

**APPENDIX 15****Spill Preparedness and Response****Purpose**

To plan and prepare for effective *Oil Spill Response*¹ that mitigates potential consequences of an *Incident*, including identification and fulfilment of requirements at the planning and implementation stages.

Who is this for?

- Committee on Prevention and Response to Emergencies and Fire Safety (KChS) members;
- Crisis Management Team (CMT) members;
- Emergency Coordination Team (ECT) members;
- Well Control Team (WCT) members;
- Site Control Teams (SCT) members;
- *Emergency Response (ER) Teams* members;
- Health Safety and Environment (*HSE Professionals*);
- *Managers*.

Requirements of this specification are mandatory for all Company employees and contractors authorised for oil spill preparedness and response.

What situations are covered?

This Specification applies to *Oil Spill Response* involving *Sakhalin Energy Installations and Assets*: main process facilities, oil tanks, OET and LNG plant, pipelines, oil exploration/production facilities, oil and gas well drilling and construction operations, LNG/oil transportation operations associated with risk of spills of oil, LNG, oil products and other chemicals in environment and water bodies (seas, lakes, rivers and streams). The document does not cover spills from passing ships.

This specification does not cover prevention. Oil Spill prevention to reduce the risk of oil spills to *ALARP* levels is fundamental to the mitigation measures controlling the impacts. This shall be achieved through careful design, operation, training and maintenance in accordance with the standards [Managing Risk](#)² and [Asset Integrity and Process Safety](#), and the ongoing development and full implementation of the OSRPs as defined below.

Requirements

Managers of KChS Committee are *Accountable* for requirements 1 to 12 in their own organisation:

1. Maintain standard and plans.

- a. Prepare, implement and maintain the Sakhalin Energy Emergency Preparedness and Response (ER) Standard. By this Specification the standard identifies overarching principles and requirements relating to Oil Spill Preparedness and Response including manuals, handbooks and procedures applicable across the Company.
- b. Maintain the following location-specific Assets' *Oil Spill Response Plans (OSRPs)*, in addition to the Corporate *OSRP*:
 - Lunskoye Offshore Operations
 - Piltun-Astokhskoye Offshore Operations
 - Onshore Processing Facility

¹ Italicized terms in this document are included in the Sakhalin Energy [HSE Glossary](#).

² Underlined items in this document refer to Sakhalin Energy Controlled Documents.

UNCLASSIFIED	Document 0000-S-90-04-O-0014-00 -E Appendix 15	Revision 04	Printed copy uncontrolled	p1 of 6
--------------	--	-------------	---------------------------	---------



- Onshore Pipeline Operations
 - Prigorodnoye Onshore Operations
 - Prigorodnoye Offshore Operations
 - Infrastructure Facilities.
- c. OSRPs shall comply with legal and adopted international requirements, as defined in Legal Requirements for Emergency Response, International Requirements for Emergency Response, and the requirements of this Specification.
- d. OSRPs shall be updated in accordance with RF legal requirements and on an ad hoc basis, to incorporate any change in RF Law, international best practice, or learnings from incidents/exercises. [EIA Addendum Oil Spill Response]
2. The **ER Standard and OSRPs shall include** the following:
- a. **Description** of operations, site conditions, water depth, weather patterns, environmental baseline and sensitivity mapping (the information will include detail on sensitive habitats/areas, facilities, equipment inventory and equipment locations).
- b. Regulatory **framework** definition of tiers in accordance with RF requirements and *IPIECA* guidelines, with clear definition of Company responsibilities per tier.
- c. Potential spill **scenarios** and impacts including maximum credible spills (taking into account local conditions e.g. climatic variations, hydrometeorology, catchments and river gradients).
- d. **Response strategies and tactics** for various scenarios, different onshore and offshore locations, and different seasons (i.e. ice), based on priority protection of identified sensitive areas (primarily coastal bays and lagoons).
- e. **Organisational structure** for *OSR*, including roles and responsibilities (R&R), notification, communications and internal and external reporting procedures and contact details.
- f. **Contractual arrangements** with third parties and interface with and R&R of (sub-) contractors, government agencies and Non Government Organisations (NGO) that may be involved during emergency of a major magnitude.
- g. **Training programmes** for relevant Company staff, training requirements for any third party staff. Procedures for safe work for *OSR* personnel and protection of potentially affected populations.
- h. List of onsite and offsite response **equipment**, strategies for deployment and instructions on use (in different environments, different climatic and hydrometeorological conditions), and description of logistical support.
- i. **Oil Spill Tracking System** shall be specified in each relevant *OSRP* and implemented in the event of a spill, based on direct tracking by boats and a forecasting system using current weather and spill data, and informed by trajectory models.
- j. **Geographic Information System (GIS)** shall be used within *OSRP* as a tool to support decision-making during *OSR*. Clearly documented *GIS* database with meta-information to be available during regular audits. The following shall be undertaken by Sakhalin Energy: [EIA Addendum on Oil Spill Response]
- Up-to-date sensitivity mapping of all regions that could be impacted from a spill emanating from Company facilities or operations; and
 - Collating of specific information needs for onshore and offshore *OSR* in clearly separated data sets (information to include habitats, facilities, equipment inventories and location, river gradients etc).
- k. Guidelines for **wildlife** hazing, rescue and management, and specific measures for marine mammal protection,
- l. **Non-mechanical response techniques** to be implemented where appropriate in accordance with RF regulatory requirements and international best practice, based on Net Environmental Benefits Analysis (NEBA). Sakhalin Energy will seek prior approval from RF and local authorities for the use of dispersants and in-situ burning (ISB) response application under specified circumstances [EIA Addendum on *OSR*].
- m. **Storage, transport, treatment and disposal of waste** arising from a spill shall be undertaken in accordance with the Waste Management Standard (in particular refer to Waste Minimisation

UNCLASSIFIED	Document 0000-S-90-04-O-0014-00 -E Appendix 15	Revision 04	Printed copy uncontrolled	p2 of 6
--------------	--	-------------	---------------------------	---------



- Diversion and Disposal Specification, Requirement 8c) with the specific technology and techniques applied being selected based on the case specific characteristics of the material, RF regulatory requirements and international best practice. [EIA Addendum on Solid Waste Management]
- n. **OSR Operational Handbooks** are maintained, focusing on Incident Control and Operations, and include information on shoreline response, prioritisation for sensitive areas, OSR in ice, OSR Health and Safety, Aerial Surveillance, Computer modelling, Monitoring, and other topics. A Russian-English Glossary of Terms shall also be provided and maintained. The handbooks are produced in Russian and English. [EIA Addendum on OSR]
 - o. OSRP and all required supporting documentation shall be **available** in appropriate locations and accessible to key staff. [EIA V1: 6-29; V2: 3-36]
- 3. Provide equipment/resources as specified in OSRPs.**
- a. Appropriate levels of onshore and offshore OSR resources shall be made available. Locations and equipment are documented in the OSRPs, which are approved by RF and Sakhalin Oblast agencies. Sakhalin Energy shall provide sufficient equipment in appropriate locations relative to spill risks and the sensitivity of potential receptors. [EIA V4: 2-64; EIA Addendum on OSR]
- 4. Maintain Mutual Aid Agreements (MAA).**
- a. Exxon Neftegas Ltd (ENL) MAA. Maintain mutual assistance agreement with ENL for sharing of OSR resources. [EIA Addendum on OSR]
 - b. Oblast co-operation agreement. Regulations/agreements shall be maintained with the Oblast Emergency Committee and Local Authorities specifying joint actions in case of emergencies occurring at, or with a potential threat to, Sakhalin-2 Project Assets. Key elements include resources sharing, responsibility for the management of emergencies, and reconfirmation of the procedure for reimbursement of expenses in accordance with the Production Sharing Agreement (PSA). Spill notification and reporting requirements are identified and shall be maintained in internal Company procedures.
 - c. Transboundary Response Planning.
 - Prigorodnoye Offshore OSRP shall consider sensitivities for the northern coastline of Hokkaido. [EIA Addendum on OSR]
 - Environmental Sensitivity Index (ESI) maps of Hokkaido shall be available, showing shoreline classification, etc, and providing reference materials for use during a response.
 - A Memorandum of Understanding shall be maintained with the Japanese Marine Disaster Prevention Centre (MDPC) defining notification requirements and responsibility for response, to ensure that Japanese authorities are informed by Sakhalin Energy and that a response is mounted by responsible authorities within Japan.
 - Sakhalin Energy shall cooperate with Japanese and Russian authorities to ensure effective transboundary contingency planning.
- 5. Implement Training as specified in OSRPs.**
- a. Maintain adequate level of staff trained in OSR as specified in OSRPs. Training shall include continued participation in Tiered response exercises, and where applicable shall include joint training with Government and other oil industry personnel. These training opportunities shall be incorporated in the Training Programme and may include the following: OSR awareness, Shoreline response, Equipment operator, Refresher OSR, other specific training seminars and workshops where appropriate. [EIA Addendum on OSR.]
- 6. Implement Exercises and Drills as specified in the Emergency Exercise Schedule**
- a. Sakhalin Energy shall use contingency plans in the event of an oil spill, which have been tried and tested by trained personnel with a clear chain of command and adequate resources. [EIA Vol. 1, 6-28 (2003)].
 - b. OSR exercises shall be undertaken in cooperation with the RF and Sakhalin Oblast authorities to monitor the effectiveness of OSRPs. Categories and intervals are identified in table below in accordance with RF requirements and *IPIECA* guidelines. Exercise categories include desktop, field equipment deployment and complex incident management exercises. These events test



different aspects of the OSRP and entail different tiers of planning and complexity. Tier 1 Field deployment training for Company's NERT (Non-professional ER Team) and Contractor's PERT (Professional ER Team) shall be conducted at least once per month. Tier 1 Desktop exercise shall be conducted at least once per year. Tier 2 Complex exercise (combined Desktop and Field deployment events) shall be conducted at least once per two years at each Asset.. Exercise between Assets qualifies as an exercise for all participants. Conducted Tier 3 exercise supersedes Tier 2 event. The Company shall participate in regional exercises where appropriate. [EIA Addendum on Oil Spill Response]

	Tier 1	Tier 2	Tier 3
Desktop	12 months	24 months	36 months
Field deployment	1 month	24 months	36 months
Complex exercise	N/A	24 months	36 months

7. Implement OSRP in case of spill

- a. In the event of an oil spill that is directly associated with Sakhalin Energy activities, the required response activities shall be implemented, as specified in the relevant approved OSRPs.
- b. In the event of a third party spill, Sakhalin Energy shall assist the local and regional authorities as requested, as far as reasonable and practicable to do so. [EIA Addendum on Oil Spill Response]
- c. If considered safe to do so, small spills and leaks of oil and chemicals shall be cleaned up by trained staff using the appropriate pollution response equipment.
- d. Incident reporting shall track effectiveness with which OSRPs have been activated.
- e. Oiled areas shall be cleaned up in a manner that is consistent with the concept of Net Environmental Benefit Analyses (NEBA), and mitigation shall reference the baseline study and system to evaluate NEBA of clean up.
- f. An environmental assessment and monitoring programme shall be implemented in the event of a major spill incident to identify and assess any actual damage that might have occurred. Post spill monitoring assessment to be in place.[EIA Vol 1. 6-30 (2003)]

8. Implement rehabilitation and provide insurance

- a. Rehabilitate damage (using NEBA principles) and provide compensation where appropriate and required by RF Law.
- b. For spills from tankers, Sakhalin Energy commits to provide compensation in accordance with the (a) Civil Liability Convention (1992) and (b) Fund Convention 1992. Compensation for damage from Sakhalin Energy-based sources spills shall be covered by Sakhalin Energy and contractor insurance. Sakhalin Energy ensures that all contractors have adequate insurance cover. Sakhalin Energy OSRPs shall contain procedures for obtaining compensation. [EIA Vol 1.6-28 (2003)]
- c. To the extent obtainable at commercial rates and on commercial terms in the market, Sakhalin Energy through a pre-start-up audit, shall check and maintain in place the insurance cover for third party losses and clean up in the event of a spill occurring for which Sakhalin Energy incurs legal liability. Sakhalin Energy shall also require contractors to be adequately covered by insurance.

9. Verification and Review

- a. Regular site inspections shall be undertaken to ensure that (Company and where applicable Contractor) systems and equipment are maintained.



- b. Records shall be maintained, in particular in relation to the implementation of requirements relating to documentation, training, drills and exercises.
- c. The implementation of this Specification shall be periodically verified by audit as described in the [HSE Assurance Standard](#).
- d. Performance in relation to OSR shall be reported in the annual HSE report.

Requirements – Research and Public Disclosure

10. **Research.** The following studies were undertaken to inform the development of the *OSRPs*: Oil in ice behaviour studies; Spill Trajectory Studies including Oil in ice trajectory studies including trajectory modelling to determine the risk of spills to the shoreline of Sakhalin Island and Hokkaido, that assess risks from crude condensate, diesel and Heavy Fuel Oil spills; Oil characterisation studies; Characteristics of Offshore Ice; and Dispersibility studies. These are available in Russian and English.
11. **Independent review of Oil Spill Response Plan.** *OSRPs* shall be reviewed by an independent OSR consultant, appointed jointly by the Lenders and the Company. This review considers the plans' compliance with applicable Environmental Law, HSESAP requirements and benchmarks against international best practice and standards. The Company shall act upon the Consultant's reasonable comments, subject to approval by Russian Party and relevant RF authorities.
12. **Information dissemination and Public disclosure of OSR Plans.** [EIA A on OSR]
 - a. The following documents will be maintained in Russian and English and made publicly available on the Company's public website:
 - Summary of the Corporate ER Standard in relation to oil spill preparedness and response,
 - Summary of each Asset *OSRP*,
 - Wildlife Rehabilitation Site Implementation Manual.
 - b. The following Specification shall also be maintained in Japanese and made publicly available on the Company's public website and in Hokkaido public library:
 - Summary of the Corporate ER Standard in relation to oil spill preparedness and response,
 - Summary of the Offshore Prigorodnoye *OSRP*.

Requirements – Construction activities

Project Manager is *Accountable* for requirements 13 to 14:

13. During construction at sites, and at fuel or chemical storage facilities appropriate **spill response equipment** shall be available.
 - a. Ensure that each construction crew has on hand sufficient tools and material to stop leaks.
14. **Major construction contractors** shall be required to produce *OSRPs* to address oil spill risks during construction activities. These shall be compliant with RF legislation and the requirements of this Specification, and at a minimum shall:
 - a. Describe the preventive and mitigating measures to avoid or minimise impacts of spills of fuel, lubricants, or hazardous materials, especially within any municipal watershed area or within the water protection zone of any water body or wetlands;
 - b. Require fuelling and lubricating to be done in areas designated for such purposes and specifies measures to avoid or minimise spills when construction equipment (such as pontoon-mounted backhoes and pumps) shall be refuelled in or within the water protection zone of any water body or wetlands;
 - c. Identify emergency notification procedures in the event of a spill;
 - d. Require each construction crew to have sufficient supplies of absorbent and barrier materials on-hand to allow the rapid containment and recovery of any spills;
 - e. Include procedures regarding excavation and disposal of any soil or materials contaminated by a spill, and in collecting and disposing of waste generated during spill cleanup;

UNCLASSIFIED	Document 0000-S-90-04-O-0014-00 -E Appendix 15	Revision 04	Printed copy uncontrolled	p5 of 6
--------------	--	-------------	---------------------------	---------



Emergency Preparedness and Response Standard

Rev 05

- f. Identify names and telephone numbers of all Governmental Agencies and Sakhalin Energy 24/7 emergency phone 66 2500 that shall be contacted in the event of a spill.
- g. Sakhalin Energy shall review Contractor *OSRPs* and response equipment for adequacy and regular site inspections shall be undertaken to ensure that systems and equipment are maintained. [EIA Addendum on OSR].
- h. Commissioning activities – *OSRPs* should identify any extra requirements where appropriate to reflect the sensitivity of the groundwater resources where pipelines cross Sanitary Protection Zones (SPZs). Additional monitoring points should also be considered for these points, in the environmental monitoring plan. [EIA V4: 3-19]