

Classification:      Unclassified  
Issue Purpose      Issue For Use

BM Code: EP.17.03.05  
March 2006



## **Sakhalin Energy Investment Company LTD.**

# **Corporate Procedure For Lifting Operations Over Live Process Areas**

**Doc. No: 0000-S-90-04-P-7073-00-E**

**Revision: 01**

The copyright of this document is vested in Sakhalin Energy Investment Company LTD. All rights reserved. Neither the whole nor any part of this document may be reproduced, stored in any retrieval system or transmitted in any form or by any means (electronic, mechanical, reprographic, recording or otherwise) without the prior written consent of the copyright owner. The contents of this controlled document shall not be altered without formal approval of the document Custodian.



### Document History

**Filename** 0000-S-90-04-P-7073-00-E SEIC Corporate Procedure for Lifting Operations Over Live Process Areas.doc

Date	Issue	Custodian	Process Owner	Authoriser	Consulted	Distributed
Mar 06	01	HSES Manager, Andrew Pearce	Head of Operational Safety, Meirion Powell	Production Directorate, Leo Lievaart	Sparrows Offshore Services, PD HSE, LNG ALOP, OPF	All SEIC
		<i>AS</i>	<i>PP</i>	<i>Leo</i>		

### Revision Details

Rev	Location of Change	Brief Description of Change
01	Issue for Implementation	First official issue



**Content:**

<b>1.0</b>	<b>INTRODUCTION .....</b>	<b>4</b>
1.1	PURPOSE .....	4
1.2	SCOPE .....	4
1.3	TERMINOLOGY.....	4
1.3.1	DEFINITIONS .....	4
1.4	USER NOTES.....	5
<b>2.0</b>	<b>RISKS AND CONTROLS.....</b>	<b>6</b>
<b>3.0</b>	<b>RESPONSIBILITIES .....</b>	<b>6</b>
<b>4.0</b>	<b>REFERENCES.....</b>	<b>7</b>
<b>5.0</b>	<b>LIFTING OVER LIVE PROCESS AREAS .....</b>	<b>8</b>
5.1	LIFT PLANNING .....	8
5.2	APPROVAL PROCESS OF LIFTING OPERATIONS OVER LIVE PROCESS AREAS .....	9
<b>6.0</b>	<b>LIFTING EQUIPMENT .....</b>	<b>10</b>
6.1	LIFTING APPLIANCES .....	10
6.2	LIFTING ACCESSORIES .....	10
<b>7.0</b>	<b>LOAD REQUIREMENTS.....</b>	<b>11</b>



## 1.0 Introduction

### 1.1 Purpose

Lifting Operations over live process areas should not be considered unless absolutely necessary and no suitable alternative exists. Methods such as depressurization of pipelines, shutdown of plant and evacuation of building should be considered.

On occasion however, where lifting over live process areas is considered appropriate, the control of the lifting operations is of paramount importance for any work site in order to ensure all operations are conducted safely and in a timely manner but with minimum disruption to production.

This document details the SEIC requirements for conducting lifting operations over live process areas. It is compliant with all required Russian Federation Regulations. These are referenced in section 4.0. It is also in compliance with the SEIC Corporate Standard for Cranes and Lifting Equipment, and the SEIC Personnel Lifting Standard, also referenced in section 4.

### 1.2 Scope

This procedure covers the minimum requirements for the administration and control of lifting operations over live process areas at all SEIC worksites. The procedure also details the responsibilities of the personnel nominated to control lifting operations at SEIC sites.

Live process areas are defined as, but not limited to, the following for the purposes of this procedure:

- Areas with live plant or process equipment.
- Buildings occupied by persons.
- Drilling areas including wellbays.
- Sub-sea structures e.g. pipelines, manifolds, caissons etc....
- Live project pipelines.

This procedure may be applied on a site level to any other areas as deemed fit by the site management team.

Site Controllers may risk assess a proposed lifting operation and opt to continue without Asset Manager specific written approval if the severity is 3 or less using the SEIC Risk Assessment Matrix. Any decision to opt out using this procedure must be suitably documented by the Site Controller.

### 1.3 Terminology

**Shall** – indicates a mandatory course of action.

**Should** – indicates a preferred course of action.

**May** – indicates a permitted course of action.

#### 1.3.1 Definitions

The following definitions are used throughout this document.

##### **Competent Person**

A Competent Person is adjudged to have sufficient knowledge and experience and relevant RF certification to assess lifting issues, and the equipment and / or accessories being used.

**Lift Plan**

A written document, which will include details of how a lifting operation should be undertaken, the lifting equipment and lifting accessories to be used, how the equipment and accessories should be rigged up and the control measures in place to manage the risks identified in the Risk Assessment.

**Lifting Accessory**

Any item used to connect a load to a crane or lifting appliance, but which is not in itself capable of providing any movement to lift or lower the load. Sometimes the lifting accessory is termed as lifting gear, however within this document, all references shall be to lifting accessory.

**Lifting Appliance**

Any machine that is able to raise, lower or suspend a load but excluding machines incorporating a guided load, e.g. elevators, and continuous mechanical handling devices, e.g. conveyors.

**Lifting Equipment**

Any appliance, structure or item used to raise, lower, suspend or transport a load. Lifting Equipment comprises of both Lifting Appliances and Lifting Accessories.

**RF**

Russian Federation

**Rigger**

Person competent and qualified to conduct lifting operations with the use of loose lifting equipment. A rigger shall have the necessary knowledge and qualifications as per requirements of the RF.

**RosTekhNadzor:**

Russian Federation regulatory body responsible for ensuring compliance with all relevant legislation and technical standards for the Russian Federation. Previous body was GosGorTekhNadzor, which has now been replaced by RosTekhNadzor.

**Working Load Limit (WLL)**

The maximum load that an item of lifting equipment is designed to raise, lower or suspend. The WLL does not account for particular service conditions that may affect the final rating of the equipment.

**1.4 User Notes**

The requirements of this document are mandatory. Non-compliance must be authorized using the deviation procedure described in Chapter 10 of the Corporate Document Control Procedure ([000-S-90-01-P-0078-00-E](#)).

A controlled copy of the current version of this document is ONLY available on the SAKHALIN ENERGY Website and the Global Livelink system. Before making reference to this document, it is the user's responsibility to ensure that any hard copy, or electronic copy, is current. For assistance, contact the [Document Custodian](#).

Users are encouraged to participate in the ongoing improvement of this document by providing constructive [feedback](#).



## 2.0 Risks and Controls

The control of lifting over live process areas is of paramount importance for any work site in order to ensure all operations are conducted safely and in a timely manner and with minimum disruption to production. To this end, SEIC have chosen to implement this procedure to ensure that these lifts are carried out in a strictly controlled manner.

This document also specifies the role and responsibilities of the Asset Manager for examining the implication of risks associated with the lifting operation on an individual asset and overall business operations basis. No lifting operations over live process areas shall proceed without the written permission of the Asset Manager.

## 3.0 Responsibilities

### Document Custodian

The Document Custodian is responsible for:

- Providing discipline expertise for the creation, revision (including review of deviations and challenges in order to make recommendations to the Process Owner) and retirement of documents relating to the Lifting of Loads over Live process areas to meet the business needs of the Process Owner in accordance with the Corporate Document Control Procedure;
- Ensuring the technical validity of this document and that the document has been signed off to the correct level of technical authority;
- Defining the distribution requirements for this document;
- Keeping a record of user feedback on this document and considering comments at each document review.

### Process Owner

The Process Owner is responsible for:

- Specifying the need for this document and delegates the responsibility for creating it;
- Resolving any practical difficulties encountered in applying this procedure;
- Approving the document prior to issue.

### Authoriser

The Authoriser is responsible for:

- The content of this document but in practical terms delegates this responsibility to the document Custodian;
- Signing off this document at the highest level prior to issue.

### Asset/Project Managers, Line Managers and Department Heads

Asset Managers, Project Managers, Site Controllers in ISSOW and Department Heads shall be responsible for implementing this Procedure by ensuring that activities they control are managed in accordance with its requirements.

### Job Supervisor or Person in Charge (PIC)

The PIC shall be responsible for the safe execution of lifting operations. He shall provide supervision and maintain overall control of the operation. It is the responsibility of the PIC to ensure that all relevant documentation and controls are in place prior to the start of lifting operations over live process areas. The PIC must be fully aware of all hazards involved in the particular lifting operation as well as all concurrent live process activities. They may appoint a Competent Person as their deputy to formulate Lift Plans. They are responsible for ensuring that staff they supervise understand and implement the controls that are identified in this document.

**Lifting Operations Personnel**

Lifting operations personnel are responsible for ensuring that lifting equipment is used and controlled in accordance with the requirements of this procedure for work they undertake. All persons involved in the lifting operation shall be competent for the role they fulfill. The personnel must be involved in the toolbox talk and fully briefed on the particular risks and hazards associated with the lift and the critical phases of the lifting operation emphasized.

**Contractors**

Contractors are responsible for ensuring that activities undertaken within the scope of their contracts are managed in accordance with the requirements of this procedure.

**4.0 References****Applicable Regulations and Standards**

The procedures and practices contained in this document are compliant with the following Russian Federation regulations:

RD10-34-93	Standard Manual for Persons Responsible for Safety of Lifting
RD 10-40-93	Standard Manual for Engineering Personnel Responsible for the Safe Operation of Cranes
RD 10-74-94	Standard Safety Manual for Crane Operators
PB 10-382-00	Regulations on Design and Safe Operation of Cranes

The practices and procedures are also compliant with the following Shell standards:

EP2005-0264-ST	Lifting and Hoisting HSE
EP2005-0264-GL-01	Planning and Execution of Lifting

The practices and procedures are also compliant with the following SEIC Documents:

0000-S-90-04-O-0264-00-E, SEIC Corporate Standard for Cranes And Lifting Equipment  
0000-S-90-04-O-0287-00-E, SEIC Personnel Lifting Standard



## 5.0 Lifting Over Live process areas

Any lifting operation to be carried out over live process areas as defined in the scope, shall be defined as a Complex Lifting Operation as defined in the SEIC Corporate Standard for Cranes And Lifting and as such will be subject to strict control measures as defined in that standard.

Prior to considering the lifting of a load over a live process area, the use of an alternative method or travel path should be investigated.

The key elements, which must be considered in the planning and implementation of the lifting operation, include the following as a minimum:

- Competency of the lifting operations personnel.
- Detailed Method Statement or Lift Plan.
- ISSOW PTW Level 2 Risk Assessment.
- ISSOW Permit To Work and Lifting Operations Certificate.
- Formally recorded Toolbox Talk.
- Written Permission of the Asset Manager.

## 5.1 Lift Planning

### Method Statement or Lift Plan

A specific Method Statement or Lift Plan shall be generated for each lift over live process areas. The method statement or lift plan shall cover as a minimum the following:

- Emergency load recovery procedure in the event of loss of crane power.
- Identification, setting up and removal, post lift, of all barriers.
- Identification of necessary authorizations and approvals.
- Designation of lifting and landing sites and load travel route.
- Number of personnel required for the operation.
- Communication method.
- Emergency shut down / evacuation procedures for the live area in the event of problems developing with the lifting operation.
- 10 Questions for a Safe Lift.

The method statement or lift plan shall be drawn up and reviewed by suitably competent persons following the Lift Planning Flowchart in the SEIC Corporate Standard For Cranes And Lifting.

### Risk Assessment

An ISSOW defined Level 2 Risk Assessment following the SEIC Corporate Standard For Cranes & Lifting, Section 7.3, shall be generated for each lifting operation over live process areas. Each risk identified shall be assessed using the Risk Assessment Matrix (Appendix 1 of the Standard). The lift planning process shall reduce all risks to as low as reasonably practicable before the lifting operation may commence.

The Risk Assessment must cover as a minimum the areas identified within the SEIC Corporate Standard for Cranes & Lifting section 7.3 with particular emphasis on the following:

- Implications of loss of crane power or loss of load over live area.
- Breakdown of communication method.
- Proximity hazards.
- Management of concurrent conflicting operations.
- Barriering off of lifting operation area and control of access to non-involved personnel.
- Management of changes to lift plan or method statement.
- Implications of potential dropped objects over live process area.





## 5.2 Approval Process Of Lifting Operations Over Live Process Areas

### Lifting Operations Certificate (LOC)

A Lifting Operations Certificate shall be created for each lifting operation over a live process area. The validity period of the LOC shall be 7 days maximum.

### Permit to Work

A Permit to Work shall be raised for all lifting operations involving lifting over live process areas. The Permit To Work with the associated Lifting Operations Certificate will satisfy the requirement for Site Manager (Site Controller) approval for the lifting operation to proceed.

### Asset Manager

The Asset Manager must issue written permission to the Site Manager for the acceptance of a requirement for lifting over live process areas. It is the responsibility of the Asset Manager to consider the implications of the risks involved in the lifting operation on both the individual asset and related assets. The written permission to proceed issued by the Asset Manager shall specify if a further Readiness Review is required by the Asset Manager at the point of Permit To Work Approval.

### Site Manager

The Site Manager will fulfill the responsibilities and function of the **Site Controller** within the ISSOW system. The Site Manager is responsible for designating a suitably competent and qualified **Job Supervisor** (PIC) for the lifting operation. Lifts over live process areas are designated as Complex Lifting Operations and therefore require the Site Manager approval in the form of the Permit To Work and Lifting Operations Certificate issuing.

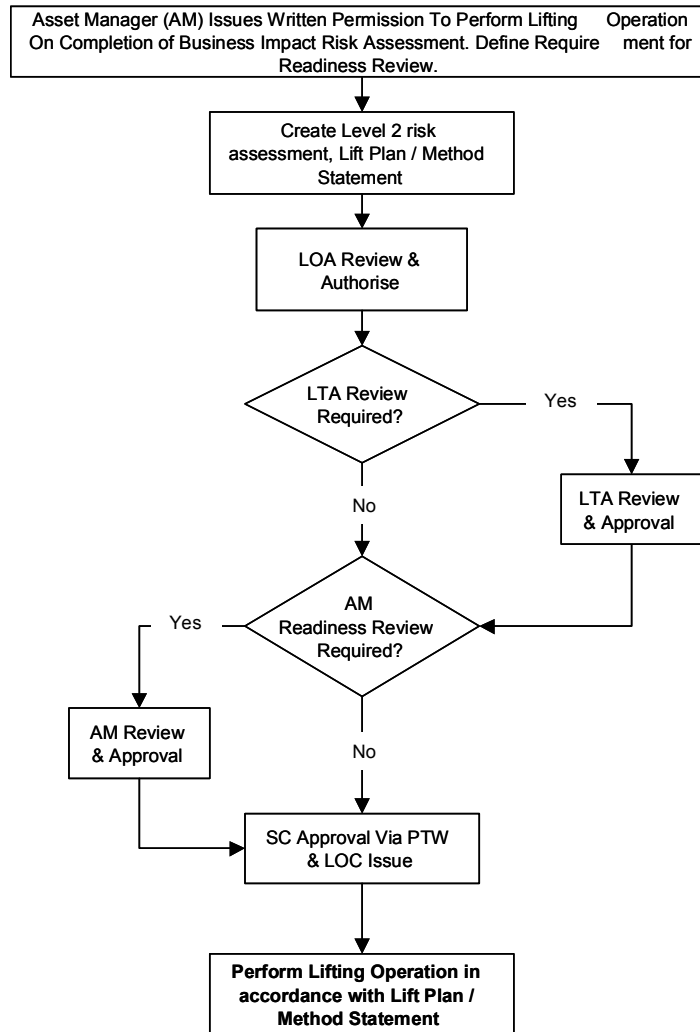
Note: the Site Manager may only approve the execution of the lifting operation if the written permission of the Asset Manager has been obtained.

### Lifting Operations Assessor (LOA)

A competent Lifting Operations Assessor must assess all complex lifting operations. The Lifting Operations Assessor may be the Job Supervisor or Person In Charge if they have the necessary knowledge and experience. The Lifting Operations Assessor will determine if there is a requirement for the Lift Plan to be subject to a further review by a designated Lifting Technical Authority.

### Lifting Technical Authority (LTA)

A Lifting Technical Authority is defined as a competent person with the responsibility of providing guidance on the acceptability of lifting arrangements. If the basic nature of the lifting operation would not normally demand a Complex categorisation if not being conducted over a live process area then it is unlikely that the approval of a Lifting Technical Authority would be required.



**Approval Process For Lifting Operations Over Live Process Areas**

**6.0 Lifting Equipment**

All lifting equipment used must be fully compliant with the requirements of the SEIC Standard for Cranes and Lifting Equipment.

**6.1 Lifting Appliances**

The lifting appliance shall meet the requirements for lifting appliances stated in the SEIC Corporate Standard For Cranes and Lifting the lifting appliance and must be fitted with suitable systems to allow emergency recovery of the load in the event of loss of primary power to the appliance.

**6.2 Lifting Accessories**

All lifting accessories shall meet the requirements of the SEIC Corporate Standard For Cranes and Lifting for design, manufacture and inspection.



## 7.0 Load Requirements

Extra precautions shall be taken to ensure the stability of the load and ensure the load is free of potential dropped objects.

If necessary, taglines may be used to assist in the correct orientation of the load however the use of taglines must be assessed to ensure snagging will not occur during movement of the load.