

# LNG Bunkering Job Aid

## Vessel to Vessel

Name of Supply Vessel (SV): IMO and/or Official Number:	Est. Initial Transfer Rate:
Name of Receiving Vessel (RV): IMO and/or Official Number:	Est. Max Transfer Rate:
MISLE Activity Number:	Est. Max Transfer Press:
Date/Time Transfer Started:	Date/Time Transfer Completed:

USCG Inspector Name:	Supply Vessel PIC Name:	Receiving Vessel PIC Name:
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	<b>Recommended Actions Prior to Transfer</b>				
1	Verify notification to COTP of transfer at least 4 hours before it begins, if required.			CG-OES Policy Ltr 01-15, Encl(1), c. on pg. 6	
2	Verify valid vessel(s) Certificate of Inspection and Certificate of Compliance.			46CFR154.1801 46CFR154.1802	
3	Ensure that the vessels are securely moored and that work areas and transfer connections are adequately illuminated.			CG-OES Policy Ltr 01-15, Encl(1), b. on pg. 8	
4	Verify that a common language for communication is agreed to ensure vessels can communicate to maintain a safe operation.			SIGTTO STS Transfer Guide, Section 4. *	

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5	Verify that both the receiving vessel & supply vessel have completed a Declaration of Security (DOS).			33CFR104.255	
6	Verify receiving vessel is provided with a Fuel Handling Manual and Transfer Procedures are available.			CG-OES Policy Ltr 01-15, Encl (1), d on pg.6  IGF Code 18.2.3	
7	Verify PICs Designations and Qualifications, MMC/Endorsements. <ul style="list-style-type: none"> <li>• Holds an MMC with appropriate officer endorsement or</li> <li>• Holds STCW CH II or III and STCW.7/Circ 23</li> </ul> Verify personnel comply with resting hours as per STCW.			CG-OES Policy Ltr 01-15, (5)d on pg.3 & Encl(1) c. on pg. 5  STCW 2011 Reg. VIII/1	
8	Verify that prior to transferring LNG, the PIC transferring LNG has: <ul style="list-style-type: none"> <li>• Inspected the supply vessel transfer piping and equipment to be used during the transfer and replaced any worn or inoperable parts.</li> <li>• Noted the pressure, temperature, &amp; volume of each of the receiving vessel tank(s) into which LNG will be transferred to ensure they are safe and ready.</li> </ul>			CG-OES Policy Ltr 01-15, Encl (1), g.(1) on pg. 6  CG-OES Policy Ltr 01-15, Encl (1), g.(2)(v) on pg. 7  IGF Code 18.4.3	
8a	Reviewed and agreed with the PIC of the vessel receiving LNG as to: <ul style="list-style-type: none"> <li>• The sequence of transfer.</li> <li>• The transfer rate.</li> <li>• The location, duties, and watches of each person assigned to the transfer operation.</li> <li>• The emergency procedures from the supply vessel Emergency Manual.</li> </ul>			CG-OES Policy Ltr 01-15, Encl (1), g.(2)(i) on pg. 6/  CG-OES Policy Ltr 01-15, Encl (1), g.(2)(ii) on pg. 7/  CG-OES Policy Ltr 01-15, Encl (1), g.(2)(iii) on pg. 7/  CG-OES Policy Ltr 01-15, Encl (1), g.(2)(iv) on pg. 7  IGF Code 18.4.1.1	

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8b	Ensured hoses, transfer arms, piping, and fittings are electrically continuous and suitably insulated.			46CFR35.35-5 IGF Code 18.4.5	
8c	Ensured that the transfer connections allow both the supply vessel and receiving vessel to move to the limits of their moorings without placing a strain on the loading arm transfer piping system and/or hoses.			CG-OES Policy Ltr 01-15, Encl (1), g.(3) on pg. 7	
8d	Ensured that each part of the transfer system is aligned to allow the flow of LNG to the desired location aboard the receiving vessel.			CG-OES Policy Ltr 01-15, Encl (1), g.(4) on pg. 7	
8e	Ensured that the warning signs are displayed, and that all ignition sources in the fuel transfer area are eliminated.			CG-OES Policy Ltr 01-15, Encl (1), g.(5) on pg. 7  CG-OES Policy Ltr 01-15, Encl (1), g.(6) on pg. 7  IGF Code 18.4.6.1	
8f	Ensured that essential personnel are on duty and that the supply vessel PIC has no other assigned duties during the LNG transfer operation. PIC in immediate vicinity, available and properly supervising.			CG-OES Policy Ltr 01-15, Encl (1), g.(7) on pg. 7	
8g	Tested the following to determine that they are operable: <ul style="list-style-type: none"> <li>• The gas detection and alarm system.</li> <li>• The emergency shutdown system (ESD).</li> <li>• The main and backup communication systems.</li> </ul>			CG-OES Policy Ltr 01-15, Encl (1), g.(10)(i) on pg. 7  CG-OES Policy Ltr 01-15, Encl (1), g.(10)(ii) on pg. 7  CG-OES Policy Ltr 01-15, Encl (1), g.(10)(iii) on pg. 7	
9	Verify fire-fighting equipment is positioned and ready for immediate use.			CG-OES Policy Ltr 01-15, Encl (1), g.(9) on pg. 7	

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10	<p>Ensure that the safety and security areas are set and secure.</p> <ul style="list-style-type: none"> <li>If Applicable, ensured that no other vessels are moored outboard of either vessel without permission from the cognizant COTP.</li> </ul>			<p>CG-OES Policy Ltr 01-15, Encl (1), g.(8) on pg. 7</p> <p>ISO/TS 18683:2015 Guidelines for Systems and Installations for Supply of LNG as Fuel to Ships</p>	
11	Verify vessels' Loading and Stability Manuals, Operations Manuals, and Maintenance Manuals.			<p>CG-OES Policy Ltr 01-15, Encl (1) on pg. 2-5</p> <p>46CFR154.1809</p>	
12	Verify that prior to transfer, appropriate paper work has been completed (e.g. Declaration of Inspection)			<p>CG-OES Policy Ltr 01-15, Encl (1) on</p>	
13	<p>Verify that prior to transfer:</p> <ul style="list-style-type: none"> <li>Warning signs are displayed.</li> <li>Only authorized hotwork is being conducted in the vicinity of the LNG tank(s).</li> <li>Smoking areas not on the weather decks have been designated.</li> </ul>			<p>46CFR35.35-30</p> <p>46CFR35.35-20(a)(b)</p> <p>IGF Code 18.7</p> <p>IGF Code 18.4.6.1</p>	
14	<p>Verify that all LNG transfer hose connections have been made correctly:</p> <ul style="list-style-type: none"> <li>Suitable material made in joints</li> <li>Ensure that adequate tackle is used.</li> <li>LNG transfer valves are set correctly.</li> </ul>			<p>46CFR35.35-20(c)(d)</p> <p>IGF Code 8.4.1, 8.5.3</p>	
15	Ensure that there are no fires or open flames present on deck nor in any compartment which is located on, open or adjacent to, or facing the main deck of the vessel on which the LNG connections have been made.			<p>46CFR35.35-20(e)</p> <p>46CFR35.35-30(b)(11)</p>	

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16	If applicable, ensure that each part of the receiving vessel & supply vessel's vapor return system is aligned to allow methane vapors to flow. Verify electrical isolation of vapor connections and piping.			46CFR35.35-30(c)(1) 46CFR35.35-30(c)(2) 46CFR35.35-30(c)(3)	
17	Ensure that applicable sections of the receiving vessel's Response Plan have been reviewed prior to commencing the LNG transfer, and arrangements or contingencies have been made for implementation of the plan should the need arise.			46CFR35.35-30(b)(13)	
	<b>Recommended Actions During Transfer</b>				
18	<p>During the LNG fuel transfer operation, ensure that the PIC of the <b>receiving vessel</b>:</p> <ul style="list-style-type: none"> <li>• Maintains continuous communication with the PIC of the supply vessel.</li> <li>• Have continuous control of system pressure, temperature, and tank levels.</li> <li>• Monitors weather and discuss limitations.</li> <li>• Ensure that an inspection of the transfer piping and equipment for leaks, defects, and other symptoms of safety and operational problems is conducted at regular intervals during transfer.</li> </ul>			<p>CG-OES Policy Ltr 01-15, Encl (1), h.(1) on pg. 7 IGF Code 18.4.4</p> <p>CG-OES Policy Ltr 01-15, Encl (1), h.(2) on pg. 7 IGF Code 15.5.1</p> <p>CG-OES Policy Ltr 01-15, Encl (1), h.(3) on pg. 7</p>	
19	Ensure that transfer operations are discontinued before electrical storms or uncontrolled fires adjacent to the marine transfer area.			<p>CG-OES Policy Ltr 01-15, Encl (1), h.(4) on pg. 8</p> <p>46CFR35.35-40</p>	

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	<b>Recommended Actions When Transfer is Complete</b>				
20	<p>After a LNG transfer, the PIC of the receiving vessel should ensure that the hoses, manifold, and piping used during the transfer operation are purged so that natural gas levels are below the lower flammability level:</p> <ul style="list-style-type: none"> <li>• Properly drained, free of LNG residual, and inerted prior to disconnecting.</li> <li>• Securely blanked.</li> </ul>			<p>CG-OES Policy Ltr 01-15, Encl (1), i.(1) on pg. 8</p> <p>CG-OES Policy Ltr 01-15, Encl (1), i.(2) on pg. 8</p> <p>CG-OES Policy Ltr 01-15, Encl (1), i.(3) on pg. 8</p> <p>46CFR35.35-50</p>	

\* Recommended due to proven usefulness.