Sakhalin Energy Investment Company Ltd.

Controlled Document

Sakhalin Energy Assets

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Title:

MARITIME HSE STANDARD

СТАНДАРТ ПО УПРАВЛЕНИЮ ВОПРОСАМИ ОТОС ПРИ МОРСКИХ ОПЕРАЦИЯХ

APPENDIX 2 – INTERNATIONAL REQUIREMENTS FOR MARITIME SAFETY

Purpose

To confirm formal adoption of international conventions, standards and other requirements by Sakhalin Energy in relation to *Maritime HSE*, in accordance with Russian Federation, Lender and Shareholder requirements.

Who is this for?

- *Managers;*
- *HSE Professionals*.

Requirements

Sakhalin Energy shall comply with the provisions of all applicable International conventions and internationally recognized standards related to Maritime HSE

By virtue of its commitment to comply with material HSE and social law under the Common Terms Agreement, it is already under an obligation to comply with those provisions of the HSE and social international conventions which apply to private entities under Russian law and which are material to the Project.

In relation to Vessels, subject to its overriding obligation to comply with Russian law, the Company (or the applicable subsidiary of the Company) will also comply with the spirit of those provisions of the international shipping conventions (in the form such conventions are in force at the indicated date) which are capable of application to private entities (and insofar it is feasible for such an entity to fulfill these having used its reasonable endeavours to do so) in each case to the extent described in the narrative provided. The Company (or the applicable subsidiary of the Company) will also comply with those provisions of the international shipping conventions which apply to private entities having the interest it has in the relevant vessel (whether as owner or charterer pursuant to a bareboat charter or a timecharter as applicable) under Russian law and which are material to the Project.

The detailed International requirements (including those of Lenders and Shareholders) for Marine Environment Protection are listed in Sakhalin Energy Marine Environment Protection Standard (Document 1000-S-90-04-O-0010-00-E)

The Maritime Safety related conventions that have been adopted under the auspices of the "International Maritime Organisation (IMO), and are considered applicable to Sakhalin Energy are;

- International Loadline Convention.
- Safety Of Life At Sea (SOLAS) convention.
- International Convention on Standards of Training Certification and Watchkeeping for Seafarers (STCW).
- Convention on the International Regulations for Preventing Collisions at Sea, (COLREGs).
- United Nations Convention on the Law of the Sea.

- Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal.

Where the Russian Federation has yet to ratify a convention Subject to its overriding obligation to comply with Russian law, the Company will comply with the spirit of these conventions (in the form such conventions are in force at the date indicated) which are capable of application to private entities and which it is feasible for such an entity to fulfill having used its reasonable endeavours to do so, in each case to the extent as set out in this document.

Additionally, Sakhalin Energy adheres to the guidance provided by Internationally recognised industry bodies. The main Internationally recognized guidelines for safe vessel operations are the following industry produced documents e.g.;

- International Safety Guide for Oil Tankers and Terminals (ISGOTT).
- Oil Company International Marine Forum (OCIMF) guidelines.
- Society of International Gas Tanker and Terminals Operators (SIGGTO) guidelines.

APPENDIX 4 - MARITIME COMMITMENTS UNDER HSESAP

Purpose

To identify requirements publically committed in HSESAP in relation to Maritime operational HSE Risks1.

Who is this for?

- *Marine Manager*
- *General Manager Shipping and Commercial Operations.*

Requirements – General

The Marine Manager and General Manager Shipping and Commercial Operations are *Accountable* for requirements 1 to 11 for their own scope of activities.

1. Assess the Maritime Safety Risks associated with cargo transport vessels, Support Vessels, offshore floating Assets, Berths, offtake facilities and personnel transport, and put *Controls* in place to manage these Risks to *ALARP*.

2. Work Scope and Maritime *Procedures*

a. Define the work scope including technical specifications for maritime operations.

b. Establish, implement and maintain Procedures as required by the Maritime Process Model (including but not limited to the key documents listed in the bullet points below) for managing the Risk of Maritime operations in compliance with legal requirements and adopted international standards.

- SEIC Maritime Assets Quality Assurance Procedure
- Marine Operating Procedures and Guidelines (MOPAG) – detailed coverage of operating procedures including safety and environmental controls such as monitoring and mitigation of impact on wildlife, western gray whale protection measures, dangerous goods transport requirements, cleaning operations, and spill prevention and response,
- Port Prigorodnoye Regulations.

c. Issue clear instructions regarding MOPAG to all vessels. [MARPOL 73/78]

Requirements – Marine Vessels Suitability and Control

3. **MARPOL**. Sakhalin Energy shall comply with the provisions of MARPOL as it applies to offshore operations and vessels under Sakhalin Energy's control.

a. All hazardous operations at sea, such as fuelling, and hazardous waste transportation shall be conducted in compliance with the guidelines and with Russian federal law.

b. The Company will comply with material HSE law applicable in the relevant jurisdiction to a person holding the interest the Company (or its subsidiary) holds in the relevant vessel.

4. In addition, the company will comply with other requirements as indicated in Appendix 2 - International Requirements for Maritime HSE

5. **Vessels are subject to positive vetting and acceptance** The process is defined in the Sakhalin Energy HSE Management of Contracts Standard and applies to tankers and other vessels. As part of this, the following specific methodology for Vessel acceptance applies.

   a. The Vessel Inspection Questionnaire (VIQ) maintained by Oil Companies International Marine Forum (OCIMF) which incorporates requirements of MARPOL and the International Convention for the Safety of Life at Sea (SOLAS) is applied. Additional vessel screening and inspection is undertaken as detailed in the Sakhalin Energy SEIC Maritime Assets Quality Assurance Procedure

   b. Sakhalin Energy shall only accept at its jetties, tanker loading units (TLUs) and offshore installations those vessels, including PSVs (e.g., tugs, supply boats, etc.) that are certified to and comply with current **MARPOL** resolutions. Construction vessels shall be required to comply with MARPOL regulations and shall be audited to confirm compliance. [EIA Addendum on Oil Spill Response]

   c. Sakhalin Energy shall not accept vessels at jetties and TLUs with TBT (tri-butyl-tin) antifouling coating as of 1 January 2008.

   d. Sakhalin Energy shall accept only segregated ballast tankers (SBTs) at TLUs;

   e. Sakhalin Energy shall accept only vessels that have at least 5 days free on-board storage capacity for sanitary wastewater (for vessels over 200 tons gross tonnage); and,

   f. Vessels for the Transport of LNG or Crude Oil

      i. All tankers operating LNG and crude oil must be **double-hulled**. Access to single hull tankers shall only be approved by the Company in very special circumstances, and require approval by the Company's CEO..

      ii. Crude Oil and LNG Tankers shall be required to have an **International Oil Pollution Prevention (IOPP) Certificate**. Certification of Crude Oil and LNG Tankers shall be confirmed.

      iii. All crude oil tankers and LNG carriers chartered by Sakhalin Energy or scheduled to load at the Sakhalin Energy Aniva Bay facilities shall be positively vetted as per the SEIC Maritime Assets Quality Assurance Procedure before acceptance to load at the terminal. Where a tanker is leased by a third party, i.e. the oil or LNG purchaser, Sakhalin Energy shall require the vetting procedures to be applied once Sakhalin Energy is informed which tanker is to be used. Vessels that fail to meet requirements set out in the vetting procedure shall be refused entry to the loading facilities.

      iv. SEIC will ensure that all LNG or crude oil vessels owned or chartered by SEIC shall;

         - have on board all certificates, documents and equipment required from time to time by any governmental authority having jurisdiction over the relevant port where the Vessel is loading/unloading and by any applicable laws, treaties, conventions and regulations to enable her to perform the charter services;

         - comply with the IMO International Ship and Port Security Code 2002 and operate a safety management system certified to comply with the International Safety Management (ISM) Code for the Safe Operation of Ships and for Pollution Prevention, a documented safe working procedures system, a documented environmental management system, a documented accident/incident reporting system compliant with flag state requirements, and, in the case of such Vessels chartered by the Company, the owners shall submit to the Company a monthly written report detailing all accidents/incidents and environmental reporting requirements pursuant to an agreed reporting template;

- maintain HSE records sufficient to demonstrate compliance with the requirements of the Vessel's HSE system and the charter (where applicable);
- comply with the Prigorodnoye Terminal requirements for LNG carriers as well as any other requirements of the Russian Federation for summer, winter and ice seasons;
- throughout the period of its use for the purposes of the Project, have a full complement of crew who must be trained to operate the Vessel competently and safety to generally accepted standards of operation;
- throughout the period of its use for the purposes of the Project operate to the highest industry standards applicable for any such Vessel with respect to safety and reliability;
- comply with the requirements of all relevant international recognised safety and environmental standards including but not limited to IMO, MARPOL and SOLAS and carry valid certificates and documents verifying these on-board; and
- in the case of charters, the Company have the right to inspect the vessel at any time during the charter period to review compliance with of the Vessel with the owners' obligations under the charter, subject to such inspection occurring without interference or hindrance to the Vessel's safe and efficient operation.

v. In addition, in the case of Vessels which are time chartered by the Company or any of its shipping subsidiaries, the owners are required to advise the Company (or the relevant shipping subsidiary) immediately, in writing, if the Vessel fails an inspection by, but not limited to, a governmental and/or port state authority, and/or terminal and/or major charterer of similar tonnage. The owners are required to advise the Company (or shipping subsidiary as appropriate) of their proposed course of action to remedy the defects which have caused the failure of such inspection. If in the reasonable view of the Company (or its shipping subsidiary as appropriate) the failure of an inspection or any findings of an inspection referred to above prevents normal commercial operations then the Company (or its shipping subsidiary) has the option to place the Vessel off-hire from the date and time that the Vessel fails such inspection, or prevents normal commercial operations, until the date and time that the Vessel passes a reinspection by the same organisation or becomes commercially operable, which shall be in a position no less favourable to the Company or its subsidiary than at which she went off-hire.

vi. The Company's action tracking system Fountain Impact will be used in respect of all vessel related incidents notified to or known of by the Company.

g. Vessel Procedures onboard Crude oil and LNG tankers. Operational procedures shall be in place onboard all vessels for all operations that involve the handling of fuel, oil and oily effluents. At a minimum, all vessels shall comply with MARPOL. All tankers shall have Shipboard Oil Pollution Emergency Plan (SOPEP) according to IMO and Port-State control arrangements. Sakhalin Energy shall audit the SOPEPs.

h. Vessel Response equipment

i. Crude oil and LNG tankers [EIA Vol 1. 6-29 (2003)]. Pollution response equipment onboard all vessels shall be maintained in a constant state of readiness at all times. Equipment should be operated by competent trained personnel. Additional response equipment shall be stored and maintained on shore in a manner to allow ready deployment.

ii. Spill response equipment: An inspection and maintenance plan shall be in place to ensure that the equipment is cost-effectively maintained and that production and safety requirements are met.

Requirements – Shipping Routes

6. **Tanker shipping routes - Crude oil and LNG tankers** [EIA V2: 3-34, Addendum on Oil Spill Response].

   a. All tankers visiting Sakhalin Energy facilities shall be required to adhere to approved tanker shipping routes as imposed by international and Russian Federation rules and regulations.

   b. All tankers shall be required to develop Passage Plans and upon request lodge it with Sakhalin Energy before heading to or leaving Aniva Bay. At Aniva Bay, tugs and support vessels shall be on standby and shall enforce the exclusion zone around the terminal facilities.

   c. All tankers are required to use a qualified pilot when berthing at the LNG jetty or tanker loading unit or transiting the ice during the ice season.

   Note: A voyage risk assessment for all tanker traffic (both LNG and Oil Tankers) transiting Aniva Bay and La Pérouse Strait was undertaken by Sakhalin Energy, to ensure that all risks associated with tanker movements are understood and steps are taken to ensure any potentially significant risks are minimised. **Exclusion zone** [EIA Vol 2-3 3-34,35 (2003)]. An exclusion zone is established around the TLU, Oil Export Pipeline, LNG Jetty and MOF. Prigorodnoye terminal shall have port limits as indicated by navigation charts. Within the legal ability of the Company, check whether exclusion zone is being respected by all parties. File reports with the authorities of any vessel breaching the zone.

Requirements – Bunkering

7. **Vessel refuelling – Support Vessels, Construction Vessels, Crude oil and LNG tankers.** [EIA V1: 6-29] All vessel-refuelling operations shall be supervised and operate under a permit system. In addition:

   a. Refuelling shall be carried out to internationally accepted standards as laid down in the OCIMF Ship to Ship Transfer Guide;

   b. Refuelling shall normally be carried out during good weather and in daylight hours only. Priority shall be given to good weather re-fuelling over daylight refuelling;

   c. Communication links transfer systems between vessels shall be tested prior to pumping. Loading hoses shall be routinely inspected, pressure tested and maintained;

   d. Require all vessels to choose bunkering locations to minimise risk and to minimise impact to marine wildlife in the event of a spill;

   e. **Offshore bunkering** shall not occur in known Western Gray Whale feeding areas, sensitive marine environments, or in areas that could impact ongoing operations in the event of a spill;

   f. Dry break couplings, non-return valves and floatation collars on transfer hoses shall be used where required;

   g. Routine inspection and maintenance - Check that permits are in place during regular audits, Testing records to be routinely inspected, Inspect at-sea bunkering whenever possible.

Requirements – Discharges to marine waters from vessels

8. All vessels shall as a minimum standard comply with all the standards of MARPOL 73/78, in order to prevent pollution by oil, sewage, and waste discharge. Potentially contaminated drainage, including drainage from machinery spaces and bilges, shall be treated with an oil/water separator to ensure that oil concentrations meet the standard of 15 ppm

maximum without dilution prior to discharge. Records for operational discharges of oil (Oil Record Book) shall be kept. [EIA V2: 3.4.2; EIA V5: 3-34]

9. No sewage shall be discharged within 4 nautical miles (7 km) of the nearest land, and any sewage discharged between 4 and 12 nautical miles (21 km) shall be macerated and disinfected. Sewage treatment equipment shall be regularly inspected and maintained to ensure optimum operation. [EIA Volume 2, Section 3.4.2; MARPOL 73/78]
10. **Food wastes from vessels** shall be macerated and discharged to sea, or by other compliant methodology (e.g. incineration where permitted).
11. **Discharges from vessels** shall not occur in known Western Gray Whale feeding areas. (Refer to the Sakhalin Energy Marine Environment Protection Standard, Document 1000-S-90-04-O-0010-00-E) .
12. The keeping of records of operational discharges of oil and garbage shall be a mandatory requirement, and pollution response equipment onboard ship shall be maintained in a constant state of readiness at all times. [EIA Volume 2, Section 3.4.2; MARPOL 73/78]

APPENDIX 5 – ICE CONDITIONS

Purpose

To define requirements for managing *Risks* in Sea Ice Conditions.

Who is this for?

- *Marine Manager;*
- *General Manager Shipping and Commercial operations ;*
- *Contract Holders* and *Contractors* where work scope includes maritime activities in ice conditions.

Requirements

Marine Manager and General Manager Shipping and Commercial Operations **are *Accountable* for requirement 1.**

1. Sakhalin Energy commits to meeting relevant approved and applicable international and Russian Federation marine standards and regulations, which ensures that all vessels operating at the Sakhalin Energy offshore installations during the ice season are in a good condition and adequately equipped to cope with operating safely in sea ice conditions.

Marine Manager is *Accountable* for requirements 2 and 3.

2. During the ice season, Sakhalin Energy shall provide icebreaker escort within Port Prigorodnoye limits for approaching and mooring/unmooring operations to/from LNG jetty and TLU as primary task, ice forecasting and routing for all tankers visiting Sakhalin Energy facilities in Prigorodnoye and on request icebreaker escort in Aniva Bay and approach to Port Prigorodnoye when it does not exert detrimental effect on primary task. Depending on the ice situation in Aniva Bay and La Perouse Straight, an icebreaker may be deployed to maintain an open route for crude and LNG tankers.

3. Ice condition marine operations - Crude oil and LNG tankers. Operation of tankers during the ice season with Ice class 2 or lower (as per classification by Russian Maritime Register of Shipping), in Aniva Bay and La Perouse Strait shall only be allowed with icebreaker support under a number of provisions, for example:

- Type, power and breadth of icebreakers for icebreaker escort are determined depending on ice cover and sizes of tankers to be escorted;
- Winterization of the vessel calling at Prigorodnoye Terminal is subject to approval of relevant Technical Authority as defined in Company Technical Authority procedure and the Discipline Assurance Matrix;
- Icebreaker captains shall be provided with necessary information on the characteristics of the escorted tanker, her propulsive performance, stopping ability and manoeuvring characteristics;
- During the ice season, Sakhalin Energy Marine Operations Department shall communicate to approaching vessels the appropriate route to take during ice conditions. Ice forecasting routing system is available. Tanker vetting reports shall be retained