

Bunker Checklist

Liquefied Gas Series

Single Truck to Ship bunker operations

Version T

Bunker operations that are supervised by
a Bunker Facility Operator at a terminal

The different versions of the IAPH Truck to Ship bunker checklists are based upon the number of involved trucks, location and supervision during the LG bunkering as per table below:

Bunker operation	Supervision	Location	Checklist to be used
Single Truck to Ship	BFO	Bunker facility	LG TTS version A
Single Truck to Ship	Receiving vessel	Site outside a terminal	LG TTS version B
Single Truck to Ship	BFO	Terminal	LG TTS version T
Multiple Trucks to Ship	BFO	Bunker facility	LG TTS version M

This document is the Single Truck to Ship bunker checklist version T

Content

Who is this checklist for?..... 4

Used abbreviations..... 4

Schematic overview of the bunker process..... 5

Instructions for completing the truck-to-ship bunker checklist 6

Part A1 Preparation - Compatibility assessment topics..... 8

Part A2 Preparation - Joint Plan of Bunker Operations topics..... 9

Part A3 General information and bunkering identification number 10

Part B1 Pre-operation - Bunker Facility Operator 11

Part B2 Pre-operation - PIC receiving vessel..... 13

Part B3 Pre-operation - Terminal Operator 15

Part C1 Alignment and Agreement - Bunker Facility Operator and PIC receiving vessel..... 16

Part C2 Alignment and Agreement - PICs BFO and receiving vessel..... 18

Part C3 Alignment and Agreement - PIC Bunker Facility Operator..... 19

Part C4 Alignment and Agreement - PIC receiving vessel..... 20

Part C5 Alignment and Agreement - PICs BFO, receiving vessel and terminal 21

Alignment and Agreement - PICs BFO, receiving vessel and terminal..... 22

Part D1 Connection Testing - PIC Bunker Facility Operator 23

Part D2 Connection Testing - PIC receiving vessel 24

Declaration on parts B - D..... 25

Part E1 Transfer - PIC Bunker Facility Operator 26

Part E2 Transfer - PIC receiving vessel 27

Part E3 Transfer - Terminal 28

Part F1 Post-operation - PIC Bunker Facility Operator 29

Part F2 Post-operation - PIC receiving vessel 30

Part F3 Post-operation - Terminal 31

Declaration on part F..... 32

Who is this checklist for?

This document is **version T** of IAPH's Truck to Ship bunker checklist series for liquefied gasses using a single truck. Among others, this checklist is suitable for Liquid Hydrogen (LH) and Liquefied Methane (LM), e.g. Liquefied Natural Gas (LNG) and Liquefied Biogas (LBG).

This version is for a Bunker Facility Operator (BFO), the receiving vessel and the terminal operator. It has been developed specific for bunkering of vessels at a terminal under supervision of a Bunker Facility Operator. The terminal has a role in controlling land-based activities but is not involved in the safety management of the bunker operation.

Safe bunker operations depend on good closed-loop communication between all parties involved in the bunker operation, and on compliance with the agreed safety procedures at all stages. This bunker checklist helps to ensure that all appropriate checks are formally agreed, carried out and recorded.

The checklist has been developed in cooperation with maritime industry partners that have expertise on Single Truck-To-Ship bunkering of vessels with liquefied gas that can evaporate into flammable gas. The checklist mitigates the risk of the cryogenic nature of the liquid fuel as well as the risk of the release of flammable gas.

The bunker process is divided into six phases and the checklist has therefore six main parts:

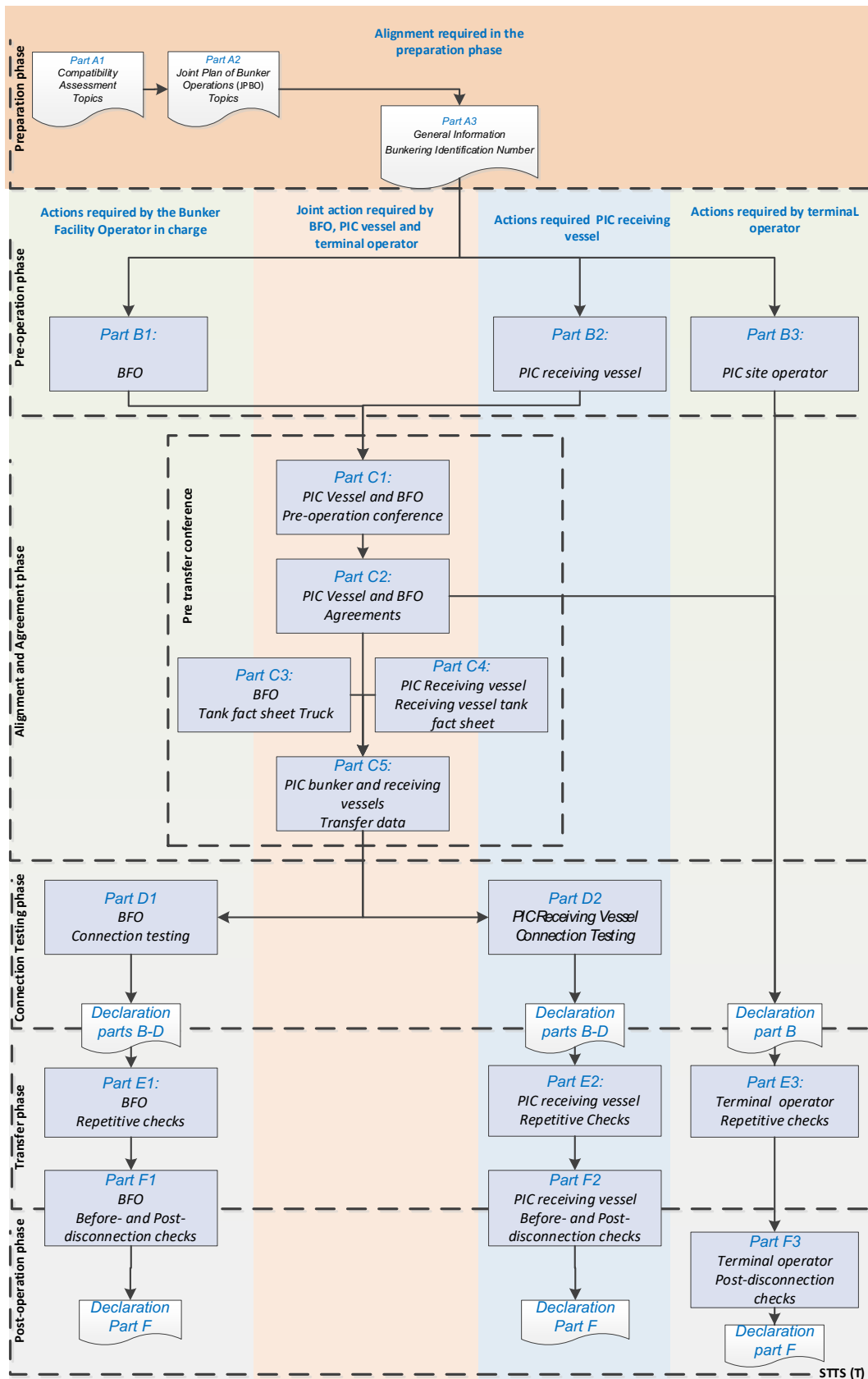
- Part A – Preparation phase;
- Part B – Pre-operation phase;
- Part C – Alignment and agreement phase;
- Part D – Connection testing phase;
- Part E – Transfer phase;
- Part F – Post-operation phase

Used abbreviations

BFO	Bunker Facility Operator
BIN	Bunker Identification Number
BV	Bunker Vessel
JPBO	Joint Plan of Bunker Operations
LH	Liquid Hydrogen
LM	Liquefied Methane
LNG	Liquefied Natural Gas
LBG	Liquefied Biogas
PIC	Person in Charge
RV	Receiving vessel
SO	Site Operator
SIMOPS	Simultaneous operations
TTS	Truck to Ship

Schematic overview of the bunker process

Below is an overview of this specific STTS bunker process in which there is an overall control by a BFO at a terminal.



Instructions for completing the truck-to-ship bunker checklist

The checklist consists of six main parts, A - F. The main parts are divided into multiple sub-parts for individual completion by either the bunker facility operator (BFO), the person in charge (PIC) of the receiving vessel, or the terminal operator. In Part C the sub-parts are completed together during the pre-transfer conference.

Part A: Preparation phase

In the preparation phase the BFO and the receiving vessel operator shall start a compatibility assessment. **Part A1** with topics for the compatibility can be used to check if all issues are addressed. The receiving vessel operator and BFO will agree on who will draft the Joint Plan for Bunker Operations (JPBO). The agreed party will draft the JPBO based on the operation manual of the truck operator, the bunker management plan of the involved vessel, the site- and local specific information from the terminal, and the agreements made during the compatibility check. **Part A2** with topics for the Joint Plan of Bunker Operations can be used to check if all issues are addressed. The agreed party will send the JPBO to all parties involved.

If there are any outstanding issues this should be explained in the communication for pre-arrival review by the representatives.

Upon receipt of the JPBO, parties involved shall complete **part A3** with the general bunker information and an agreed unique 'Bunker Identification Number' (BIN). This BIN shall be entered in the top right corner on each sub-part throughout the checklist.

Part B: Pre-operation stage

The BFO shall complete **part B1**, The PIC of the receiving vessel shall complete **part B2**. Copies of part B1 and B2 shall be exchange with the other party a.s.a.p., but not later than the pre-transfer conference. The terminal operator shall complete **part B3**.

Part C: Alignment and agreement phase

Before the operation starts the BFO and the PIC of the receiving vessel shall meet to conduct a pre-transfer conference. They shall jointly complete **part C1** and the agreement sheet **part C2**. The BFO shall exchange relevant operational information to the terminal operator. The BFO shall complete **part C3** and share it with the PIC receiving vessel. The PIC of the receiving vessel shall complete **part C4** and share it with the BFO. To finalize the pre-bunkering phase the PIC of the receiving vessel and the BFO shall jointly complete **part C5**.

Part D: Connection and testing phase

Before the operation starts the BFO shall complete **part D1** the PIC of the receiving vessel shall complete **part D2**.

Pre-transfer declaration

Before transfer, the PICs of the bunker vessel, the receiving vessel shall undersign the items checked in parts B - D. Before transfer, the terminal operator shall undersign the items checked in parts B.

Part E: Transfer phase

The BFO shall complete the repetitive checks in **part E1** at the agreed intervals. The PIC receiving vessel shall complete the repetitive checks in **part E2** at the agreed intervals. The terminal operator shall complete the repetitive terminal/site checks in **part E3** at the agreed intervals.

All involved shall have the record available for review by the other involved parties.

Part F: Post-operation phase

At the end of the transfer, before disconnection, the PIC of the BFO shall complete the checks “Before disconnection” of **part F1**, and the PIC of the receiving vessel shall complete the checks “Before disconnection” of **part F2**. When they have confirmed to each other that their pre-disconnection checks are satisfactory, they may disconnect.

After disconnection the PIC of the BFO shall complete the **part F1** checks “Completion of operation”, the PIC of the receiving vessel shall complete the **part F2** checks “Completion of operation”.

The terminal operator shall complete **part F3**

Post-operation declaration

After transfer the PICs of the bunker vessel, receiving vessel and site operator shall undersign the items checked in part F.

Special notes

Checklist code

The codes that are used in the checklist columns indicate:

A To be entered in the agreement sheet: Part C2

R Subject to a repetitive check: Part E1, E2, E3

JPBO See the Joint Bunker Management Plan for details

When unable to check the Yes box

If during the use of the checklists in phase B – F it isn’t possible to satisfactorily tick a “Yes” box while the check is applicable, then the issue shall be brought to the immediate attention of the other parties and corrected before the start of the operation. If it is not possible to correct the issue, then a further joint review should be undertaken to confirm whether the bunkering can safely proceed and whether additional mitigations are required to be agreed.

Agreed Physical Quantity

To avoid any confusion during the operation, in Part C5 an agreed decision shall be made on the physical quantity unit:

Agreed Physical Quantity Unit (PQU)	
Note the agreed Physical Quantity Unit (PQU):	<input type="checkbox"/> m ³ or <input type="checkbox"/> tonnes or _____

In this block the agreement is noted on the unit for quantity or volume that will be used during the exchange of information on the quantity or volume.

Part A1 Preparation - Compatibility assessment topics

The list of topics is an unlimited open guidance and can be expanded with other topics.

<p>Local and Site requirements:</p> <ul style="list-style-type: none"> - Local regulations and approvals - Site electrical equipment in the Hazardous zone - Control zones and safety measures - Controlled acces to safety- and hazardous zone - Approved safety distance to public (external safety) - Maximum permitted load of the quay or jetty <p>Mooring:</p> <ul style="list-style-type: none"> - Mooring analyses - Mooring points - Mooring loads - Mooring lines - Mooring gear load limits (bollards, chocks, rollers etc.) - Fendering - Hull form flat side - Overall dimensions - Bridge wing - Freeboard <p>Equipment:</p> <ul style="list-style-type: none"> - Approved transfer equipment - Electrical insulation - International shore connection - Crane and crane reach - Hoses - Hose support equipment - Vessel bunker manifold - Deluge System - Drip trays, gutters 	<p>Manifold:</p> <ul style="list-style-type: none"> - Distancing - Spacing, orientation - Height and strength - Layout - Instrumentation - Connectors and connections - Cryogenic protection - Spill containment <p>Connection:</p> <ul style="list-style-type: none"> - Lifting arrangements - Bunker hose configuration - Distancing (between manifold and bunkerstation - height and length) - ESD - ESD link - ERC <p>Bunkering and safety measures:</p> <ul style="list-style-type: none"> - Freeboard differences during bunkering - Draft and tidal changes - Weather and Wave conditions - Bunkering procedures including cooling down, purging and tests - Transfer data - Maximum allowable parameters - BOG / vapour management - Hazardous area classification and control - Exposure distances conform Industrial standards (IGC/EIGA), SIMOPS - Supervision by BFO 	<p>Truck:</p> <ul style="list-style-type: none"> - Routing at the site - Shore bunker location arrangement - Bonding of truck - Engine switch off - Pump - Weels chock measures <p>People:</p> <ul style="list-style-type: none"> - Personnel Instruction - Incident response instruction and training - Familiarity of personnel with safety areas and safety measures during bunkering - Emergency stop signal and shutdown procedures - Organisation - Roles and Responsibilities <p>Incident response:</p> <ul style="list-style-type: none"> - Fire control plan - Emergency Response procedures - Contingency planning <p>Communication:</p> <ul style="list-style-type: none"> - Joint Plan of Bunker Operations (JPBO) - Means of communication - Communication procedures and contact - Details involved parties - Language - Communication BFO - PIC Vessel
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Part A2

Preparation - Joint Plan of Bunker Operations topics

The list of topics is an unlimited open guidance and can be expanded with other topics.

<p>General</p> <ul style="list-style-type: none"> - Unique Bunker Identification Number (BIN) - Purpose and scope of the JPBO - Report of the Compatibility check <p>Transfer system</p> <ul style="list-style-type: none"> - ERS - ESD link - ESD test - Spill /gas detection and control systems <p>Roles and Responsibilities</p> <ul style="list-style-type: none"> - Organization - Responsibilities BFO-PIC vessel, truck driver and manifold crew in charge - Mandatory permissions <p>Bunker operation</p> <ul style="list-style-type: none"> - Approach - Mooring - Shore bunker location arrangement - Handling and connection of bunker hose and vapor return hose (if applicable) - Hose Saddle, Deluge System, Manifold Connection, Drip trays, gutters. - Connection, pressure test, purging, cooling down, gassing up - Environmental Operating Limits - Sequence of actions in case of a spill - PPE, personal safety - Draining, purging disconnecting, inerting - Post transfer procedures - Un-mooring 	<p>Vessels details</p> <ul style="list-style-type: none"> - Description of the involved vessel - Specification of the ships - Access to the vessel and access control of safety zones (including supervision) <p>BFO and truck details</p> <ul style="list-style-type: none"> - Description of the BFO - Description of the involved truck - Specification of the involved truck - Access control of safety zones (including supervision) around trucks <p>Bunker preparation</p> <ul style="list-style-type: none"> - Mooring analyses report, mooring plan - Description of location, bunkering zones - Description of the truck routing on the site - Description of safety zones - Fendering / mooring - Checklist to be used, latest version - Safety meeting - Bunker transfer: equipment and procedures - Energy carrier supply specification - Volumes (Quantities and characteristics) - Communication (e.g. language), contact details - SIMOPS, control zones, safeguards <p>Emergencies</p> <ul style="list-style-type: none"> - Emergency preparedness and response - Hull protection, water screens. - Emergency shutdown system - Dry break away coupling
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Part A3 General information and bunkering identification number

Bunker Identification Number (BIN): _____

JPBO version number: _____

Planned date and time: _____

Port and Berth: _____

Energy carrier: Liquefied Methane / Liquid Hydrogen / _____

Receiving vessel: _____

Bunker Facility Operator: _____

Terminal: _____

BIN: _____

Part B1 Pre-operation - Bunker Facility Operator

B1	Check	Status	Code	Remarks
1	Required permissions (including terminal permission) are granted and observed	<input type="checkbox"/> Yes		
2	Firefighting equipment is ready for use	<input type="checkbox"/> Yes		
3	Sufficient area illumination	<input type="checkbox"/> Yes	A - R	
4	The truck is able to move under its own power in a safe and non-obstructed direction	<input type="checkbox"/> Yes	R	
5	Access to the terminal is controlled	<input type="checkbox"/> Yes	R	
6	The bunker location is accessible for the truck	<input type="checkbox"/> Yes		
7	A safe emergency escape route is established	<input type="checkbox"/> Yes		
8	Terminal personnel is acquainted with the restricted area and applicable restrictions	<input type="checkbox"/> Yes	A	
9	Appropriate personal protective equipment is identified and available	<input type="checkbox"/> Yes		
10	Terminal's emergency response team is instructed.	<input type="checkbox"/> Yes		
11	Underground or subterranean waterdrains in the quay surface in the hazardous and safety zone are closed	<input type="checkbox"/> Yes		
12	JPBO, supervision and responsibilities are known by the involved truck driver	<input type="checkbox"/> Yes	JPBO	
13	Allocation for bunkering and arrangement of the truck and equipment is conform JPBO	<input type="checkbox"/> Yes	JPBO	
14	The restricted area is free of unauthorized persons, objects, and ignition sources	<input type="checkbox"/> Yes	JPBO	
15	Means to avoid backfilling are in place	<input type="checkbox"/> Yes		
16	Bunker pumps, pressure build up units or other means of transfer are ready for use	<input type="checkbox"/> Yes		
17	No part of the bunker connection can have blocked in volume without a TRV, the TRV outlet is in a safe location			

18	The truck is electrically grounded and the wheels are chocked or mechanically blocked	<input type="checkbox"/> Yes	R	
19	The truck engine is switched off during the connection, purging and disconnection of the bunker hoses	<input type="checkbox"/> Yes		<input type="checkbox"/> <i>Not applicable</i>
20	The truck engine is switched off during bunkering.	<input type="checkbox"/> Yes		<input type="checkbox"/> <i>Not applicable</i>

BIN: _____

Part B2 Pre-operation - PIC receiving vessel

B2	Check	Status	Code	Remarks
1	Mooring arrangement is effective	<input type="checkbox"/> Yes	R	
2	Firefighting equipment is ready for use	<input type="checkbox"/> Yes		
3	Sufficient area illumination	<input type="checkbox"/> Yes	A - R	
4	The receiving vessel can sail under its own power in a safe and non-obstructed direction	<input type="checkbox"/> Yes	R	
5	The restricted area is free of other ships, unauthorized persons, objects, and ignition sources.	<input type="checkbox"/> Yes	R	
6	Vessel entrance is controlled, and proper safety information is provided at the gangway	<input type="checkbox"/> Yes	R	
7	Safety measures within the safety area are observed	<input type="checkbox"/> Yes		
8	External doors, portholes and accommodation ventilation inlets are closed as per operations manual	<input type="checkbox"/> Yes	R	
9	Appropriate personal protective equipment is identified and available	<input type="checkbox"/> Yes		
10	Emergency water spray system is ready for use	<input type="checkbox"/> Yes		
11	Spill arrangements are effective and suitable for the applicable fuel	<input type="checkbox"/> Yes		
12	Hull and deck protection against low temperature is in place.	<input type="checkbox"/> Yes		
13	Bunker pumps and compressors are ready for use	<input type="checkbox"/> Yes		
14	Control valves are well maintained and in good working order	<input type="checkbox"/> Yes		
15	Unused bunker connections are blanked and fully secured	<input type="checkbox"/> Yes		
16	Fire control plans are readily available	<input type="checkbox"/> Yes		<input type="checkbox"/> <i>Not applicable</i>
17	International Shore Fire Connection is available.	<input type="checkbox"/> Yes		

18	Planned SIMOPS are in accordance with the safety procedures and risk mitigation in ship's operational documentation and JPBO	<input type="checkbox"/> Yes	JPBO	<input type="checkbox"/> <i>Not applicable</i>
19	SIMOPS will be compliant with local regulations and restrictions	<input type="checkbox"/> Yes		<input type="checkbox"/> <i>Not applicable</i>

BIN: _____

Part B3 Pre-operation - Terminal Operator

B3	Check	Status	Code	Remarks
1	Join Plan of Bunker Operation is received	<input type="checkbox"/> Yes		
2	The vessel is capable and allowed to moor on the planned location	<input type="checkbox"/> Yes		
3	The bunker location is accessible for the truck	<input type="checkbox"/> Yes	A	
4	The total truck weight does not exceed the maximum permitted load of the quay or jetty	<input type="checkbox"/> Yes		
5	Sufficient area illumination	<input type="checkbox"/> Yes	A - R	
6	The truck is able to move in a safe and non-obstructed direction	<input type="checkbox"/> Yes	R	
7	Access to the terminal is controlled/closed	<input type="checkbox"/> Yes	R	
8	A safe emergency escape route is established	<input type="checkbox"/> Yes		
9	Terminal personnel is acquainted with the restricted area and applicable restrictions	<input type="checkbox"/> Yes	A	
10	Access to the restricted areas is controlled	<input type="checkbox"/> Yes		
11	Terminal's emergency response team is instructed.	<input type="checkbox"/> Yes		
12	Underground or subterranean waterdrains in the quay surface in the hazardous and safety zone are closed	<input type="checkbox"/> Yes		
13	JPBO, supervision and responsibilities are known by involved terminal personnel	<input type="checkbox"/> Yes	JPBO	
14	Allocation for bunkering and arrangement of the truck and equipment is conform JPBO	<input type="checkbox"/> Yes	JPBO	
15	Safety area around the truck is established conform JPBO	<input type="checkbox"/> Yes	JPBO	

BIN: _____

Part C1 Alignment and Agreement - Bunker Facility Operator and PIC receiving vessel

C1	Check	Ship	BFO	Code	Remarks
1	Present weather and wave conditions are within the agreed limits	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	A - R	
2	JPBO procedures are known by personnel involved	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	JPBO	
3	Access between the ship and shore is safe and controlled	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes		
4	Operation supervision and watchkeeping is adequate	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes		
5	Effective communications are established	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	A - R	
6	Emergency stop signal and shutdown procedures have been agreed upon, tested, and explained to all personnel involved.	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	A	
7	Emergency procedures and plans and the contact numbers are known to the persons in charge	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes		
8	Predetermined restricted areas are established and appropriate signs marking these areas are in place	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	A - R	
9	Agreed safety measures within the safety area are in place including the use of proper PPE	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	A	
10	Measures for the prevention of falling objects are observed	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes		<input type="checkbox"/> <i>Not applicable</i>
11	Safety Data Sheets are available	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes		
12	Requirements concerning ignition sources are observed	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	R	
13	Bunker system gauges, high level alarms and high-pressure alarms are operational	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	R	
14	Boil-off pressure control systems and/or re-liquefaction equipment are operational	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes		
15	Vapour connections are properly connected	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes		<input type="checkbox"/> <i>Not applicable</i>
16	An emergency release coupling (dry break away) is in place and ready for activation	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	A	

17	ESD arrangements including automatic valves, both on the ship and at the truck, are ready for activation	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	A	
18	Vessel's person in charge (PIC) can activate ESD truck, PIC BFO can activate ESD vessel.	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	A	
19	The bunker connection between the ship and the truck is sufficiently supported	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes		
20	The bunker connection between the ship and the multiple manifold rig has adequate electrical insulating means in place.	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	A	<input type="checkbox"/> <i>Not applicable</i>
21	Competent authorities are notified of the start of bunker operations as per local regulations	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes		<input type="checkbox"/> <i>Not applicable</i>
22	Safety procedures and risk mitigation for SIMOPS are conform to the ship's operational documentation and the JPBO	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes		<input type="checkbox"/> <i>Not applicable</i>

BIN: _____

Part C2

Alignment and Agreement - PICs BFO and receiving vessel

C2	Reference to check	Description	Agreement
1	A3	Latest version of the JPBO	Reference: Date / version:
2	C1-20	Electrical insulation	Method:
3	C1-8	Control zones	Reference: Agreed signs:
4	C1-1	Weather and wave limitations	Limits:
5	B1-3 B2-3 B3-5	Bunker area illumination	Method:
6	C1-5	Communication	VHF / UHF Channel: _____ Language: _____ Primary System: _____ Backup System: _____
7	C1-6	Emergency stop signal and shutdown procedure	Reference: Alarm signal:
8	C1-17	ESD system	System: Link: Closing time ESD valve receiving ship: _____ seconds Closing time ESD valve Truck: _____ seconds ERC <input type="checkbox"/> Yes Dry Break Coupling <input type="checkbox"/> Yes

BIN: _____

Part C3 Alignment and Agreement - PIC Bunker Facility Operator

Factsheet truck

Status prior to bunker operations						
C3	Product & grade	Tank capacity	Volume	Temperature	Pressure	Aggregation state
1		m ³	PQU	°C / °F ¹⁾	bar / psi ¹⁾ (rel)	Liquid / gaseous ¹⁾

¹⁾ delete as appropriate

BIN: _____

Part C4 Alignment and Agreement - PIC receiving vessel

Tank factsheet receiving vessel

Status prior to bunker operations						
C4		Tank:	Tank:	Tank:	Tank:	
1	Present fuel quantity in bunker tank(s):					m ³
2	Remaining capacity for bunkering:					m ³
3	Temperature:					°C / °F ¹⁾
4	Pressure:					bar / psi ¹⁾ (rel)

¹⁾ delete as appropriate

BIN: _____

Part C5 Alignment and Agreement - PICs BFO, receiving vessel and terminal

Transfer Data

C5	Agreed Physical Quantity Unit (PQU)
1	The agreed Physical Quantity Unit (PQU): <input type="checkbox"/> m ³ or <input type="checkbox"/> tonnes or _____

C5	Agreed transfer data	Bunker Facility Operator	Receiving vessel	
2	Temperature of the fuel during bunkering:			°C / °F ¹⁾
3	Volume of fuel to be bunkered:			m ³
4	Filling limit bunker tanks:			%
5	Available tank capacity is sufficient for bunker volume:	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	
6	Starting rate:			PQU per hour
7	Max transfer rate:			PQU per hour
8	Topping up rate:			PQU per hour
9	Work pressure at manifold:			bar / psi ¹⁾ (rel)
10	Max pressure at manifold:			bar / psi ¹⁾ (rel)
11	Bunker line work pressure:			bar / psi ¹⁾ (rel)
12	Max pressure bunker line:			bar / psi ¹⁾ (rel)
13	Max pressure bunker tank			bar / psi ¹⁾ (rel)

¹⁾ delete as appropriate

BIN: _____

Alignment and Agreement - PICs BFO, receiving vessel and terminal

Simultaneous operations

C5-14	Agreed simultaneous liquefied gas / oil bunker operations (SIMBOPS) ²⁾	Bunker Facility Operator	Receiving vessel	Terminal
	<input type="checkbox"/> <i>Not applicable</i>	<input type="checkbox"/> Agreed	<input type="checkbox"/> Agreed	<input type="checkbox"/> Agreed

²⁾ Note that for oil bunker operations a separate bunker checklist should be completed

C5-15	Agreed simultaneous operations during bunkering (SIMOPS)	Bunker Facility Operator	Receiving vessel	Terminal
	<input type="checkbox"/> <i>Not applicable</i>	<input type="checkbox"/> Agreed	<input type="checkbox"/> Agreed	<input type="checkbox"/> Agreed

C5-16	Restrictions during bunkering due to SIMOPS	Bunker Facility Operator	Receiving vessel	Terminal
	<input type="checkbox"/> <i>Not applicable</i>	<input type="checkbox"/> Agreed	<input type="checkbox"/> Agreed	<input type="checkbox"/> Agreed

BIN: _____

Part D1 Connection Testing - PIC Bunker Facility Operator

D1	Check	Status	Code	Remarks
1	Transfer systems are tested, operational and ready for use	<input type="checkbox"/> Yes		
2	Gas detection systems are tested and operational	<input type="checkbox"/> Yes		
3	All means of communication are tested	<input type="checkbox"/> Yes	R	
4	Emergency stop signals and shutdown procedures are tested	<input type="checkbox"/> Yes		
5	Bunker system gauges, high level alarms and high-pressure alarms are operational	<input type="checkbox"/> Yes		
6	Safety and control devices on fuel installations are checked and working properly	<input type="checkbox"/> Yes		
7	Boil-off pressure control systems are operational and in good working order	<input type="checkbox"/> Yes		<input type="checkbox"/> <i>Not applicable</i>
8	Truck ESD arrangements, including automatic valves, are tested and ready for activation	<input type="checkbox"/> Yes		
9	ESD inter-linked connections are established and tested conform the JPBO	<input type="checkbox"/> Yes	JPBO	<input type="checkbox"/> <i>Not applicable</i>
10	ESD's manual activation is tested	<input type="checkbox"/> Yes		
11	Bunker transfer equipment is confirmed: <ul style="list-style-type: none"> - in good condition - of the appropriate type - sufficiently supported - properly fitted with gaskets/seals - lined-up correctly - properly rigged - secured to the manifolds - fully secured 	<input type="checkbox"/> Yes		

BIN: _____

Part D2 Connection Testing - PIC receiving vessel

D2	Check	Status	Code	Remarks
1	Transfer systems are tested, operational and ready for use	<input type="checkbox"/> Yes		
2	Gas detection systems are tested and operational	<input type="checkbox"/> Yes		
3	All means of communication are tested	<input type="checkbox"/> Yes	R	
4	Emergency stop signals and shutdown procedures are tested	<input type="checkbox"/> Yes		
5	Bunker system gauges, high level alarms and high-pressure alarms are operational	<input type="checkbox"/> Yes		
6	Safety and control devices on fuel installations are checked and working properly	<input type="checkbox"/> Yes		
7	Ship's ESD arrangements, including automatic valves, are tested and ready for activation	<input type="checkbox"/> Yes		
8	ESD inter-linked connections are established and tested conform the JPBO	<input type="checkbox"/> Yes	JPBO	
9	ESD's manual activation is tested	<input type="checkbox"/> Yes		
10	Bunker transfer equipment is confirmed: <ul style="list-style-type: none"> - in good condition - of the appropriate type - sufficiently supported - properly fitted with gaskets/seals - lined-up correctly - properly rigged - secured to the manifolds - fully secured 	<input type="checkbox"/> Yes		

BIN: _____

Declaration on parts B - D

We the undersigned have checked the items in the applicable parts B – D as marked and signed below:

	Bunker Facility Operator	Receiving vessel	Terminal
JPBO received	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Part B - Pre-operation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Part C - Alignment and agreement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> On C 14, 15, 16
Part D - Connection testing	<input type="checkbox"/>	<input type="checkbox"/>	

We have satisfied ourselves that the entries we have made are correct to the best of our knowledge and that the parties involved agree to undertake the bunker operation.

We have also made arrangements to carry out repetitive checks as necessary and agreed that those items coded 'R' in the checklist, and noted in part E, which should occur at intervals not more than _____ hours.

If, to our knowledge, the status of any item changes, we will immediately inform the other party.

Bunker Facility Operator	Receiving vessel	Terminal
Name	Name	Name
Position	Position	Position
Signature	Signature	Signature

BIN: _____

Part E1 Transfer - PIC Bunker Facility Operator

Repetitive checks

Note interval: _____ hrs.

E1	Check	Time	Time	Time	Time	Time	Time	Remarks
-	Time of check							
1	Access ship shore is safe and controlled	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	
2	Communication is functioning	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	
3	Illumination is sufficient	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	
4	The restricted area and safety zone requirements are observed	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	
5	Ignition source restrictions are observed	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	
6	SIMOPS restrictions are observed	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> <i>Not applicable</i>
7	Back filling protection is operational	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	
8	Truck cannot move unintentionally	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	
-	Initials							

BIN: _____

Part E2 Transfer - PIC receiving vessel

Repetitive checks

Note interval: _____ hrs.

E2	Check	Time	Time	Time	Time	Time	Time	Remarks
-	Time of check							
1	Weather / wave conditions within limits	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	
2	Mooring arrangement is effective	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	
3	Access ship shore is safe	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	
4	Communication is functioning	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	
5	Illumination is sufficient	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	
6	Receiving ship can sail under its own power	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	
7	Accommodation's external doors and ports are closed	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	
8	The restricted area and safety zone requirements are observed	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	
9	Vessel entrance is controlled, and proper safety information is provided at the gangway	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	
10	Ignition source restrictions are observed	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	
11	Overfilling protection is operational	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	
12	SIMOPS restrictions are observed	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Not applicable
-	Initials							

BIN: _____

Part E3 Transfer - Terminal

Repetitive checks

Note interval: _____ Hr.

E3	Check	Time	Time	Time	Time	Time	Time	Remarks
-	Time of check							
1	Access to the terminal is controlled/closed	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	
2	Access to the restricted areas is controlled	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	
3	Underground or subterranean waterdrains in the quay surface in the hazardous and safety zone are closed	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	
4	Communication is functioning	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	
5	Illumination is sufficient	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	
6	Allocation for bunkering and arrangement of the truck and equipment is conform JPBO	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	
7	The restricted area and safety zone requirements are observed	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	
8	Ignition source restrictions are observed	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	
9	SIMOPS restrictions are observed	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> <i>Not applicable</i>
-	Initials							

BIN: _____

Part F1 Post-operation - PIC Bunker Facility Operator

Post-transfer - Before disconnection

F1	Check	Status	Code	Remarks
1	Relevant bunker hoses, fixed pipelines and manifolds are purged, de-iced, inerted and ready for disconnection	<input type="checkbox"/> Yes		
2	All remotely and manually operated valves are closed as required for safe disconnection	<input type="checkbox"/> Yes		
3	Receiving vessel is notified on "ready to disconnect"	<input type="checkbox"/> Yes		

Post-disconnection - Completion of operation

F1	Check	Status	Code	Remarks
4	Restricted area and bunker area on the shore are cleared and restored to standard condition	<input type="checkbox"/> Yes		
5	Relevant documents are signed and exchanged	<input type="checkbox"/> Yes		
6	Near misses and incidents are reported to competent authorities	<input type="checkbox"/> Yes		<input type="checkbox"/> <i>Not applicable</i>
7	Competent authorities are notified on the completion of the bunker operation	<input type="checkbox"/> Yes		

BIN: _____

Part F2 Post-operation - PIC receiving vessel

Post-transfer - Before disconnection

F2	Check	Status	Code	Remarks
1	Relevant bunker hoses, fixed pipelines and manifolds are purged, de-iced, inerted and ready for disconnection	<input type="checkbox"/> Yes		
2	All remotely and manually operated valves are closed as required for safe disconnection	<input type="checkbox"/> Yes		
3	BFO is notified on "ready to disconnect"	<input type="checkbox"/> Yes		

Post-disconnection - Completion of operation

F2	Check	Status	Code	Remarks
4	Bunker area on the vessel is cleared and restored to standard condition	<input type="checkbox"/> Yes		
5	Relevant documents are signed and exchanged	<input type="checkbox"/> Yes		
6	Near misses and incidents are reported to competent authorities	<input type="checkbox"/> Yes		<input type="checkbox"/> <i>Not applicable</i>

BIN: _____

Part F3 Post-operation - Terminal

F2	Check	Status	Code	Remarks
1	Restricted area and bunker area on the shore are cleared and restored to standard condition	<input type="checkbox"/> Yes		
2	Relevant documents are signed and exchanged	<input type="checkbox"/> Yes		
3	Near misses and incidents are reported to competent authorities	<input type="checkbox"/> Yes		

BIN: _____

Declaration on part F

We the undersigned have checked the items in parts F as marked and signed below:

	Bunker Facility Operator	Receiving vessel	Terminal
Part F - Post-operation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

We have satisfied ourselves that the entries we have made are correct to the best of our knowledge and that the parties involved agree to have completed the bunker operation.

Bunker Facility Operator	Receiving vessel	Terminal
Name	Name	Name
Position	Position	Position
Signature	Signature	Signature
Date and time	Date and time	Date and time