



**Southern  
Ports**



# **Fatigue Management Procedure**

## DOCUMENT CONTROL

Version	Description	Reviewed by	Approved by	Review Date	Issue Date
1	Initial release.	Port Health Safety & Environment Teams	GM Health Safety Environment & Security		10/05/2018
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4	Review and Update.	Port Health Safety & Environment Teams	Group HSE Manager	23/06/2023	23/06/2023

## AUDIT

This Procedure shall be reviewed or revised:

- Where a Risk Assessment or Audit identifies a need to review.
- Legislative changes impacting this Procedure.
- Following a significant incident involving this Procedure.
- At least every two years.

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# 1 INTRODUCTION

## 1.1 Purpose

This Fatigue Management Procedure describes fatigue management for Southern Ports workplaces and activities.

## 1.2 Scope

In Scope	Out of Scope
Fatigue management for Southern Ports workplaces and activities.	Procedures not related to fatigue.

## 1.3 Roles and Responsibilities

Table 1: Roles and Responsibilities

Roles	Responsibilities
Management	<ul style="list-style-type: none"> <li>Utilise a risk assessment process to identify and manage any risks associated with fatigue within their area of responsibility.</li> <li>Consult with personnel during the identification and management of risks associated with fatigue.</li> <li>Establish mechanisms to monitor and review controls implemented to manage fatigue within their area of responsibility.</li> <li>Develop a plan for their area of responsibility to manage fatigue during an emergency.</li> <li>Monitor fatigue levels of personnel within their area of responsibility.</li> <li>Ensure personnel are not placing themselves at risk of injury as result of their levels of fatigue.</li> </ul>
Health, Safety, Environment and Security Team	<ul style="list-style-type: none"> <li>Support Management with the risk assessment process to identify and manage fatigue related risks.</li> <li>Support Management in developing a plan to manage fatigue related risks during an emergency.</li> <li>Provide tools for managing the identification of fatigue risk factors.</li> <li>Provide tools to support individuals identify their current fatigue levels.</li> <li>Undertake activities to support personnel in identifying and managing non-work related fatigue risk factors.</li> </ul>
Workers (including Contractors and Visitors)	<ul style="list-style-type: none"> <li>Support Management to identify fatigue risk factors and appropriate controls to manage these risks.</li> <li>Take responsibility for the management of their own fatigue levels, ensuring they turn up fit for work in a state that enables them to conduct their work in a safe manner.</li> <li>Notify Management if they believe their ability to safely undertake their duty is impaired due to fatigue.</li> </ul>

## 1.4 References

### 1.4.1 Legislation, Standards and Codes of Practice

Legislation, Standards and Codes of Practice referenced by this Procedure are shown in Table 2 below.

Table 2: Legislation, Standards and Codes of Practice

Reference	Title
Safe Work Australia	<a href="#">Guide for managing the risk of fatigue at work November 2013</a>
Safe Work Australia	<a href="#">Fatigue management – a worker's guide, November 2013</a>
Safe Work Australia	<a href="#">Managing psychosocial hazards at work – Model Code of Practice, July 2022</a>

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Table 2: Legislation, Standards and Codes of Practice

Reference	Title
ISM 58	<a href="#">Marine Order 58 – Safe management of vessels 2020</a>
ISO 45001:2018	<a href="#">Occupational health and safety management systems - Requirements with guidance for use</a>
	<a href="#">Port Authorities Act 1999</a>
	<a href="#">Port Authorities Regulations 2001</a>
	<a href="#">Shipping and Pilotage Act 1967</a>
Commerce WA	<a href="#">Working Hours Code of Practice</a>
	<a href="#">Work Health and Safety (General) Regulations 2022</a>
	<a href="#">Work Health and Safety Act 2022</a>

### 1.4.2 Southern Ports Documents

Southern Ports documents referenced by this Procedure are shown in Table 3 below.

Table 3: Southern Ports Documents

Document Reference	Document Title
D18/24683	<a href="#">Crisis and Emergency Management Plan</a>
D23/4568	<a href="#">Emergency Response Procedure - Albany</a>
D23/4699	<a href="#">Emergency Response Procedure - Bunbury</a>
D19/6331	<a href="#">Emergency Response Procedure - Esperance</a>
D25/718	<a href="#">Form - ALL - Worker Fatigue Checklist</a>
D25/749	<a href="#">Form - ALL - Fatigue Assessment (with Supervisor)</a>
D20/10826	<a href="#">HSES Internal Audit Safe Work Instruction - Bunbury</a>
D18/5147	<a href="#">Journey Management Plan Form</a>
D24/216	<a href="#">Record Keeping Plan</a>
D18/11692	<a href="#">Risk Management Framework</a>
D18/8700	<a href="#">Work Travel Procedure</a>
D18/24902	<a href="#">Work Health and Safety Management Plan</a>

## 1.5 Definitions

Terms used in this Procedure are defined in Table 4 below.

Table 4: Definitions

Term	Definition
Fatigue	A state of mental and/or physical exhaustion which reduces a worker's ability to perform work safely and effectively.
Fit for Work	A person is in a physical, mental and emotional state that enables them to perform assigned tasks safely, competently and in a manner that does not threaten or compromise the safety or health of themselves or others.
Fitness for Work Program	A program that establishes and implements initiatives to address potential risk factors that may cause the impairment of a person. This includes initiatives such as alcohol and drug monitoring, along with stress and fatigue management strategies.
Hazard	A situation that has the potential to harm a person and/or the environment and/or damage property.
Incident	An event or circumstance that could have or did lead to unintended and/or unnecessary harm to a person and/or loss or damage or adverse consequences. This definition of an incident includes near miss events.
Rest Period	A Rest Period is a continuous uninterrupted period of at least 10 hours dedicated to sleep or recovery. If a rest period is interrupted by work related matters, the rest period is to be reset at the time of interruption.

## Fatigue Management Procedure

Table 4: Definitions

Term	Definition
	<i>Pilots</i> are responsible to inform and to provide directions to relevant parties of the intended rest period times and to manage notification and alert functions on their mobile phone and / or other devices, to avoid disruptions.
Risk	Risk is the likelihood and consequence of injury or harm occurring when exposed to a hazard.
Risk Control	Means taking action to eliminate health and safety risks so far as is reasonably practicable, and if that is not possible, minimising the risks so far as is reasonably practicable. Eliminating a hazard will also eliminate any risks associated with that hazard.
Work Period	A Work Period is when a pilot is engaged in office work or in pilotage movements or in any other work-related task. For simplicity, in consideration of the very limited transit time needed from pilot's homes to the Port in Esperance, the start time of a work period could often coincide with the pilot's first swipe ON into a Southern Ports facility (Admin building or Port Security Area). The stop time of a work period could often coincide with the pilot's last swipe OFF. This information can be also obtained from the Security Office via logging records.
Worker	A person who carries out work in any capacity for Southern Ports, including work as: a worker; a contractor or subcontractor; a worker of a contractor or subcontractor; a worker of a labour hire company who has been assigned to work at Southern Ports; an apprentice or trainee; a visitor; or a student gaining work experience.
Workplace	A place where work is carried out by Southern Ports and includes any place where a person goes, or is likely to be, while at work. This includes a vehicle, vessel or other mobile structure

## 2 PROCEDURE

### 2.1 What is Fatigue?

Fatigue is a state of mental and/or physical exhaustion which reduces a person's ability to perform work safely and effectively.

It can occur because of prolonged mental or physical activity, sleep loss and/or disruption of the internal body clock.

Fatigue can be caused by factors which may be work related, non-work related or a combination of both and can accumulate over time.

Circadian rhythms are the natural sleep and wake cycle that occurs over a 24 hour period, and that does not generally adjust easily to shift work. Humans are programmed to sleep during the night hours and be awake during the day hours. The risk of incidents occurring due to impaired alertness and performance is highest between 3am and 5am.

Table 1 provides a summary of common causes of fatigue that may need to be considered during the management of risks associated with fatigue.

Table 5: Common Causes of Fatigue

General Causes	Work Related Causes	Non-work Related Causes
Inadequate amounts of restorative sleep (less than 7 to 8 hours).	Poor roster design.	Family responsibilities, including sleep disruptions from young babies or ill family members.
Long periods of being awake (more than 17 hours).	Extended hours of work and call-out requirements.	Social, community and sporting obligations. Secondary employment.
Sustained mental or physical effort.	Aspect of tasks, for example greater workload within a standard shift resulting in sustained mental and physical effort, and large amounts of driving.	Inappropriate use of alcohol, medication or illicit drugs.
Disruption to internal biological clock.	Inadequate rest breaks or poor roster design (varies with task).	Stress from financial difficulties or personal relationships.
Health and emotional issues (such as psychosocial issues).	Work environment (noise and temperature extremes), conflict, uncertainty, change.	Physiological, such as age, medical or mental health conditions, sleeping disorders.

### 2.2 What are the Risks?

Fatigue can adversely affect safety at the workplace. Fatigue reduces alertness, which may lead to errors and an increase in incidents and injuries. As fatigue levels rise, there are corresponding physiological, behavioural and emotional changes that may impact on the ability of a person to safely undertake work.

The following signs and symptoms may indicate a person is affected by fatigue:

- Excessive yawning or falling asleep at work.
- Short-term memory problems and an inability to concentrate.
- Noticeably reduced capacity to engage in effective interpersonal communication.
- Impaired decision-making and judgment.
- Reduced hand-eye coordination or slow reflexes.
- Other changes in behaviour, for example repeatedly arriving late for work.
- Increased rates of unplanned absence.

A fatigued person may also experience symptoms not obvious to others including:

- Feeling drowsy.
- Headaches.
- Dizziness.
- Difficulty concentrating.
- Blurred vision or impaired visual perception.
- The need for extended sleep during days off work.

## 2.3 Fatigue Risk Assessment

Use the [Risk Management Framework](#) to identify, assess and control fatigue related hazards and risks when:

- Total work hours in a single shift exceed 14 hours.
- Total work hours over a 4 week period exceed an average of 56 hours per week.
- The break between consecutive shifts is less than 10 hours.
- A worker is called to more than one call-out in 24 hours.

When undertaking the risk assessment, it is important for Management to ensure relevant personnel are consulted at each step of the process.

This encourages everyone to work together to identify fatigue risk factors and implement effective control measures.

Consultation also helps to raise awareness about the risks associated with fatigue.

A Risk Management Chart extracted from the [Guide for managing the risk of fatigue at work](#) is included in [Appendix D](#). It contains further information contributing factors, risk levels and risk controls that should be considered in the fatigue risk assessment.

The Health Safety & Environment team shall provide support to Management completing Fatigue Risk Assessments for roster changes and for individual workers on request.

Template fatigue risk assessment tools has been provided in [Appendix A](#), [Appendix B](#) and [Appendix C](#).

The fatigue risk assessment process involves the following steps:

- [Fatigue risk factors](#)
- [Inherent risk assessment](#)
- [Risk controls](#)
- [Residual risk assessment](#)
- [Monitor and review control measures](#)

### 2.3.1 Fatigue Risk Factors

Common factors that may contribute to fatigue include:

- Work schedules which limit the time personnel can physically and mentally recover from work. This may include personnel who undertake shift work, night work, work extended hours or are not able to take regular breaks.
- Job demands, particularly work that requires extended periods of work that is physically or mentally demanding.
- Sleep, including the length of sleep time, the quality of sleep and the time since sleep.
- Environmental conditions, such as exposure to heat, cold, vibration or noise, can make personnel tire quicker and may impair performance.

- Non-work related factors, such as a person's lifestyle, family responsibilities or health may all increase the risk of fatigue.

Methods that management may utilise to identify whether there are any of the above risk factors affecting their personnel include:

- Consulting with personnel.
- Examining work practices and systems of work.
- Examining human resource records and data such as timesheets, TOIL balances and overtime payments.
- Incident data and the findings of incident investigations.
- Seeking advice and information from the HSES Team or other relevant departments.

### 2.3.2 Inherent Risk Assessment

Once Management has identified the risk factors which may cause fatigue, an assessment of the risk is undertaken to consider:

- where, which and how many personnel are likely to be at risk of becoming fatigued.
- how often fatigue is likely to occur.
- the degree of harm which may result from fatigue.
- whether existing control measures are effective.
- what action should be taken to control the risk of fatigue.
- how urgently action to control the risk needs to be taken.

When assessing risks, contributors to fatigue should not be considered in isolation. For example, job demands, hours of work and environmental conditions may all increase the risk of fatigue in the workplace. The risks of injury from fatigue may increase if personnel work long daily hours in a physically or mentally demanding job.

### 2.3.3 Risk Controls

The best way to control the health and safety risks arising from fatigue is to eliminate the factors identified as causing fatigue at the source. If elimination is not reasonably practicable, the risks must be minimised. The determination of the most effective controls to manage the risks associated with fatigue should always be identified in consultation with personnel where possible.

Examples of control measures for fatigue risks which can be built into the work scheduling may include:

- Designing working hours and rosters to allow for good sleep opportunity and enough recovery time between work days or shifts for travelling, eating, washing and sleeping.
- Ensuring personnel have and take adequate and regular breaks to rest, eat and rehydrate.
- Avoiding scheduling high-risk work during low body clock periods (between 2 am and 6 am).
- Establishing plans to manage workload change caused by machinery breakdowns or planned and unplanned absences,
- Managing overtime, shift swapping and on-call duties,
- Implementing processes to manage accrued leave balances and requests for leave,
- Considering future rosters and schedules when approving request for leave or shift swaps, and ensuring leave is reflected in rosters.

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- Considering alternative options to face-to-face meetings, for example teleconferencing or video conferencing so personnel are not required to spend time travelling to meetings.

### 2.3.4 Residual Risk Assessment

Re-assess whether the risks of injury from fatigue are adequately controlled. If a fatigue risk assessment identifies that fatigue is a **High** or **Extreme** residual risk for either a workgroup (shift system) or an individual consult the People and Organisation Team to determine appropriate actions. The *General Manager's* approval is required for all work exceeding 16 hours.

### 2.3.5 Monitor and Review Control Measures

Review risk control measures to ensure they are working as planned.

## 2.4 Work Scheduling

Table 2 provides a framework for Management to plan and allocate working hours.

Table 6: Working hours framework

Working Hours	Expectations
Up to 14 hours	<ul style="list-style-type: none"> <li>• Personnel to assess their fitness for work.</li> <li>• Management approval for shift rosters / task allocation.</li> </ul>
14 to 16 hours (only in emergencies where safety of others or property is threatened)	<ul style="list-style-type: none"> <li>• Personnel and Management to complete a formal risk assessment.</li> <li>• General Manager approval for any extension of work beyond 14 hours.</li> <li>• Prior to travelling home, Management and personnel to re-assess fitness. Transportation home may be provided.</li> </ul>
More than 16 hours (Only in extreme emergencies where safety of others or property is threatened)	<ul style="list-style-type: none"> <li>• It is recommended that no personnel be permitted to work more than 16 hours in a 24-hour period.</li> <li>• General Manager approval for any extension of work beyond 16 hours.</li> </ul>
Short Breaks	<ul style="list-style-type: none"> <li>• In general, continuous periods of active work should not exceed 5 hours without a scheduled break.</li> </ul>
Total hours of work	<ul style="list-style-type: none"> <li>• It is recommended that the total hours worked by a person should not exceed an average of 56 hours per week over a four-week period.</li> <li>• Work arrangements and rosters should be monitored, and appropriate controls developed to ensure that persons are not working excessive hours in any seven-day period.</li> </ul>
Break between consecutive shifts	<ul style="list-style-type: none"> <li>• If personnel are required to return to work prior to completion of a 10-hour break between shifts, a formal risk assessment should be completed.</li> </ul>

Working hours shall be calculated on the basis of total hours worked 'door to door' (including breaks). This means that working hours are counted from the moment a person leaves their accommodation (primary place of residence or hotel) to the moment they return. This also applies if a person is working from their accommodation (i.e. working from home or on-call).

This framework is provided as a guide only, the unique circumstances of each individual situation will need to be considered.

### 2.4.1 Shift Work and Rosters

Consideration should be given to implementing additional specific control measures when planning work schedules and rosters for specific work arrangements, including shift and night work, seasonal, emergencies and on-call arrangements. These may include:

- Structuring shifts and designing work plans so work demands are highest towards the middle of the shift and decrease towards the end.
- Avoiding morning shifts starting before 5 am where possible.
- Avoiding split shifts or if there is no alternative to split shifts consider their timing, for instance whether they are likely to disrupt sleep.
- Setting shift rosters ahead of time and avoiding last-minute changes, to allow personnel to plan leisure time.
- Allocating shift and night personnel consecutive days off to allow for at least two full night's sleep.
- Overlapping consecutive shifts to allow enough time for communication at shift handovers.
- Minimising overtime allocation after afternoon or night shifts.
- Keeping sequential night shifts to a minimum. If sequential night shifts do need to occur, it is best to group them together in the overall roster cycle, and use a forward rotational shift cycle (mornings – afternoons – evenings – mornings).
- Developing plans to manage the risks associated with fatigue during an emergency.
- Providing information to shift personnel including tips for prevention of fatigue.

Additional guidance on shift design is available from the Guide for Managing the Risk of Fatigue at Work (Safe Work Australia).

Template fatigue risk assessment tools have been provided in [Appendix A](#), [Appendix B](#) and [Appendix C](#).

## 2.5 Job Demands

Control measures to prevent or minimise the risk of fatigue associated with job demands can include:

- Ensuring fit-for-purpose plant, machinery and equipment is used at the workplace (e.g. ergonomic furniture, lifting equipment).
- Redesigning the job to limit periods of excessive mental or physical demands.
- Considering job rotation to limit a build-up of mental and physical fatigue.
- Developing contingency plans for potential situations where personnel may have to unexpectedly work longer hours, more shifts or a long sequence of shifts.
- Planning for expected changes in work flow including anticipated peaks and troughs throughout the year.

### 2.5.1 Environmental Conditions

Control measures to prevent or minimise the risk of fatigue associated with environment conditions can include:

- Avoid working during periods of extreme temperature or minimise exposure time through job rotation.
- Provide a cool area where personnel can take a rest break and rehydrate in hot work environments.
- Consider installing ventilation and mechanical cooling devices in hot, small and enclosed spaces.
- Provide adequate facilities for rest and meal breaks.

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- Install adjustable, low-vibration seats in machinery and vehicles and provide low vibration hand held equipment.
- Consider the provision of Personal Project Equipment such as cool vests.
- Provide and maintain a workplace which is well lit, safe and secure.

### 2.5.2 Non-work Related Factors

Personnel have a duty to take reasonable care for their health and safety and this includes enough sleep so they can arrive fit for work. The Health Safety & Environment Team undertake a range of activities to support personnel and manage non-work related factors that may impact on fatigue. These activities include:

- Consulting personnel about factors impacting on their personal fatigue levels.
- Providing education and awareness to personnel on the risks associated with fatigue, how it relates to their work activities and strategies to manage their personal fatigue risks.
- Establishing health and wellbeing programs to address risk factors associated with fatigue.

Employee who undertake work outside Southern Ports must ensure it does not conflict or adversely affect the performance of their duties, including being able to undertake their duties without an increased risk of fatigue.

## 2.6 Callouts

Should a person be required to attend call-outs of a volume or duration that prevents their ability to obtain sufficient rest prior to the next shift (for example 10 hours as per section 2.3.5), their Management should discuss with the person whether they require a later commencement time for their next shift to allow sufficient time to rest.

Due consideration should be given by the person requesting the call-out as to the real requirement for the work to be completed prior to the commencement of the next shift.

Consideration should be given to whether there is a:

- Health or safety risk to people, plant, property or the environment.
- Legislative requirement for the call-out.
- Risk to workplace or personnel if this work is not undertaken before the following shift.

## 2.7 Emergencies

The nature of Southern Ports business may expose personnel to the effects of emergency situations and as such, Management may be required to plan for the fatigue risks associated with managing these events. Southern Ports Emergency Management Plans provide a framework for identifying, assessing and controlling fatigue risks during an emergency.

## 2.8 Driving and Travel

Fatigue slows a driver's reaction time and affects their scanning ability and information processing skills. Driving between the hours of midnight to dawn is especially dangerous, and night shift personnel should consider these increased dangers when driving or operating machinery during these times. Personnel driving vehicles to and from work shall:

- Complete a Journey Management Plan (if journey is greater than 200 km).
- Plan any driving or travel well in advance.
- Plan the journey in accordance with the working hours framework in Table 2.

- Avoid driving for more than 8 to 10 hours in any one day.
- Ensure adequate sleep the night before a long journey (minimum 10 hours).
- Share driving where possible.
- Take a rest break from driving of at least 10 minutes every two hours.
- If concerned about the fatigue risks, consider arranging an alternative method of transport and/or accommodation.

Where work duration reaches 14 hours (including travel time), a person may be provided with transport for the return journey to their home, or provided with a suitable place for sleep or rest prior to driving home.

The [Working Hours Code of Practice](#) (Commerce WA) provides the following tips to manage fatigue when driving for long periods e.g. between Ports:

- Avoid driving when you are tired.
- Avoid using the heater as it can make you feel drowsy. In cool conditions direct warmth to your feet, and open the window a little to allow fresh air on your face.
- Keep your mind active by listening to the radio while driving.

It is important to note that these methods only have an effect for approximately 15 minutes.

## 2.9 Training

Fatigue awareness training shall be provided to all personnel in accordance with the Health Safety & Environment *Training Needs Analysis*. This training shall be refreshed periodically. The training will provide all personnel with the knowledge required to understand fatigue causes and symptoms and the ability to conduct a self-assessment of their individual fatigue risk and fitness for work.

## 2.10 Monitoring and audit

The application of this procedure shall be periodically audited in accordance with the Health Safety & Environment Internal Audit Schedule.

In addition, Management will utilise software applications with mathematical algorithms (where practicable) to assist in determining the fatigue risk potential when scheduling work.

## 2.11 Record keeping

All records associated with this procedure shall be retained, archived and disposed of in accordance with the Western Australian State Archives [General Retention and Disposal Schedule](#) for administrative records.

## APPENDIX A: WORKER FATIGUE CHECKLIST

- This document is available on MyPort - [Worker Fatigue Checklist](#)

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## APPENDIX B: FATIGUE ASSESSMENT (WITH SUPERVISOR)

This *Fatigue assessment* is completed by the Worker and team Leader and provides guidance for managing risks of fatigue for individual workers. If you answered yes to any of the questions in the *Worker fatigue checklist* in [Appendix A](#), complete this *Fatigue assessment* together with your team Leader.

- This document is available on MyPort - [Fatigue Assessment \(with Supervisor\)](#)

## APPENDIX C: FATIGUE RISK ASSESSMENT (ROSTERS)

Roster Assessment Tool

Complete the following Roster Assessment when changing a roster.

#	Aspect	Current Roster	Proposed Roster
1.	<b>Number of Consecutive Days</b>		
2.	Hours in day shift		
3.	Start and Finish time		
4.	Number of breaks during shift		
5.	Total length of breaks in minutes		
6.	<b>Number of Consecutive Nights</b>		
7.	Hours in day shift		
8.	Start and Finish time		
9.	Number of breaks during shift		
10.	Total length of breaks in minutes		
11.	Type of work (admin, light/heavy manual, safety critical and so on)		
12.	Travel time to accommodation		

Risk Assessment

Complete a Risk Assessment for the proposed roster.

#	Aspect	Criteria	Risk
1.	Shift Time	Day shift only =	
		Night shifts included =	
2.	Direction of shift	Forward Rotating (days to nights) = <b>Low</b> Backward rotating (nights to days) = <b>High</b>	
3.	Total hours over a 3-month period	Less than 728 hours = <b>Moderate</b> 728 hours or more = <b>High</b>	
4.	Breaks after night shift	More than 48 hours = <b>Low</b> ; 25 to 47 hours = <b>Moderate</b> ; Less than 24 hours = <b>High</b>	
5.	Shift start time	0600 or later = <b>Low</b> ; 0559 or before = <b>High</b>	
6.	Length of shift	Up to 10 hours = <b>Low</b> ; 10 to 12 hours = <b>Moderate</b> ; More than 12 hours = <b>High</b>	
7.	Sequential number of 12-hour night shifts	1-6 = <b>Low</b> ; 7 = <b>Moderate</b> ; More than 7 = <b>High</b>	
8.	Maximum number of shifts	10 or less = <b>Low</b> ; 11-14 = <b>Moderate</b> ; More than 14 = <b>High</b>	
9.	Breaks during work	Minimum 2 x 10-15 min short breaks + 1 x 30 min or more long break = <b>Low</b> to <b>Moderate</b> . Infrequent or no breaks = <b>High</b> . Risk factors that may require more frequent breaks: nature of work & weather (heat stress)	
10.	Type of work	Admin (non-safety critical) = <b>Low</b> Light – moderate manual = <b>Moderate</b> Heavy Manual or Safety Critical = <b>High</b>	
11.	Breaks between work periods	11 hours or greater = <b>Low</b> <11 hours = <b>High</b>	
12.	Travel time to accommodation		

## Fatigue Management Procedure

Risk Assessment Rating

#	Rating	Action	
1.	All <b>Low</b>	Monitor and reassess if there are any changes. Roster approval okay.	<input type="checkbox"/>
2.	Lows and <b>Moderates</b>	Identify additional controls Monitor and reassess if there are any changes.	<input type="checkbox"/>
3.	Any <b>High</b>	Identify controls to eliminate <b>High</b> risk factors. if this cannot be done, roster cannot be approved.	<input type="checkbox"/>

Additional Controls

#	Control	Comments	Responsible	
1.	Bus to and from work location to accommodation.			<input type="checkbox"/>
2.	Additional Rostered Days Off on site.			<input type="checkbox"/>
3.	Daily <i>Fitness for Work Assessment</i>			<input type="checkbox"/>
4.	Additional breaks during shift.			<input type="checkbox"/>
5.	Reduction of workload.			<input type="checkbox"/>
6.	Reduction of worked hours.			<input type="checkbox"/>
7.				<input type="checkbox"/>
8.				<input type="checkbox"/>
9.				<input type="checkbox"/>
10.				<input type="checkbox"/>

Observations:

Sign off

I confirm that I have reviewed and approved this roster change:

Supervisor: Signature:	Date:
Health and Safety: Signature:	Date:
Regional Manager: Signature:	Date:

# APPENDIX D: RISK MANAGEMENT CHART

This Risk Management Chart is extracted from the SafeWork Australia [Guide for Managing the Risk of Fatigue at Work](#). The Risk Management Chart can be used to consider potential factors that contribute to the risk of fatigue. It outlines some control measures which can be implemented to manage the risk of fatigue in the workplace.

<p><b>Step 1: Hazard identification</b> Identify potential hazards and risks at the workplace. Examples of some factors that contribute to fatigue are listed below. Consider these factors in the context of your specific workplace or industry.</p>	<p><b>Factors that contribute to Fatigue</b></p> <p><b>Work Scheduling and Planning Hours</b></p> <ul style="list-style-type: none"> <li>■ Average weekly hours (other than FIFO)</li> <li>■ Total hours over a three month period (other than FIFO)</li> <li>■ Daily work hours</li> <li>■ Daily work hours and work-related travel, including commute</li> <li>■ Scheduling of work</li> </ul> <p><b>Shiftwork</b></p> <ul style="list-style-type: none"> <li>■ Length of shift (other than FIFO)</li> <li>■ Time of shift</li> <li>■ Speed and direction of shift</li> <li>■ Split shifts and variable shifts</li> </ul>	<p><b>Step 2: Risk Assessment</b> To assist risk assessment, a general level of risk for each hazard is indicated along arrow guides. In assessing risk consider interaction between hazard factors that could influence the level of risk. Also take into account specific workplace/ industry circumstances that may influence it.</p>	<p><b>General risk indicator for factors that contribute to fatigue</b></p> <p>Lower risk</p> <p>35-40 hours (working week)</p> <p>48 hours (working week)</p> <p>56 hours (working week)</p> <p>624 working hours</p> <p>9 working hours</p> <p>12 working hours</p> <p>10 working hours</p> <p>13 working hours</p> <p>Regular, predictable hours</p> <p>Irregular and unpredictable hours, short notice of schedule, extended overtime, on call across shift cycle</p> <p>Higher risk</p>	<p><b>Step 3 Risk Control</b> Where a hazard factor is assessed as medium/ higher risk, consider implementing control measures, such as those outlined in section 2 of this code.</p>	<p><b>Control measures</b></p> <p>The most appropriate control measures should be implemented for the identified risk factor. <b>Control measures may include:</b></p> <ul style="list-style-type: none"> <li>■ Scheduling safety critical work outside low body clock periods (i.e. between 2am and 6am)</li> <li>■ Structure shifts and work plans so that demands are highest towards the middle of the shift and decrease towards the end</li> <li>■ Use forward rotation roster systems (day-evening-night)</li> <li>■ Designing working hours and rosters to provide for adequate sleep opportunity (considering time for eating, washing, personal commitments etc)</li> <li>■ Monitor actual time worked against the allocated roster and identify if excessive hours are being worked</li> </ul>	<p><b>Additional control measures should be implemented for special work arrangements and can include:</b></p> <ul style="list-style-type: none"> <li>■ Considering sleep opportunity and recovery in instances where workers are required to work on call after a normal shift or on days off</li> <li>■ Avoiding quick shift changeovers, such as finishing at 11pm and starting again at 7am</li> <li>■ Use forward rotation roster systems (day-evening-night)</li> <li>■ Allocate shift and night workers consecutive days off to allow for at least two full nights rest including some weekends</li> </ul>
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Step 1: Hazard identification	Step 2: Risk Assessment	Step 3: Risk Control
<p><b>Hazards that contribute to fatigue</b></p> <p><b>Night Work</b></p> <ul style="list-style-type: none"> <li>Shift end (for those working 8 hrs or more between 10pm and 6am)</li> <li>Sequential night shifts</li> </ul>	<p><b>General risk indicator for hazards that contribute to fatigue</b></p> <p>Lower risk</p> <p>8 hours</p> <p>10 hours</p> <p>6 or more 8 hour shifts</p> <p>5 or more 10 hour shifts</p> <p>4 or more 12 hour shifts</p> <p>Higher risk</p> <p>After 10pm and before 6am</p> <p>12 hours</p>	<p><b>Control measures</b></p> <p>The most appropriate control measures should be implemented for the identified risk factor.</p> <p><b>Control measures may include:</b></p> <ul style="list-style-type: none"> <li>Planning into work schedules enough workers and other resources to do the job without placing excessive demands on workers.</li> <li>Keeping sequential night shifts to a minimum</li> <li>Avoiding overtime allocation after afternoon or night shifts</li> </ul>
<p><b>Breaks</b></p> <ul style="list-style-type: none"> <li>Period of non-working following a sequence of night shifts</li> <li>Frequency of breaks during work</li> <li>Recovery time / sleep opportunity between work periods</li> </ul>	<p>Lower risk</p> <p>48 hours</p> <p>Adequate and regular breaks</p> <p>Adequate time for sleep, travel, meals, etc</p> <p>Higher risk</p> <p>Less than 48 hours</p> <p>Infrequent or no breaks</p> <p>Inadequate time for sleep, travel, meals etc</p>	<p>The most appropriate control measures should be implemented for the identified risk factor.</p> <p><b>Control measures may include:</b></p> <ul style="list-style-type: none"> <li>Ensuring that workers have and take adequate and regular breaks so that they can rest, eat and rehydrate</li> <li>Including rest periods in the work schedule and allow time for controlled sleeping and napping if necessary</li> <li>Designing working hours and rosters to allow for good quality sleep and enough recovery time between work days or shifts for travelling, eating, washing and sleeping</li> </ul>
<p><b>Job demands</b></p> <ul style="list-style-type: none"> <li>Repetition (physical and/or mental)</li> <li>Physical</li> <li>Mental</li> </ul>	<p>Lower risk</p> <p>Varying task demands</p> <p>Minimal physically demanding work</p> <p>Higher risk</p> <p>Highly repetitive work and or high concentration work, with high demands over an extended period of time</p> <p>Highly physically demanding work that results in muscle fatigue</p>	<p>The most appropriate control measures should be implemented for the identified risk factor.</p> <p><b>Control measures may include:</b></p> <ul style="list-style-type: none"> <li>Install fit for purpose plant machinery and equipment for use at the workplace</li> <li>Redesign jobs to limit periods of excessive mental or physical demands</li> <li>Introduce job rotation to limit build up of mental and physical fatigue</li> </ul>

