GAS FORM-C

based on the

OCIMF / SIGTTO

SHIP INFORMATION QUESTIONNAIRE

for

GAS CARRIERS

2nd Edition 1998

GTS

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

INDEX

SECTION A

GENERAL INFORMATION

A1 PRINCIPAL SHIP PARTICULARS

1.1	Date questionnaire completed		1-Mar-2017
1.2	Name of vessel		JS INEOS INDEPENDENCE
1.3	LR/IMO number		9744960
1.4	Last previous name		
1.4.1	Date of name change		
1.5	Second last previous name		
1.5.1	Date of name change		
1.6	Third last previous name		
1.6.1	Date of name change		
1.7	Fourth last previous name		
1.7.1	Date of name change		
1.8	Flag		Republic of Malta
1.9	Port of Registry		Valletta
1.10	Official number		9744960
1.11	Call sign		9HA4327
1.12	INMARSAT A or B number	FBB	+870 773 924 559
1.13	Vessel's telephone number	VSAT	+47 2240 7728 / Main Line
		VSAT	+47 2240 7729 / Crew Line
1.13.1	Vessel's mobile number		
1.14	Vessel's fax number		+870 783 934 412
1.15	Vessel's telex number	424 965 212	424 965 213
1.16	Vessel's E-mail address		js.independence@skyfile.com
1.17	INMARSAT C number	424 965 212	424 965 213
1.18	Vessel's MMSI number		249652000
1.19	Type of vessel		Liquefied Gas Carrier

OWNERSHIP AND OPERATION

1.20	Registered Owner	XIANGTONG INTERNATIONAL SHIP LEASE CO. LTD
	Full address	1/F. FAR EAST CONSORTIUM BUILDING
		121 DES VOEUX ROAD CENTRAL
		HONGKONG
	Office telephone number	
	Office telex number	N/A
	Office fax number	N/A
	Office Email address	fleet@greenshipgas.com
	Contact person	Mihir Navalkar
	Contact person after hours telephone number	

1.21	Name of technical operator (If different from above)	Evergas Ship Management Pte Ltd
	Full Address	21 Ubi Road
		# 06-01, Cambridge Trust Building
		Singapore 408724
	Office telephone number	+65 6904 1939
	Office telex number	N/A
	Office fax number	+65 6692 0067
	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	+65 9785 7390
	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

1.22	Total number of ships operated by this Operator	13
1.23	Number of years ship owned	1

1.23.1	Name of commercial operator (If different from above)	Evergas Management A/S
	Full Address	Kalvebod Brygge 39-41
		1560 Copenhagen
		Denmark
	Office telephone number	+45 3997 0350
	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	+45 39970101
	Emergency callout pager number	N/A
	Number of years controlled by commercial operator	1

BUILDER

1.24	Builder	Nantong SinoPacific Offshore & Engineering
1.25	Name of yard vessel built at	SOE
1.26	Hull number (Class ID No.)	S1020 / 27197P
1.27	Date keel laid	23-Dec-2015
1.28	Date launched	28-Sep-2016
1.29	Date delivered	
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	Bureau Veritas
1.33	Class Notation	BV I, +HULL, +MACH, Liquefied Gas Carrier, Type 2G - Dualfuel, Unrestricted Navigation, CPS (WBT), +VeriSTAR - HULL DFL 25 Years, +AUT-UMS, +SYS-NEQ, MON-SHAFT, CLEAN PASSPORT, GREENSHIP, INWATERSURVEY
1.34	If Classification society changed, name of previous society	N/A
1.35	If Classification society changed, date of change	
1.36	Was ship built in accordance with the following regulations:	
	IMO	Yes
	US COAST GUARD	Yes
	IACS Class	Yes
	Other:_____	
1.37	IMO certification	
	Certificate of fitness - IGC	Yes
	Certificate - A328	
	Certificate - A329	
	Letter of Compliance	Yes
	Issued by	Malta
1.38	Unattended Machinery Space Certificate	Yes

1.39	Net Registered Tonnage	6,866
1.40	Gross Registered Tonnage	22,887
1.41	Suez Net Tonnage - Canal Tonnage	21589.49
	Suez Gross Tonnage	24966.94
1.42	Panama Net Tonnage - Canal Tonnage	19070
	Panama Gross Tonnage	N/A

A2 HULL DIMENSIONS

2.1	Length overall (LOA)	180.3	Metres
2.2	Length between perpendiculars (LBP)	170.8	Metres
2.3	Distance bow to bridge	142.40	Metres
2.4	Distance bridge front - mid point manifold	46.40	Metres
2.5	Distance bow to mid-point manifold	92.0	Metres
2.6	Extreme breadth	26.60	Metres
2.7	Extreme depth	17.80	Metres
2.8	Summer draught (design / Scantling)	9.40	Metres
2.9	Corresponding Summer deadweight	20917.9	Tonnes
2.10	Light displacement	11170.0	Tonnes
2.11	Loaded displacement (Summer deadweight)	32087.9	Tonnes
2.12	Cargo tanks cubic capacity - 100%	27,554.002	Cubic metres
2.12.1	Deck tank(s) cubic capacity - 100%	1996.84	Cubic metres
2.12.2	Cargo tanks cubic capacity - 98%	26,902.121	Cubic metres
2.12.3	Deck tank(s) cubic capacity - 98%	1956.41	Cubic metres
2.13	Distance from keel to highest point	46.50	Metres
2.14	Air draught (normal ballast condition)	40.00	Metres

A3 IMMERSION

		Tonnes / cm @	metres draught
3.1	TPC - in normal ballast condition	37.00	6.50
	TPC - in loaded condition (summer deadweight)	41.90	9.40

A4 LOADED PARTICULARS

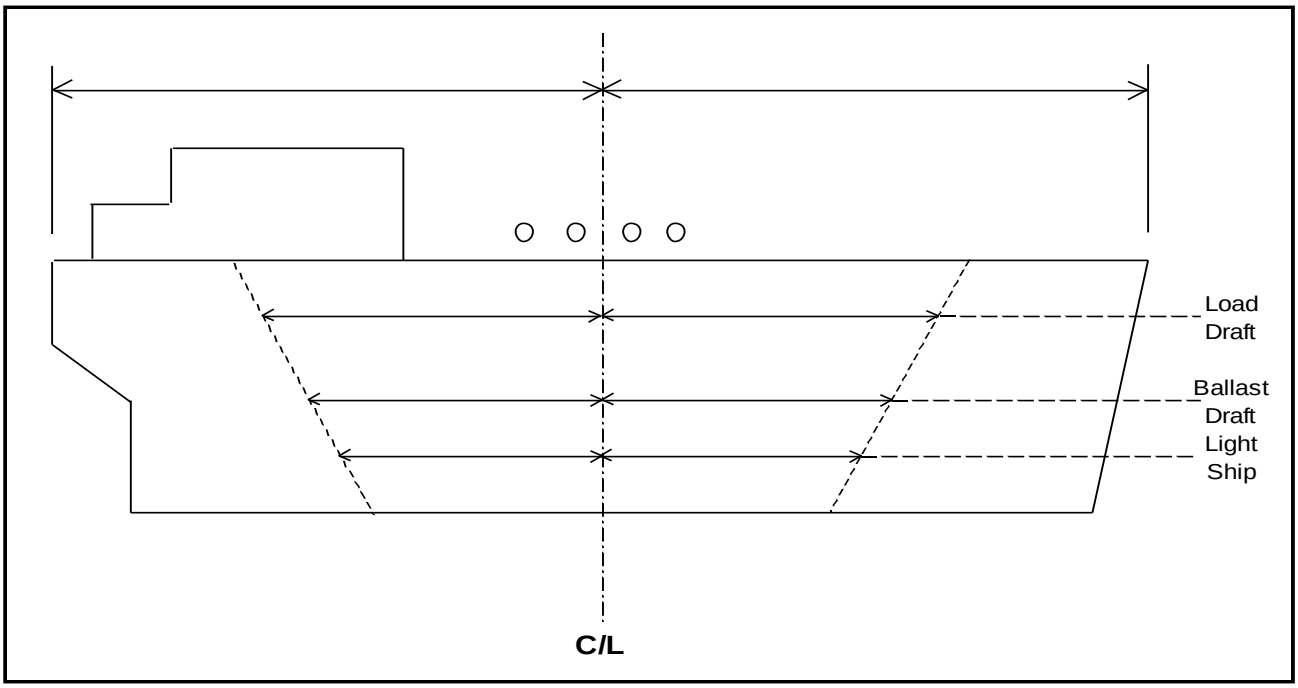
4.1	Cargo grade	Methane	Butadiene	
4.2	Density	0.42	0.65	
4.3	Cargo loadable	11299	17486	Tonnes
4.4	Bunkers - FO / Metane or Ethane	1316 / 820	1316 / 1066	Tonnes
4.5	Bunkers - DO	232	232	Tonnes
4.6	Fresh water	304	304	Tonnes
4.7	Stores & spares	60	60	Tonnes
4.8	Lub oil	109	109	Tonnes
4.9	Ballast	1377	205	Tonnes
4.10	Deadweight	15519	20778	Tonnes
4.11	Draught - forward	7.50	9.23	Metres
	Draught - aft	8.67	9.56	Metres
	Draught - mean	8.08	9.39	Metres

Cargo grade	Ethylene	Ethane	
Density	0.568	0.545	
Cargo loadable	15280	14662	Tonnes
Bunkers - FO / Ethane	1316 / 1066	1316 / 1066	Tonnes
Bunkers - DO	232	232	Tonnes
Fresh water	304	304	Tonnes
Stores & spares	60	60	Tonnes
Lub oil	109	109	Tonnes
Ballast	701	701	Tonnes
Deadweight	19068	18450	Tonnes
Draught - forward	9.19	8.39	Metres
Draught - aft	9.45	9.24	Metres
Draught - mean	9.32	8.81	Metres

Cargo grade	Propane	Butane	
Density	0.583	0.602	
Cargo loadable	15684	16195	Tonnes
Bunkers - FO / Ethane	1316 / 1066	1316 / 1066	Tonnes
Bunkers - DO	232	232	Tonnes
Fresh water	304	304	Tonnes
Stores & spares	60	60	Tonnes
Lub oil	109	109	Tonnes
Ballast	701	701	Tonnes
Deadweight	19472	19983	Tonnes
Draught - forward	8.78	8.98	Metres
Draught - aft	9.36	9.42	Metres
Draught - mean	9.07	9.2	Metres

Cargo grade	Propylene	Ballast	
Density	0.609		
Cargo loadable	16383		Tonnes
Bunkers - FO / Ethane or Methane	1316 / 1066	1316 / 1066	Tonnes
Bunkers - DO	232	232	Tonnes
Fresh water	304	304	Tonnes
Stores & spares	60	60	Tonnes
Lub oil	109	109	Tonnes
Ballast	701	6726	Tonnes
Deadweight	20171	9813	Tonnes
Draught - forward	9.05	4.88	Metres
Draught - aft	9.44	8.14	Metres
Draught - mean	9.25	6.50	Metres

A5 PARALLEL MID-BODY DIMENSIONS



5.1	Light ship	47.9	Metres
5.2	Forward to mid-point manifold - light ship	23.8	Metres
5.3	Aft to mid-point manifold - light ship	24.1	Metres
5.4	Normal ballast	63.2	Metres
5.5	Forward to mid-point manifold - normal ballast	32.9	Metres
5.6	Aft to mid-point manifold - normal ballast	30.3	Metres
5.7	Loaded SDWT	83.2	Metres
5.8	Forward to mid-point manifold - loaded SDWT	39.9	Metres
5.9	Aft to mid-point manifold - loaded SDWT	43.3	Metres

A6 BUNKER CAPACITIES

	Grade	Capacity @ 98%	
Main engine	HFO	1236	m3
Auxiliary engine	MDO	400.7	m3
Other:	LNG / Ethane	1,956.66	m3

A7 FUEL CONSUMPTION DETAILS

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

A8 MAIN ENGINE PARTICULARS

8.1	Main engine make and type	Wartsila Type SL50DF Tier II - 2 Sets		
8.2	Number of units		2	
8.3	Maximum continuous rating (MRC) per engine		5850	kW
8.4	Total available power - Kwe		7,000	kW
8.5	Normal service power - Kwe at 75% SMCR		5,250	kW

A9 AUXILIARY PLANTS

9.1	Make and type of auxiliary generators / engines	Wartsila 6L20 DF			
9.2	Number of units		2		
9.3	Maximum generator output per unit	RPM	Kilowatts		
	Unit no. 1	1200	1110	kW	
	Unit no. 2	1200	1110	kW	
	Unit no. 3				
9.4	Shaft generator		2 x 1875	kW	
9.5	Total available power		3750	kW	
9.6	Emergency generator	1800	186	kW	
9.7	Emergency fire pump - type	Motor driven Vertical Centrifugal			
	Delivery pressure		8	Bar	
	Motive power		Electrical		
	If electrical, - indicate power required		43	kW	
9.8	Steering gear - type	Rolls-Royce RV850-R			
	Indicate power required to steer the vessel with one pump unit		34	kW	

A10 POWER/SPEED INFORMATION

10.1	Trial data	BHP	5412	kW
		MRC	5250	kW
		Speed	17.8	kN
		Draught	9.4	m
10.2	Normal service speed (LOADED / BALLAST)	BHP		
		MRC		
		Speed	16.7	kN
		Draught	9.4	m

A11 THRUSTERS

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

A12 FRESH WATER

12.1	Capacity of distilled tanks		49.7	Cubic metres
12.2	Capacity of domestic tanks		254.5	Cubic metres
12.3	Daily consumption	Distilled		Tonnes
		Domestic	5	Tonnes
12.4	Daily evaporator capacity		16	Tonnes

A13 BALLAST CAPACITIES AND PUMPS

	Tank	Capacity (m3)	Number
13.1	Fore peak	286.1	FPT
13.2	Wing and or side tanks	1928.6	1-4 TB P+S
13.3	Double bottom tanks	5469	1-6 DB P+S
13.4	Aft peak	821.4	APT
13.5	Deep tank	N/A	N/A
13.6	Total	8505	

13.7	Ballast pump make and type	Allweiler / Centrifugal Pump	
13.8	Number of pumps	2	
13.9	Total capacity	700	m3/h
13.10	Location	Engine Room	
13.11	Control location	ECR, CCR, Bridge	
13.13	Ballast Water Treatment Plant	GloEn - P700 - 1 Set	

A14 MOORING EQUIPMENT

14.1 **ROPES**

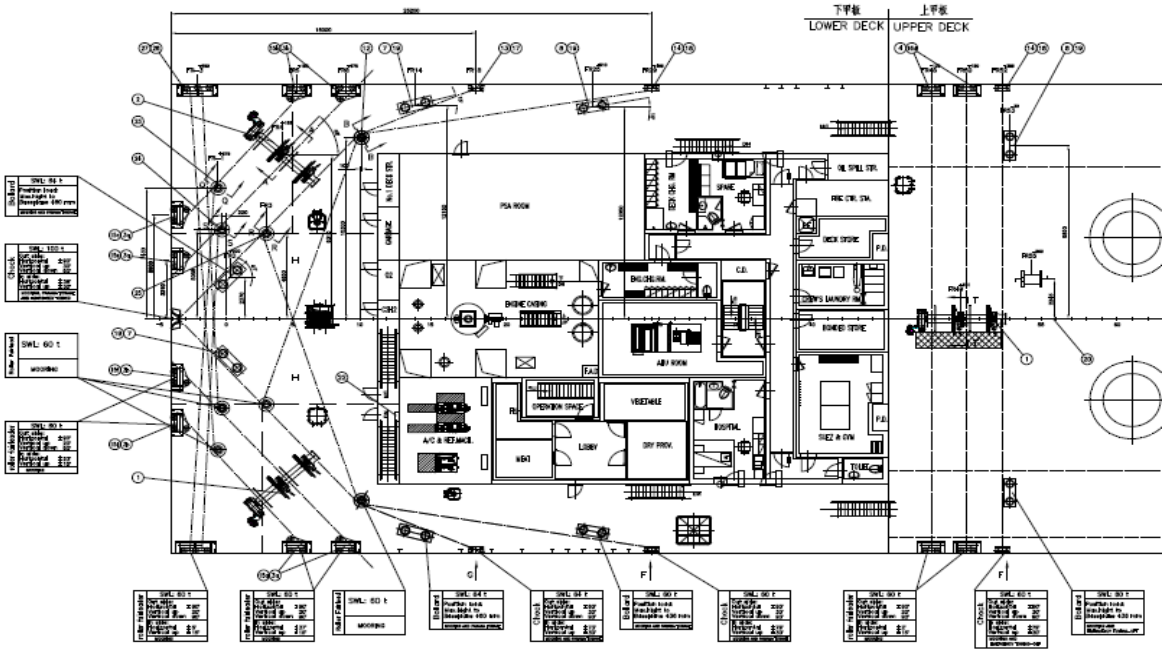
Indicate on the diagram below the position of:

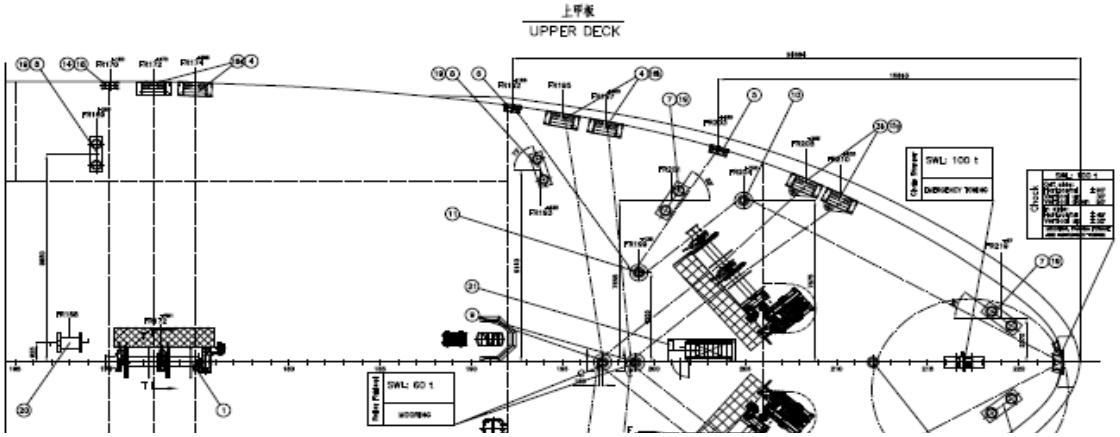
Winch Mounted Ropes (R)

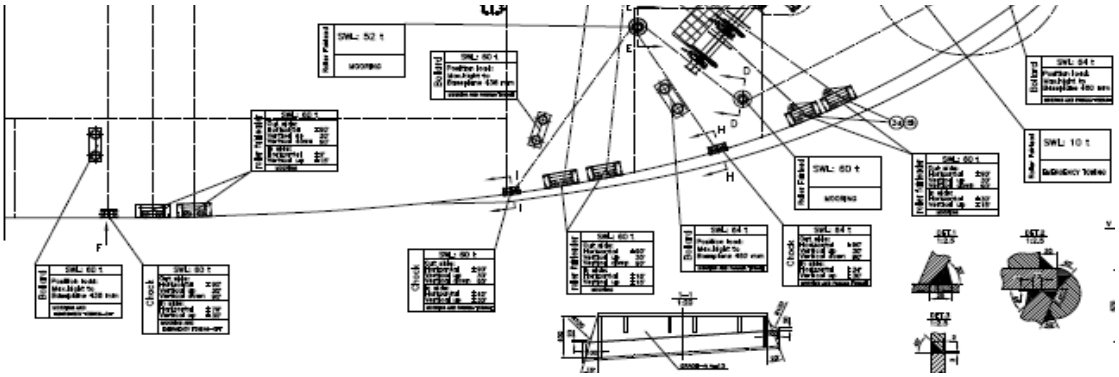
Open Fairleads (O)

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	4	
Diameter	64	mm
Material	Polyester	
Length	220	m
Breaking Strength	58.7	mt
Mooring Ropes (On Drums) Forward Main Deck - Number	2	
Diameter	64	mm
Material	Polyester	
Length	220	m
Breaking Strength	58.7	mt

Mooring Ropes (On Drums) Aft Main Deck - Number	2	
Diameter	64	mm
Material	Polyester	
Length	220	m
Breaking Strength	58.7	mt
Mooring Ropes (On Drums) Poop - Number	4	
Diameter	64	mm
Material	Polyester	
Length	220	m
Breaking Strength	58.7	mt

OTHER MOORING LINES

Mooring Ropes not on Drums - Number	2	
Diameter	64	mm
Material	Polyester	
Length	220	m
Breaking Strength	58.7	mt
Mooring Ropes not on Drums - Number		
Diameter		mm
Material		
Length		m
Breaking Strength		mt
Emergency Towing Wires / Fire Wires - Number	2	
Diameter	32	mm
Material	Steel Wire	
Length	45	mtr
Breaking Strength	71.5	mt

14.2 **MOORING WINCHES**

Forecastle - Number	2	
Single Drum or Double Drums	Double	
Split Drums Y/N	Y	
Motive Power	Hydraulic	
Heaving Power	150	kN
Brake Capacity	461	kN
Hauling Speed	15	M/Min
	45	M/Min
Forward Main Deck - Number	1	
Single Drum or Double Drums	Double	
Split Drums Y/N	Y	
Motive Power	Hydraulic	
Heaving Power	150	kN
Brake Capacity	461	kN
Hauling Speed	15	M/Min
	45	M/Min
Aft Main Deck - Number	1	
Single Drum or Double Drums	Double	
Split Drums Y/N	Y	
Motive Power	Hydraulic	
Heaving Power	150	kN
Brake Capacity	461	kN
Hauling Speed	15	M/Min
	45	M/Min
Poop - Number	2	
Single Drum or Double Drums	Double	
Split Drums Y/N	Y	
Motive Power	Hydraulic	
Heaving Power	150	kN
Brake Capacity	461	kN
Hauling Speed	15	M/Min
	45	M/Min

14.3 **ANCHORS AND WINDLASS**

Windlass motive power(e.g. steam, hydraulic)	Hydraulic	
Hauling power, nominal	220	kN
Hauling power, max	329	kN
Brake holding power	1575	kN
Anchor type	HY-14 SB HPP	
Weight	5515	kg

	Is spare anchor carried		No	
	Cable diameter		68	mm
	Number of shackles port cable		11	
	Number of shackles starboard cable		11	

14.4 **TOWING ARRANGEMENTS**

	Is the vessel fitted with a Towing Bracket Aft?		Yes	
		If Yes, state SWL	100	mt
	Is Towing chain provided		Yes	
	Dimensions of Towing wire	Diameter	65	mm
		Length	100	m

14.5 **WINDAGE**

	Windage on ballast draught	Front		
		End-on		
		Lateral	2205	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		Yes
15.22	Thruster(s) indicator		N/A
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		AVCS

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)	2
16.4	EPIRB	2
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?	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)
Methane	-163	545
Ethylene	-104	568
C-Ethane (0,5 mol% Methane in Liq. Phase)	-89	545
Propylene	-48	609
C-Propane (2,5 mol% Ethane in Liq. Phase)	-45	583
VCM	-14	969
Iso-Butane	-12	594
Butylenes	-7	625
Butadiene	-5	650
N-Butane	0	602
Methyl Cloride		
DME	-25	734
Other Cargoes		
Acetaldehyde	20	778
Dimethyl Amine	7	666
Ethyl Cloride	13	903
Diethyl Ether	35	700
Isoprene (Monomer)	34	666
Isopropyl Amine	32	676
Monoethyl Amine	17	687
Pentanes/Pentenes	36 / 30	605 / 608
Vinyl Ethyl Ether	36	750

Transport and Carriage Conditions

1.2	Minimum allowable tank temperature	-163	Deg. C
1.3	Maximum Permissible tank pressure	4.5	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)	Removal of spools	

B2 CARGO TANKS

2.1	Type and materials of cargo tanks	Type C, Bilobe / X7Ni9 Steel	
2.2	Maximum allowable relief valve setting	4.5	Bar gauge
2.2.1	IMO Setting	4.5	Bar gauge
2.2.2	USCG Setting	4.5	Bar gauge
2.3	Safety valve set pressure, - if variable stipulate range of pilot valves	4.5	Bar gauge
2.4	Maximum allowable vacuum	-0.25	Bar gauge
2.5	Maximum cargo density at 15 deg Celsius	992	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	CT 1	
Capacity m3 (100%)	8188.96	m3
Capacity 98%	7991.58	m3
N-Butane capacity	4811	Tonnes
N-Butane temperature	-0.5	Deg. C
C-Propane capacity	4659	Tonnes
C-Propane temperature	-45	Deg. C
Butadiene capacity	5195	Tonnes
Butadiene temperature	-4.5	Deg. C
Propylene capacity	4867	Tonnes
Propylene temperature	-48	Deg. C
Vinyl Chloride Monomer capacity	4567	Tonnes
Vinyl Chloride Monomer temperature	-13.8	Deg. C
Ethylene capacity	4539	Tonnes
Ethylene temperature	-104	Deg. C
Propylene Oxide capacity	N/A	Tonnes
Propylene Oxide temperature	N/A	Deg. C
Ammonia capacity	N/A	Tonnes
Ammonia temperature	N/A	Deg. C

Tank number / location	CT 2	
Capacity m3 (100%)	9687.06	m3
Capacity 98%	9459.72	m3
N-Butane capacity	5695	Tonnes
N-Butane temperature	-0.5	Deg. C
C-Propane capacity	5515	Tonnes
C-Propane temperature	-45	Deg. C
Butadiene capacity	6149	Tonnes
Butadiene temperature	-4.5	Deg. C
Propylene capacity	5761	Tonnes
Propylene temperature	-48	Deg. C
Vinyl Chloride Monomer capacity	5996	Tonnes
Vinyl Chloride Monomer temperature	-13.8	Deg. C
Ethylene capacity	5373	Tonnes
Ethylene temperature	-104	Deg. C
Propylene Oxide capacity	N/A	Tonnes
Propylene Oxide temperature	N/A	Deg. C
Ammonia capacity	N/A	Tonnes
Ammonia temperature	N/A	Deg. C

Tank number / location	CT 3	
Capacity m3 (100%)	9677.99	m3
Capacity 98%	9450.83	m3
N-Butane capacity	5689.40	Tonnes
N-Butane temperature	-0.5	Deg. C
C-Propane capacity	5509.83	Tonnes
C-Propane temperature	-45	Deg. C
Butadiene capacity	6143.04	Tonnes
Butadiene temperature	-4.5	Deg. C
Propylene capacity	5755.55	Tonnes
Propylene temperature	-48	Deg. C
Vinyl Chloride Monomer capacity	5989.97	Tonnes
Vinyl Chloride Monomer temperature	-13.8	Deg. C
Ethylene capacity	5368.07	Tonnes
Ethylene temperature	-104	Deg. C
Propylene Oxide capacity	N/A	Tonnes
Propylene Oxide temperature	N/A	Deg. C
Ammonia capacity	N/A	Tonnes
Ammonia temperature	N/A	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

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

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

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

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%)	27,554.00	m3
Total Capacity of all cargo tanks (98%)	26,902.12	m3
Total Capacity of N-Butane	16195	Tonnes
Total Capacity of C-Propane	15684	Tonnes
Total Capacity of Butadiene	17486	Tonnes
Total Capacity of Propylene	16383	Tonnes
Total Capacity of Vinyl Chloride Monomer	16553	Tonnes
Total Capacity of Ethylene	15280	Tonnes
Total Capacity of Propylene Oxide	N/A	Tonnes
Total Capacity of Ammonia	N/A	Tonnes

B16 DECK (FUEL) TANK CAPACITIES

Are Deck pressure tank(s) fitted?	Yes	
Material of tank(s)	Ni-Steel: X7Ni9	
Maximum allowable relief valve setting	7.0	Bar gauge

Deck tank number 1 - capacity (100%)	998.47	m3
Capacity 98%	978.25	m3
Propane Capacity	N/A	Tonnes
Butane Capacity	N/A	Tonnes
Propylene capacity	N/A	Tonnes
Ethylene capacity	N/A	Tonnes
Ammonia Capacity	N/A	Tonnes

Deck tank number 2 - capacity (100%)	998.37	m3
Capacity 98%	978.41	m3
Propane Capacity	N/A	Tonnes
Butane Capacity	N/A	Tonnes
Propylene capacity	N/A	Tonnes
Ethylene capacity	N/A	Tonnes
Ammonia Capacity	N/A	Tonnes

B4 LOADING RATES

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

N-Butane - with vapour return	1264	Tonnes/Hr.
N-Butane - without vapour return	1264	Tonnes/Hr.
C-Propane - with vapour return	1224	Tonnes/Hr.
C-Propane - without vapour return	1224	Tonnes/Hr.
Butadiene - with vapour return	1365	Tonnes/Hr.
Butadiene - without vapour return	1365	Tonnes/Hr.
Propylene - with vapour return	1279	Tonnes/Hr.
Propylene - without vapour return	1279	Tonnes/Hr.
Ethylene - with vapour return	1193	Tonnes/Hr.
Ethylene - without vapour return	1193	Tonnes/Hr.
Ammonia - with vapour return	N/A	Tonnes/Hr.
Ammonia - without vapour return	N/A	Tonnes/Hr.
Vinyl Chloride Monomer - with vapour return	2027	Tonnes/Hr.
Vinyl Chloride Monomer - without vapour return	2027	Tonnes/Hr.
Propylene Oxide - with vapour return	N/A	Tonnes/Hr.
Propylene Oxide - without vapour return	N/A	Tonnes/Hr.

4.8 **From Pressure Storage**

N-Butane 0 deg C - with vapour return	1264	Tonnes/Hr.
0 deg C - without vapour return	1264	Tonnes/Hr.
10 deg C - with vapour return	1243	Tonnes/Hr.
10 deg C - without vapour return	1243	Tonnes/Hr.
20 deg C - with vapour return	1220	Tonnes/Hr.
20 deg C - without vapour return	1220	Tonnes/Hr.

C-Propane minus 30 deg C - with vapour return	1192	Tonnes/Hr.
Minus 30 deg C - without vapour return	1192	Tonnes/Hr.
Minus 20 deg C - with vapour return	1166	Tonnes/Hr.
Minus 20 deg C - without vapour return	1166	Tonnes/Hr.
Minus 10 deg C - with vapour return	1140	Tonnes/Hr.
Minus 10 deg C - without vapour return	1140	Tonnes/Hr.
0 deg C - with vapour return	1112	Tonnes/Hr.
0 deg C - without vapour return	1112	Tonnes/Hr.
10 deg C - with vapour return	1083	Tonnes/Hr.
10 deg C - without vapour return	1083	Tonnes/Hr.
20 deg C - with vapour return	1053	Tonnes/Hr.
20 deg C - without vapour return	1053	Tonnes/Hr.

Butadiene 0 deg C - with vapour return	1340	Tonnes/Hr.
0 deg C - without vapour return	1340	Tonnes/Hr.
10 deg C - with vapour return	1315	Tonnes/Hr.
10 deg C - without vapour return	1315	Tonnes/Hr.
20 deg C - with vapour return	1290	Tonnes/Hr.
20 deg C - without vapour return	1290	Tonnes/Hr.
Propylene minus 30 deg C - with vapour return	1231	Tonnes/Hr.
Minus 30 deg C - without vapour return	1231	Tonnes/Hr.
Minus 20 deg C - with vapour return	1203	Tonnes/Hr.
Minus 20 deg C - without vapour return	1203	Tonnes/Hr.
Minus 10 deg C - with vapour return	1176	Tonnes/Hr.
Minus 10 deg C - without vapour return	1176	Tonnes/Hr.
0 deg C - with vapour return	1147	Tonnes/Hr.
0 deg C - without vapour return	1147	Tonnes/Hr.
10 deg C - with vapour return	1116	Tonnes/Hr.
10 deg C - without vapour return	1116	Tonnes/Hr.
20 deg C - with vapour return	1084	Tonnes/Hr.
20 deg C - without vapour return	1084	Tonnes/Hr.
Ethylene minus 100 deg C - with vapour return	1195	Tonnes/Hr.
Minus 100 deg C - without vapour return	1195	Tonnes/Hr.
Minus 95 deg C - with vapour return	1180	Tonnes/Hr.
Minus 95 deg C - without vapour return	1180	Tonnes/Hr.
Minus 90 deg C - with vapour return	1166	Tonnes/Hr.
Minus 90 deg C - without vapour return	1166	Tonnes/Hr.
Minus 85 deg C - with vapour return	1151	Tonnes/Hr.
Minus 85 deg C - without vapour return	1151	Tonnes/Hr.
Ammonia minus 20 deg C - with vapour return	N/A	Tonnes/Hr.
Minus 20 deg C - without vapour return	N/A	Tonnes/Hr.
Minus 10 deg C - with vapour return	N/A	Tonnes/Hr.
Minus 10 deg C - without vapour return	N/A	Tonnes/Hr.
0 deg C - with vapour return	N/A	Tonnes/Hr.
0 deg C - without vapour return	N/A	Tonnes/Hr.
VCM minus 10 deg C - with vapour return	2017	Tonnes/Hr.
Minus 10 deg C - without vapour return	2017	Tonnes/Hr.
0 deg C - with vapour return	1983	Tonnes/Hr.
0 deg C - without vapour return	1983	Tonnes/Hr.
10 deg C - with vapour return	1949	Tonnes/Hr.
10 deg C - without vapour return	1949	Tonnes/Hr.
20 deg C - with vapour return	1913	Tonnes/Hr.
20 deg C - without vapour return	1913	Tonnes/Hr.

4.14 **Special remarks:**

B5 DISCHARGING - GENERAL

Cargo Pumps

5.1	Type of Pumps	Wärtsilä Svanehøj AS DW 200/200-3K+1	
5.2	Number of pumps per tank	2	
5.3	Rate per Pump	350	m3/hr
5.4	At Delivery Head mlc	120	mlc
5.5	Maximum density	992	kg/m3

Booster Pump

5.6	Type of Booster Pumps	Wärtsilä Svanehøj AS NMB 150e	
5.7	Number of pumps	2	
5.8	Rate per Pump	500	m3/hr
5.9	At Delivery Head mlc	120	mlc
5.10	Maximum density	690	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 cargo pumps and 1 booster pump)	18	Hours

Fully Refrigerated

Manifold Back Press 1 kP/cm2, with vapour return	14	Hours
Manifold Back Press 1 kP/cm2, without vapour return	14	Hours
Manifold Back Press 5 kP/cm2, with vapour return	14	Hours
Manifold Back Press 5 kP/cm2, without vapour return	14	Hours
Manifold Back Press 10 kP/cm2, with vapour return		Hours
Manifold Back Press 10 kP/cm2, without vapour return		Hours

Pressurised

Manifold Back Press 1 kP/cm2, with vapour return	14	Hours
Manifold Back Press 1 kP/cm2, without vapour return	14	Hours
Manifold Back Press 5 kP/cm2, with vapour return	14	Hours
Manifold Back Press 5 kP/cm2, without vapour return	14	Hours
Manifold Back Press 10 kP/cm2, with vapour return		Hours
Manifold Back Press 10 kP/cm2, without vapour return		Hours

B7 UNPUMPABLES

7.1	Tank number / location	1	0.5	m3
	Tank number / location	2	0.5	m3
	Tank number / location	3	0.5	m3
	Tank number / location			m3
	Tank number / location			m3
	Tank number / location			m3
	Tank number / location			m3
	Tank number / location			m3
	Total		1.5	m3

B8 VAPORISING UNPUMPABLES

8.1	Process used	Vaporizing / Hot Gas	
	Time to vaporise liquid unpumpables remaining after full cargo discharge of:		
8.2	Butane	4	Hours
8.3	Propane	4	Hours
8.4	Butadiene	4	Hours
8.5	Propylene	4	Hours
8.6	Ethylene	4	Hours
8.7	Ammonia	N/A	Hours
8.8	Vinyl Chloride Monomer	4	Hours
8.9	Propylene Oxide	N/A	Hours

B9 RELIQUEFACTION PLANT

9.1	Plant Design Conditions - air temperature	45	Deg. C
9.3	Plant Design Conditions - sea temperature	32	Deg. C

	Plant Type	Wartsila - Hamworthy	
9.4	Is the plant two stage/direct? (for warm cargoes)	Yes	
9.5	Is the plant three stage/direct? (for propane and propylene)	Yes	
9.6	Is the plant simple cascade?	Yes	
9.7	Coolant type	R-1270 (propylene)	
	Compressors		
9.8	Compressor type	Reciprocating	
9.8.1	Compressor makers name	Burckhardt Compression 3K140-3D_1	
9.9	Number of compressors	2	
9.10	Capacity per unit, 1st / 2nd / 3rd stage (swept volume)	1913 / 1089 / 348	m3/hr
9.11	Are they Oil Free?	Yes	

B11 CARGO TEMPERATURE LOWERING CAPABILITY (AT SEA WITH SEA TEMPERATURE +20C)

	Time taken to lower the temperature of:		
11.1	**C-Propane** from -40 deg C to - 42 deg C*	39	Hours
11.2	**C-Propane** from -30 deg C to - 42 deg C*	190	Hours
11.3	**C-Propane** from -38 deg C to - 42deg C	74	Hours
11.4	**C-Propane** from +20 deg C to -0.50 deg C	N/A	Hours
11.5	**C-Propane** from -5 deg C to -20 deg C*	98	Hours
11.6	**N-Butane** from +5 deg C to-0.5 deg C*	77	Hours
11.7	**N-Butane** from +10 deg C to-0.5 deg C	135	Hours
11.8	**N-Butane** from +10 deg C to -5 deg C	N/A	Hours
11.9	**Butadiene** From +18 deg C to -5 deg C*	224	Hours
11.10	**Propylene** From -40 deg C to -47 deg C*	129	Hours
11.11	**Ethylene** From -99 deg C to -103 deg C	113	Hours
11.12	**Ammonia** From -16 deg C to -33 deg C	N/A	Hours
11.13	**Vinyl Chloride Monomer** From -5 deg C to -13 deg C*	95	Hours

*Temperature is changed to make suitable tank and suction pressures.

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, Oxymat Nitromat N X3000	
12.8	Purity N2	95.0 %	
12.9	Capacity	1650 M3/Hr	
	Purity N2	99.5%	
	Capacity	1000 M3/Hr	

Purity N2	99.8%

12.10	Capacity	630 M3/Hr	
12.11	Used for	Inerting and gas freeing	

Nitrogen

12.12	Liquid storage capacity	NIL	LTR
12.13	Daily boil-off loss	N/A	
12.14	Maximum supply pressure	1.0	Bar gauge
12.15	Supply capacity	N/A	
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?	36	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?	N/A	Hours
	Time taken to inert from cargo vapour to fully inert at minus 25 degrees dewpoint when IG density is **greater** than product?	N/A	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?	28	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 (Air)	Nitrogen
From Propane to Butane	160	83 000 Nm3	105 000 Nm3
From Propane to Butadiene	160	83 000 Nm3	105 000 Nm3
From Propane to Ethylene	160	83 000 Nm3	105 000 Nm3
From Propane to Ammonia	N/A	N/A	N/A
From Propane to Vinyl Chloride Monomer	160	83 000 Nm3	105 000 Nm3
From Propane to Propylene Oxide	N/A	N/A	N/A
From Butane to Propane	160	83 000 Nm3	105 000 Nm3
From Butane to Butadiene	160	83 000 Nm3	105 000 Nm3
From Butane to Ethylene	160	83 000 Nm3	105 000 Nm3
From Butane to Ammonia	N/A	N/A	N/A
From Butane to Vinyl Chloride Monomer	160	83 000 Nm3	105 000 Nm3
From Butane to Propylene Oxide	N/A	N/A	N/A
From Butadiene to Propane	160	83 000 Nm3	105 000 Nm3
From Butadiene to Butane	160	83 000 Nm3	105 000 Nm3
From Butadiene to Ethylene	160	83 000 Nm3	105 000 Nm3
From Butadiene to Ammonia	N/A	N/A	N/A
From Butadiene to Vinyl Chloride Monomer	160	83 000 Nm3	105 000 Nm3
From Butadiene to Propylene Oxide	N/A	N/A	N/A
From Ethylene to Propane	160	83 000 Nm3	105 000 Nm3
From Ethylene to Butane	160	83 000 Nm3	105 000 Nm3
From Ethylene to Butadiene	160	83 000 Nm3	105 000 Nm3
From Ethylene to Ammonia	N/A	N/A	N/A
From Ethylene to Vinyl Chloride Monomer	160	83 000 Nm3	105 000 Nm3
From Ethylene to Propylene Oxide	N/A	N/A	N/A
From Ammonia to Propane	N/A	N/A	N/A
From Ammonia to Butane	N/A	N/A	N/A
From Ammonia to Butadiene	N/A	N/A	N/A
From Ammonia to Ethylene	N/A	N/A	N/A
From Ammonia to Vinyl Chloride Monomer	N/A	N/A	N/A
From Ammonia to Propylene Oxide	N/A	N/A	N/A

From Vinyl Chloride Monomer to Propane	160	83 000 Nm3	105 000 Nm3
From Vinyl Chloride Monomer to Butane	160	83 000 Nm3	105 000 Nm3
From Vinyl Chloride Monomer to Butadiene	160	83 000 Nm3	105 000 Nm3
From Vinyl Chloride Monomer to Ammonia	N/A	N/A	N/A
From Vinyl Chloride Monomer to Ethylene	160	83 000 Nm3	105 000 Nm3
From Vinyl Chloride Monomer to Propylene Oxide	N/A	N/A	N/A
From Propylene Oxide to Propane	N/A	N/A	N/A
From Propylene Oxide to Butane	N/A	N/A	N/A
From Propylene Oxide to Butadiene	N/A	N/A	N/A
From Propylene Oxide to Ethylene	N/A	N/A	N/A
From Propylene Oxide to Vinyl Chloride Monomer	N/A	N/A	N/A
From Propylene Oxide to Ammonia	N/A	N/A	N/A

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	123	Tons
	Propane - Time required to cooldown cargo tanks from ambient temperature with vapour return line	6	Hours
	Propane - Time required to cooldown cargo tanks from ambient temperature without vapour return line	N/A	
17.2	**Butane** - Quantity of Coolant Required	N/A	Tons
	Butane - Time required to cooldown cargo tanks from ambient temperature with vapour return line	N/A	
	Butane - Time required to cooldown cargo tanks from ambient temperature without vapour return line	N/A	
17.3	**Butadiene** - Quantity of Coolant Required	45	Tons
	Butadiene - Time required to cooldown cargo tanks from ambient temperature with vapour return line	2	Hours
	Butadiene - Time required to cooldown cargo tanks from ambient temperature without vapour return line	N/A	
17.4	**Propylene** - Quantity of Coolant Required	128	Tons
	Propylene - Time required to cooldown cargo tanks from ambient temperature without vapour return line	6	Hours
	Propylene - Time required to cooldown cargo tanks from ambient temperature with vapour return line	N/A	N/A
17.5	**Ethylene** - Quantity of Coolant Required	155	Tons
	Ethylene - Time required to cooldown cargo tanks from ambient temperature with vapour return line	8	Hours
	Ethylene - Time required to cooldown cargo tanks from ambient temperature without vapour return line	N/A	
17.6	**Ammonia** - Quantity of Coolant Required	N/A	
	Ammonia - Time required to cooldown cargo tanks from ambient temperature with vapour return line	N/A	
	Ammonia - Time required to cooldown cargo tanks from ambient temperature without vapour return line	N/A	

17.7	**VCM** - Quantity of Coolant Required	73	Tons
	VCM - Time required to cooldown cargo tanks from ambient temperature without vapour return line	3	Hours
	VCM - Time required to cooldown cargo tanks from ambient temperature with vapour return line	N/A	

B18 LPG VAPORISER

18.1	Type of Vaporiser	U-tubes, welded in tube plate	
18.2	Number of Vaporisers fitted	1	
18.3	Capacity per unit - **Propane**	3000	m3/h
18.4	Liquid Supply Rate	9.5	m3/h
18.5	Delivery Temperature	-42	degC
18.6	Capacity per unit - **Ammonia**	N/A	
18.7	Liquid Supply Rate	N/A	
18.8	Delivery Temperature	N/A	
18.9	Capacity per unit - **Nitrogen**	N/A	
18.10	Liquid Supply Rate	N/A	
18.11	Delivery Temperature	N/A	

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	U-tubes, welded in tube plate	
20.2	Number Fitted	1	
20.3	Heating Medium	Seawater	
20.4	Discharge rates with sea water at 15 degrees C to raise product temperature of **Propane** from -42 degrees C to -5 degrees C	500	m3/h
20.5	Discharge rates with sea water at 15 degrees C to raise product temperature of **Ammonia** from -33 degrees C to 0 degrees C	N/A	

B21 HYDRATE CONTROL

21.1	Type of Depressant?	Ethanol	
21.1.1	Freezing point temperature?	-114	Deg. C
21.2	Quantity of Depressant Carried?	200	Ltr
21.3	Means of injection?	Portable Pump	
	Name any other system used	Hot Gas	

B22 CARGO MEASUREMENT

Level Gauges

22.1	Are level gauges local or remote?		Local & Remote	
22.2	Name of manufacture	HSH BV	Konsberg AS	
22.3	Type	Float	Radar	
22.4	Rated Accuracy		1	mm
22.5	Certifying Authority	SGS		

Temperature Gauges

22.6	Name of manufacture	Kongsberg Maritime AS		
22.7	Type		PT-100	
22.8	Rated Accuracy		0.1	deg.C
22.9	Certifying Authority	SGS		

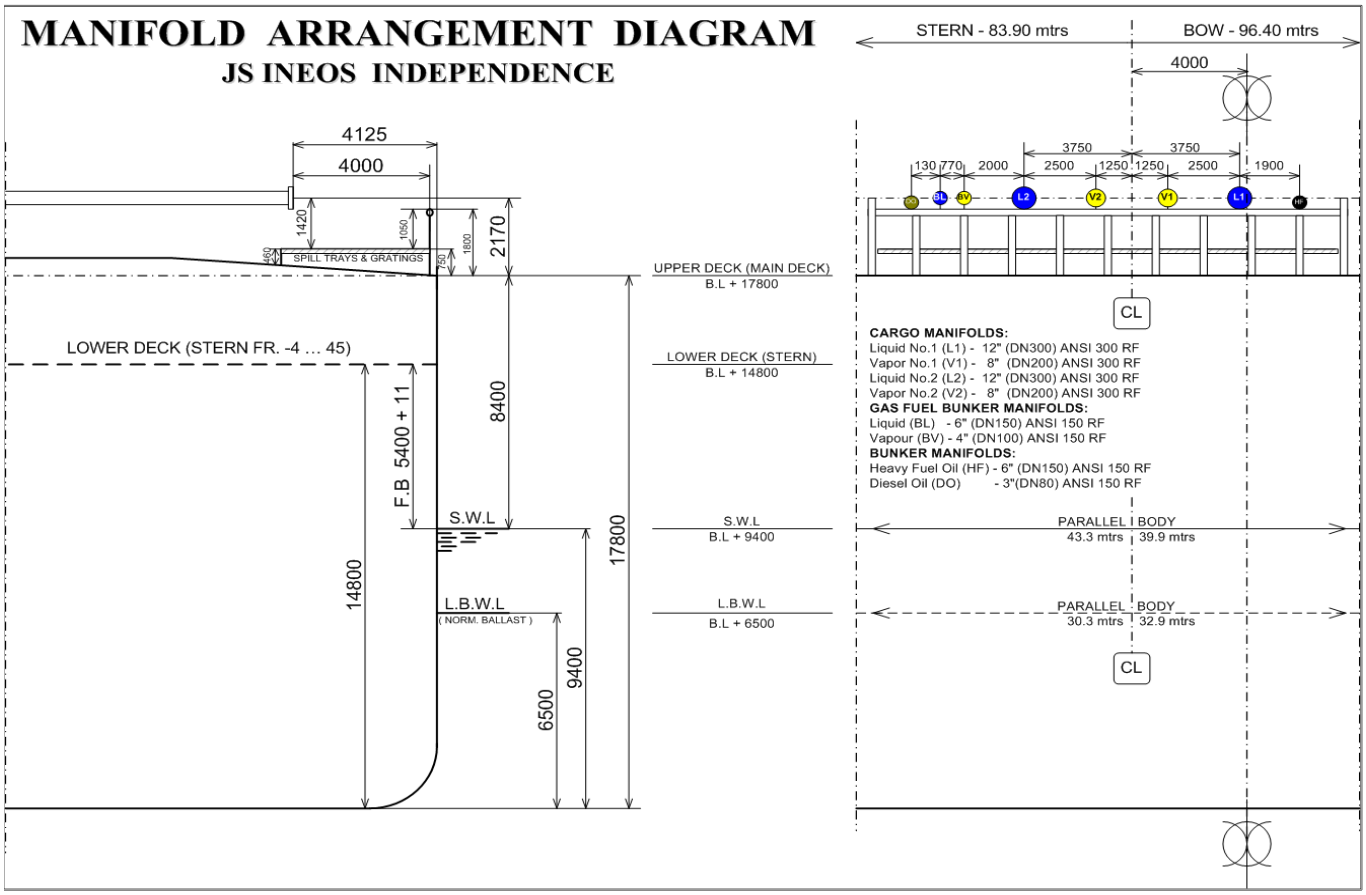
	Pressure Gauges		
22.10	Name of manufacture	Kongsberg Maritime Ship Systems AS	
22.11	Type	GT402F3C6L00	
22.12	Rated Accuracy	0.45	%
22.13	Certifying Authority	SGS	
	Oxygen Analyser		
22.14	Name of manufacture	Riken Keiki	
22.15	Type	GX-8000E	
22.15.1	What is the lowest level measurable?	0%	
	Fixed Gas 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	
22.20	Name of Certifying Authority	SGS	
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)	No	
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
	If no, - the arrangement for sampling is limited to:	N/A
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	Thread, female connection
	Size of sample connection	1/2"

B24 CARGO MANIFOLD

Manifold arrangement diagram



Center of manifold to bow	96.40	m
Center of manifold to stern	83.90	m
Liquid line L1		
Distance from bow	92.65	m
Distance from stern	87.65	m
Distance from manifold centerline	3750	mm
Size and rating	DN300 / ANSI B16.5 Cl.300	
Type	RF	
Height above uppermost continuous deck	2170	mm
Distance from ship's side	4125	mm

Height above load waterline	10.57	m
Height above light waterline	13.65	m
Vapour line V1		
Distance from bow	95.15	m
Distance from stern	85.15	m
Distance from manifold centerline	1250	mm
Size and rating	DN200 / ANSI B16.5 Cl.300	
Type	RF	
Height above uppermost continuous deck	2150	mm
Distance from ship's side	4125	mm
Height above load waterline	10.57	m
Height above light waterline	13.47	m
Vapour line V2		
Distance from bow	97.65	m
Distance from stern	82.65	m
Distance from manifold centerline	1250	mm
Size and rating	DN200 / ANSI B16.5 Cl.300	
Type	RF	
Height above uppermost continuous deck	2150	mm
Distance from ship's side	4125	mm
Height above load waterline	10.57	m
Height above light waterline	13.47	m
Liquid line L2		
Distance from bow	100.15	m
Distance from stern	80.15	m
Distance from manifold centerline	3750	mm
Size and rating	DN300 / ANSI B16.5 Cl.300	
Type	RF	
Height above uppermost continuous deck	2150	mm
Distance from ship's side	4125	mm
Height above load waterline	10.57	m
Height above light waterline	13.47	m
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	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		
	Nitrogen manifold		
	Distance from bow	N/A	
	Distance from stern		
	Distance from manifold centerline		
	Size		
	Height above uppermost continuous deck		
	Distance from ship's side		
	Manifold Arrangement Located on Top of Compressor		
	Distance from rail of compressor room/platform to presentation flanges	N/A	
	Distance from deck of compressor room/platform/try to centre of manifold	N/A	
B25	**CARGO MANIFOLD REDUCERS**		
25.1	Number of ANSI Class 300 reducers carried onboard	20	
	Flange rating of ANSI Class 300 reducer		
	Size of ANSI Class 300 reducer	DN 150 / DN 300	
	Length of ANSI Class 300 reducer	650	mm
25.2	Number of ANSI Class 300 to Class 150 reducers carried onboard	20	
	Flange rating of ANSI Class 300 to Class 150 reducer		
	Size of ANSI Class 300 to Class 150 reducer	DN 150 / DN 300	
	Length of ANSI Class 300 to Class 150 reducer	650	mm
25.3	Number of ANSI Class 150 reducers carried onboard	0	
	Flange rating of Class 150 reducer		
	Size of ANSI Class 150 reducer		
	Length of ANSI Class 150 reducer		

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?	Yes	
26.2	What is the type of connection used?	5-pin Plug & Fibre Optic	
26.3	Are ESD hoses or cables available on board?	Yes	
	If yes, length of pneumatic	N/A	
	If yes, length of electrical	30.00	m
	If yes, length of fiber optic	25.00	m
26.4	Is there a connection available for a telephone line?	Yes	
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	Butterfly	
	Closing time in seconds	20 - 30	Sec
	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 %	99.70	

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?	Yes	
	If no, then stipulate details	N/A	
27.4	State SWL at maximum outreach	6	MT
27.4.1	Maximum outreach of lifting equipment	11.70	M

B28 STORES DERRICK/CRANE

28.1	State location	Aft P+S/Side	
	SWL	2	MT

B29 SISTER VESSEL(S)

29.1	Name of vessel
	JS Ineos Insight
	JS Ineos Ingenuity
	JS Ineos Interpid
	JS Ineos Inspiration
	JS Ineos Innovation
	JS Ineos Intuition
	JS Ineos Invention