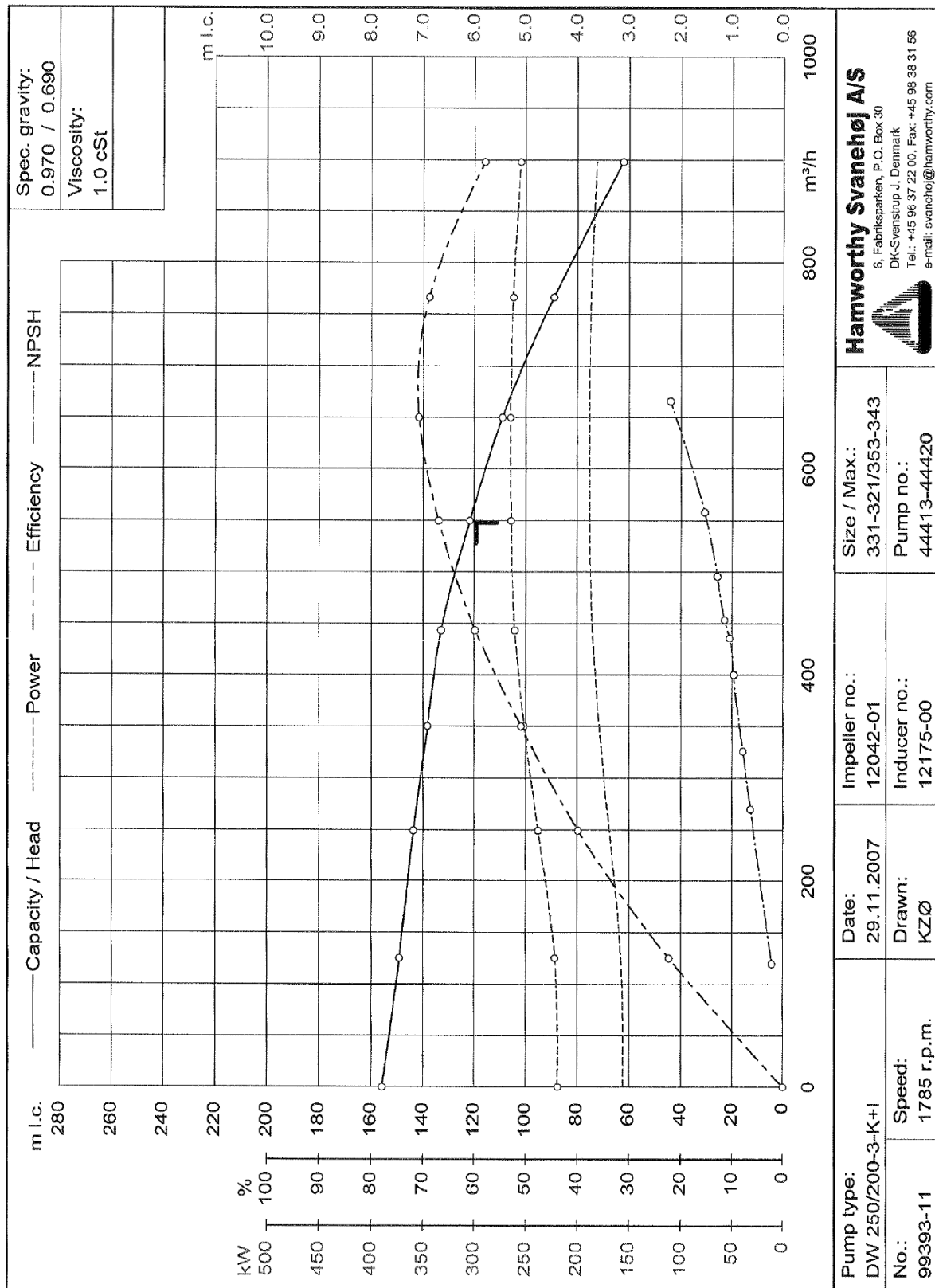
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## **4. APPENDIX/DRAWINGS**

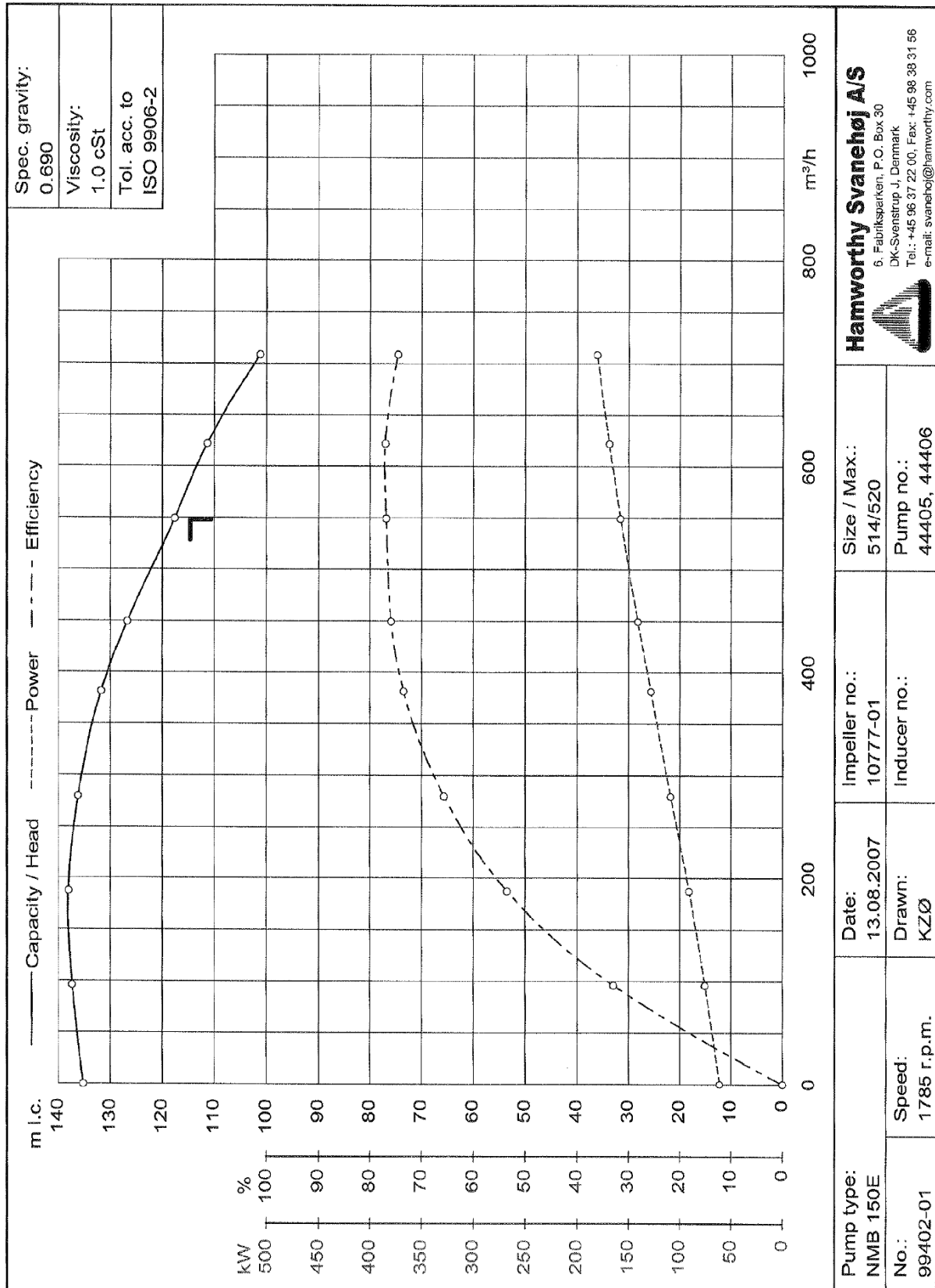
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## 4.1 CARGO PUMPS



## 4.2 BOOSTER PUMPS



### 4.3 RE-HEATER CAPACITY, AMMONIA

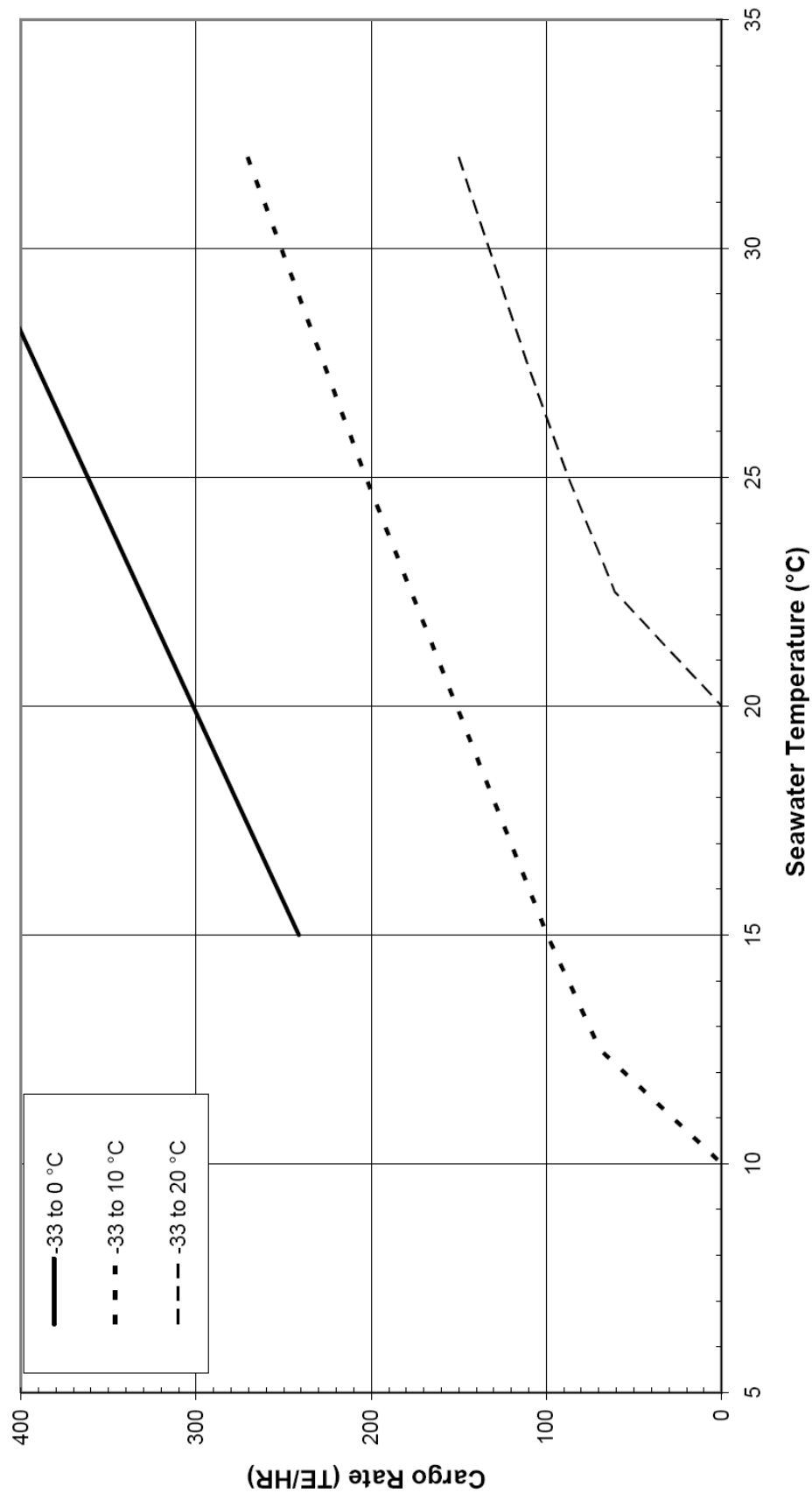


#### Cargo Heater Capacity for Ammonia

Contract No. : 06027-06030

Client : HHI

Hull No. : 1915 - 1918

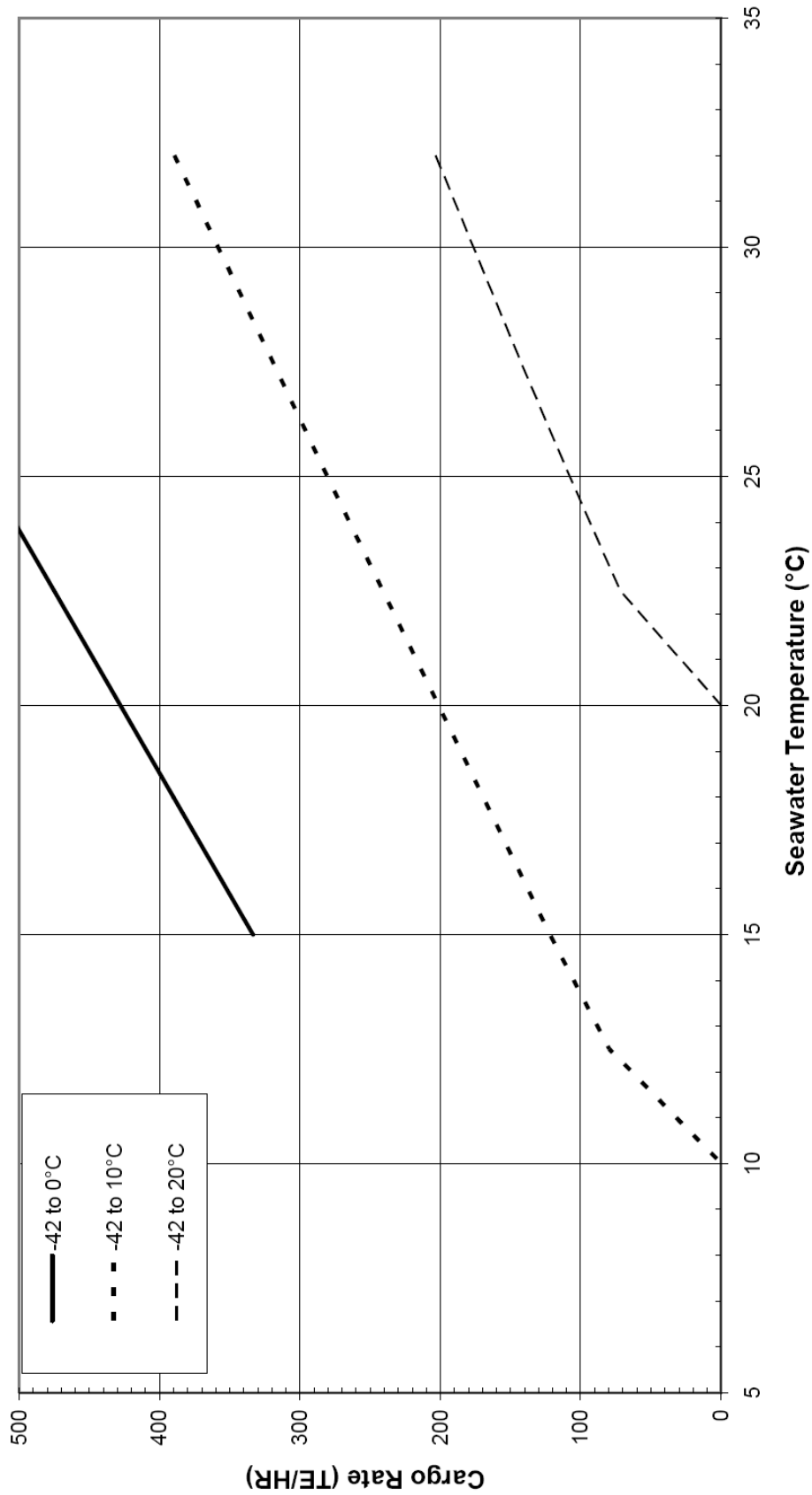


## 4.4 RE-HEATER CAPACITY, PROPANE



### Cargo Heater Capacity for Propane

Contract No. : 06027-06030  
Client : HHI  
Hull No. : 1915 - 1918



## 4.5 MOORING DIAGRAM

The diagram below illustrates the position of Winch Mounted Wires (W) and Ropes (R) together with Open (O) and Closed (C) Fairleads. Indicate also the position of mooring Bitts (B)

