

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	20-05-2016
1,2	Name of vessel	JS GREENSKY
1,3	LR/IMO number	9542984
1,4	Last previous name	N/A
1.4.1	Date of name change	N/A
1,5	Second last previous name	N/A
1.5.1	Date of name change	N/A
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	Malta
1,9	Port of Registry	Valletta
1.10	Official number	9542984
1,11	Call sign	9HA3339
1,12	INMARSAT A or B number	N/A
1,13	Vessel's telephone number	+870 773 240 903
1.13.1	Vessel's mobile number	+6597844816
1,14	Vessel's fax number	+870 783 221 965
1,15	Vessel's telex number	N/A
1,16	Vessel's E-mail address	js.greensky@thomships.net
1,17	INMARSAT C number	422 945 110 422 945 111
1,18	Vessel's MMSI number	229 451 000
1,19	Type of vessel	LPG/LEG Carrier

OWNERSHIP AND OPERATION

1.20	Registered Owner	SNC Petrel 1
	Full address	50 Avenue Pierre Mendès Paris 75013 France
	Office telephone number	+33 1 5847 0346
	Office telex number	
	Office fax number	+356 25 990642
	Office Email address	shipreg@fenlex.com
	Contact person	Mihir Navalkar
	Contact person after hours telephone number	+33158470346
1.21	Name of technical operator (If different from above)	Evergas Ship Management Pte Ltd
	Full Address	16 Raffles Quay, #43-01 Hong Leong Building Singapore 048581
	Office telephone number	+ 65 62207591
	Office telex number	N/A
	Office fax number	+ 65 62251527
	Office Email address	marine@evergas.net
	Contact person (Designated Person Ashore)	Rajneesh Rana
	Contact person after hours telephone number	+ 65 9113 3759
	Emergency callout number	+6581888482
	Emergency callout pager number	N/A
	Contact details for person responsible for oil spill response	Rajneesh Rana
	Number of years controlled by technical operator	

1.22	Total number of ships operated by this Operator	12
1.23	Number of years ship owned	
1.23.1	Name of commercial operator (If different from above)	Evergas A/S
	Full Address	Kalvebod Brygge 39-41 1560 Copenhagen Denmark
	Office telephone number	+ 45 3997 0372
	Office telex number	N/A
	Office fax number	N/A
	Office Email address	operations@evergas.net
	Contact person	Nete Egebjerg
	Contact person after hours telephone number	+45 3038 1156
	Emergency callout number	4539970101
	Emergency callout pager number	N/A
	Number of years controlled by commercial operator	2,9

BUILDER

1.24	Builder	Nantong Sinopacific Offshore & Engineering
1.25	Name of yard vessel built at	SOE
1.26	Hull number (Class ID No.)	S1008
1.27	Date keel laid	29-05-2012
1.28	Date launched	15-10-2012
1.29	Date delivered	27-06-2013
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	BV
1.33	Class Notation	HULL : LIQUIFIED GAS CARRIER (-104°C, 6.1 bar g, 0.972 t/m3), FLS TANKER, UNRESTRICTED NAVIGATION * MACH : AUT-UMS, MON-SHAFT, BWE, BWT, CLEANSHIP, INWATERSURVEY, IG
1.34	If Classification society changed, name of previous society	DNV- GL
1.35	If Classification society changed, date of change	18-05-2016
1.36	Was ship built in accordance with the following regulations:	
	IMO	Yes
	US COAST GUARD	Yes
	IACS Class	Yes
	Other: <u>ILO Convention Nr. 92 & 133; MLC, 2006</u>	Yes
1.37	IMO certification	
	Certificate of fitness - IGC	Yes
	Certificate - A328	N/A
	Certificate - A329	N/A
	Letter of Compliance	Nil
	Issued by	N/A
1.38	Unattended Machinery Space Certificate	No, "AUT" as per Class
1.39	Net Registered Tonnage	3.846
1.40	Gross Registered Tonnage	12.819
1.41	Suez Net Tonnage - Canal Tonnage	11.539,02
	Suez Gross Tonnage	14.148,97
1.42	Panama Net Tonnage - Canal Tonnage	10.772
	Panama Gross Tonnage	N/A

A2 HULL DIMENSIONS

2.1	Length overall (LOA)	142,50	Metres
2.2	Length between perpendiculars (LBP)	134,62	Metres
2.3	Distance bow to bridge	112,00	Metres
2.4	Distance bridge front - mid point manifold	38,00	Metres
2.5	Distance bow to mid-point manifold	74,00	Metres
2.6	Extreme breadth	21,60	Metres
2.7	Extreme depth	12,10	Metres
2.8	Summer draught (design / Scantling)	7.50 / 9.50	Metres
2.9	Corresponding Summer deadweight (at Scantling draft)	15.188,00	Tonnes
2.10	Light displacement	6.982,90	Tonnes
2.11	Loaded displacement (Summer deadweight)	22.170,90	Tonnes
2.12	Cargo tanks cubic capacity - 100%	12.057,10	Cubic metres
2.12.1	Deck tank(s) cubic capacity - 100%	N/A	Cubic metres
2.12.2	Cargo tanks cubic capacity - 98%	11.815,96	Cubic metres
2.12.3	Deck tank(s) cubic capacity - 98%	N/A	Cubic metres
2.13	Distance from keel to highest point	42,01	Metres
2.14	Air draught (normal ballast condition)	36,10	Metres

A3 IMMERSION

		Tonnes / cm @ metres draught	
3.1	TPC - in normal ballast condition	24,00	5,40
	TPC - in loaded condition (summer deadweight)	27,37	9,50

A4 LOADED PARTICULARS

		N-Butane	C-Propane	
4.1	Cargo grade			
4.2	Density	0,6018	0,583	Tonnes/m3
4.3	Cargo loadable	7.111	6.895	Tonnes
4.4	Bunkers - FO	1341	1341	Tonnes
4.5	Bunkers - DO	363	363	Tonnes
4.6	Fresh water	278	278	Tonnes
4.7	Stores & spares	10	10	Tonnes
4.8	Lub oil	57	57	Tonnes
4.9	Ballast	1940	2249	Tonnes
4.10	Deadweight	11103	11187	Tonnes
4.11	Draught - forward	6,89	7,04	Metres
	Draught - aft	8,95	8,88	Metres
	Draught - mean	7,92	7,96	Metres

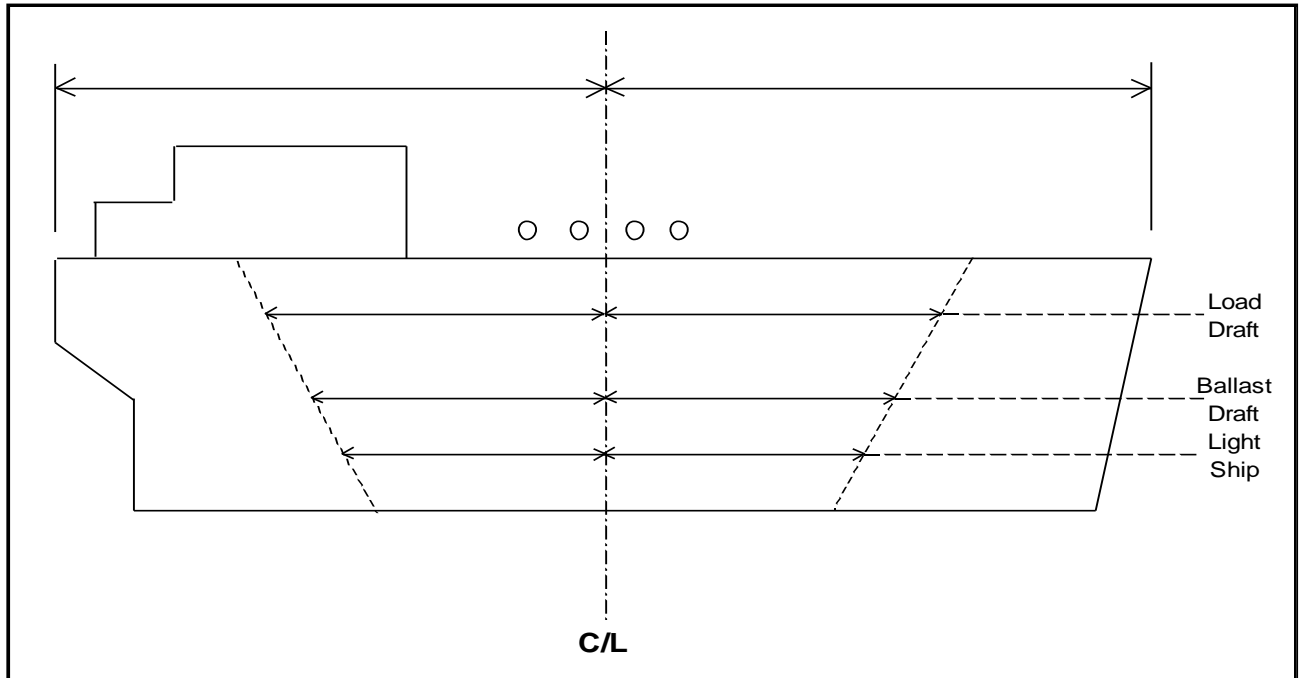
		Butadiene	Propylene	
	Cargo grade			
	Density	0,6503	0,6091	Tonnes/m3
	Cargo loadable	7684	7202	Tonnes
	Bunkers - FO	1341	1341	Tonnes
	Bunkers - DO	363	363	Tonnes
	Fresh water	278	278	Tonnes
	Stores & spares	10	10	Tonnes
	Lub oil	57	57	Tonnes
	Ballast	1940	1940	Tonnes
	Deadweight	11673	11187	Tonnes
	Draught - forward	7,25	6,94	Metres
	Draught - aft	9,03	8,96	Metres
	Draught - mean	8,14	7,95	Metres

	Ethylene	Ammonia	
Cargo grade			
Density	0,568	0,6735	Tonnes/m3
Cargo loadable	6695	7951	Tonnes
Bunkers - FO / LNG	1341	1341	Tonnes
Bunkers - DO	363	363	Tonnes
Fresh water	278	278	Tonnes
Stores & spares	10	10	Tonnes
Lub oil	57	57	Tonnes
Ballast	1468	2342	Tonnes
Deadweight	10227	12348	Tonnes
Draught - forward	7,23	7,79	Metres
Draught - aft	8,05	9,01	Metres
Draught - mean	7,64	8,4	Metres

	VCM	Propylene Oxide	
Cargo grade			
Density	0,969	0,833	Tonnes/m3
Cargo loadable	11447	7497	Tonnes
Bunkers - FO	1341	1341	Tonnes
Bunkers - DO	363	363	Tonnes
Fresh water	278	278	Tonnes
Stores & spares	10	10	Tonnes
Lub oil	57	57	Tonnes
Ballast	1295	2438	Tonnes
Deadweight	14796	11984	Tonnes
Draught - forward	9,28	8,2	Metres
Draught - aft	9,40	8,41	Metres
Draught - mean	9,34	8,31	Metres

	Ballast		
Cargo grade			
Density			Tonnes/m3
Cargo loadable			Tonnes
Bunkers - FO	671		Tonnes
Bunkers - DO	94		Tonnes
Fresh water	142		Tonnes
Stores & spares	10		Tonnes
Lub oil	57		Tonnes
Ballast	4021		Tonnes
Deadweight	4995		Tonnes
Draught - forward	4,88		Metres
Draught - aft	6,46		Metres
Draught - mean	5,67		Metres

A5 PARALLEL MID-BODY DIMENSIONS



5.1	Light ship	47	Metres
5.2	Forward to mid-point manifold - light ship	22	Metres
5.3	Aft to mid-point manifold - light ship	25	Metres
5.4	Normal ballast	52,5	Metres
5.5	Forward to mid-point manifold - normal ballast	24	Metres
5.6	Aft to mid-point manifold - normal ballast	28,5	Metres
5.7	Loaded SDWT	72	Metres
5.8	Forward to mid-point manifold - loaded SDWT	30	Metres
5.9	Aft to mid-point manifold - loaded SDWT	42	Metres

A6 BUNKER CAPACITIES

	Grade	Capacity @ 98%
Main engine	HFO	1353,1
Auxiliary engine(s)	MDO	208,7
Other:_LSDO	LSDO	197,2

A7 FUEL CONSUMPTION DETAILS

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

Remark: the fuel consumption details are based on the little operational experience that is available at this time.

A7 SPEED/CONSUMPTION

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

NO

A8 MAIN ENGINE PARTICULARS

8.1	Main engine make and type	Hyundai-MAN B&W 6S42MC7.1-TII	
		Two stroke	
8.2	Number of units	1	
8.3	Maximum continuous rating (MRC) per engine	6.100	133 r/min
8.4	Total available power - Kwe	6.100	
8.5	Normal service power - Kwe at 90% SMCR	5.490	

A9 AUXILIARY PLANTS

9.1	Make and type of auxiliary generators / engines	MAN 7L23/30H	
		Four stroke	
9.2	Number of units	3	
9.3	Maximum generator output per unit	RPM	Kilowatts
	Unit no. 1	900	1050
	Unit no. 2	900	1050
	Unit no. 3	900	1050
9.4	Shaft generator	N/A	
9.5	Total available power	N/A	
9.6	Emergency generator	1800	120
9.7	Emergency fire pump - type	Motor driven vertical centrifugal	
	Delivery pressure	8	
	Motive power	Electrical	
	If electrical, - indicate power required	19,4	
9.8	Steering gear - type	Rotatory type - Rolls Royce SR-723-FCP	
	Indicate power required to steer the vessel with one pump unit	19	

A10 POWER/SPEED INFORMATION

10.1	Trial data	BHP	6008
		MRC	5407
		Speed	16,36
		Draught	5,5
10.2	Normal service speed (LOADED / BALLAST)	BHP	6100
		MRC	5490
		Speed	
		Draught	9,5

A11 THRUSTERS

11.1	Make and type	Suzhou STT 002 FP	
11.2	Bow thruster	(output)	750 kW
11.3	Stern thruster	(output)	N/A

A12 FRESH WATER

12.1	Capacity of distilled tanks	59,1	Cubic metres
12.2	Capacity of domestic tanks	218,8	Cubic metres
12.3	Daily consumption	1	Tonnes
		7	Tonnes
12.4	Daily evaporator capacity	15	Tonnes

A13 BALLAST CAPACITIES AND PUMPS

Tank	Capacity (m3)	Number
13.1 Fore peak	261,1	1
13.2 Wing and or side tanks	3664,2	16
13.3 Double bottom tanks	608,5	4
13.4 Aft peak	259,6	1
13.5 Deep tank	177,1	1
13.6 Total	4970,5	23

13.7 Ballast pump make and type	Centrifugal, Allweiler, MA 80-315/01	
13.8 Number of pumps	2	
13.9 Total capacity	500 m3/h	
13.10 Location	ENGINE ROOM	
13.11 Control location	Local, ECR, CCR	
13.13 Ballast Water Treatment Plant	1 unit	700 m3/h

A14 MOORING EQUIPMENT

14.1 ROPES

Indicate on the diagram below the position of:

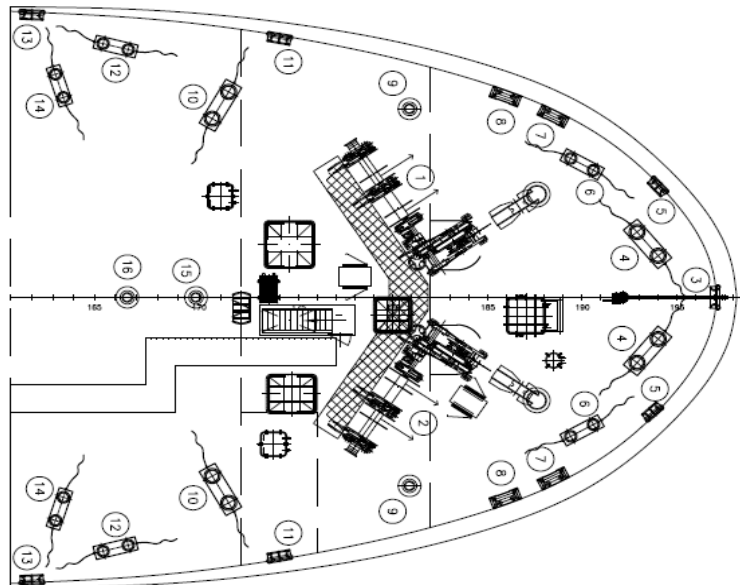
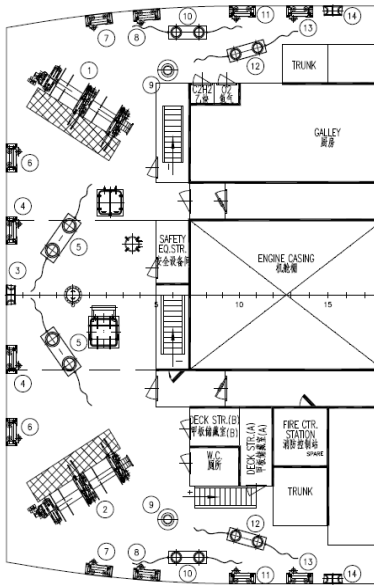
Winch Mounted Ropes (R)

Open Fairleads (O)

Closed Fairleads (C)

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

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

	4	
	56	MM
	Polyester & Polypropylene Mix	
	190	M
	45,4	MT
	0	
	N/A	
	N/A	
	N/A	
	N/A	

Mooring Ropes (On Drums) Aft Main Deck - Number	0	
Diameter	N/A	
Material	N/A	
Length	N/A	
Breaking Strength	N/A	
Mooring Ropes (On Drums) Poop - Number	4	
Diameter	56	MM
Material	Polyester & Polypropylene Mix	
Length	190	M
Breaking Strength	45,4	MT

OTHER MOORING LINES

Mooring Ropes not on Drums - Number	4	
Diameter	56	MM
Material	Polyester & Polypropylene Mix	
Length	190	M
Breaking Strength	45,4	MT
Emergency Towing Wires / Fire Wires - Number	2	
Diameter	26	
Material	Steel Wire, Galvanized	
Length	25	
Breaking Strength	43,4	

14.2

MOORING WINCHES

Forecastle - Number	2
Single Drum or Double Drums	Double drum
Split Drums Y/N	Yes
Motive Power	Electro/Hydraulic
Heaving Power	10 mt
Brake Capacity	31.8 mt
Hauling Speed	15 m/min
Forward Main Deck - Number	0
Single Drum or Double Drums	N/A
Split Drums Y/N	N/A
Motive Power	N/A
Heaving Power	N/A
Brake Capacity	N/A
Hauling Speed	N/A
Aft Main Deck - Number	0
Single Drum or Double Drums	N/A
Split Drums Y/N	N/A
Motive Power	N/A
Heaving Power	N/A
Brake Capacity	N/A
Hauling Speed	N/A
Poop - Number	2
Single Drum or Double Drums	Double drum
Split Drums Y/N	Yes
Motive Power	Electro/Hydraulic
Heaving Power	10 mt
Brake Capacity	31.8 mt
Hauling Speed	15 m/min

14.3

ANCHORS AND WINDLASS

Windlass motive power(e.g. steam, hydraulic)	Electro/Hydraulic
Hauling power	149 kN
Brake holding power	1094 kN
Anchor type	Stockless
Weight	3.940 kg

Is spare anchor carried	No
Cable diameter	56 mm
Number of shackles port cable	10
Number of shackles starboard cable	11

14.4 **TOWING ARRANGEMENTS**

Is the vessel fitted with a Towing Bracket Aft?	No
If Yes, state SWL	N/A
Is Towing chain provided	No
Dimensions of Towing wire	N/A
Diameter	N/A
Length	N/A

14.5 **WINDAGE**

Windage on ballast draught	Front	510	M2
	End-on	510	M2
	Lateral	1998,2	M2

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	4
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		Yes
15.12	Depth sounder with recorder		No
15.13	Depth sounder without recorder		Yes
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		No
15.21	Controllable pitch propeller indicator		N/A
15.22	Thruster(s) indicator		Yes
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	
15.40	Formal chart correction system in use		Yes
15.41	Electronic Chart system in use		Yes

A16 COMMUNICATIONS AND ELECTRONICS

16.2	What GMDSS areas is the vessel classed for? A1 A2 A3 A4		A1, A2 & A3
16.3	Transponder (SART)		Yes
16.4	EPIRB		Yes
16.5	How many VHF radios are fitted on the bridge?		2 + 2 bridge wing sockets
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?		10
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	C
16.12	2182kHz bridge auto alarm		Yes
16.13	Radio telephone distress frequency watch receiver		Yes
16.14	Emergency lifeboat transceiver		Yes
16.15	Can vessel transmit the helicopter homing signal on 410 kHz?		No
16.16	Full set of Radio List publications		Yes

SECTION B CARGO SYSTEMS

B1 CARGO - GENERAL INFORMATION

1.1 List products which the ship is Certified to carry

Cargo	Temp at atm. Press (Celcius)	Density at atm. Press (kg/m3)
Ethylene	-104	568
Ethane	-89	545
Propylene	-48	609
Propane (pure)	-42	581
C-Propane (2,5 mol% ethane in Liq. Phase)	-45	583
Mix of propane and butane	-	-
Anhydrous Ammonia	-33	673
VCM	-14	969
Iso-Butane	-12	594
Butylenes (data for Iso)	-7	625
Butadiene	-5	650
N-Butane	0	602
DME	-25	734
Other Cargoes		
Acetaldehyde	20	778
Dimethyl Amine	7	666
Ethyl Chloride	13	903
Diethyl Ether	35	700
Isoprene (Monomer)	34	666
Isopropyl Amine	32	676
Monoethyl Amine	17	687
N-Pentane / 1-Pentene	36 / 30	605 / 608
Propylene Oxide (PO)	34	817
Vinyl Ethyl Ether	36	750

Transport and Carriage Conditions

1.2	Minimum allowable tank temperature	-104	Deg. Celsius
1.3	Maximum Permissible tank pressure	6.1	Bar gauge
1.4	List Number of grades that can be loaded/discharged simultaneously and completely segregated without risk of contamination?	2	
1.5	List the Number of grades that can be carried simultaneously and completely segregated without risk of contamination?	2	
1.6	What is the Number of Products that can be conditioned by reliquefaction simultaneously?	2	
1.7	State the number of natural segregation's (NB: Separation must be by the removal of spools or the insertion of blanks)	3	

B2 CARGO TANKS

2.1	Type and materials of cargo tanks	Low alloy 5% Ni Steel (X12Ni5 or Similar)	
2.2	Maximum allowable relief valve setting	6.1	Bar gauge
2.2.1	IMO Setting	6.1	Bar gauge
2.2.2	USCG Setting	3.9	Bar gauge
2.3	Safety valve set pressure, - if variable stipulate range of pilot valves		
2.4	Maximum allowable vacuum	-0,25	Bar gauge
2.5	Maximum cargo density at 15 deg Celsius	972	Kg/m3
2.6	Maximum rate of cool-down	10	Deg Cel / Hour
2.7	State any limitations regarding partially filled tanks		

--	--

2.8

State allowable combinations of filled and empty tanks

B3 CARGO TANK CAPACITIES

Tank number / location

Capacity m3 (100%)
 Capacity 98%
 N-Butane capacity 98%
 N-Butane temperature
 C-Propane capacity 98%
 C-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

CT 1		
Capacity m3 (100%)	4019,6	m3
Capacity 98%	3939,2	m3
N-Butane capacity 98%	2370,60	Tonnes
N-Butane temperature	-0,5	Deg. C
C-Propane capacity 98%	2298,50	Tonnes
C-Propane temperature	-45	Deg. C
Butadiene capacity	2561,70	Tonnes
Butadiene temperature	-4,5	Deg. C
Propylene capacity	2401,00	Tonnes
Propylene temperature	-48	Deg. C
Vinyl Chloride Monomer capacity	3816,30	Tonnes
Vinyl Chloride Monomer temperature	-13,8	Deg. C
Ethylene capacity	2232,00	Tonnes
Ethylene temperature	-103,8	Deg. C
Propylene Oxide capacity	2499,00	Tonnes
Propylene Oxide temperature	20	Deg. C
Ammonia capacity	2650,70	Tonnes
Ammonia temperature	-33,8	Deg. C

Tank number / location

Capacity m3 (100%)
 Capacity 98%
 N-Butane capacity 98%
 N-Butane temperature
 C-Propane capacity 98%
 C-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

CT 2		
Capacity m3 (100%)	4020,200	m3
Capacity 98%	3939,800	m3
N-Butane capacity 98%	2371,00	Tonnes
N-Butane temperature	-0,5	Deg. C
C-Propane capacity 98%	2298,90	Tonnes
C-Propane temperature	-45	Deg. C
Butadiene capacity	2562,00	Tonnes
Butadiene temperature	-4,5	Deg. C
Propylene capacity	2401,30	Tonnes
Propylene temperature	-48	Deg. C
Vinyl Chloride Monomer capacity	3816,90	Tonnes
Vinyl Chloride Monomer temperature	-13,8	Deg. C
Ethylene capacity	2232,30	Tonnes
Ethylene temperature	-103,8	Deg. C
Propylene Oxide capacity	2499,00	Tonnes
Propylene Oxide temperature	20	Deg. C
Ammonia capacity	2651,10	Tonnes
Ammonia temperature	-33,8	Deg. C

Tank number / location

Capacity m3 (100%)
 Capacity 98%
 N-Butane capacity 98%
 N-Butane temperature
 C-Propane capacity 98%
 C-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

CT 3		
Capacity m3 (100%)	4017,30	m3
Capacity 98%	3937,00	m3
N-Butane capacity 98%	2369,30	Tonnes
N-Butane temperature	-0,5	Deg. C
C-Propane capacity 98%	2297,20	Tonnes
C-Propane temperature	-45	Deg. C
Butadiene capacity	2560,20	Tonnes
Butadiene temperature	-4,5	Deg. C
Propylene capacity	2399,60	Tonnes
Propylene temperature	-48	Deg. C
Vinyl Chloride Monomer capacity	3814,10	Tonnes
Vinyl Chloride Monomer temperature	-13,8	Deg. C
Ethylene capacity	2230,70	Tonnes
Ethylene temperature	-103,8	Deg. C
Propylene Oxide capacity	2499,00	Tonnes
Propylene Oxide temperature	20	Deg. C
Ammonia capacity	2649,20	Tonnes
Ammonia temperature	-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

N/A	
	m3
	m3
	Tonnes
	Deg. C
	Tonnes
	Deg. C
	Tonnes
	Deg. C
	Tonnes
	Deg. C
	Tonnes
	Deg. C
	Tonnes
	Deg. C
	Tonnes
	Deg. C
	Tonnes
	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

N/A	
	m3
	m3
	Tonnes
	Deg. C
	Tonnes
	Deg. C
	Tonnes
	Deg. C
	Tonnes
	Deg. C
	Tonnes
	Deg. C
	Tonnes
	Deg. C
	Tonnes
	Deg. C
	Tonnes
	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

N/A	
	m3
	m3
	Tonnes
	Deg. C
	Tonnes
	Deg. C
	Tonnes
	Deg. C
	Tonnes
	Deg. C
	Tonnes
	Deg. C
	Tonnes
	Deg. C
	Tonnes
	Deg. C
	Tonnes
	Deg. C

Tank number / location

Capacity m3 (100%)	N/A	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

Tank number / location

Capacity m3 (100%)	N/A	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%)	12057,1	m3
Total Capacity of all cargo tanks (98%)	11816,0	m3
Total Capacity of N-Butane	7110,9	Tonnes
Total Capacity of C-Propane	6894,6	Tonnes
Total Capacity of Butadiene	7683,9	Tonnes
Total Capacity of Propylene	7201,9	Tonnes
Total Capacity of Vinyl Chloride Monomer	11447,3	Tonnes
Total Capacity of Ethylene	6695,0	Tonnes
Total Capacity of Propylene Oxide	7497,0	Tonnes
Total Capacity of Ammonia	7951,0	Tonnes

B16 DECK TANK CAPACITIES

Are Deck pressure tank(s) fitted?	No	
Material of tank(s)	N/A	
Maximum allowable relief valve setting	N/A	Bar gauge

Deck tank number 1 - capacity (100%)

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

N/A	m3
	m3
	Tonnes
	Tonnes
	Tonnes
	Tonnes

Deck tank number 2 - capacity (100%)

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

N/A	m3
	m3
	Tonnes
	Tonnes
	Tonnes
	Tonnes
	Tonnes

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

N-Butane - with vapour return
 N-Butane - without vapour return
 C-Propane - with vapour return
 C-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

722	Tonnes/hour
722	Tonnes/hour
700	Tonnes/hour
700	Tonnes/hour
780	Tonnes/hour
780	Tonnes/hour
731	Tonnes/hour
731	Tonnes/hour
682	Tonnes/hour
682	Tonnes/hour
808	Tonnes/hour
808	Tonnes/hour
1163	Tonnes/hour
1163	Tonnes/hour
1000	Tonnes/hour
N/A	Tonnes/hour

4.8 From Pressure Storage

N-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

724	Tonnes/hour
724	Tonnes/hour
710	Tonnes/hour
710	Tonnes/hour
696	Tonnes/hour
696	Tonnes/hour

C-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 by compressors
 10 deg C - without vapour return
 20 deg C - with vapour return by compressors
 20 deg C - without vapour return

682	Tonnes/hour
682	Tonnes/hour
666	Tonnes/hour
666	Tonnes/hour
652	Tonnes/hour
652	Tonnes/hour
636	Tonnes/hour
636	Tonnes/hour
623	Tonnes/hour
276	Tonnes/hour
375	Tonnes/hour
108	Tonnes/hour

Butadiene 0 deg C - with vapour return	766	Tonnes/Hr.
0 deg C - without vapour return	766	Tonnes/Hr.
10 deg C - with vapour return	751	Tonnes/Hr.
10 deg C - without vapour return	751	Tonnes/Hr.
20 deg C - with vapour return	737	Tonnes/Hr.
20 deg C - without vapour return	737	Tonnes/Hr.

Propylene minus 30 deg C - with vapour return	703	Tonnes/Hr.
Minus 30 deg C - without vapour return	703	Tonnes/Hr.
Minus 20 deg C - with vapour return	689	Tonnes/Hr.
Minus 20 deg C - without vapour return	689	Tonnes/Hr.
Minus 10 deg C - with vapour return	672	Tonnes/Hr.
Minus 10 deg C - without vapour return	672	Tonnes/Hr.
0 deg C - with vapour return	655	Tonnes/Hr.
0 deg C - without vapour return	655	Tonnes/Hr.
10 deg C - with vapour return by compressors	638	Tonnes/Hr.
10 deg C - without vapour return	185	Tonnes/Hr.
20 deg C - with vapour return by compressors	390	Tonnes/Hr.
20 deg C - without vapour return	94	Tonnes/Hr.

Ethylene minus 100 deg C - with vapour return	684	Tonnes/Hr.
Minus 100 deg C - without vapour return **)	684	Tonnes/Hr.
Minus 95 deg C - with vapour return	674	Tonnes/Hr.
Minus 95 deg C - without vapour return **)	674	Tonnes/Hr.
Minus 90 deg C - with vapour return	666	Tonnes/Hr.
Minus 90 deg C - without vapour return **)	666	Tonnes/Hr.
Minus 85 deg C - with vapour return	658	Tonnes/Hr.
Minus 85 deg C - without vapour return **)	658	Tonnes/Hr.

Butadiene 0 deg C - with vapour return	766	Tonnes/Hr.
0 deg C - without vapour return	766	Tonnes/Hr.
10 deg C - with vapour return	751	Tonnes/Hr.
10 deg C - without vapour return	751	Tonnes/Hr.
20 deg C - with vapour return	737	Tonnes/Hr.
20 deg C - without vapour return	737	Tonnes/Hr.

VCM minus 10 deg C - with vapour return	1153	Tonnes/Hr.
Minus 10 deg C - without vapour return	1153	Tonnes/Hr.
0 deg C - with vapour return	1134	Tonnes/Hr.
0 deg C - without vapour return	1134	Tonnes/Hr.
10 deg C - with vapour return	1114	Tonnes/Hr.
10 deg C - without vapour return	1114	Tonnes/Hr.
20 deg C - with vapour return	1093	Tonnes/Hr.
20 deg C - without vapour return	1093	Tonnes/Hr.

4.14

Special remarks:

*) Based on +20 degC air/SW temperature
**) Tanks gassed up and cooled down

B5 DISCHARGING - GENERAL

Cargo Pumps

5.1	Type of Pumps	Hamworthy Svanehoj DW 200/200-3-K+I	
5.2	Number of pumps per tank	1	
5.3	Rate per Pump	400	m3/hr
5.4	At Delivery Head mlc	120	mlc
5.5	Maximum density	972	Kg/m3

Booster Pump

5.6	Type of Booster Pumps	Hamworthy Svanehoj NMB 150c	
5.7	Number of pumps	2	
5.8	Rate per Pump	400	m3/hr
5.9	At Delivery Head mlc	120	mlc
5.10	Maximum density	650	kg/m3

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

Yes

B6 DISCHARGE PERFORMANCE

Full Cargo Discharge Times per tank (using 2 DW pumps and 1 booster pump)

10 Hours

Fully Refrigerated

- Manifold Back Press 1 kP/cm2, with vapour return
- Manifold Back Press 1 kP/cm2, without vapour return
- Manifold Back Press 5 bar g - Ammonia - DW pump
- Manifold Back Press 5 bar g - C-Propane - DW pump
- Manifold Back Press 10 kP/cm2, with vapour return
- Manifold Back Press 10 kP/cm2, without vapour return

10	Hours
10	Hours
10	Hours
10	Hours
10	Hours
10	Hours

Pressurised

- Manifold Back Press 1 kP/cm2, with vapour return
- Manifold Back Press 1 kP/cm2, without vapour return
- Manifold Back Press 5 bar g - Ammonia 0.9 bar g - DW pump
- Manifold Back Press 5 kg/cm2, without vapour return
- Manifold Back Press 10 bar g - C-Propane 4.8 bar g - DW pump
- Manifold Back Press 10 bar g - Ammonia 0.9 bar g - DW pump

10	Hours
10	Hours
10	Hours
10	Hours
10	Hours
50	Hours

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	1	m3
2	1	m3
3	1	m3
		m3
		m3
		m3
		m3
		m3
	3	m3

B8 VAPORISING UNPUMPABLES

- 8.1 Process used
- Time to vaporise liquid unpumpables remaining after full cargo discharge of (1 CT, 1 Compressor running):

Hot Gas

8.2	Butane	2,5	Hours
8.3	Propane	1,5	Hours
8.4	Butadiene	3	Hours
8.5	Propylene	1,5	Hours
8.6	Ethylene	1,5	Hours
8.7	Ammonia	6	Hours
8.8	Vinyl Chloride Monomer	3	Hours
8.9	Propylene Oxide	N/A	Hours

B9 RELIQUEFACTION PLANT

- 9.1 Plant Design Conditions - air temperature

45 Deg. C

Plant Type		
9.4	Is the plant single stage/direct? (for warm cargoes):	YES
9.5	Is the plant two stage/direct? (for propane, propylene and ammonia):	YES
9.6	Is the plant simple cascade?	YES
9.7	Coolant type	R-404A

Compressors		
9.8	Compressor type	Receiprocating / labyrinth
9.8.1	Compressor makers name	Burckhardt Compression 2K 140-2A
9.9	Number of compressors	3
9.10	Capacity per unit, 1st / 2nd stage (swept volume)	1260 / 510
9.11	Are they Oil Free?	YES

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

Time taken to lower the temperature of:			
11.1	C-Propane from -5 deg C to - 42 deg C	161	Hours
11.2	C-Propane from -20 deg C to - 42 deg C	117	Hours
11.3	C-Propane from -38 deg C to - 42deg C	35	Hours
11.4	C-Propane from +20 deg C to -0.50 deg C	N/A	Hours
11.5	C-Propane from 0 deg C to -20 deg C	66	Hours
11.6	N-Butane from +20 deg C to-0.5 deg C	85	Hours
11.7	N-Butane from +10 deg C to-0.5 deg C	67	Hours
11.8	N-Butane from +10 deg C to -5 deg C	N/A	Hours
11.9	Butadiene From +20 deg C to -5 deg C	98	Hours
11.10	Propylene From -20 deg C to -47 deg C	130	Hours
11.11	Ethylene From -99 deg C to -103 deg C	58	Hours
11.12	Ammonia From -16 deg C to -33 deg C	181	Hours
11.13	Vinyl Chloride Monomer From -5 deg C to -14 deg C	72	Hours

B12 INERT GAS AND NITROGEN

Main IG Plant		
12.1	Type of system	N/A
12.2	Capacity	
12.3	Type of fuel used	
12.4	Composition of IG - oxygen	
	Composition of IG - CO2	
	Composition of IG - Nox	
	Composition of IG - N2	
12.5	Lowest dewpoint achievable	
12.6	Used for	

Nitrogen plant		
12.7	Type of System	Nitrogen generator, Gazcon 3xMN1000
12.8	Purity N2	95%
12.9	Capacity	1450 M3/Hr
	Purity N2	99,50%
	Capacity	1000 M3/Hr
	Purity N2	99,90%

12.10	Capacity	700 M3/Hr
12.11	Used for	Inerting and Gas freeing

Nitrogen

12.12	Liquid storage capacity	12 bottle x 50 ltr, 200 bar
12.13	Daily boil-off loss	nil
12.14	Maximum supply pressure	0,3 bar
12.15	Supply capacity	
12.16	Used for	Nitrogen 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?	17	Hours
13.2	Time taken to inert from cargo vapour to fully inert at minus 25 degrees dewpoint when IG density is less than product?	44	Hours
	Time taken to inert from cargo vapour to fully inert at minus 25 degrees dewpoint when IG density is greater than product?	44	Hours

B14 GAS FREEING TO FRESH AIR

14.1	Plant used	Nitrogen Plant	
14.2	Time taken from fully inert condition to fully breathable fresh air?	14	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	Air	Nitrogen
From C-Propane to N-Butane	77	37 000 Nm3	46 000 Nm3
From C-Propane to Butadiene	77	37 000 Nm3	46 000 Nm3
From C-Propane to Ethylene	90	37 000 Nm3	46 000 Nm3
From C-Propane to Ammonia	77	37 000 Nm3	46 000 Nm3
From C-Propane to Vinyl Chloride Monomer	77	37 000 Nm3	46 000 Nm3
From C-Propane to Propylene Oxide	60	37 000 Nm3	46 000 Nm3
From N-Butane to C-Propane	77	37 000 Nm3	46 000 Nm3
From N-Butane to Butadiene	77	37 000 Nm3	46 000 Nm3
From N-Butane to Ethylene	90	37 000 Nm3	46 000 Nm3
From N-Butane to Ammonia	77	37 000 Nm3	46 000 Nm3
From N-Butane to Vinyl Chloride Monomer	77	37 000 Nm3	46 000 Nm3
From N-Butane to Propylene Oxide	60	37 000 Nm3	46 000 Nm3
From Butadiene to C-Propane	77	37 000 Nm3	46 000 Nm3
From Butadiene to N-Butane	77	37 000 Nm3	46 000 Nm3
From Butadiene to Ethylene	90	37 000 Nm3	46 000 Nm3
From Butadiene to Ammonia	77	37 000 Nm3	46 000 Nm3
From Butadiene to Vinyl Chloride Monomer	77	37 000 Nm3	46 000 Nm3
From Butadiene to Propylene Oxide	60	37 000 Nm3	46 000 Nm3
From Ethylene to C-Propane	90	37 000 Nm3	46 000 Nm3
From Ethylene to N-Butane	90	37 000 Nm3	46 000 Nm3
From Ethylene to Butadiene	90	37 000 Nm3	46 000 Nm3
From Ethylene to Ammonia	60	37 000 Nm3	46 000 Nm3
From Ethylene to Vinyl Chloride Monomer	90	37 000 Nm3	46 000 Nm3
From Ethylene to Propylene Oxide	60	37 000 Nm3	46 000 Nm3
From Ammonia to C-Propane	77	37 000 Nm3	46 000 Nm3
From Ammonia to N-Butane	77	37 000 Nm3	46 000 Nm3
From Ammonia to Butadiene	77	37 000 Nm3	46 000 Nm3
From Ammonia to Ethylene	90	37 000 Nm3	46 000 Nm3
From Ammonia to Vinyl Chloride Monomer	77	37 000 Nm3	46 000 Nm3
From Ammonia to Propylene Oxide	60	37 000 Nm3	46 000 Nm3

From Vinyl Chloride Monomer to C-Propane
 From Vinyl Chloride Monomer to N-Butane
 From Vinyl Chloride Monomer to Butadiene
 From Vinyl Chloride Monomer to Ammonia
 From Vinyl Chloride Monomer to Ethylene
 From Propylene Oxide to Propylene Oxide
 From Propylene Oxide to C-Propane
 From Propylene Oxide to N-Butane
 From Propylene Oxide to Butadiene
 From Propylene Oxide to Ethylene
 From Propylene Oxide to Vinyl Chloride Monomer
 From Propylene Oxide to Ammonia

77	37 000 Nm3	46 000 Nm3
77	37 000 Nm3	46 000 Nm3
77	37 000 Nm3	46 000 Nm3
77	37 000 Nm3	46 000 Nm3
90	37 000 Nm3	46 000 Nm3
60	37 000 Nm3	46 000 Nm3
60	37 000 Nm3	46 000 Nm3
60	37 000 Nm3	46 000 Nm3
60	37 000 Nm3	46 000 Nm3
60	37 000 Nm3	46 000 Nm3
60	37 000 Nm3	46 000 Nm3
60	37 000 Nm3	46 000 Nm3
60	37 000 Nm3	46 000 Nm3

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	Propane - Quantity of Coolant Required Propane - Time required to cooldown cargo tanks from ambient temperature with vapour return line Propane - Time required to cooldown cargo tanks from ambient temperature without vapour return line		
17.2	Butane - Quantity of Coolant Required Butane - Time required to cooldown cargo tanks from ambient temperature with vapour return line Butane - Time required to cooldown cargo tanks from ambient temperature without vapour return line	N/A	
17.3	Butadiene - Quantity of Coolant Required Butadiene - Time required to cooldown cargo tanks from ambient temperature with vapour return line Butadiene - Time required to cooldown cargo tanks from ambient temperature without vapour return line	N/A	
17.4	Propylene - Quantity of Coolant Required Propylene - Time required to cooldown cargo tanks from ambient temperature without vapour return line Propylene - Time required to cooldown cargo tanks from ambient temperature with vapour return line		
17.5	Ethylene - Quantity of Coolant Required Ethylene - Time required to cooldown cargo tanks from ambient temperature with vapour return line Ethylene - Time required to cooldown cargo tanks from ambient temperature without vapour return line	75 10 N/A	Tons Hours
17.6	Ammonia - Quantity of Coolant Required Ammonia - Time required to cooldown cargo tanks from ambient temperature with vapour return line Ammonia - Time required to cooldown cargo tanks from ambient temperature without vapour return line		

- 17.7 **VCM** - Quantity of Coolant Required
VCM - Time required to cooldown cargo tanks from ambient temperature without vapour return line
VCM - Time required to cooldown cargo tanks from ambient temperature with vapour return line

B18 LPG VAPORISER

- 18.1 Type of Vaporiser
18.2 Number of Vaporisers fitted
18.3 Capacity per unit - C-Propane
18.4 Liquid Supply Rate
18.5 Delivery Temperature
18.6 Capacity per unit - Ammonia
18.7 Liquid Supply Rate
18.8 Delivery Temperature
18.9 Capacity per unit - Nitrogen
18.10 Liquid Supply Rate
18.11 Delivery Temperature

U-tubes, welded in tube plate	
1	
2500	Nm3/h
8	m3/h
-42	degC
2500	Nm3/h
3	m3/h
-33	degC
NA	Nm3/h
NA	m3/h
NA	degC

B19 BLOWER

- 19.1 Type of Blower
19.2 Rated Capacity
19.3 Delivery Pressure

B20 CARGO RE-HEATER

- 20.1 Type of Re-Heater
20.2 Number Fitted
20.3 Heating Medium
20.4 Discharge rates with seawater at 15 degC to raise product temperature of Propane from -42 degC to 0 degC
20.5 Discharge rates with seawater at 15 deC to raise product temperature of Ammonia from -33 degC to 0 degC

U-tubes, welded in tube plate	
1	
Seawater	
500	m3/h
280	m3/h

B21 HYDRATE CONTROL

- 21.1 Type of Depressant?
21.1.1 Freezing point temperature?
21.2 Quantity of Depressant Carried?
21.3 Means of injection?
Name any other system used

Ethanol	
-114	
200	Ltr.
Portable pump	
Hot gas	

B22 CARGO MEASUREMENT

Level Gauges

- 22.1 Are level gauges local or remote?
22.2 Name of manufacture
22.3 Type
22.4 Rated Accuracy
22.5 Certifying Authority

Both	
Henri Systems Holland	
FTLG 807 SUS	
+/- 3 mm	
N/A	

Temperature Gauges

- 22.6 Name of manufacture
22.7 Type
22.8 Rated Accuracy
22.9 Certifying Authority

Teck Skoteslv	
Type TXC	
±1% xF.S.	
N/A	

Pressure Gauges		
22.10	Name of manufacture	Teck Skoteslv
22.11	Type	Type IM
22.12	Rated Accuracy	±1% x F.S.
22.13	Certifying Authority	N/A

Oxygen Analyser		
22.14	Name of manufacture	Riken Keiki
22.15	Type	GX-8000E
22.15.1	What is the lowest level measurable?	0%

Fixed Gas Analyser		
22.16	Name of manufacture	Omicron
22.17	Type	OGS 3.11

Cargo Tank Calibrations		
22.18	Are Cargo tank calibration tables available?	Yes
22.19	Name of Measuring Company	SGS South Korea
22.20	Name of Certifying Authority	
22.21	Calibration calculated to cm?	NO
22.21.1	Calibration calculated to 1/2 cm?	YES
22.22	Tables established to cm?	NO
22.22.1	Tables established to mm?	YES
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

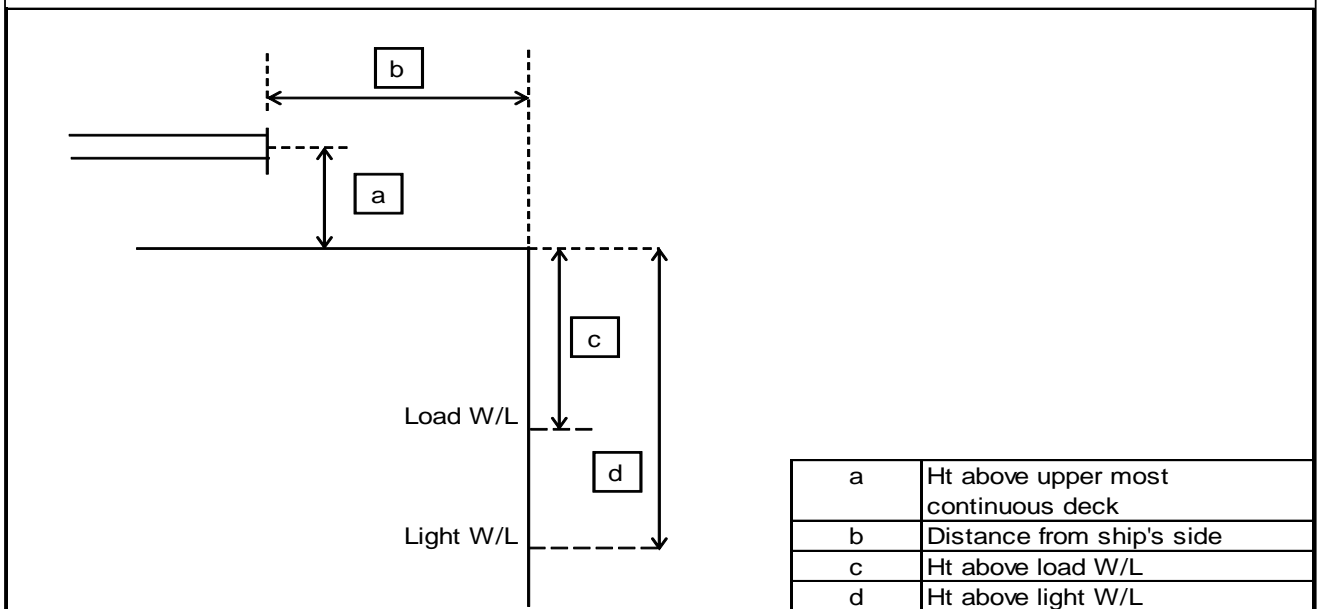
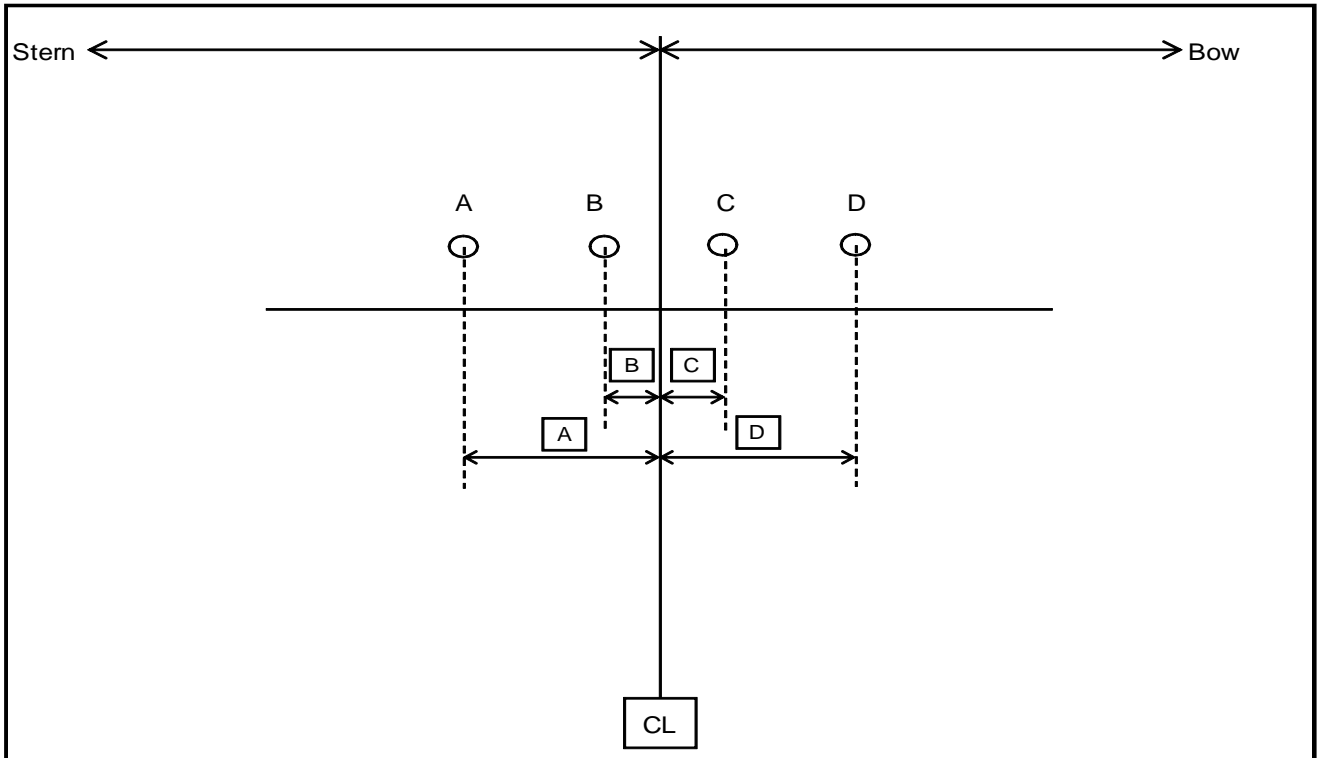
23.1	May cargo samples be obtained from the levels; top, middle and bottom in all cargo tanks?	Yes
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If no, - the arrangement for sampling is limited to:

23.2	Can samples be drawn from tank vapour outlet?	NO
	Can samples be drawn from manifold liquid line?	NO
	Can samples be drawn from manifold vapour line?	NO
	Can samples be drawn from pump discharge line?	YES
23.3	State sample connection type	NPT 1/2" FEMALE CONNECTOR
	Size of sample connection	1/2"

B24 CARGO MANIFOLD

Manifold arrangement diagram



Center of manifold to bow
Center of manifold to stern

74,00
68,54

Liquid line L1 (D)

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

71,70
70,84
2,30
8" / ANSI 300
Flat
2,75
2,54

Height above load waterline	5,36
Height above light waterline	11,13
Vapour line V1 (C)	
Distance from bow	73,15
Distance from stern	69,39
Distance from manifold centerline (C)	0,85
Size and rating	6" / ANSI 300
Type	Flat
Height above uppermost continuous deck	2,75
Distance from ship's side	2,54
Height above load waterline	5,36
Height above light waterline	11,13
Vapour line V2 (B)	
Distance from bow	74,85
Distance from stern	67,69
Distance from manifold centerline (B)	0,85
Size and rating	6" / ANSI 300
Type	Flat
Height above uppermost continuous deck	2,75
Distance from ship's side	2,54
Height above load waterline	5,36
Height above light waterline	11,13
Liquid line L2 (A)	
Distance from bow	76,35
Distance from stern	66,19
Distance from manifold centerline (A)	2,35
Size and rating	10" / ANSI 300
Type	Flat
Height above uppermost continuous deck	2,75
Distance from ship's side	2,54
Height above load waterline	5,36
Height above light waterline	11,13
Liquid line L3	
Distance from bow	N/A
Distance from stern	
Distance from manifold centerline	
Size and rating	
Type	
Height above uppermost continuous deck	
Distance from ship's side	
Height above load waterline	
Height above light waterline	
Vapour line V3	
Distance from bow	N/A
Distance from stern	
Distance from manifold centerline	
Size and rating	
Type	
Height above uppermost continuous deck	
Distance from ship's side	
Height above load waterline	
Height above light waterline	
Vapour line V4	
Distance from bow	N/A
Distance from stern	
Distance from manifold centerline	
Size and rating	
Type	
Height above uppermost continuous deck	
Distance from ship's side	
Height above load waterline	
Height above light waterline	

Liquid line L4

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

N/A

Nitrogen manifold

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

N/A

Manifold Arrangement Located on Top of Compressor

- Distance from rail of compressor room/platform to presentation flanges
- Distance from deck of compressor room/platform/try to centre of manifold

N/A
N/A

B25 CARGO MANIFOLD REDUCERS

- 25.1 Number of ANSI Class 300 reducers carried onboard
- Flange rating of ANSI Class 300 reducer
- Size of ANSI Class 300 reducer
- Length of ANSI Class 300 reducer
- 25.2 Number of ANSI Class 300 to Class 150 reducers carried onboard
- Flange rating of ANSI Class 300 to Class 150 reducer
- Size of ANSI Class 300 to Class 150 reducer
- Length of ANSI Class 300 to Class 150 reducer
- 25.3 Number of ANSI Class 150 reducers carried onboard
- Flange rating of Class 150 reducer
- Size of ANSI Class 150 reducer
- Length of ANSI Class 150 reducer

15
ANSI B16.5 WN RF
10" down to 3"
500
mm
15
ANSI B16.5 WN RF
10" down to 3"
500
mm
N/A

B26 CONNECTIONS TO SHORE FOR ESD AND COMMUNICATIONS SYSTEMS

26.1	Is ESD connection to shore available?		Yes
	If yes, is the system pneumatic?		-
	If yes, is the system electrical?		Yes
	If yes, is the system fiber optic?		-
26.2	What is the type of connection used?		For MTL SIG04 cable
26.3	Are ESD hoses or cables available on board?		Pendant
	If yes, length of pneumatic		-
	If yes, length of electrical		30 m
	If yes, length of fiber optic		-
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	Westad	Butterfly
	Closing time in seconds		Within 30 s
	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 %		99

B27 MANIFOLD DERRICK/CRANE

27.1	Is manifold derrick provided		N/A
27.2	Is manifold crane provided		YES
27.3	Is lifting equipment same for port and starboard?		YES
	If no, then stipulate details		Midship Crane
27.4	State SWL at maximum outreach		5
27.4.1	Maximum outreach of lifting equipment		16,00

MT
m

B28 STORES DERRICK/CRANE

28.1	State location		Aft, midships
	SWL		2

MT

B29 SISTER VESSEL(S)

29.1	Name of vessel	JS Greenstar
		JS Greensun
		JS Greensea
		JS Greenstone
		JS Greensail
		JS Greenspeed
		JS Greensand