Liquefied Natural Gas Carrier

(170,000 m3; DFDE;
GTT III Membrane Containment)

STUDENT

FAMILIRISATION EXERCISE

CHECK LIST (Day 1)

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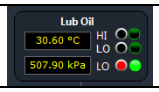
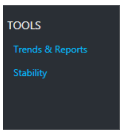
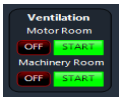
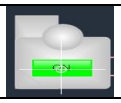
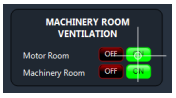
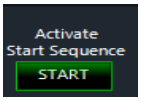
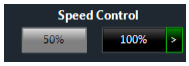
EXRCISES 0c – Unplanned, Non-Standard, Emergency Preparation - – **C/O in charge**

All candidates will perform all of familiarisation exercises on one simulator module. All simulator station are connected to one ship, in order to ensure everybody become familiar with its operation before starting actual Simulator Exercise, leader to delegate various tasks and get know each other

LNG CCR – Ex.0a – Prior Arrival Load Port

No.	PRIOR-ARRIVAL (Vessel at Sea)	Remarks	[√]
1	Simulator General Layout Familiarisation and Basic Operation of ships equipment	By Instructor	
2	Open ALARMLIST and take familiarisation with all active Alarms (flickering red indicators)	Alarm Page (click on Top Left Corner Red Indicator	
3	Acknowledge all flickering Alarms and familiarise with same	Pressing ON each alarm	
4	Open Real Time Tran dings	TOOLS > Trends and report	
5	Open ñCargo Maxò calculator ò	TOOLS > Stability	
6	Set CTMS reading, flow rate and ETC calculations accordingly	Cargo Max > Tools > Load / Discharge Rate Monitor	
7	2 x HOT Telephone tested and verified in good Order?	LNGC No. 121 Terminal No. 122	
8	2 x VHF sets for external communication verified in good condition and charged?	VHF Ch. 67	
9	4 x UHF sets for internal communication verified in good condition and charged?	UHF Ch. 5	
10	Self-Familiarisation with Simulator	Simulator set as One Ship	
11	Confirm Ventilation for Motor Room and Machinery Room STARTED	PROCESS OVERVIEW > Overall status > Green Highlighted	
12	Test Water curtain system (START > OFF)	Process Overview > Overall status >	
13	Records all Cargo Tanks Levels, Volumes, Temperature and Pressure	Appropriate Forms	
14	Cargo Tank Temperature Confirmed (Bottom 4 sensors) vessel ready for loading	ATR < - 130 C	
15	Vesselôs liquid header & crossover confirmed cold	CARGO PIPELINES > Cargo Pipelines	< -100 °C
16	Vent Mast No.1 CG 702 set to AUTO mode (23 kPa) and CG701 set in open condition	CARGO PIPELINES > Cargo Pipelines	
17	Check vessel Cargo Tanks and Deck Pipelines condition, line up all lines as required for normal sea passage	CARGO PIPELINES > Cargo Pipelines	
18	Check fixed gas detector system for cargo plant been set to AUTO mode ON, properly calibrated, zeroed (air purged) and confirmed in good working order?	GAS DETECTION > Fixed Gas Detection	

19	Portable Gas Detection System and oxygen meters calibrated properly zeroed (air purged) and confirmed ready for use?	GAS DETECTION > Portable Gas Detection	
20	Start Steam supply	HEATERS > Steam > Boiler ON	
21	Nitrogen Generators started and placed ON line and RUNNING	NITROGEN > Nitrogen Generator	Buffer 800 kPa
22	Nitrogen Distribution System line up properly to all consumers (Compressors seals, Manifold & Deck, N2 pressurisation Header)	NITROGEN > Nitrogen Generator > Nitrogen Distribution	
23	Nitrogen supply N2 header Pressure set to 50 kPa (G) to 50kPa N2 header))	Nitrogen > Nitrogen Generator > Nitrogen Distribution	
24	Confirm IBS and IS pressure increasing and steady at targeted pre-set values	NITROGEN > Nitrogen Distribution	Target: IBS Press.= 0.90 kPa IS Press. = 1.30 kPa
25	Glycol System No. 1 and No. 2 lined up	CARGO TANKS > Glycol	
26	Glycol System No. 1 Glycol Pump started	CARGO TANKS > Glycol	
27	Glycol System No. 1 Heater started (Pump and Heater On)	CARGO TANKS > Glycol	
28	Check Cargo Machinery Room status	CARGO PIPELINES > Machinery room	
29	Check L/D Compressor status and its starting procedures	COMPRESSORS > LD Stage No. 1 and No. 2 Compressors	Refer to Cargo Machinery Operational Manual
30	Check starting procedure for GCU and DFDE Engine gas burning procedures	CARGO PIPELINES > Machinery room	
31	Line Up in DFDE Engine for gas burning and make ready for gas burning	CARGO PIPELINES > Machinery room	Refer to Cargo Machinery Operational Manual
32	Start Gas Engine pipeline extraction Fan	ENGINE ROOM > Engine Room	
33	On the óStart Up Modeô(all permissive green), select óFuel modeô	COMPRESSORS > LD 2 Stage No. 1	
34	On the óSequence Statusô activate the Start Sequence. (The progress of the start sequence is indicated by the yellow progress bars. Initially, the start sequence involves pre-lubrication which runs for 2mins)		
35	When pre-lubrication is completed (progress bar = 100%) the compressor starts on 50% speed and the GCU valve (CG615) operation changes to automatic and opens		

36	On starting the LD flow controller SP is automatically set at ó1500ôwhich is the minimum for the engines.		
37	The start sequence will now continue with progress indicated on the lower progress bar. For a period of 5 mins the compressor is fixed at 50% speed.	Note the recycle valve remains partially open at this time due to the low flow rate is so low the DGV are on minimum settings	
38	Once this period is over, speed increase to 100% is available indicated by the ógreen >ôindicator to the right of the 100% selection button	The LD cannot increase to 100% speed until the inlet T has been less than -120(?) for 5 minutes	
39	Increase speed to 100% by selecting the 100% button. Discharge pressure from the compressor will now increase. When the pressure is 550 kPa the inlet valves to the engines open and the flow will increase. At the same time the GCU valve will close.		
40	Line up set for arrival Load port	Loading Plan ï Part 2	
41	Confirm Other Cargo Machinery Room Equipment tested and ready (H/D Compressors, heaters, vaporisersé)	Heaters, Vaporisers, H/D Compressors	
42	Has the ballast system (Ballast Pump, Piping, Eductors, Level gauges) been checked and found in good condition?	Avoid liquid being trapped	
43	Confirm Water ballast lines filled with water (water hammer precautions observed by inching) Make sure line not in vacuum before opening	Operation completed before arrival	
44	Check following logs / records ready for use: • C/O Order Book • C/O Standing Orders • Cargo Operational Plan • Ramp Up / ramp down sheet • Hourly Cargo records papers	Check with Instructor	
45	Familiarisation with Terminal Information, Ship / Shore Safety Checklist	Port limits weather criteria, ESD 2 criteria,	
46	Expected Visitors list available for gangway watch. Each Visitor allocated with escort guidelines and cabin distribution	Visitor List	
47	Confirm and prepare accordingly necessary documentation and Contractors Permit to work as necessary • Provision and spare confirmed, • Garbage Landing confirmed • Annual class attendance confirmed • Gyro Technician confirmed • Port state Control expected	Check with Instructor	
48	Are all crew members concerned with cargo work familiar with the actions to be taken in emergency cases during cargo operations?	C/O presentation	
49	Supplement (if necessary) If there are additional items to be checked, the Master may append them here with his signature?		
	PRIOR ARRIVAL SECTION COMPLETED	**VERBALLY AGREED BY CCR TEAM**	

Go To > Ex.0b – Upon Arrival Load Port

LNG CCR – Ex.0b – Upon Arrival Load Port

No.	UPON ARRIVAL	Remarks	[ã]
1	Cargo loading & de-ballasting plan understood by all team members	Confirmed by C/O with appropriate method	
2	Delegation of CCR Team duties confirmed by reverse	Completed CCR Tasks Check List	
3	Set IAS Monitors Layout	Complete IAS Monitors Layout check list	
4	Delegation of Main & Trunk Deck Tasks	Complete Main & Trunk deck Tasks Check List	
5	Confirm ESD Cable Connected	OPTICAL & Pneumatic	
6	Confirm Override removed for Extreme High Level = ESD (99.5 %- ESD activate) and Very High Level = TPS (99.0%- Filling Valve Closes) and verified and witnessed by Master	Emergency Shutdown Page and Use Indicator Plate & Make Logbook entry	
7	Confirm Loading Arms connected	Port Side alongside 4 x L; 1 x V	
10	Check with terminal, Boil off Management to be stopped if required	Gas to GCU / Engine Stopped, All gas masters valves shut	
11	Vapour from shore valve CG-075 opened / cargo tank pressures controlled	Terminal pressure to be confirmed (e.g. 15kPa)	
12	Records CTMS HEEL on board		
13	Line up confirmed correct and independently double checked according to Loading Plan		
14	PA announcement ócomm. cargo operationô	Use UHF channel 5 (internal communication)	
15	G/E confirm H/D line up and preparations done	Line Up, Lube Oil, Nitrogen>30kPa, Ant Surge valve open, IGV min. open	
16	Gas Engineer starts cooling down H/D Compressor	Release Pressure via CG900; 10 degrees/min	
17	If unable to control tank pressure, open CG-075.		
18	If still unable to control tank pressure, start H/D compressor	START HD COMPRESSOR	
19			
20			

Go To > Ex.0b – Unplanned; Emergency Preparation Check List

LNG CCR – Ex.0c – Unplanned, Non-Standard, Emergency

No.	Non Standard	Remarks	[√]
1	Small and big leaks from pipes, flanges and valves		
2	Small and big leaks from pipes, flanges and valves		
3	Local Cargo valve indicator not matching with IAS		
4	Valve mechanically stuck in partly open position or closed position		
5	Primary (RADAR) gauging system freeze or error to high		
6	Squall and Lighting in vicinity, approaching vessel		
7	ESD 1 activated from Terminal (post activation procedure and action)		
8	ESD 1 push button activation procedure		
9	Overfilling of cargo tank reported from deck (vapour followed by liquid on deck)		
10	Communication with terminal failure during bulk loading or during ramp down		
11	Bad weather criteria for stop cargo operation reached		
12	Mooring line parted forward reported by mooring station		
13	Breakaway from jetty, ESD 2 activated		
14	Terminal not able to receive vapour during Loading operation		
15	Uncontrolled venting (POVR leaking, Vane. Mast No. 1 safety valve leaking, Gas detected in Vent Mast é)		
16	Terminal request to commence gas burning on board ship due to shore reason		

17	Procedure in the event of the critical equipment failure	H/D Compressors, L/D Compressor, N2 Generator, Glycol system IAS. CTMS, ESD systems Vapour leakage to IBS	
18	Liquid Manifold strainer blocked		
19	Personal injury on deck (immediate medical assistance required)		
20	Accommodation Fire during cargo operation		
21	Procedure in the event of the critical equipment failure (cargo pumps)		
22	No vapour available from shore available during discharging operation		
23	Charter change HEEL quantity during Ramp Down operation		
24			
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VESSEL READY to COMMENCE CARGO OPERATION			