

**GAS FORM-C**  
based on the  
**OCIMF / SIGTTO**  
**SHIP INFORMATION QUESTIONNAIRE**  
for  
**GAS CARRIERS**  
2nd Edition 1998

Specifications of the vessel and the gas installations are believed to be correct, but not guaranteed.

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**SECTION A  
GENERAL INFORMATION**

**A1 PRINCIPAL SHIP PARTICULARS**

1.1	Date questionnaire completed	01/06/2016
1.2	Name of vessel	SIGLOO HAV
1.3	LR/IMO number	8715883
1.4	Last previous name	IGLOO HAV
1.4.1	Date of name change	06/04/2004
1.5	Second last previous name	GUDRUN MAERSK
1.5.1	Date of name change	12/10/1995
1.6	Third last previous name	N/A
1.6.1	Date of name change	N/A
1.7	Fourth last previous name	N/A
1.7.1	Date of name change	N/A
1.8	Flag	Norwegian
1.9	Port of Registry	Oslo
1.10	Official number	N00067
1.11	Call sign	LAXT4
1.12	INMARSAT A or B number	325972917
1.13	Vessel's telephone number	325972910
1.13.1	Vessel's mobile number	+65 91714878
1.14	Vessel's fax number	325972915
1.15	Vessel's telex number	325972917
1.16	Vessel's E-mail address	<a href="mailto:sigloo.hav@thomeships.net">sigloo.hav@thomeships.net</a>
1.17	INMARSAT C number	INMARSAT-C 425972910
1.18	Vessel's MMSI number	259729000
1.19	Type of vessel	CHEMICAL AND GAS CARRIER

**OWNERSHIP AND OPERATION**

1.20	Registered Owner	EVERGAS A/S
	Full address	Kalvebod Brygge 39-41 Copenhagen 1560-DK
	Office telephone number	+45 3997 0350
	Office telex number	19900 TEINT DK
	Office fax number	+45 22 93 63 30
	Office Email address	<a href="mailto:fleet@evergas.net">fleet@evergas.net</a>
	Contact person	Mihir Navalkar
	Contact person after hours telephone number	+331 584 70 346

1.21	Name of technical operator (If different from above)	Evergas Ship Management PTE Ltd
	Full Address	16 Raffles Quay #43-01 Hong leong Bldg Singapore 048581
	Office telephone number	+ 65 6220 7291
	Office telex number	N/A
	Office fax number	+ 65 6225 1527
	Office Email address	<a href="mailto:technical@evergas.net">technical@evergas.net</a>
	Contact person (Designated Person Ashore)	Rajneesh Rana
	Contact person after hours telephone number	+ 65 9113 3759
	Emergency callout number	+ 65 8188 8482
	Emergency callout pager number	N/A
	Contact details for person responsible for oil spill response	Rajneesh Rana
	Number of years controlled by technical operator	0

Years

1.22	Total number of ships operated by this Operator	4
1.23	Number of years ship owned	27
1.23.1	Name of commercial operator (If different from above)	Evergas
	Full Address	Kalvebod Brygge 39-41 1560 Copenhagen
	Office telephone number	+ 45 3997 0372
	Office telex number	N/A
	Office fax number	N/A
	Office Email address	<a href="mailto:operation@evergas.net">operation@evergas.net</a>
	Contact person	Nete Egebjerg
	Contact person after hours telephone number	+45 3038 1156
	Emergency callout number	+45 3997 0101
	Emergency callout pager number	N/A
	Number of years controlled by commercial operator	6

**BUILDER**

1.24	Builder	Thyssen Norskeverke, Emden, Germany
1.25	Name of yard vessel built at	No 495
1.26	Hull number ( Class ID No. )	16747
1.27	Date keel laid	30.03.1988
1.28	Date launched	04.02.1989
1.29	Date delivered	01.06.1989
1.30	Date of completion of major hull changes, - if any.	N/A
1.31	If changes were made, what changes were made and at which yard were they carried out	N/A

**CLASSIFICATION**

1.32	Classification society	Det Norske Veritas
1.33	Class Notation	+IA1 ICE-C Tanker for Liquefied Gas EO TMON
		Lloyd Register
1.35	If Classification society changed, date of change	17/04/1996
1.36	Was ship built in accordance with the following regulations:	Approval Received
	IMO	Yes
	US COAST GUARD	Yes
	RINA	Yes
	Other: _____	
1.37	IMO certification	
	Certificate of fitness - IGC	Yes
	Certificate - A328	Yes
	Certificate - A329	Yes
	Letter of Compliance	Yes
	Issued by	DNV
1.38	Unattended Machinery Space Certificate	Yes
1.39	Net Registered Tonnage	3357 tonnes
1.40	Gross Registered Tonnage	11191 tonnes
1.41	Suez Net Tonnage - Canal Tonnage	8746.14 tonnes
	Suez Gross Tonnage	11769.40 tonnes
1.42	Panama Net Tonnage - Canal Tonnage	8252.80 tonnes
	Panama Gross Tonnage	12279.40 tonnes

## A2 HULL DIMENSIONS

2.1	Length overall (LOA)	153.05	Metres
2.2	Length between perpendiculars (LBP)	142.25	Metres
2.3	Distance bow to bridge	124.55	Metres
2.4	Distance bridge front - mid point manifold	46.85	Metres
2.5	Distance bow to mid-point manifold	76.215	Metres
2.6	Extreme breadth	22.00	Metres
2.7	Extreme depth	12.20	Metres
2.8	Summer draught	7.42	Metres
2.9	Corresponding Summer deadweight	9999.0	Tonnes
2.10	Light displacement	6971.1	Tonnes
2.11	Loaded displacement (Summer deadweight)	16971.1	Tonnes
2.12	Cargo tanks cubic capacity - 100%	11758.23	Cubic metres
2.12.1	Deck tank(s) cubic capacity - 100%	106.12	Cubic metres
2.12.2	Cargo tanks cubic capacity - 98%	11523.06	Cubic metres
2.12.3	Deck tank(s) cubic capacity - 98%	104.02	Cubic metres
2.13	Distance from keel to highest point	41.00	Metres
2.14	Air draught (normal ballast condition)	35.00	Metres

## A3 IMMERSION

- 3.1 TPC - in normal ballast condition  
 TPC - in loaded condition (summer deadweight)

Tonnes / cm @ metres draught	
25 tonnes	4.82
27 tonnes	7.42

## A4 LOADED PARTICULARS

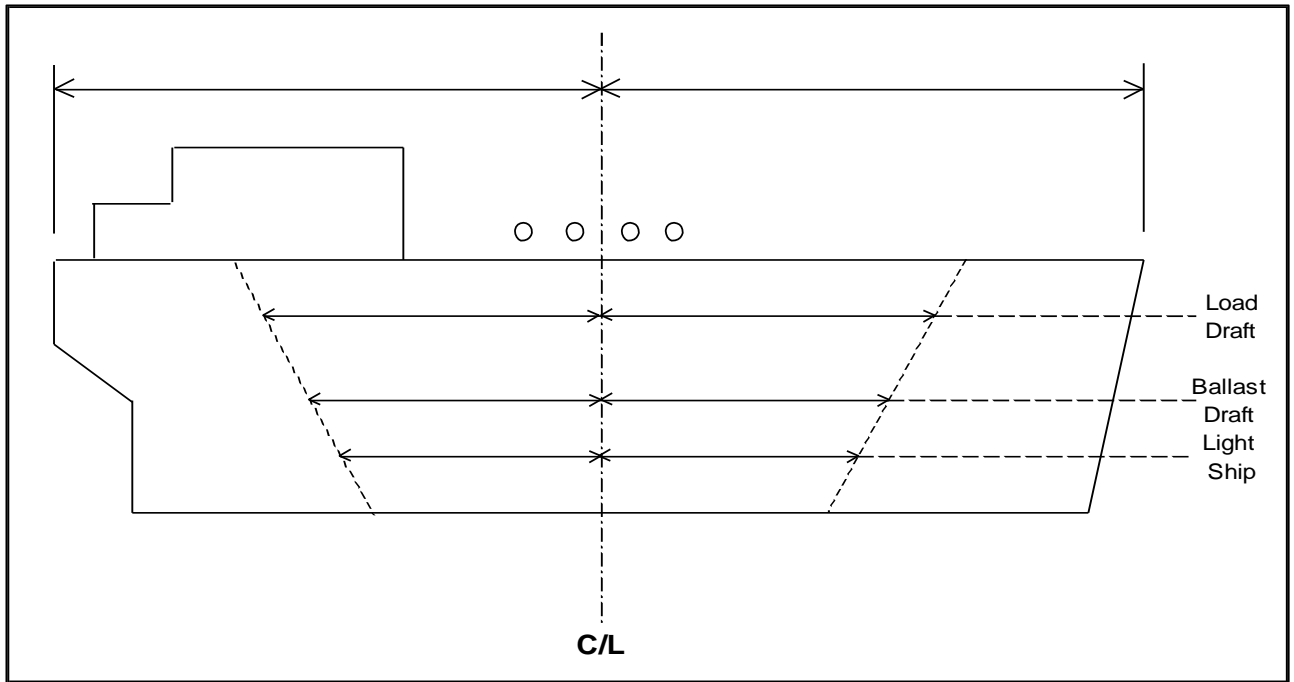
	Butane	Propane	
4.1	Cargo grade		
4.2	Density	0.6	0.5793
4.3	Cargo loadable	6925.3	6676
4.4	Bunkers - FO	937.3	937.3
4.5	Bunkers - DO	243.4	243.4
4.6	Fresh water	51.6	51.6
4.7	Stores & spares	50	50
4.8	Lub oil	85.9	85.9
4.9	Ballast	590	590
4.10	Deadweight	8741.6	8688.7
4.11	Draught - forward	6.59	6.47
	Draught - aft	7.46	7.39
	Draught - mean	7	6.91

	Butadiene	Propylene	
	Cargo grade		
	Density	0.6497	0.609
	Cargo loadable	7486.3	6999.2
	Bunkers - FO	937.3	937.3
	Bunkers - DO	243.4	243.4
	Fresh water	51.6	51.6
	Stores & spares	50	50
	Lub oil	85.9	85.9
	Ballast	745	590
	Deadweight	9654	9011.9
	Draught - forward	7.13	6.63
	Draught - aft	7.47	7.48
	Draught - mean	7.28	7.03

	Ethylene	Ammonia	
Cargo grade	0.57	0.68	
Density	6506	7760	Tonnes
Cargo loadable	937.3	937.3	Tonnes
Bunkers - FO	243.4	243.4	Tonnes
Bunkers - DO	51.6	51.6	Tonnes
Fresh water	29.5	50	Tonnes
Stores & spares	85.9	85.9	Tonnes
Lub oil	996.8	433.9	Tonnes
Ballast	9154.4	9845.5	Tonnes
Deadweight	6.95	6.55	Metres
Draught - forward	7.24	8.08	Metres
Draught - aft	7.1	7.32	Metres
Draught - mean			

	VCM	Propylene Oxide	
Cargo grade	0.974	0.8135	
Density	8492.1	8483.9	Tonnes
Cargo loadable	937.3	937.3	Tonnes
Bunkers - FO	243.4	243.4	Tonnes
Bunkers - DO	51.6	51.6	Tonnes
Fresh water	50	50	Tonnes
Stores & spares	85.9	85.9	Tonnes
Lub oil	85	90	Tonnes
Ballast	9999.8	9999.7	Tonnes
Deadweight	6.82	6.58	Metres
Draught - forward	7.99	8.19	Metres
Draught - aft	7.38	7.37	Metres
Draught - mean			

**A5 PARALLEL MID-BODY DIMENSIONS**



5.1	Light ship	47.2	Metres
5.2	Forward to mid-point manifold - light ship	18.6	Metres
5.3	Aft to mid-point manifold - light ship	28.6	Metres
5.4	Normal ballast	62.6	Metres
5.5	Forward to mid-point manifold - normal ballast	24.2	Metres
5.6	Aft to mid-point manifold - normal ballast	38.4	Metres
5.7	Loaded SDWT	82	Metres
5.8	Forward to mid-point manifold - loaded SDWT	33	Metres
5.9	Aft to mid-point manifold - loaded SDWT	49	Metres

**A6 BUNKER CAPACITIES**

Main engine  
 Auxiliary engine(s)  
 Other: \_\_\_\_\_

Grade	Capacity @ 98%
ISO - F - RMH45	966.4 M <sup>3</sup>
ISO - F - DMB	286.4 M <sup>3</sup>
Gas Oil	36.4 M <sup>3</sup>

**A7 FUEL CONSUMPTION DETAILS**

		Grade	
7.1	At sea - normal service speed	Fuel oil	Tonnes/day
		Diesel oil	Tonnes/day
		Gas oil	Tonnes/day
7.2	At sea - normal service speed - while conditioning cargo	Fuel oil	Tonnes/day
		Diesel oil	Tonnes/day
		Gas oil	Tonnes/day
7.3	In port - loading	Fuel oil	Tonnes/day
		Diesel oil	Tonnes/day
		Gas oil	Tonnes/day
7.4	In port - discharging	Fuel oil	Tonnes/day
		Diesel oil	Tonnes/day
		Gas oil	Tonnes/day
7.5	In port - idle	Fuel oil	Tonnes/day
		Diesel oil	Tonnes/day
		Gas oil	Tonnes/day

**A7 SPEED/CONSUMPTION**

Copies of the vessel's Speed and Consumption Graph for both Laden and Ballast conditions are enclosed?

NO
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**A8 MAIN ENGINE PARTICULARS**

8.1	Main engine make and type	MAN B&W 6L50MC	
		TWO STROKE SINGLE ACTING	
8.2	Number of units	1	
8.3	Maximum continuous rating (MRC) per engine	8415 @ RPM 145	
8.4	Total available power	9900	HP
8.5	Normal service power	8415	HP

**A9 AUXILIARY PLANTS**

9.1	Make and type of auxiliary generators / engines	WARTSILA VASA 6R22MD	
		6 CYL. 4 STROKE	
9.2	Number of units	3	
9.3	Maximum generator output per unit	RPM	Kilowatts
	Unit no. 1	1200	1050
	Unit no. 2	1200	1050
	Unit no. 3	1200	1050
9.4	Shaft generator		1500 Kilowatts
9.5	Total available power		3150
9.6	Emergency generator	1800	85/78
9.7	Emergency fire pump - type	CN80-80/200	
	Delivery pressure		7 Bar
	Motive power	DIESEL ENGINE	
	If electrical, - indicate power required		N/A Kilowatts
9.8	Steering gear - type	HATLAPA R4L 380	
	Indicate power required to steer the vessel with one pump unit		25 Kilowatts

**A10 POWER/SPEED INFORMATION**

10.1	Trial data	BHP	5111	
		MRC	7260	Kw
		Speed	16.5	Knots
		Draught	6.5	Metres
10.2	Normal service speed (LOADED / BALLAST)	BHP	6100 / 5680	Kw Kw
		MRC	7260	Knots
		Speed		Metres
		Draught	7.0 / 5.5	

**A11 THRUSTERS**

11.1	Make and type	N/A	
11.2	Bow thruster	(output)	N/A Kilowatts
11.3	Stern thruster	(output)	N/A Kilowatts

**A12 FRESH WATER**

12.1	Capacity of distilled tanks		21.6	Cubic metres
12.2	Capacity of domestic tanks		258.8	Cubic metres
12.3	Daily consumption	Distilled	1	Tonnes
		Domestic	9	Tonnes
12.4	Daily evaporator capacity		32	Tonnes



**A13 BALLAST CAPACITIES AND PUMPS**

Tank	Capacity (m3)	Number
13.1 Fore peak	330.5	1
13.2 Wing and or side tanks	173.0	2
13.3 Double bottom tanks	3207.2	8
13.4 Aft peak	370.6	1
13.5 Deep tank	549.2	1
13.6 Total	4630.5	

13.7 Ballast pump make and type	IRON CNBV200-200/250		
13.8 Number of pumps	2		
13.9 Total capacity	2x300		M <sup>3</sup> /Hr
13.10 Location	ENGINE ROOM		
13.11 Control location	CARGO CONTROL ROOM		

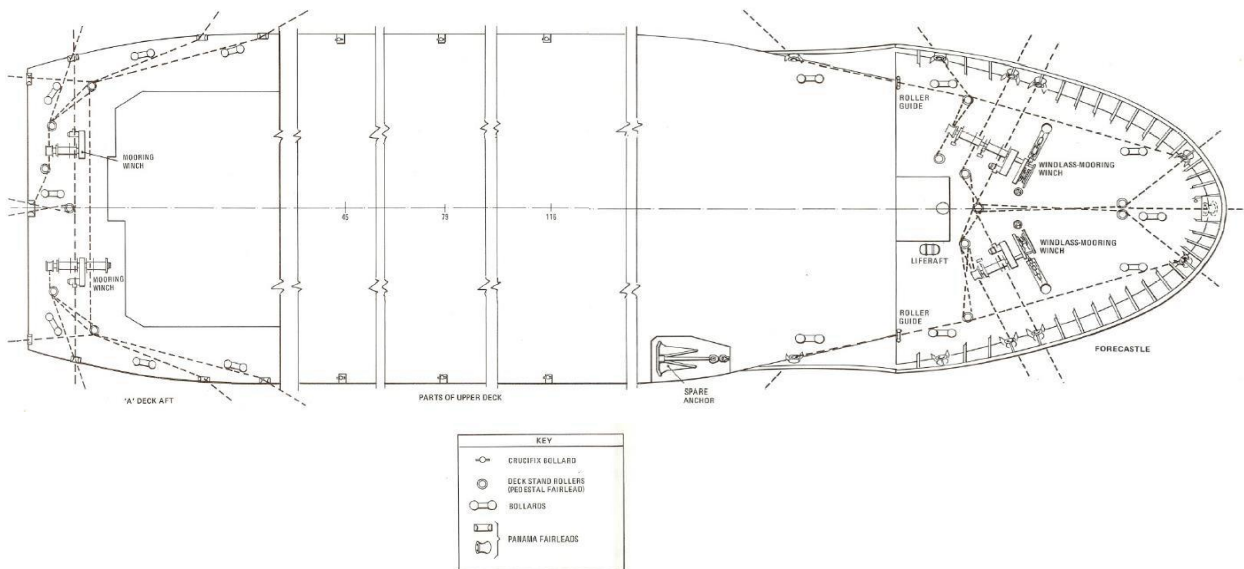
**A14 MOORING EQUIPMENT**

**14.1 ROPES**

Indicate on the diagram below the position of:  
 Winch Mounted Ropes (R)  
 Open Fairleads (O)  
 Closed Fairleads (C)

Alternatively enclosed copy of vessel's Mooring arrangements in A4 format.

YES/NO



**MOORING ROPES (ON DRUMS)**

**Mooring Ropes (On Drums) Forecastle - Number**

Diameter

Material

Length

Breaking Strength

**Mooring Ropes (On Drums) Forward Main Deck - Number**

Diameter

Material

Length

Breaking Strength

	3	
	64	mm.
	Polyester & Polypropylene compound/Estanol	
	220	Metres
	74.6	Tonnes
	N/A	
	N/A	mm.
	N/A	
	N/A	Metres
	N/A	Tonnes

<b>Mooring Ropes (On Drums) Aft Main Deck - Number</b>	N/A	
Diameter	N/A	mm.
Material	N/A	
Length	N/A	Metres
Breaking Strength	N/A	Tonnes
<b>Mooring Ropes (On Drums) Poop - Number</b>	3	
Diameter	64	mm.
Material	Polyester & Polypropylene compound/Estanol	
Length	220	Metres
Breaking Strength	74.6	Tonnes

**OTHER MOORING LINES**

<b>Mooring Ropes not on Drums - Number</b>	17	
Diameter	64	mm.
Material	Polyester & Polypropylene compound/Estanol	
Length	220	Metres
Breaking Strength	74.6	Tonnes
<b>Emergency Towing Wires / Fire Wires - Number</b>	2	
Diameter	26	mm.
Material	Galvanized wire rope	
Length	40	Metres
Breaking Strength	50.6	Tonnes

14.2

**MOORING WINCHES**

<b>Forecastle - Number</b>	2	
Single Drum or Double Drums	Single/Double drum	
Split Drums Y/N	no	
Motive Power	Electro/Hydraulic	
Heaving Power	80/40	Kn Tonnes
Brake Capacity	44	Metres/Sec.
Hauling Speed	12/48	
<b>Forward Main Deck - Number</b>	N/A	
Single Drum or Double Drums	N/A	
Split Drums Y/N	N/A	
Motive Power	N/A	Tonnes
Heaving Power	N/A	Tonnes
Brake Capacity	N/A	Metres/Min.
Hauling Speed	N/A	
<b>Aft Main Deck - Number</b>	N/A	
Single Drum or Double Drums	N/A	
Split Drums Y/N	N/A	
Motive Power	N/A	Tonnes
Heaving Power	N/A	Tonnes
Brake Capacity	N/A	Metres/Min.
Hauling Speed	N/A	
<b>Poop - Number</b>	2	
Single Drum or Double Drums	Single/Double drum	
Split Drums Y/N	no	
Motive Power	Electro/Hydraulic	Tonnes
Heaving Power	80/40	Tonnes
Brake Capacity	44	Metres/Sec.
Hauling Speed	12/48	

14.3

**ANCHORS AND WINDLASS**

Windlass motive power(e.g. steam, hydraulic)	Electro/Hydraulic	
Hauling power	157	Kn
Brake holding power	44	Tonnes
Anchor type	D-Hone-Special	
Weight	3.95	Tonnes

Is spare anchor carried	Yes	
Cable diameter	58	mm.
Number of shackles port cable	10	
Number of shackles starboard cable	10	

14.4 **TOWING ARRANGEMENTS**

Is the vessel fitted with a Towing Bracket Aft?	N/A	
If Yes, state SWL	N/A	Tonnes
Is Towing chain provided	N/A	
Dimensions of Towing wire	N/A	mm.
Diameter	N/A	
Length	N/A	Metres

14.5 **WINDAGE**

Windage on ballast draught	Front	528	Squaremetres
	End-on	450	Squaremetres
	Lateral	1710	Squaremetres

**A15 NAVIGATIONAL EQUIPMENT**

15.1	Magnetic compass		YES
15.2	Off Course Alarm - Magnetic compass		YES
15.3	Gyro compass		YES
		Number of Units	1
15.4	Off Course Alarm - Gyro compass		YES
15.5	Gyro (Bridge) Repeaters		YES
		Number of Units	3
15.6	Radar 3cm		YES
15.7	Radar 10cm		YES
15.8	Are radars gyro stabilised?		YES
15.9	Radar plotting equipment		YES
15.10	ARPA		YES
15.11	ECDIS		NO
15.12	Depth sounder with recorder		YES
15.13	Depth sounder without recorder		NO
15.14	Speed/distance indicator		YES
15.15	Doppler log		YES
15.16	Docking approach Doppler		NO
15.17	Rudder angle indicator		YES
15.18	Rudder angle indicator on Each Bridge Wing		YES
15.19	RPM indicator		YES
15.20	RPM indicator on Each Bridge Wing		YES
15.21	Controllable pitch propeller indicator		NO
15.22	Thruster(s) indicator		NO
15.23	Rate of turn indicator		NO
15.24	Radio direction finder		NO
15.25	Navtex receiver		YES
15.26	GPS		YES
15.26.1	DGPS		YES
15.27	Transit SATNAV		NO
15.28	Decca navigator		NO
15.29	Omega		NO
15.30	Loran C		NO
15.31	Weather fax		YES
15.32	Sextant(s)		YES
15.33	Signal lamp ALDIS		YES
15.34	Anemometer		YES
15.35	Engine order recorder		YES
15.35.1	VDR (Voyage Data Recorder)		YES
15.36	Course recorder		YES
15.37	Are steering motor controls and engine controls fitted on bridge wings?		YES

15.38	Is bridge equipped with a 'Dead-Man' alarm?		YES
15.39	What chart outfit coverage is provided	World-wide	YES
		Limited	NO
	If limited, - please indicate area(s) covered		N/A
15.40	Formal chart correction system in use		YES
15.41	Electronic Chart system in use		NO

**A16 COMMUNICATIONS AND ELECTRONICS**

16.2	What GMDSS areas is the vessel classed for? A1 A2 A3 A4		A3
16.3	Transponder (SART)		YES
16.4	EPIRB		YES
16.5	How many VHF radios are fitted on the bridge?		2
16.6	Is vessel fitted with VHF in the cargo control room (CCR)?		YES
16.7	Is the CCR connected to the vessel's internal communication system?		YES
16.8	How many intrinsically safe walkie talkies are provided for cargo handling?		9
16.9	Is vessel fitted with an INMARSAT satellite communications system?		YES
16.10	Does vessel carry at least three survival craft two-way radio telephones?		YES
16.11	Inmarsat satellite system		YES
	Specify system type A, B or C		B & C
16.12	2182kHz bridge auto alarm		YES
16.13	Radio telephone distress frequency watch receiver		YES
16.14	Emergency lifeboat transceiver		NO
16.15	Can vessel transmit the helicopter homing signal on 410 kHz?		NO
16.16	Full set of Radio List publications		YES



### B3 CARGO TANK CAPACITIES

#### Tank number / location

Capacity m3 (100%)  
 Capacity 98%  
 Butane capacity  
 Butane temperature  
 Propane capacity  
 Propane temperature  
 Butadiene capacity  
 Butadiene temperature  
 Propylene capacity  
 Propylene temperature  
 Vinyl Chloride Monomer capacity  
 Vinyl Chloride Monomer temperature  
 Ethylene capacity  
 Ethylene temperature  
 Propylene Oxide capacity  
 Propylene Oxide temperature  
 Ammonia capacity  
 Ammonia temperature

1	
1276.89	m3
1251.35	m3
751.90	Tonnes
-0.5	Deg. C
725.00	Tonnes
-42.0	Deg. C
812.60	Tonnes
-4.5	Deg. C
760.00	Tonnes
-48.0	Deg. C
1212.80	Tonnes
-13.0	Deg. C
702.00	Tonnes
-103.8	Deg. C
1028.00	Tonnes
+33.0	Deg. C
838.00	Tonnes
-33.8	Deg. C

#### Tank number / location

Capacity m3 (100%)  
 Capacity 98%  
 Butane capacity  
 Butane temperature  
 Propane capacity  
 Propane temperature  
 Butadiene capacity  
 Butadiene temperature  
 Propylene capacity  
 Propylene temperature  
 Vinyl Chloride Monomer capacity  
 Vinyl Chloride Monomer temperature  
 Ethylene capacity  
 Ethylene temperature  
 Propylene Oxide capacity  
 Propylene Oxide temperature  
 Ammonia capacity  
 Ammonia temperature

2	
1935.20	m3
1896.50	m3
1139.90	Tonnes
-0.5	Deg. C
1098.90	Tonnes
-42.0	Deg. C
1232.30	Tonnes
-4.5	Deg. C
1151.90	Tonnes
-48.0	Deg. C
1828.10	Tonnes
-13.0	Deg. C
1073.00	Tonnes
-103.8	Deg. C
1361.6	Tonnes
+33.0	Deg. C
1280.00	Tonnes
-33.8	Deg. C

#### Tank number / location

Capacity m3 (100%)  
 Capacity 98%  
 Butane capacity  
 Butane temperature  
 Propane capacity  
 Propane temperature  
 Butadiene capacity  
 Butadiene temperature  
 Propylene capacity  
 Propylene temperature  
 Vinyl Chloride Monomer capacity  
 Vinyl Chloride Monomer temperature  
 Ethylene capacity  
 Ethylene temperature  
 Propylene Oxide capacity  
 Propylene Oxide temperature  
 Ammonia capacity  
 Ammonia temperature

3	
1935.33	m3
1896.62	m3
1139.90	Tonnes
-0.5	Deg. C
1098.90	Tonnes
-42.0	Deg. C
1232.30	Tonnes
-4.5	Deg. C
1152.10	Tonnes
-48.0	Deg. C
1829.70	Tonnes
-13	Deg. C
1073.00	Tonnes
-103.8	Deg. C
1362.6	Tonnes
+33.0	Deg. C
1281.00	Tonnes
-33.8	Deg. C

**Tank number / location**

	4	
Capacity m3 (100%)	1368.49	m3
Capacity 98%	1341.12	m3
Butane capacity	806.00	Tonnes
Butane temperature	-0.5	Deg. C
Propane capacity	776.90	Tonnes
Propane temperature	-42.0	Deg. C
Butadiene capacity	871.40	Tonnes
Butadiene temperature	-4.5	Deg. C
Propylene capacity	814.60	Tonnes
Propylene temperature	-48.0	Deg. C
Vinyl Chloride Monomer capacity	Empty	Tonnes
Vinyl Chloride Monomer temperature	N/A	Deg. C
Ethylene capacity	754.00	Tonnes
Ethylene temperature	-103.8	Deg. C
Propylene Oxide capacity	1010.2	Tonnes
Propylene Oxide temperature	+33.0	Deg. C
Ammonia capacity	899.00	Tonnes
Ammonia temperature	-33.8	Deg. C

**Tank number / location**

	5	
Capacity m3 (100%)	1370.13	m3
Capacity 98%	1342.72	m3
Butane capacity	807.00	Tonnes
Butane temperature	-0.5	Deg. C
Propane capacity	777.90	Tonnes
Propane temperature	-42.0	Deg. C
Butadiene capacity	872.40	Tonnes
Butadiene temperature	-4.5	Deg. C
Propylene capacity	815.60	Tonnes
Propylene temperature	-48.0	Deg. C
Vinyl Chloride Monomer capacity	Empty	Tonnes
Vinyl Chloride Monomer temperature	N/A	Deg. C
Ethylene capacity	755.00	Tonnes
Ethylene temperature	-103.8	Deg. C
Propylene Oxide capacity	1011.30	Tonnes
Propylene Oxide temperature	+33.0	Deg. C
Ammonia capacity	900.00	Tonnes
Ammonia temperature	-33.8	Deg. C

**Tank number / location**

	6	
Capacity m3 (100%)	1934.92	m3
Capacity 98%	1896.22	m3
Butane capacity	1139.60	Tonnes
Butane temperature	-0.5	Deg. C
Propane capacity	1098.50	Tonnes
Propane temperature	-42.0	Deg. C
Butadiene capacity	1232.00	Tonnes
Butadiene temperature	-4.5	Deg. C
Propylene capacity	1151.80	Tonnes
Propylene temperature	-48.0	Deg. C
Vinyl Chloride Monomer capacity	1810.60	Tonnes
Vinyl Chloride Monomer temperature	-13.0	Deg. C
Ethylene capacity	1073.00	Tonnes
Ethylene temperature	-103.8	Deg. C
Propylene Oxide capacity	1354.6	Tonnes
Propylene Oxide temperature	+33.0	Deg. C
Ammonia capacity	1280.00	Tonnes
Ammonia temperature	-33.8	Deg. C

**Tank number / location**

	<b>7</b>	
Capacity m3 (100%)	1937.27	m3
Capacity 98%	1898.52	m3
Butane capacity	1141.00	Tonnes
Butane temperature	-0.5	Deg. C
Propane capacity	1099.90	Tonnes
Propane temperature	-42.0	Deg. C
Butadiene capacity	1233.50	Tonnes
Butadiene temperature	-4.5	Deg. C
Propylene capacity	1153.20	Tonnes
Propylene temperature	-48.0	Deg. C
Vinyl Chloride Monomer capacity	1810.90	Tonnes
Vinyl Chloride Monomer temperature	-13.0	Deg. C
Ethylene capacity	1076.00	Tonnes
Ethylene temperature	-103.8	Deg. C
Propylene Oxide capacity	1355.6	Tonnes
Propylene Oxide temperature	+33.0	Deg. C
Ammonia capacity	1282.00	Tonnes
Ammonia temperature	-33.8	Deg. C

**Tank number / location**

Capacity m3 (100%)		m3
Capacity 98%		m3
Butane capacity		Tonnes
Butane temperature		Deg. C
Propane capacity		Tonnes
Propane temperature		Deg. C
Butadiene capacity		Tonnes
Butadiene temperature		Deg. C
Propylene capacity		Tonnes
Propylene temperature		Deg. C
Vinyl Chloride Monomer capacity		Tonnes
Vinyl Chloride Monomer temperature		Deg. C
Ethylene capacity		Tonnes
Ethylene temperature		Deg. C
Propylene Oxide capacity		Tonnes
Propylene Oxide temperature		Deg. C
Ammonia capacity		Tonnes
Ammonia temperature		Deg. C

Total Capacity of all cargo tanks (100%)	11758.23	m3
Total Capacity of all cargo tanks (98%)	11523.06	m3
Total Capacity of Butane	6925.30	Tonnes
Total Capacity of Propane	6676.00	Tonnes
Total Capacity of Butadiene	7486.30	Tonnes
Total Capacity of Propylene	6999.80	Tonnes
Total Capacity of Vinyl Chloride Monomer	8492.10	Tonnes
Total Capacity of Ethylene	6506.00	Tonnes
Total Capacity of Propylene Oxide	8483.90	Tonnes
Total Capacity of Ammonia	7760.00	Tonnes

**B16 DECK TANK CAPACITIES**

Are Deck pressure tank(s) fitted?	Yes	
Material of tank(s)	5% Ni-Steel 12Ni19	
Maximum allowable relief valve setting	18.0	Bar gauge



**Deck tank number 1 - capacity (100%)**

Capacity 98%  
 Propane Capacity  
 Butane Capacity  
 Propylene capacity  
 Ethylene capacity  
 Ammonia Capacity

106.12	m3
104.00	m3
60.55	Tonnes
62.45	Tonnes
63.38	Tonnes
59.07	Tonnes
70.72	Tonnes

**Deck tank number 2 - capacity (100%)**

Capacity 98%  
 Propane Capacity  
 Butane Capacity  
 Propylene capacity  
 Ethylene capacity  
 Ammonia Capacity

	m3
	m3
	Tonnes
	Tonnes
	Tonnes
	Tonnes
	Tonnes

**B4 LOADING RATES****4.1 From Refrigerated Storage (Fully Refrigerated at Vessel's Manifold)**

Butane - with vapour return  
 Butane - without vapour return  
 Propane - with vapour return  
 Propane - without vapour return  
 Butadiene - with vapour return  
 Butadiene - without vapour return  
 Propylene - with vapour return  
 Propylene - without vapour return  
 Ethylene - with vapour return  
 Ethylene - without vapour return  
 Ammonia - with vapour return  
 Ammonia - without vapour return  
 Vinyl Chloride Monomer - with vapour return  
 Vinyl Chloride Monomer - without vapour return  
 Propylene Oxide - with vapour return  
 Propylene Oxide - without vapour return

630	Tonnes/Hr.
630	Tonnes/Hr.
609	Tonnes/Hr.
609	Tonnes/Hr.
670	Tonnes/Hr.
670	Tonnes/Hr.
640	Tonnes/Hr.
640	Tonnes/Hr.
600	Tonnes/Hr.
600	Tonnes/Hr.
714	Tonnes/Hr.
714	Tonnes/Hr.
976	Tonnes/Hr.
976	Tonnes/Hr.
882	Tonnes/Hr.
882	Tonnes/Hr.

**4.8 From Pressure Storage**

**Butane** 0 deg C - with vapour return  
 0 deg C - without vapour return  
 10 deg C - with vapour return  
 10 deg C - without vapour return  
 20 deg C - with vapour return  
 20 deg C - without vapour return

630	Tonnes/Hr.
630	Tonnes/Hr.
630	Tonnes/Hr.
550	Tonnes/Hr.
630	Tonnes/Hr.
500	Tonnes/Hr.

**Propane** minus 30 deg C - with vapour return  
 Minus 30 deg C - without vapour return  
 Minus 20 deg C - with vapour return  
 Minus 20 deg C - without vapour return  
 Minus 10 deg C - with vapour return  
 Minus 10 deg C - without vapour return  
 0 deg C - with vapour return  
 0 deg C - without vapour return  
 10 deg C - with vapour return  
 10 deg C - without vapour return  
 20 deg C - with vapour return  
 20 deg C - without vapour return

609	Tonnes/Hr.
609	Tonnes/Hr.
609	Tonnes/Hr.
609	Tonnes/Hr.
609	Tonnes/Hr.
609	Tonnes/Hr.
580	Tonnes/Hr.
580	Tonnes/Hr.
150	Tonnes/Hr.
100	Tonnes/Hr.
75	Tonnes/Hr.
65	Tonnes/Hr.

<b>Butadiene</b> 0 deg C - with vapour return	670	Tonnes/Hr.
0 deg C - without vapour return	670	Tonnes/Hr.
10 deg C - with vapour return	600	Tonnes/Hr.
10 deg C - without vapour return	600	Tonnes/Hr.
20 deg C - with vapour return	500	Tonnes/Hr.
20 deg C - without vapour return	500	Tonnes/Hr.

<b>Propylene</b> minus 30 deg C - with vapour return	638	Tonnes/Hr.
Minus 30 deg C - without vapour return	638	Tonnes/Hr.
Minus 20 deg C - with vapour return	580	Tonnes/Hr.
Minus 20 deg C - without vapour return	510	Tonnes/Hr.
Minus 10 deg C - with vapour return	500	Tonnes/Hr.
Minus 10 deg C - without vapour return	370	Tonnes/Hr.
0 deg C - with vapour return	350	Tonnes/Hr.
0 deg C - without vapour return	120	Tonnes/Hr.
10 deg C - with vapour return	150	Tonnes/Hr.
10 deg C - without vapour return	66	Tonnes/Hr.
20 deg C - with vapour return	42	Tonnes/Hr.
20 deg C - without vapour return	30	Tonnes/Hr.

<b>Ethylene</b> minus 100 deg C - with vapour return	599	Tonnes/Hr.
Minus 100 deg C - without vapour return	599	Tonnes/Hr.
Minus 95 deg C - with vapour return	500	Tonnes/Hr.
Minus 95 deg C - without vapour return	270	Tonnes/Hr.
Minus 90 deg C - with vapour return	350	Tonnes/Hr.
Minus 90 deg C - without vapour return	45	Tonnes/Hr.
Minus 85 deg C - with vapour return	150	Tonnes/Hr.
Minus 85 deg C - without vapour return	35	Tonnes/Hr.

<b>Ammonia</b> minus 20 deg C - with vapour return	714	Tonnes/Hr.
Minus 20 deg C - without vapour return	714	Tonnes/Hr.
Minus 10 deg C - with vapour return	714	Tonnes/Hr.
Minus 10 deg C - without vapour return	714	Tonnes/Hr.
0 deg C - with vapour return	420	Tonnes/Hr.
0 deg C - without vapour return	388	Tonnes/Hr.

<b>VCM</b> minus 10 deg C - with vapour return	1020	Tonnes/Hr.
Minus 10 deg C - without vapour return	1020	Tonnes/Hr.
0 deg C - with vapour return	850	Tonnes/Hr.
0 deg C - without vapour return	750	Tonnes/Hr.
10 deg C - with vapour return	700	Tonnes/Hr.
10 deg C - without vapour return	600	Tonnes/Hr.
20 deg C - with vapour return	500	Tonnes/Hr.
20 deg C - without vapour return	400	Tonnes/Hr.

4.14

**Special remarks:**

Rate with vapour return line may vary and depend on shore vapour return capacity.

**B5 DISCHARGING - GENERAL**

**Cargo Pumps**

5.1	Type of Pumps	Svanehoj NH 125/100-4-K	
5.2	Number of pumps per tank	1	
5.3	Rate per Pump	160/100	m3/hr
5.4	At Delivery Head mlc	120/50	mlc
5.5	Maximum density	2.1	Kg/m3

- Booster Pump**
- 5.6 Type of Booster Pumps
- 5.7 Number of pumps per tank
- 5.8 Rate per Pump
- 5.9 At Delivery Head m/c
- 5.10 Maximum density

Svanehoj NIP 100-XL	
2	
260/90	m3/hr
120/50	m/c
2.1	Kg/m3

**Copies of pumping curves for cargo and booster pumps are enclosed?**

Yes
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**B6 DISCHARGE PERFORMANCE**

Full Cargo Discharge Times (using all cargo pumps)

**Fully Refrigerated**

- Manifold Back Press 1 kP/cm2, with vapour return
- Manifold Back Press 1 kP/cm2, without vapour return
- Manifold Back Press 5 kP/cm2, with vapour return
- Manifold Back Press 5 kP/cm2, without vapour return
- Manifold Back Press 10 kP/cm2, with vapour return
- Manifold Back Press 10 kP/cm2, without vapour return

12	Hours
12	Hours
26	Hours
26	Hours
45/22*	Hours
45/22*	Hours

\* Using Booster in serie with Deepwell pumps max 260 m3/hour.

**Pressurised**

- Manifold Back Press 1 kP/cm2, with vapour return
- Manifold Back Press 1 kP/cm2, without vapour return
- Manifold Back Press 5 kP/cm2, with vapour return
- Manifold Back Press 5 kP/cm2, without vapour return
- Manifold Back Press 10 kP/cm2, with vapour return
- Manifold Back Press 10 kP/cm2, without vapour return

12	Hours
12	Hours
26	Hours
26	Hours
45/22*	Hours
45/22*	Hours

\* One or two Booster pumps in serie with Deepwell pumps.

**B7 UNPUMPABLES**

- 7.1 Tank number / location
- Tank number / location
- Tank number / location
- Tank number / location
- Tank number / location
- Tank number / location
- Tank number / location
- Tank number / location
- Total

1	0.025	m3
2	0.02	m3
3	0.03	m3
4	0.058	m3
5	0.06	m3
6	0.048	m3
7	0.05	m3
		m3
	0.291	m3

**B8 VAPORISING UNPUMPABLES**

- 8.1 Process used
- Time to vaporise liquid unpumpables remaining after full cargo discharge of:
- 8.2 Butane
- 8.3 Propane
- 8.4 Butadiene
- 8.5 Propylene
- 8.6 Ethylene
- 8.7 Ammonia
- 8.8 Vinyl Chloride Monomer
- 8.9 Propylene Oxide

Hot Gas
---------

50	Hours
20	Hours
50	Hours
20	Hours
16	Hours
20	Hours
60	Hours
	Hours

**B9 RELIQUEFACTION PLANT**

- 9.1 Plant Design Conditions - air temperature
- 9.3 Plant Design Conditions - sea temperature

45	Deg. C
32	Deg. C

9.4	<b>Plant Type</b> Is the plant single stage/direct? ( for propane and propylene )	YES
9.5	Is the plant two stage/direct?	YES
9.6	Is the plant simple cascade?	YES
9.7	Coolant type	R-22

<b>Compressors</b>		
9.8	Compressor type	Receiprocating / Screw
9.8.1	Compressor makers name	SULZER/MYCOM
9.9	Number of compressors	3
9.10	Capacity per unit	222 m3/hr
9.11	Are they Oil Free?	YES

**B11 CARGO TEMPERATURE LOWERING CAPABILITY (AT SEA WITH SEA TEMPERATURE +15C)**

<b>Time taken to lower the temperature of:</b>		
11.1	<b>Propane</b> from -5 deg C to - 42 deg C	282 Hours
11.2	<b>Propane</b> from -20 deg C to - 42 deg C	217 Hours
11.3	<b>Propane</b> from -38 deg C to - 42deg C	55 Hours
11.4	<b>Propane</b> from +20 deg C to -0.50 deg C	120 Hours
11.5	<b>Propane</b> from 0 deg C to -20 deg C	80 Hours
11.6	<b>Butane</b> from +20 deg C to-0.5 deg C	150 Hours
11.7	<b>Butane</b> from +10 deg C to-0.5 deg C	80 Hours
11.8	<b>Butane</b> from +10 deg C to -5 deg C	100 Hours
11.9	<b>Butadiene</b> From +20 deg C to -5 deg C	170 Hours
11.10	<b>Propylene</b> From -20 deg C to -47 deg C	300 Hours
11.11	<b>Ethylene</b> From -99 deg C to -103 deg C	125 Hours
11.12	<b>Ammonia</b> From -16 deg C to -33 deg C	236 Hours
11.13	<b>Vinyl Chloride Monomer</b> From -5 deg C to -14 deg C	180 Hours

**B12 INERT GAS AND NITROGEN**

<b>Main IG Plant</b>		
12.1	Type of system	"Smit Owens" Gin 1200-012 BW
12.2	Capacity	1000 m3/hr
12.3	Type of fuel used	MAR. GAS OIL
12.4	Composition of IG - oxygen	0.5 %
	Composition of IG - CO2	14 %
	Composition of IG - Nox	100 ppm
	Composition of IG - N2	85 %
12.5	Lowest dewpoint achievable	-50 Deg. C
12.6	Used for	Gas-freeing and Inerting

<b>Auxiliary IG or Nitrogen plant</b>		
12.7	Type of System	N/A
12.8	Capacity	m3/hr
12.9	Composition of IG - oxygen	%
	Composition of IG - CO2	%
	Composition of IG - Nox	%
	Composition of IG - N2	%

- 12.10 Lowest dewpoint achievable  
 12.11 Used for

		Deg. C

**Nitrogen** **Note: 45 bottles N2 for padding gas**

- 12.12 Liquid storage capacity  
 12.13 Daily boil-off loss  
 12.14 Maximum supply pressure  
 12.15 Supply capacity  
 12.16 Used for

	45 x 50	liters
	nil	m3
	0.15 and 5.0	Kp/Cu. Cm
	200	bar
	N2 padding	

**B13 CARGO TANK INERTING/DE-INERTING**

- 13.1 Time taken to inert from fresh air to under 5% O2 at minus 25 degree C?  
 13.2 Time taken to inert from cargo vapour to fully inert at minus 25 degrees dewpoint when IG density is **less** than product?  
 Time taken to inert from cargo vapour to fully inert at minus 25 degrees dewpoint when IG density is **greater** than product?

24	Hours
24	Hours
36	Hours

**B14 GAS FREEING TO FRESH AIR**

- 14.1 Plant used  
 14.2 Time taken from fully inert condition to fully breathable fresh air?

Deck blower	
20	Hours

**B15 CHANGING CARGO GRADES**

Indicate number of hours needed to change grades from the removal of pumpables to tanks fit to load and the estimated quantity of Inert Gas and or Nitrogen consumed during the operation:

	Hours	Inert Gas	Nitrogen
From Propane to Butane	Direct Loading	N/A	N/A
From Propane to Butadiene	116	27000	35000
From Propane to Ethylene	135	27000	35000
From Propane to Ammonia	120	27000	12000
From Propane to Vinyl Chloride Monomer	120	27000	41000
From Propane to Propylene Oxide	120	27000	41000
From Butane to Propane	Direct Loading	N/A	N/A
From Butane to Butadiene	120	24000	40000
From Butane to Ethylene	135	24000	40000
From Butane to Ammonia	120	24000	12000
From Butane to Vinyl Chloride Monomer	120	24000	41000
From Butane to Propylene Oxide	110	24000	41000
From Butadiene to Propane	110	24000	N/A
From Butadiene to Butane	Direct Loading	N/A	N/A
From Butadiene to Ethylene	138	24000	35000
From Butadiene to Ammonia	110	24000	12000
From Butadiene to Vinyl Chloride Monomer	120	24000	41000
From Butadiene to Propylene Oxide	120	24000	41000
From Ethylene to Propane	36 for heating	24000	N/A
From Ethylene to Butane	60 for heating	N/A	N/A
From Ethylene to Butadiene	155	24000	35000
From Ethylene to Ammonia	145	24000	12000
From Ethylene to Vinyl Chloride Monomer	165	24000	41000
From Ethylene to Propylene Oxide	150	24000	41000
From Ammonia to Propane	110	N/A	27000
From Ammonia to Butane	110	N/A	27000
From Ammonia to Butadiene	120	N/A	35000
From Ammonia to Ethylene	150	N/A	35000
From Ammonia to Vinyl Chloride Monomer	110	N/A	41000
From Ammonia to Propylene Oxide	Not Permitted	N/A	N/A

From Vinyl Chloride Monomer to Propane	120	27000	27000
From Vinyl Chloride Monomer to Butane	116	27000	27000
From Vinyl Chloride Monomer to Butadiene	116	27000	35000
From Vinyl Chloride Monomer to Ammonia	120	27000	12000
From Vinyl Chloride Monomer to Ethylene	135	27000	35000
From Vinyl Chloride Monomer to Propylene Oxide	116	27000	41000
From Propylene Oxide to Propane	120		27000
From Propylene Oxide to Butane	116		27000
From Propylene Oxide to Butadiene	116		27000
From Propylene Oxide to Ethylene	135		35000
From Propylene Oxide to Vinyl Chloride Monomer	116		41000
From Propylene Oxide to Ammonia	72	N/A	12000

Cargo Grade Change Operations that cannot be carried out at sea:

All operation can be carried out at sea but have to load small parcel for gassing up/ coolong down purpose.

### B17 PRE-LOADING COOLDOWN

The following questions ask the Time and Quantity of coolant required to cooldown cargo tanks from ambient temperature to fully gassed up state sufficient to allow loading to commence.

17.1	<b>Propane</b> - Quantity of Coolant Required	25	Tonnes
	<b>Propane</b> - Time required to cooldown cargo tanks from ambient temperature with vapour return line	8	Hours
	<b>Propane</b> - Time required to cooldown cargo tanks from ambient temperature without vapour return line	10	Hours
17.2	<b>Butane</b> - Quantity of Coolant Required	20	Tonnes
	<b>Butane</b> - Time required to cooldown cargo tanks from ambient temperature with vapour return line	2	Hours
	<b>Butane</b> - Time required to cooldown cargo tanks from ambient temperature without vapour return line	2	Hrs.
17.3	<b>Butadiene</b> - Quantity of Coolant Required	20	Tonnes
	<b>Butadiene</b> - Time required to cooldown cargo tanks from ambient temperature with vapour return line	2	Hours
	<b>Butadiene</b> - Time required to cooldown cargo tanks from ambient temperature without vapour return line	2	Hours
17.4	<b>Propylene</b> - Quantity of Coolant Required	25	Tonnes
	<b>Propylene</b> - Time required to cooldown cargo tanks from ambient temperature without vapour return line	8	Hours
	<b>Propylene</b> - Time required to cooldown cargo tanks from ambient temperature with vapour return line	10	Hours
17.5	<b>Ethylene</b> - Quantity of Coolant Required	35	Tonnes
	<b>Ethylene</b> - Time required to cooldown cargo tanks from ambient temperature with vapour return line	12	Hours
	<b>Ethylene</b> - Time required to cooldown cargo tanks from ambient temperature without vapour return line	20	Hrs.
17.6	<b>Ammonia</b> - Quantity of Coolant Required	30	Tonnes
	<b>Ammonia</b> - Time required to cooldown cargo tanks from ambient temperature with vapour return line	8	Hours
	<b>Ammonia</b> - Time required to cooldown cargo tanks from ambient temperature without vapour return line	10	Hours

17.7	<b>VCM - Quantity of Coolant Required</b>	30	Tonnes
	<b>VCM - Time required to cooldown cargo tanks from ambient temperature without vapour return line</b>	4	Hours
	<b>VCM - Time required to cooldown cargo tanks from ambient temperature with vapour return line</b>	5	Hours

**B18 VAPORISER**

18.1	Type of Vaporiser	Ethanol Indirect Heaters	
18.2	Number of Vaporisers fitted	7	
18.3	Capacity per unit - <b>Propane</b>	1300 each	m3/hr Vap
18.4	Liquid Supply Rate	1.8	m3/hr Liq
18.5	Delivery Temperature	0	Deg. C
18.6	Capacity per unit - <b>Ammonia</b>	0	m3/hr Vap
18.7	Liquid Supply Rate	--	m3/hr Liq
18.8	Delivery Temperature	--	Deg. C
18.9	Capacity per unit - <b>Nitrogen</b>	--	m3/hr Vap
18.10	Liquid Supply Rate	--	m3/hr Liq
18.11	Delivery Temperature	--	Deg. C

**B19 BLOWER**

19.1	Type of Blower		
19.2	Rated Capacity		m3/hr
19.3	Delivery Pressure		Bar

**B20 CARGO RE-HEATER**

20.1	Type of Re-Heater	MPHE Indirect Heater	
20.2	Number Fitted	2	
20.3	Heating Medium	Sea water	
20.4	Discharge rates with sea water at 15 degrees C to raise product temperature of <b>Propane</b> from -42 degrees C to -5 degrees C	260	m3/hr
20.5	Discharge rates with sea water at 15 degrees C to raise product temperature of <b>Ammonia</b> from -33 degrees C to 0 degrees C	260	m3/hr

**B21 HYDRATE CONTROL**

21.1	Type of Depressant?	Ethanol	
21.1.1	Freezing point temperature?	-114	Deg. C
21.2	Quantity of Depressant Carried?	1000	Ltr.
21.3	Means of injection?	Hand Pump	
	Name any other system used	nil	

**B22 CARGO MEASUREMENT**

**Level Gauges**

22.1	Are level gauges local or remote?	Local / Remote	
22.2	Name of manufacture	Enraf Nonius, Delft	
22.3	Type	UAS 806 MHN/HI	
22.4	Rated Accuracy	5	mm.
22.5	Certifying Authority	DNV	

**Temperature Gauges**

22.6	Name of manufacture	Degussa	
22.7	Type	T 33/160 TN	
22.8	Rated Accuracy	0.6	Deg. C
22.9	Certifying Authority	DNV	

<b>Pressure Gauges</b>		
22.10	Name of manufacture	Pittow
22.11	Type	D6/160
22.12	Rated Accuracy	0.05
22.13	Certifying Authority	DNV

bar

<b>Oxygen Analyser</b>		
22.14	Name of manufacture	Riken Keiki
22.15	Type	OX 227
22.15.1	What is the lowest level measurable?	0.0

%

<b>Fixed Gas Analyser</b>		
22.16	Name of manufacture	MOSS
22.17	Type	LFG.7-20-870.1 GP

<b>Cargo Tank Calibrations</b>		
22.18	Are Cargo tank calibration tables available?	Yes
22.19	Name of Measuring Company	Cerlab
22.20	Name of Certifying Authority	French Ministry of Industry & Cerlab
22.21	Calibration calculated to cm?	every 1cm
22.21.1	Calibration calculated to 1/2 cm?	N/A
22.22	Tables established to cm?	every 1cm
22.22.1	Tables established to mm?	N/A
22.22.2	Tables established to "other" (state what other)	N/A
22.23	Are trim and list corrections available?	Yes
22.24	Are temperature corrections available?	Yes
22.25	Are float gauge tape corrections available?	Yes

**B23 CARGO SAMPLING**

23.1	May cargo samples be obtained from the levels; top, middle and bottom in all cargo tanks?	YES
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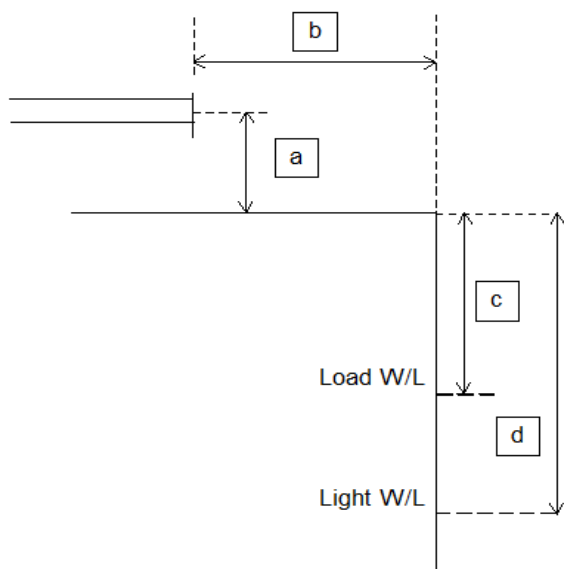
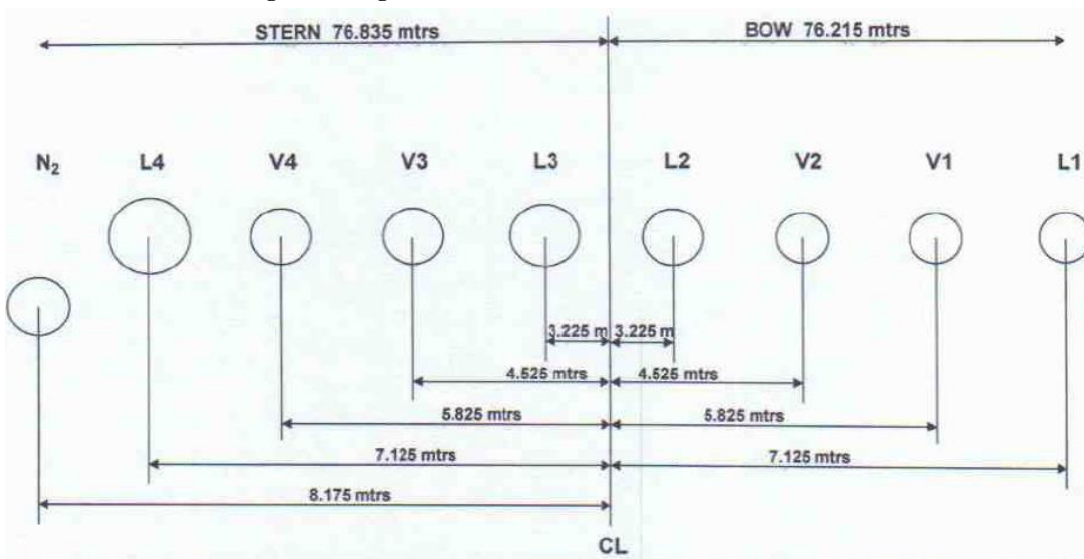
If no, - the arrangement for sampling is limited to:


23.2	Can samples be drawn from tank vapour outlet?	YES
	Can samples be drawn from manifold liquid line?	YES
	Can samples be drawn from manifold vapour line?	YES
	Can samples be drawn from pump discharge line?	YES
23.3	State sample connection type	Male / Female
	Size of sample connection	1/2 " mm.



**B24 CARGO MANIFOLD**

**Manifold arrangement diagram**



a	Ht above upper most continuous deck
b	Distance from ship's side
c	Ht above load W/L
d	Ht above light W/L

**Liquid line L1**

- Distance from bow
- Distance from stern
- Distance from manifold centerline
- Size and rating
- Type
- Height above uppermost continuous deck
- Distance from ship's side

69.09	Metres
83.96	Metres
7.125	Metres
4" ASA300	
Raised	
1.85	Metres
3.00	Metres

Height above load waterline	6.63	Metres
Height above light waterline	9.23	Metres
<b>Vapour line V1</b>		
Distance from bow	70.39	Metres
Distance from stern	81.36	Metres
Distance from manifold centerline	5.825	Metres
Size and rating	3" ASA300	
Type	Raised	
Height above uppermost continuous deck	1.85	Metres
Distance from ship's side	3.00	Metres
Height above load waterline	6.63	Metres
Height above light waterline	9.23	Metres
<b>Vapour line V2</b>		
Distance from bow	71.690	Metres
Distance from stern	4.525	Metres
Distance from manifold centerline	4.525	Metres
Size and rating	3" ASA300	
Type	Raised	
Height above uppermost continuous deck	1.85	Metres
Distance from ship's side	3.00	Metres
Height above load waterline	6.63	Metres
Height above light waterline	9.23	Metres
<b>Liquid line L2</b>		
Distance from bow	72.99	Metres
Distance from stern	80.06	Metres
Distance from manifold centerline	3.225	Metres
Size and rating	4" ASA300	
Type	Raised	
Height above uppermost continuous deck	1.85	Metres
Distance from ship's side	3.00	Metres
Height above load waterline	6.63	Metres
Height above light waterline	9.23	Metres
<b>Liquid line L3</b>		
Distance from bow	79.44	Metres
Distance from stern	73.61	Metres
Distance from manifold centerline	3.225	Metres
Size and rating	6" ASA300	
Type	Raised	
Height above uppermost continuous deck	1.85	Metres
Distance from ship's side	3.00	Metres
Height above load waterline	6.63	Metres
Height above light waterline	9.23	Metres
<b>Vapour line V3</b>		
Distance from bow	80.74	Metres
Distance from stern	72.31	Metres
Distance from manifold centerline	4.525	Metres
Size and rating	6" ASA300	
Type	Raised	
Height above uppermost continuous deck	1.85	Metres
Distance from ship's side	3.00	Metres
Height above load waterline	6.63	Metres
Height above light waterline	9.23	Metres
<b>Vapour line V4</b>		
Distance from bow	82.04	Metres
Distance from stern	71.01	Metres
Distance from manifold centerline	5.825	Metres
Size and rating	6" ASA300	
Type	Raised	
Height above uppermost continuous deck	1.85	Metres
Distance from ship's side	3.00	Metres
Height above load waterline	6.63	Metres
Height above light waterline	9.23	Metres
<b>Liquid line L4</b>		
Distance from bow	83.34	Metres
Distance from stern	69.71	Metres
Distance from manifold centerline	7.125	Metres

Size and rating	8" ASA300	
Type	Raised	
Height above uppermost continuous deck	1.85	Metres
Distance from ship's side	3.00	Metres
Height above load waterline	6.63	Metres
Height above light waterline	9.23	Metres
<b>Nitrogen manifold</b>		
Distance from bow	84.39	Metres
Distance from stern	68.66	Metres
Distance from manifold centerline	8.175	Metres
Size	DN 100	
Height above uppermost continuous deck	0.99	Metres
Distance from ship's side	1.80	Metres

**Manifold Arrangement Located on Top of Compressor**

Distance from rail of compressor room/platform to presentation flanges	N/A	mm.
Distance from deck of compressor room/platform/try to centre of manifold		mm.

**B25 CARGO MANIFOLD REDUCERS**

25.1	Number of ANSI Class 300 reducers carried onboard	4	
	Flange rating of ANSI Class 300 reducer		bar
	Size of ANSI Class 300 reducer	various	mm.
	Length of ANSI Class 300 reducer	various	mm.
25.2	Number of ANSI Class 300 to Class 150 reducers carried onboard	10	
	Flange rating of ANSI Class 300 to Class 150 reducer		bar
	Size of ANSI Class 300 to Class 150 reducer	various	mm.
	Length of ANSI Class 300 to Class 150 reducer	various	mm.
25.3	Number of ANSI Class 150 reducers carried onboard	N/A	
	Flange rating of Class 150 reducer	N/A	bar
	Size of ANSI Class 150 reducer	N/A	mm.
	Length of ANSI Class 150 reducer	N/A	mm.

**B26 CONNECTIONS TO SHORE FOR ESD AND COMMUNICATIONS SYSTEMS**

26.1	Is ESD connection to shore available?		YES	
	If yes, is the system pneumatic?		NO	
	If yes, is the system electrical?		YES	
	If yes, is the system fiber optic?		NO	
26.2	What is the type of connection used?		SEPTO	
26.3	Are ESD hoses or cables available on board?		YES	
	If yes, length of pneumatic		N/A	mm.
	If yes, length of electrical		50	Meters
	If yes, length of fiber optic		N/A	mm.
26.4	Is there a connection available for a telephone line?		NO	
26.5	Are ESD connections available on both sides of vessel?		YES	
	Are ESD Fusible plugs fitted at tank domes?		YES	
	Are ESD Fusible plugs fitted at manifolds?		YES	
	Is the link compatible with the SIGTTO guidelines?		YES	
	Type of manifold valve		Ball valve	
	Closing time in seconds		25 to 30	secs
	Is closing time adjustable?		YES	
	Is Independent high level shut down system fitted(overflow control)?		YES	
	If yes, does the independent high level shutdown system also switch off running cargo pumps?		YES	
	Shut down level %		98	%

**B27 MANIFOLD DERRICK/CRANE**

27.1	Is manifold derrick provided		No	
27.2	Is manifold crane provided		YES	
27.3	Is lifting equipment same for port and starboard?		No	
	If no, then stipulate details		Port & Stbd cranes	
27.4	State SWL at maximum outreach		2.2	Tonnes
27.4.1	Maximum outreach of lifting equipment		7.825	Metres

**B28 STORES DERRICK/CRANE**

28.1	State location			
	SWL			Tonnes

**B29 SISTER VESSEL(S)**

29.1	Name of vessel		Sigloo Tor