

8.6.2 Risk Assessment

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1. SCOPE

This documented information applies to Pacific Tug Group Pty Ltd (Pacific Tug) and involves the processes required for hazard identification, risk assessment, implementing risk controls & engaging workers to ensure the safest working methods are applied.

The intent is that all workers involved in doing the work actively participate in the risk assessment. Worker participation and consultation is paramount in ensuring all risk factors are identified & buy-in is achieved for the risk control implementation. The risk assessment process should be triggered at, or before, the start of work activity, or when any changes occur that may affect the workplace. Pacific Tug will use one of the following risk assessment tools prior to undertaking the activity:

- Job Safety Environment Analysis;
- Safe Work Method Statement;
- Standard Work Instruction;
- Operational Risk Assessment (Traffic Light).

Pacific Tug workers (employees, contractors and subcontractors) have a responsibility to conform with this documented information and ensure that they understand and abide by the requirements of this document information.

2. NORMATIVE REFERENCES

Document No.	Document Title
ISO 9001:2015 Standard	Quality Management Systems
ISO 14001:2015 Standard	Environmental Management Systems
ISO 45001:2018	Occupational Health and Safety Management Systems
Work Health and Safety Act 2011	Work Health and Safety Act 2011 (WHS Act 2011)
Health and Safety risks Code of Practice 2011	How to manage health and safety risks Code of Practice 2011
Managing the risks of plant in the workplace Code of Practice 2013	Managing the risks of plant in the workplace Code of Practice 2013
Safe Work Method Statement	Model Code of Practice for Construction Work.

3. TERMS & DEFINITIONS

Term	Definition
JSEA	Job Safety Environment Analysis – general activities.
Risk Assessment	A systematic process of evaluating the potential risks that may be involved in a projected activity or undertaking.
Standard Work Instruction	Establishes a standard process and guideline for undertaking standard work activities.
SWMS	Safe Work Method Statement - for all high-risk construction activities or as instructed by the client.

4. RESPONSIBILITIES

All workers have a role in the risk management process & a responsibility to ensure that they understand and abide by this document. They must take reasonable care with the health and safety of themselves, others and the environment, and cooperate with Pacific Tug management in its endeavours to provide a safe and healthy workplace.

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4.1 Managers & Masters

Managers & Masters have a responsibility for:

- Consultation with all stakeholders to consider specific risk management requirements relating to the particular activity/s to be undertaken;
- Take reasonable care for their own health and safety and take reasonable care not to adversely affect other people's health and safety;
- Ensuring workers and interested parties (within their responsibility) clearly understand health & safety responsibilities and have the knowledge and skills to do their job safely;
- Applying health & safety values and behaviours to their own work practices.

4.2 Workers

Workers have a responsibility to:

- Take reasonable care for their own health and safety;
- Not adversely affect the health and safety of others;
- Comply with reasonable instructions, as far as they are reasonably able;
- Cooperate with reasonable health and safety policies or procedures;
- Wear and maintain personal protective equipment (PPE) as provided and use or wear it in accordance with the information and instruction and training provided.

5. CONTEXT OF THE ORGANISATION

The purpose of this documented information is to provide clear and defined procedures for the preparation and execution of a Risk Assessment at Pacific Tug workplaces. The intent is to ensure that all Pacific Tug workers are familiar with:

- When a risk assessment is required;
- What type of risk assessment is required;
- Steps in the risk assessment process;
- Working and complying with the requirements of the risk assessment;
- Authorisation of the risk assessment applicable to workers position and responsibility on-board the vessels or shore-based operations.

5.1 When is a Risk Assessment Required

Risk Assessments are required for numerous activities including new or non-routine tasks and prior to any complex task as required by Legislation, Regulations, Standards and Codes of Practice. To comply with these requirements as mentioned in 4. Responsibilities (above), risk assessments are required for the following activities as a minimum:

- Carriage and handling of Hazardous Substances & Dangerous Goods;
- Manual handling activities;
- Confined Space Entry;
- Working Aloft or Over the Side;
- Hot Work;
- Working on or near energised electrical installations/services
- Operational activities on vessels;
- Operational activities at shore-based sites;
- Divers in the Water;
- Major vessel repairs;
- Lifting Operations;
- Project works;
- Vessels under Asbestos Management;
- Personnel Transfers.

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5.2 Job Safety Environment Analysis (JSEA)

A JSEA is a form of risk assessment, which details step-by-step how a task is to be carried out safely. Typically, JSEAs have three main components, these include:

- **Tasks** – A step-by-step list of the basic activities of the task e.g. start machine.
- **Hazards** – List of potential hazards at each step of the task.
- **Control Measures** – Step-by-step instruction on how to safely carry out the task by controlling each identified hazard.

JSEA's are completed on form *8.6.2.1 JSEA*. Generic JSEA's are located P: 8.0 Health Safety & Environment / 8.6 Hazard & Risk Management.

5.3 Safe Work Method Statement (SWMS)

A SWMS also details, step-by-step, how a task is to be carried out safely. The difference between a JSEA and a SWMS is that SWMS are prescribed for all High-Risk Construction Work (HRCW) under safety regulations in Australia.

The regulations require the SWMS for HRCW to:

- Identify work that is HRCW;
- List the hazards;
- Describe the controls measures & how they are to be implemented.

SWMS's are completed on form *8.6.2.2 SWMS*. Generic SWMS's are located P: 8.0 Health Safety & Environment / 8.6 Hazard & Risk Management.

5.4 Operational Risk Assessment (ORA) – Traffic Light

An ORA can be used for any activity of high risk, when strict parameters are required or a high level of compliance to an operational process is required. ORA's utilise the traffic light methodology. The following methodology is used:

- **GREEN LIGHT** – Safe to work under all conditions;
- **YELLOW** – Review, access & prepare to STOP operations if conditions DO NOT improve;
- **RED** – STOP immediately until conditions present in the green parameters.

Operational parameters are set with regards to:

- Activity type – crew transfers, other vessels & structures;
- Weather conditions – temperature, wind & rain;
- Crewing – competencies, number & capability;
- Sea conditions – height, direction, period, current & depth;
- Vessel/s specifications – rating, size, type & manoeuvrability;
- Activity duration – fatigue, overtime & shift handover;
- Communication – other vessels, crew & equipment required.

Operational Risk Assessments are completed on form *8.6.2.4 Operational Risk Assessment* located at Q: 8.0 Safety Health & Environment /Forms / Section 8.6 Hazard & Risk Management.

The process for ORA's are detailed in *6.3 Flow Chart* & *6.4 Flow Chart Description*.

5.5 Steps in a Risk Assessment Process

A risk assessment should be prepared by all workers involved in the work, not just the Master or Manager. It provides a written record of the process to be used when proceeding with the work and shall be signed off by all workers undertaking the job to acknowledge that they have participated in the

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development, agree with the outcomes and have read and understood the document. It should be noted that, as it is a record, a risk assessment can be used as evidence in a Court of Law.

A risk assessment is used to:

- Ensure workers and others do not get hurt;
- Avoid impact on the environment and equipment;
- Promote a 'zero harm' culture;
- Improve task planning;
- Increase accountability and transparency of decision-making;
- Meet our duty of care responsibilities under relevant legislative requirements.

Once created for a particular task, the JSEA, SWMS or ORA must be reviewed and signed by subsequent workers prior to them doing the activity. The JSEA, SWMS or ORA must remain on the job & if the work environment or method changes, or a new hazard is identified, it must be updated to ensure it remains current.

5.6 Numbering Sequence

Each risk assessment is to be numbered in sequence. The number sequence is as follows; the vessel or site code followed by three numbers in sequence from the previous risk assessment.

E.g:

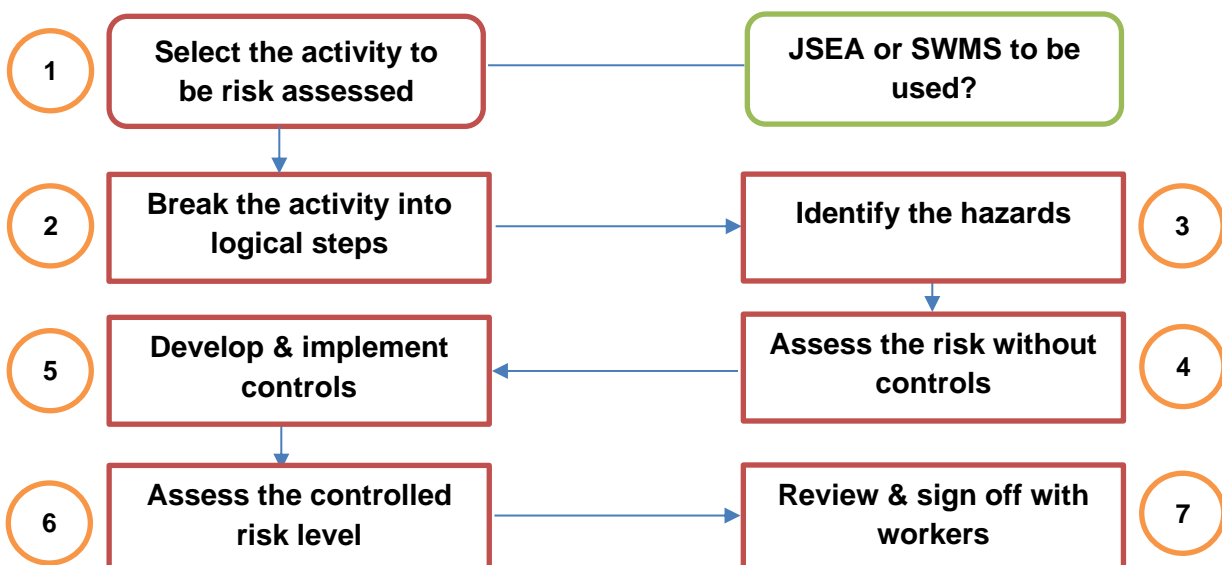
PT Kythira	JSEA_KYT001
PT Nautilus	JSEA_NAU001
PMB	JSEA_PMB001
PT Kythira	SWMS_KYT001
PT Nautilus	SWMS_NAU001
PMB	SWMS_PMB001
PT Transporter	ORA_001

5.7 Vessel Specific Risk Assessment - Hard Copies

Hard copies of vessel specific JSEA's, SWMS & ORA's are located on-board the vessel in *Folder 6 – Safety*. The Master is responsible to ensure the JSEA, SWMS & ORA registers are kept up to date. The registers are a valuable source of information for work activities on-board the vessel.

6. PROCESS DESCRIPTION

6.1 Risk Assessment (JSEA & SWMS) – Process Flow Chart



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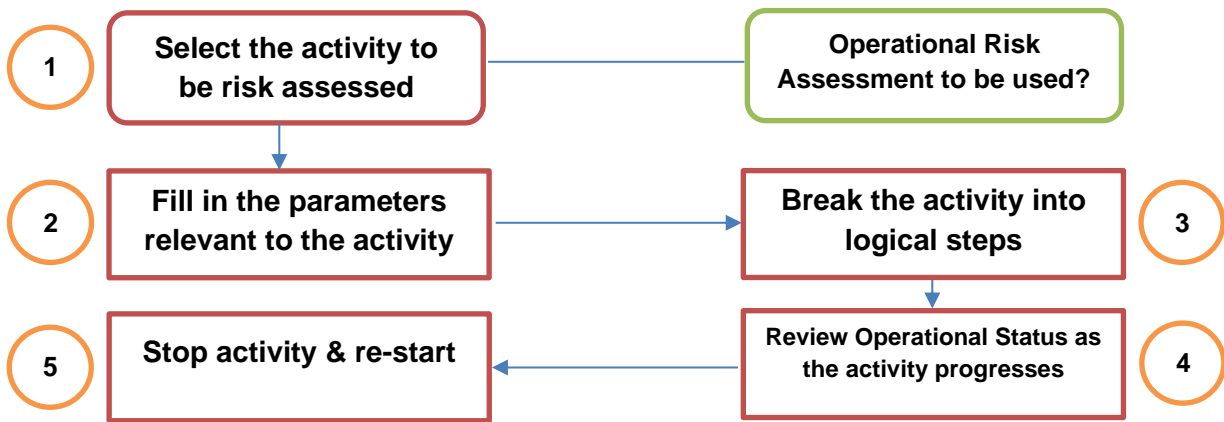
6.2 Risk Assessment (JSEA & SWMS) – Process Description

Risk Assessment (JSEA & SWMS) - Process Description	Responsibility	Applicable Documents (Authorised Users Only)
<p>1. <u>Select the task to be risk assessed</u> Select the task to be assessed and the workers who will conduct the assessment. Complete the top section of Form including Site/Vessel, Date, Risk Assessment Number, Job Description, developed by, PPE required (refer to 5.1.6.7 <i>PPE on a Vessel</i>) and PTW required as per 8.12.1 <i>Permit to Work</i>.</p>	<ul style="list-style-type: none"> Manager Master Worker 	<p>8.12.1 <i>Permit to Work</i> Form 8.6.2.1 <i>JSEA</i> Form 8.6.2.2 <i>SWMS</i> 5.1.6.7 <i>Personal Protective Equipment on a Vessel</i></p>
<p>2. <u>Break the activity into logical steps</u> The task should be broken down into a sequence of steps, each describing what is being done. Avoid the two common errors:</p> <ul style="list-style-type: none"> Making the breakdown too detailed so that an unnecessarily large number of steps result; or conversely; Making the task breakdown too generalised whereby basic steps are not recorded. <p>To determine the basic task steps, ask yourself ‘what is the first step in this task?’ Then, ‘what is the next basic step?’ and so on. These steps are recorded under the heading of ‘Activity’ and should tell what is being done, not how to do it. The wording of each step should begin with an action word like ‘remove’, ‘open’ or ‘weld’. You will note that each step is numbered on the document.</p>	<ul style="list-style-type: none"> Manager Master Worker 	<p>Form 8.6.2.1 <i>JSEA</i> Form 8.6.2.2 <i>SWMS</i></p>
<p>3. <u>Identify the hazards</u> The third step is to identify all foreseeable hazards within each step under the heading ‘Potential Hazard’. Ask the following questions, could any worker undertake the activity:</p> <ul style="list-style-type: none"> Be struck by or against anything? Be caught in, on or between anything? Strain or overexert themselves? Slip, trip or fall from or onto anything? Fall from any height? Be exposed to harmful substances, heat, etc? Could the environment be harmed? Could damage to equipment occur? <p>In addition, reference should be made to the ‘Hazard List’ and ‘Potential Hazard Exposure Mechanisms’ listed on the form to assist with this step. Close observation and task knowledge are required. You can repeat the task observation as often as necessary until all hazards have been identified. For information on hazard classifications refer to 8.6.1 <i>Hazard & Risk Management</i>.</p>	<ul style="list-style-type: none"> Manager Master Worker 	<p>8.6.1 <i>Hazard & Risk Management</i> Form 8.6.2.1 <i>JSEA</i> Form 8.6.2.2 <i>SWMS</i></p>
<p>4. <u>Assess the risk without controls</u> Once the hazard has been identified, the next step is to assess the risk associated with each hazard. A risk assessment determines how great the risk is by analysing the severity and likelihood of the event happening – refer to 8.6.1 <i>Hazard & Risk Management</i> for further detail. The Risk Assessment Table is used to calculate the risk once the assessment has been made. Each risk shall be given a rating for severity and likelihood, for example risk assessed</p>	<ul style="list-style-type: none"> Manager Master Worker 	<p>8.6.1 <i>Hazard & Risk Management</i> Form 8.6.2.1 <i>JSEA</i> Form 8.6.2.2 <i>SWMS</i></p>

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Risk Assessment (JSEA & SWMS) - Process Description	Responsibility	Applicable Documents (Authorised Users Only)
<p>with a 'moderate' severity (2) and 'rare' likelihood (A) when applied to the Risk Assessment Table will be considered 'low risk'. This uncontrolled risk rating should also be included in the potential hazard column of the form.</p>		
<p><u>5. Develop & implement controls</u> Once the hazard has been identified and the risk assessed, controls can be put in place. The Hierarchy of Control as described in <i>8.6.1 Hazard & Risk Management</i> is to be used to determine the most effective controls. They can be applied individually or in combination. The primary aim is to eliminate the risk.</p>	<ul style="list-style-type: none"> Manager Master Worker 	<p><i>8.6.1 Hazard & Risk Management</i> <i>Form 8.6.2.1 JSEA</i> <i>Form 8.6.2.2 SWMS</i></p>
<p><u>6. Assess the controlled risk level</u> Residual risk is the risk that remains after risk control measures have been put in place. All workers should be aware of the nature and extent of the residual risk. Consideration in this step needs to be given to the severity and likelihood of the event happening after the risk control measures have been put in place. The Risk Assessment Table is again used to calculate this risk. The outcome should be recorded in the 'Controlled Risk Level' column of the form. The 'controlled' severity is recorded under 'S'; the 'controlled' likelihood is recorded under 'L'; and the risk rating (low, medium, high) is recorded under 'R' for risk. If all risk mitigation measures have been considered and the residual risk remains "High", this means that risks are significant and not adequately controlled. The task should therefore not be performed until risks have been mitigated to at least a "Medium" level.</p>	<ul style="list-style-type: none"> Manager Master Worker 	<p><i>Form 8.6.2.1 JSEA</i> <i>Form 8.6.2.2 SWMS</i></p>
<p><u>7. Review & sign-off with workers</u> All workers participating in the development of the risk assessment and those undertaking the activity are required to read the relevant form and sign to acknowledge that they have read and understood the document.</p>	<ul style="list-style-type: none"> Manager Master Worker 	<p><i>Form 8.6.2.1 JSEA</i> <i>Form 8.6.2.2 SWMS</i></p>

6.3 Risk Assessment (ORA) – Process Flow Chart



6.4 Risk Assessment (ORA) – Process Flow Chart Description

Risk Assessment (ORA) - Process Description	Responsibility	Applicable Documents (Authorised Users Only)
<p>1. <u>Select the activity to be risk assessed</u> Select the activity to be assessed and the workers who will conduct the assessment. Complete section 1 of Form including Site/Vessel, Date, Risk Assessment Number, Description of Activity, developed by, PPE required (refer to 5.1.6.7 PPE on a Vessel).</p>	<ul style="list-style-type: none"> Manager Master 	<i>Form 8.6.2.4 Operational Risk Assessment</i> <i>5.1.6.7 Personal Protective Equipment on a Vessel</i>
<p>2. <u>Fill in the parameters relevant to the activity</u> The parameters in the following section are required:</p> <ul style="list-style-type: none"> Section 3 – Weather parameters; Section 4 – Traffic Light Assessment parameters for: <ul style="list-style-type: none"> - Green – Safe Operations; - Yellow – Assess & Review Operations; - Red – Stop Operations Immediately; - Requirements to re-start Operations Section 5 – Operational Requirements <p>Section 6 – Start Work Review – Add any further notes, general comments, maps, photos or drawings relevant.</p>	<ul style="list-style-type: none"> Manager Master 	<i>Form 8.6.2.4 Operational Risk Assessment</i>
<p>3. <u>Break the activity into logical steps</u> The task should be broken down into a sequence of steps within an activity, each describing what is being done. This is completed in Section 5. These steps are recorded with prompts that are related to the flow of each step & can be checked upon completion of the step. Have any crew or workers review & sign ORA.</p>	<ul style="list-style-type: none"> Manager Master 	<i>Form 8.6.2.4 Operational Risk Assessment</i>
<p>4. <u>Review Operational Status as the activity progresses</u> Upon completion of entering parameters & breaking the activity into steps, a review of the operational status can begin by completing:</p> <ul style="list-style-type: none"> Section 1 – Pre-start process; Section 2 – Vessel Operational Status; Section 5 – Operational Requirements; 	<ul style="list-style-type: none"> Manager Master Crew Worker 	<i>Form 8.6.2.4 Operational Risk Assessment</i>

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Risk Assessment (ORA) - Process Description	Responsibility	Applicable Documents (Authorised Users Only)
<p>NOTE: If a YES is NOT achieved in any part of this process, the activity must STOP until the problem is rectified.</p> <p>The operational parameters MUST be checked at each part of the process & actions undertaken as per the direction provided.</p>		
<p>5. <u>Stop activity & re-start.</u></p> <p>If for any reason the activity stops, all sections of the ORA must be reviewed & Section 6 completed to capture the review.</p> <p>NOTE: If a YES is NOT achieved in any part of this process, the activity must STOP until the problem is rectified.</p>	<ul style="list-style-type: none"> Manager Master Crew Worker 	<p><i>Form 8.6.2.4 Operational Risk Assessment</i></p>

7. SUPPORTING DOCUMENTED INFORMATION

DOCUMENT NO.	LOCATION
8.6.1.1 Risk & Hazard Register	Drive P / 8.0 Health Safety & Environment / 8.6 Hazard & Risk Management / 1. Risk & Hazard Register
8.6.2.1 JSEA	Drive Q / 8.0 Health Safety & Environment / Forms / 8.6 Hazard & Risk Management
8.6.2.2 SWMS	Drive Q / 8.0 Health Safety & Environment / Forms / 8.6 Hazard & Risk Management
8.6.2.4 Operational Risk Assessment	Drive Q / 8.0 Health Safety & Environment / Forms / 8.6 Hazard & Risk Management
8.12.1 Permit to Work	Drive Q / 8.0 Health Safety & Environment / 8.12 Permit to Work
<p>NOTE: Update Fleet Operations Manual upon changes to this documented information.</p>	Drive Q / 5.0 Operations / 5.1 FOM / 5.1.6 Safety