Preventing and managing fatigue-related risk in the workplace

Queensland Government

Disclaimer

The information presented in this handbook is intended for general use only. It should not be viewed as a definitive guide to the law and should be read in conjunction with Queensland WHS legislation. If you are uncertain about the advice in this guide please contact psychologicalhealth@oir.qld.gov.au

Acknowledgements

We acknowledge and thank the following researchers and authors for your support in adopting or adapting content for use within this handbook.

- McCulloch, K., Baker, A., Ferguson, S., Fletcher, A. & Dawson, D. (2007a). Fatigue Risk Management System for the Canadian Aviation Industry – Policies and Procedures Development Handbook. Retrieved February 16, 2014, from: http://www.tc.gc.ca/eng/civilaviation/publications/TP14576-6042.htm
- Australian Pipeline and Gas Association (2018). Fatigue Risk Management Guidelines – A guide to proactively managing fatigue in the Australian Pipeline and Gas industry.

Document history

First published in July 2020.

Contents

1. Introduction

The prevention and management of fatigue-related risk in the workplace is a work health and safety (WHS) issue that requires a multi-faceted organisational approach. Employers have a primary duty of care to identify and control (eliminate and minimise) fatigue-related risks.

This handbook aims to help employers understand their duties under the *Work Health and Safety Act 2011* (WHS Act). It provides guidance on how to:

- identify hazards and risks related to fatigue
- consult and communicate with workers
- eliminate and minimise risks
- respond to and learn from incidents involving fatigue to improve prevention efforts.

The handbook has been designed as a resource for managers, supervisors, health and safety representatives (HSRs) and others involved in developing strategies to control fatigue-related risk in the workplace. It should be read in conjunction with the resources listed in sections 16 and 17.

2. What is fatigue?

Fatigue is more than feeling tired and drowsy. In a work context, fatigue is a state of mental or physical exhaustion which reduces a person's ability to perform work safely and effectively. Fatigue is a condition that can result from excessive work, inadequate or disturbed sleep, physical exertion, mental exertion, or prolonged waking times. Fatigue can be, in some cases, a natural response to the mental and physical effort of everything we do. Adequate sleep is essential for reducing fatigue and promoting recovery.

Signs and symptoms of fatigue can typically be grouped into three categories, physical, cognitive and emotional. It is important to note however that these signs and symptoms may be due to causes other than fatigue. Furthermore, some individuals may experience different symptoms of fatigue than others.

Table 1. Fatigue-related signs and symptoms

Physical	Cognitive	Emotional
• Yawning • Increased blink rate • Heavy eyelids • Blurred vision • Head drooping • Slower reaction time • Impaired hand eye coordination • Headache • Muscle aches and cramps	• Difficulty concentrating on tasks • Lapses in attention • Difficulty remembering • Failure to communicate important information • Risk taking behaviour • Disorganisation • Lack of situational awareness • Accidently doing the wrong thing (error) • Accidently not doing the planned thing (omission)	• More quiet than usual • Withdrawn • Reduced motivation • Lacking energy • Decreased tolerance • Mood disturbances • Emotional outbursts • Irritability

3. What causes fatigue?

There are many factors that have the potential to increase the risk of fatigue. These are categorised as work-related and personal factors (Table 2).

Table 2. Factors contributing to fatigue

Work-related	Personal
• Cumulative hours worked • Task demands (workload, time pressure) • Hazardous manual tasks • Predictability of roster • Type of work (physical/cognitive/emotional) • Accommodation • Time of day of work • Commuting • Recovery periods between shifts • Roster cycle length • Shift length • Payment incentives • Environmental stressors at work (e.g. light, noise, climate, vibration) • Organisational culture	• Medical conditions • Sleep disorders • Diet • Alcohol and drugs • Age • Sleep quality and quantity • Time of day that sleep occurs • Family and social life • General health • Exercise • Lifestyle choices • Environmental factors affecting sleep (noise, heat, light) • Secondary employment and voluntary work

4. What are the consequences associated with fatigue?

Whilst a certain level of fatigue can be a normal response to everyday living, moderate to high levels of fatigue can have a range of undesirable outcomes for the individual, workplace and community (Table 3).

Table 3. Consequences of fatigue

Individual	Workplace	Community
• Poorer physical and psychological health • Impacts to cognitive functioning • Impacts to short-term memory function • Increased likelihood of social alienation • Increased instances of relationship problems • Increased likelihood of being involved in an incident • Impacts to work-related performance	• Increased fatigue-related error and incidents • Increased mortality rates • Increased costs associated with incident management • Increased levels of absenteeism and lost time • Increased levels of presenteeism (i.e. coming to work despite injury, illness or other, resulting in reduced productivity) • Poorer workplace morale and satisfaction • Impacts to company image and reputation	• Increased potential for incidents to occur in the community (i.e. road crashes) • Increased need for trauma counselling services • Increased use of medical facilities and allied health services • Broader ripple effects of serious injury, disability and death in the community

5. Workplace fatigue and the law

WHS laws and duties are designed to ensure the health and safety of workers and others in the workplace. 'Health' includes physical and psychological health. The management of fatigue, like other WHS hazards, should be managed under a shared responsibility framework. This framework outlines specific responsibilities for workers (including contractors), and for the organisation i.e. the Person Conducting a Business or Undertaking (PCBU).

A PCBU has the primary duty to ensure, so far as is reasonably practicable, workers and other people are not exposed to health and safety risks arising from the conduct of the business or undertaking.

They must also manage risks to health and safety arising from the conduct of the business or undertaking by eliminating risks to health and safety, so far as is reasonably practicable. This includes risks resulting from fatigue, through:

- providing adequate work health and safety corporate governance and risk management systems
- providing and maintaining a work environment without risks to health and safety
- providing and maintaining safe systems of work
- providing the information, training, instruction or supervision necessary to protect all persons from risks to their health and safety arising from work carried out as part of the conduct of a business or undertaking
- monitoring the health of workers and the conditions at the workplace to prevent illness or injury.

If it is not reasonably practicable to eliminate fatigue-related risks, they must take reasonable steps to minimise them.

Officers of the PCBU (such as company directors) must exercise due diligence to ensure the business complies with its work health and safety duties and obligations. This may include but is not limited to taking reasonable steps to:

- acquire and keep up-to-date knowledge of fatigue-related matters
- gain an understanding of the nature of the operations and fatigue-related hazards and risks associated with those operations
- ensure the availability of appropriate resources and processes to identify and manage fatigue-related risks
- ensure appropriate processes for receiving and considering information regarding incidents, hazards and risks and responding in a timely way to that information
- ensure the PCBU has, and implements, processes for complying with the WHS Act regarding fatigue
- verifying the provision and use of the resources and processes.

Under the shared responsibility model, workers also have a duty regarding fatigue management. A worker must take reasonable care of their own health and safety in the workplace, and the health and safety of others who may be affected by their actions. They must also cooperate with reasonable instructions given by the PCBU. Others at the workplace, like visitors, must take reasonable care of their own health and safety and not to adversely affect other people's health and safety. They must comply with reasonable instructions given by the PCBU to allow them to comply with WHS laws.

In the context of fatigue management specifically, these duties typically require workers to follow all relevant fatigue management plans, procedures, policies, use appropriate tools, and use their time away from work to obtain sufficient sleep.

6. Leadership

Prevention and management of fatigue-related risks in the workplace requires active engagement from all levels, starting from the top level of the organisation, which may include board members, company directors, and those in executive and senior leadership roles. Active and visible commitment to systematic prevention and management of fatigue-related risks from the top down is critical in driving continuous improvement. Those in leadership positions can have a powerful influence in developing a positive safety culture where importance is placed on the health, safety and wellbeing of workers and others. They should be accountable for the delivery of work health and safety system improvement initiatives.

Leadership teams demonstrate a commitment to a culture where workplace fatigue is effectively managed by:

- setting health and safety objectives and accountabilities
- ensuring effective health and safety systems are in place to identify and control risk
- allocating resources to the prevention and management of fatigue-related risks
- developing and promoting policy and key initiatives
- consulting with and supporting workers
- monitoring and reporting on performance outcomes
- acting on issues and opportunities for improvement.

Refer to Section 27 of the *Work Health and Safety Act 2011* for further information on the duty of officers, workers and other persons.

7. Consultation

PCBU's must consult, so far as is reasonably practicable, with workers and Health and Safety Representatives (HSRs), when, for example, identifying or assessing hazards or risks to health and safety at a workplace. Both workers and HSRs are a valuable resource in planning an effective and safe workplace design because they typically understand the work practices and workplace.

Consultation with workers and others (e.g. union representatives, HSRs, subject matter experts) should occur when:

- identifying fatigue-related hazards and risks in the workplace
- making decisions about ways to control fatigue-related risks
- making decisions about fatigue-related information and training
- witnessing signs and symptoms that fatigue may be affecting the health and safety of workers
- proposing change that may affect the health and safety of workers (e.g. changes to rostering systems or working arrangements).

Detailed information about consultation is available in the *Work health and safety consultation, co-operation and co-ordination Code of Practice 2011*.

Consulting workers at each step of the risk management process encourages everyone to work together to identify fatigue-related hazards and risks and implement effective control measures. Consultation also helps to raise awareness about the risks and consequences associated with fatigue as a workplace hazard.

Consultation involves sharing information, giving workers a reasonable opportunity to express views and taking those views into account before making decisions on health and safety matters. When consultation is undertaken with workers, it is a requirement under the WHS law that relevant information about the matter is shared with workers and workers be given a reasonable opportunity to:

- express their views and raise work health or safety issues in relation to the matter
- contribute to the decision-making process related to the matter

- have their views considered by the PCBU
- be advised of the outcome of the consultation in a timely way.

Agreeing on procedures for consultation with workers can save time and confusion about how and when consultation must occur. The agreed consultation procedures should clarify key responsibilities of people in the workplace and clearly state when consultation is necessary.

Before consultation procedures can be agreed, the workplace must genuinely consult about the proposed procedures with all affected workers, including any health and safety representatives for the relevant workers. If procedures for consultation are agreed, they must be consistent with the requirements of the WHS Act and the consultation must be conducted in accordance with those procedures. For example, the procedures must include sharing of information, allowing workers a reasonable opportunity to express their views and cannot remove the powers of any health and safety representatives or the functions of any health and safety committee established for the workplace.

Raising awareness of fatigue-related hazards and risks may result in increased reporting of workplace issues that may have previously gone unreported.

Increased reporting improves the quality of data and creates increased opportunities for prevention through incident investigation. Increased reporting should be viewed as a positive outcome.

8. Risk management

Workplaces should have a solid foundation on which to build relevant, sustainable and continuously improving strategies to control for fatigue-related risks in the workplace. These strategies should be based on organisation-wide WHS risk management. The recommended approach is cyclic and underpinned by consultation with workers and HSRs. The risk management process in Figure 1 can be used.

Step 1: Identify fatigue-related hazards

Find out what fatigue-related hazards apply at your workplace.

Step 2: Assess risks if necessary

Understand the nature of the harm that could be caused by the hazards, how serious the harm could be and the likelihood of it happening.

Step 3: Control risks

Select risk control measures of the highest and most reliable level of protection. Determine and implement the most effective control measure/s that are reasonably practicable in the circumstances.

Step 4: Review hazards and control measures

Ensure controls are working as planned, and when necessary, improved.

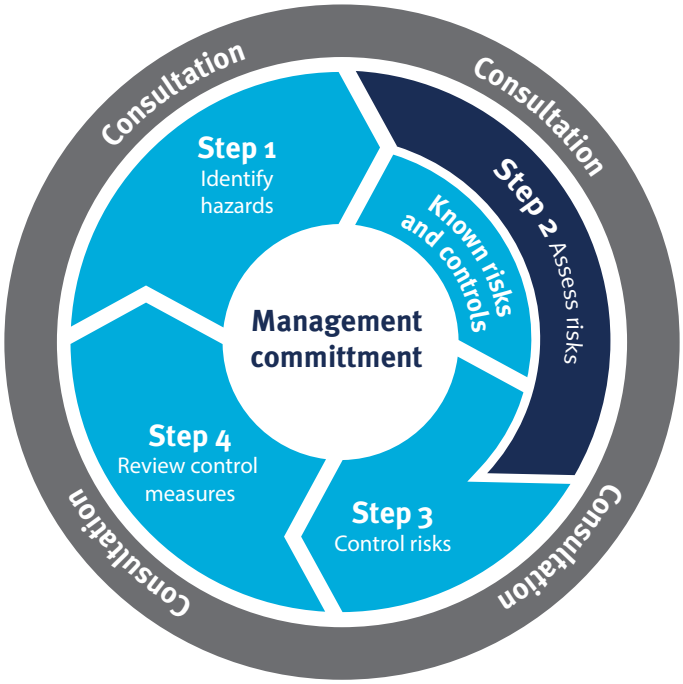

Figure 1. The risk management process

Even if there is no history of incidents, it does not mean fatigue-related hazards and risks do not exist or do not require comprehensive management.

9. Hazard identification in the context of workplace fatigue

Organisations should use a variety of sources to identify hazards. In the context of workplace fatigue, hazard identification typically means identifying times, workgroups, tasks, and other work components that may result in an increased likelihood of fatigue.

Information used to identify hazards may include one or more of the following:

- Consultation with workers and others.
- Data analysis (i.e. hours of work records, incident data).
- Workplace inspection (i.e. environment, equipment, materials, substances, tasks).
- Consideration of the organisation and management of work.
- Literature review and consideration of good practice within similar industries.

This information can be used within a fatigue risk assessment to determine fatigue-related risk. Within a best practice fatigue risk management system, fatigue-related risk is identified via a combination of the likelihood of fatigue and the potential consequences of a fatigue-related error (described in detail in section 10 below).

9.1 Record review and data analysis

In order to identify hazards, it is key to review relevant organisational data and records. This information can be used to identify if, and when, fatigue may be a hazard. Sources of data can vary depending on the size of your workplace. The data source table below (Table 4) provides some examples of the type of data available to support understanding of the potential hazards associated with fatigue.

Table 4. Workplace data sources

Workplace records	Things to consider
Hazard reporting database	• Number and nature of hazards/risks related to fatigue. • Outcomes of fatigue-related hazard reports. • Frequency of workers reporting fatigued or tired before a shift or during a shift. • Frequency of workers reporting not fit for duty due to fatigue before a shift or during a shift. • Outcomes of individual fatigue risk assessments.
Hours of work records	• Number of hours actually worked on a weekly, fortnightly, monthly basis. • Number of overtime hours worked. • Shift timing (i.e. time of day). • Bio-mathematical modelling (i.e. mathematical models identifying the likelihood of fatigue) of planned and actual hours worked (including paid and unpaid). These models use sleep opportunity information (based on hours of work and circadian factors) to produce scores indicating the likelihood of fatigue at given timepoints. • Distribution of hours worked (including overtime) amongst workers (i.e. are some workers performing more hours/overtime duties than others). • Percentage of shifts that exceed the organisation's tolerable limits for planned roster and actual hours worked. Limits are generally described within hours of work guidelines. • Percentage of shifts where shift swaps have taken place, either to minimise the adverse impact of fatigue or for other reasons. • Number of workers sent home to prevent shifts exceeding organisation's tolerable limits. • Percentage of safety critical tasks scheduled between midnight and 6.00 am. • Break frequency and duration, including number of workers not taking rest breaks (paid or unpaid) during a shift. • Work factors that may incentivise longer working hours.

Workplace records	Things to consider
Incident and investigation data	• Number and nature of incident reports where fatigue was relevant at the time or found to be a causal or contributing factor. • Percentage of incidents that occur during periods of the rosters where there is an elevated risk of fatigue (i.e. midnight to 6.00am, at the end of a shift, consecutive night shifts). Bio-mathematical modelling can be used to identify periods where the likelihood of fatigue may be elevated.
Records of current and recurring industrial issues in the workplace	• The nature of industrial activity and recurring themes, particularly rostering and hours of work, physical or cognitive workload or pay disputes.
Data on leave usage, including sick, annual and long service leave	• Patterns of leave usage (i.e. increasing leave usage during certain periods of the roster). • Accrual of excess annual leave or time in lieu.
Minutes of workplace safety meetings and staff meetings	• Whether any agenda items relate to fatigue. • Evidence of issues raised across a period of time with no apparent resolution (e.g. concerns related to rosters, schedules, time pressures or workload).
Workplace health and safety issues register	• Recurring issues related to fatigue, hours of work, roster design, workload, work demands, work design or work layout that may have an impact on fatigue levels. • Whether issues raised have action plan in place, including appropriate control measures.
Workers compensations claims data	• Causal or contributing factors related to fatigue, hours of work, or work demands. • Periods of absence associated with fatigue-related claims.
Workplace inspections records and action plans	• Workplace conditions such as inadequate lighting, excessive vibration, heat, exposure to noise and their impact on workers' fatigue levels. • Percentage of shifts that have facilities in place for managing working conditions that may impact on fatigue levels (e.g. napping stations, sleep pods, break out room). • Percentage of sites that have sleeping facilities. Of these sleeping facilities, the proportion that comply with a sleep hygiene assessment. • Number of reports that site-based sleeping facilities are inadequate (e.g. noise, light, vibration, climate control, bedding).
Sleep data	• Data recorded from the use of actigraphs (a non-invasive method of monitoring rest and activity cycles). Actigraphs are typically wrist-worn devices used to monitor sleep timing. • Self-reported sleep data.
Performance data	• Data recorded from the use of vigilance and reaction time tests. Some organisations use these tests to assess fitness for duty. • Data recorded from data loggers, driving/flying devices, simulations, etc. • Data related to production losses and operational errors.

Workplace records	Things to consider
Medical and health assessment records	• Sleep disorders (self-reported and assessment identified). • Reported medical conditions that may impact on sleep. • Age distribution of workers (older individuals are more likely to be susceptible to sleep disorders). • Percentage of workers that are being actively managed following a medical diagnosis that may impact on sleep/fatigue or alertness for work. • Percentage of random drug and alcohol tests that indicate drugs known to impact on sleep/fatigue or promote alertness. • Percentage of workers who present to the medical facility with a condition or illness that has been aggravated or caused by onset of fatigue in the workplace. • Patterns associated with factors that may contribute to an elevated fatigue risk (e.g. stress, relationship strain, financial difficulties).
Audit records	• Evidence of unreported or excessive working hours. • Evidence of workplace cultural incentives to work beyond reasonable or regulated working hours. • Evidence of independent audit reports or records.

Worker interviews, surveys and working hours audits could also be used to identify potential fatigue and worker needs (e.g. continuing education and training). A sample worker survey can be found at Tool 3. Sample worker consultation survey.

Workplace data can also be gathered to help determine the potential seriousness of the consequences associated with fatigue, as well as the likelihood that worker health and safety, or the safety of others, could be affected. Workplace data can provide valuable and objective information to help inform the decision-making process in the assessment of risks.

9.2 Walk-through inspections

An inspection is a useful way of identifying hazards in the workplace. It is a systematic way of gathering and recording information quickly to ensure hazards are not overlooked. Tool 1. Fatigue factors checklist may help identify issues to be considered during the walk-through inspection and risk assessment process.

However, it is important to note that a walk-through inspection may not be effective in identifying all fatigue-related hazards, as these hazards are not typically 'visible' in the same way a trip hazard or similar would be. For example, hours of work (including cumulative hours, overtime, shift swapping, etc.) will not be easily determined by a walk-through. While walk-through inspections will assist in part of the hazard identification process, they are not effective in isolation. To gain a comprehensive understanding of identification of fatigue-related hazards, it is necessary to also perform the data analysis as described in section 9.1.

10. Risk assessment

A risk assessment involves considering what could happen if someone is exposed to a hazard, the degree of harm and the likelihood of it happening. A risk assessment can help you determine:

- risk severity
- effectiveness of existing control measures
- what action required to control the risk
- how urgently the action needs to be taken.

A risk assessment can be undertaken with varying degrees of detail depending on the type of hazards and the information, data and resources that you have available. It can be as simple as a discussion with your workers or involve specific risk analysis tools and techniques recommended by safety professionals.

When assessing the risks associated with fatigue in the workplace and the severity of harm that could result, the following questions should be asked:

- How likely it is that fatigue may arise?
- What is the nature of work being performed?
- How severe would the impact of this be? Could the hazard cause death, serious injuries, illness or minor injuries?
- How many people are exposed to the hazard and how many could be harmed in and outside the workplace?
- Could a small error escalate to a much larger error with more serious consequences?
- Is there any information regarding previous fatigue-related incidents in the workplace?
- Do control measures exist and are they adequate?
- Any data from independent data from fatigue management audits or walk throughs?

A written record of risk assessments will assist with periodic reviews. These can occur annually, when operations change or when incidents involving fatigue occur. Risk assessments also help assess the effects of change, provide a body of organisational evidence that will identify effective and ineffective controls, and assist in further decision-making.

Fatigue risk assessments can be performed in advance based on scheduled roster and work information (i.e. shift timing and tasks to be performed), or in real time. Real time fatigue risk assessments are typically performed if a worker reports fatigue. They can also be used to assess risk at certain pre-determined times (e.g. prior to driving home, during all night shifts, etc.), or in response to changing circumstances (e.g. if overtime is required).

Should a worker be observed to be displaying signs and symptoms of fatigue or self-report they are experiencing fatigue, Tool 4. Individual fatigue risk assessment and workplace safety plan may support the assessment of the risk and the individual controls that can be put in place to manage work health and safety risks on a day-to-day basis.

Individual fatigue risk assessments are typically based on two key factors;

- fatigue likelihood, and
- potential consequences of a fatigue-related error.

10.1 Fatigue likelihood

Within best practice Fatigue Risk Management Systems, fatigue likelihood is based on three levels:

Level 1: Sleep opportunity (i.e. how much sleep is it possible for workers to have)

Level 2: Prior sleep wake behaviour (i.e. how much sleep has the worker actually had)

Level 3: Behavioural signs and symptoms of fatigue (i.e. is the worker feeling fatigued at the time).

This information can be used to determine fatigue likelihood scores from 1 (low likelihood of fatigue) to 5 (very high likelihood of fatigue). These scores can be used within a standard risk matrix to identify fatigue-related risk.

The calculation of fatigue likelihood scores is provided in Tool 4. Individual fatigue risk assessment and workplace safety plan .

10.2 Consequences of a fatigue-related error

Fatigue risk assessments should also include an understanding of the consequences of a fatigue-related error. In most organisations, it is appropriate to consider the potential consequences of a worker having a microsleep (i.e. a short, involuntary period of sleep) while performing specific tasks. It may also be appropriate to consider other potential outcomes of fatigue-related errors, including poor decision-making and slowed reaction times, particularly with high job demands or cognitively complex work activities that expose workers to risk.

Consequence ratings are generally given from 1 (insignificant) to 5 (catastrophic). However, many organisations have their own version of this rating scale. Consequence ratings would generally be determined via a consultative process (described in section 7) combined with subject matter expertise.

10.3 Fatigue-related risk

Risk matrices are used to identify the level of risk based on a combination of fatigue likelihood and the potential consequences of a fatigue-related error. See Figure 2 for an example risk matrix. Organisations may choose to use their own risk matrices for fatigue-risk assessments.

Within this example, a high likelihood of fatigue combined with minor consequences may result in a low or moderate risk. However, a high likelihood of fatigue combined with major or catastrophic consequences may result in a high or extreme level of risk.

Figure 2 Risk matrix

Likelihood of fatigue	Severity of consequence				
	1	2	3	4	5
1	Low	Low	Moderate	Moderate	Moderate
2	Low	Moderate	Moderate	Moderate	High
3	Moderate	Moderate	Moderate	High	High
4	Moderate	Moderate	High	High	Extreme
5	Moderate	High	High	Extreme	Extreme

11. Risk control

The most important step in managing risks associated with work-related fatigue is the implementation of appropriate control measures. PCBUs should work through the hierarchy of control when managing risks. This means the PCBU must always aim to eliminate the hazard, which is the most effective control. If elimination is not reasonably practicable, the PCBU must minimise the risk so far as is reasonably practicable.

The *How to manage work health and safety risks Code of Practice 2011* refers to the management of both physical and psychosocial hazards. The code groups the hierarchy of controls into different types that can be applied when eliminating or minimising WHS risks.

Eliminating the risk means completely removing the hazard and associated risks. This is the most effective control measure and you should always consider it before anything else. Where a risk cannot be eliminated, you must minimise it so far as is reasonably practicable.

Work design is used to minimise the risks by substituting the hazard, isolating the hazard from the person, or putting in place engineering controls. This should be done so far as is reasonably practicable. Substitution means changing the hazardous design of the work or the system of work and replacing with less hazardous alternatives. Isolation and engineering controls may also be used to control physical and psychological risks.

Appropriate control measures should be determined based on the level of fatigue-related risk that is identified based on objectively available evidence (section 10). The extent of control measures is likely to be based on the severity of risk (i.e. low risk requiring no or few control measures, high risk requiring extensive controls).

Where levels of fatigue risk have been identified, section 18 of the WHS Act will apply and control measures would typically include:

Low risk:	No additional controls necessary.
Moderate risk:	Self-management strategies are typically sufficient (e.g. caffeine, breaks, task rotation).
High risk:	Supervisory and team management strategies are typically required at this level (e.g. increased supervision).
Extreme risk:	Where extreme levels of fatigue risk have been identified, work should be terminated or not performed.

Within a risk assessment, it may be relevant to identify existing controls, in order to determine the residual risk. Residual risk is the level of risk that is 'left over' once control measures have been implemented.

Preliminary identification of existing control measures (and support to determine proposed control measures) may be done via an organisational self-assessment.

The Organisational self-assessment tool (Tool 2) provides an opportunity to review:

- organisational structures, work health and safety corporate governance and processes
- policies and procedures that support workers in the prevention and management of fatigue-related risks
- incident recording and reporting processes
- human resource management and employee assistance service processes
- risk management
- measurement, evaluation and risk management system enforcement processes.

12. Reviewing control measures

When reviewing control measures, check if the introduced controls have reduced the risk from when it was previously assessed, or that the introduced controls have not created new hazards and risks. This may require hazard identification and risk assessments to be repeated to ensure all risks to health and safety have been controlled so far as is reasonably practicable.

Satisfactory control of risk is often a continual consultative process that involves trialling and refining control measures and considering worker feedback, new technology and changes in knowledge. The review of risk controls should also analyse information such as incident data to guide ongoing decisions about further actions. Metrics may include those discussed in section 9.1.

13. Reporting

Incidents involving fatigue or fatigue-related hazards and risks should be reported immediately by workers, or by management on their behalf. This should be done to facilitate an investigation, review of control measures and/or post-incident response. The workplace should have a hazard and incident reporting system to facilitate reporting.

Reporting allows for appropriate collection of data and investigation into systemic deficiencies or control measure effectiveness. Such processes assist to understand and respond to emerging trends and issues. Data on reporting and incident trends should be presented to senior leadership on a regular basis.

External reporting may also be required, including to the Regulator in the case of notifiable incidents.
Visit worksafe.qld.gov.au for further information about notifiable incidents.

As part of best practice Fatigue Risk Management Systems (FRMS), workers are required to report if they are experiencing the behavioural signs or symptoms of fatigue (i.e. fitness for duty). This is important for the identification and management of fatigue-related risk. However, organisational safety culture is likely to play a role in the willingness of workers to report fatigue. This is likely to present a challenge when new FRMS are implemented. Often, a shift in organisational culture is required to facilitate this change. This generally requires both a 'top down' (i.e. engagement and participation from management and supervisory levels) and 'bottom up' (i.e. from workers) approach.

14. Monitoring and evaluation

It is important that appropriate data be reviewed across a period of time to ascertain any common themes and trends, in addition to allowing for continual improvement. Further, monitoring and evaluation processes can be used to determine how effective control measures are in managing fatigue-related risk.

It is important to understand:

1. whether the organisation is doing what is says it is doing, and
2. if what the organisation is doing is working.

Organisations also need to be wary of drawing firm conclusions from the data in isolation. A holistic approach should be undertaken to inform and verify any conclusions drawn from workplace data.

A lead indicator is a measure preceding or indicating a future event used to drive and measure activities carried out to prevent and control injury. A lag indicator measures incident and injury statistics.

Data should not only be used in the risk assessment process but also on an ongoing basis to monitor any trends or emerging risks. The table below identifies examples of lead and lag data that may be used to monitor fatigue-related risk. This data should be regularly provided to health and safety committees, HSRs and officers as one way of supporting the workplace to acquire and keep up-to-date knowledge of work health and safety matters related to fatigue.

Table 5. Lead and lag indicator examples

Lead indicators	Lag indicators
• Percentage of unfilled positions. • Percentage of workers diagnosed with a medical condition that may impact on sleep or alertness at work. • Percentage of existing fatigue risk assessments and risk management plans reviewed within scheduled dates. • Percentage of workers that have been provided with fatigue risk management training. • Percentage of officers that have been provided with fatigue risk management training. • Percentage of shifts that comply with rostered work hours. • Percentage of hazard reports related to fatigue. • Percentage of investigation reports that assess the contribution of fatigue. • Percentage of workers who report a need to change tasks or take more frequent breaks. • Percentage of overtime worked.	• Percentage of shifts that exceed the organisation's tolerable levels in planned roster and actual hours worked. • Percentage of hours worked on overtime. • Number of call outs per on call shift. • Number of self-reports related to fatigue. • Number of observations (by supervisors, managers or peers) related to fatigue. • Percentage of near miss reports that make attribute fatigue, overtime, call outs or workload as a contributing or causal factor. • Percentage of near misses or incidents occurring during times in the roster where the likelihood of fatigue-related impairment is increased. • Number of individual risk assessments triggered as a result of a self-report or observation (by supervisor, manager or peer). • Frequency of sick leave taken during times in the roster where the likelihood of fatigue-related impairment is increased. • Number of psychological injury reports and claims.

15. Incident investigation and review

Incident investigations should be undertaken by a suitably trained person. The investigation process should be documented and conducted in a systematic way to identify risks and hazards that led to the incident, the systemic deficiencies that may have existed at the time of the incident, and the effectiveness of current control measures. Investigations, reviews and audits (internal and independent) provide learning opportunities to improve corporate governance systems and risk controls to prevent future incidents.

Two key components should be considered during the incident investigation process:

- Is the incident consistent with a fatigue-related incident (i.e. does the set of circumstances align with a fatigue-related error?). For example, single-vehicle accidents where speeding is not a factor.
- Was it likely that the individual(s) was fatigued at the time of the incident? This can be determined via the risk assessment procedures described in section 10.

The Fatigue-related investigation tool provides a template to support the investigation process by ensuring causal factors are identified and suitable control measures to support prevention are identified.

16. Information, instruction and training

The PCBU must ensure, so far as is reasonably practicable, the provision of any information, training, instruction or supervision that is necessary to protect all persons from risks to their health and safety arising from work carried out.

Information, instruction and training for workers might include topics such as:

- Obligations and responsibilities for managing fatigue.
- Methods to improve good quality restorative sleep.
- Health and lifestyle factors that impede on good quality sleep.
- Signs and symptoms of fatigue in self and others.
- Self-assessment tools and risk management strategies for regular use.
- Application of the work health and safety management system to control fatigue-related risks in the workplace.

Officers, managers and workers with responsibilities for systems of work including rostering may be provided with information, instruction and training to build knowledge and skills in:

- Identifying the causes of fatigue and potential consequences.
- Understanding and applying the relevant legislation.
- Understanding the work demands (physical, cognitive and emotional) of various roles.
- Identifying signs and symptoms of fatigue in self and others.
- Implementing risk management strategies to eliminate or minimise fatigue-related risk so far as is reasonably practicable.
- Identifying the lifestyle factors that can help to reduce individual fatigue and enhance wellbeing.
- Understanding the importance of a workplace culture that supports fatigue management and reporting of hazards and incidents.
- Appreciating the importance of good leadership practices in achieving effective fatigue management.
- Where to find up to date information on best practice in managing fatigue.

Where organisations implement best practice FRMS, a suitably qualified individual is required for implementation and management of the system. This typically will consist of a Graduate Certificate in Fatigue Risk Management or equivalent. These courses are offered by universities within Australia.

Appropriate courses will align with Australian Qualification Framework units of competency, such as:

- TLIF0006 – Administer a fatigue risk management system
- TLIF3063 – Administer the implementation of fatigue management strategies
- TLIF0005 – Apply a fatigue risk management system
- TLIF2010 – Apply fatigue management strategies
- TLIF0007 – Manage a fatigue risk management system
- TLIF4064 – Manage fatigue management policy and procedures.

17. Other legislation

The information in this handbook can be applied generally to all types of work and workplaces covered by Queensland WHS legislation. It is not designed to provide information on managing fatigue in specific industries and does not replace requirements related to fatigue management requirements under other laws.

Incidents involving fatigue may be dealt with under the criminal law by the Queensland Police Service (QPS) however duty holders must still ensure health and safety in accordance with the WHS Act.

Other legislation relevant to fatigue and hours of work in Queensland includes:

- *Fair Work Act 2009*
- *Heavy Vehicle (Fatigue Management) National Regulation 2018*
- *Rail Safety National Law (Queensland) 2017*
- *Civil Aviation Order (CAO) 48.1 Instrument 2016*
- *Coal Mining Safety and Health Act 1999*
- *Mining and Quarrying Safety and Health Act 1999*
- *Offshore Petroleum and Greenhouse Gas Storage (Safety) Regulations 2009*

18. Further resources

Safe Work Australia resources (safeworkaustralia.gov.au)

- Work-related psychological health and safety: A systematic approach to meeting your duties
- Principles of good work design: A work health and safety handbook
- Guide for managing the risk of fatigue at work

Workplace Health and Safety Queensland (worksafe.qld.gov.au)

- *Work Health and Safety Act 2011*
- Work Health and Safety Regulation 2011
- How to manage work health and safety risks Code of Practice 2011
- Work health and safety consultation, cooperation and coordination Code of Practice 2011
- Managing the work environment and facilities Code of Practice 2011
- Hazardous manual tasks Code of Practice 2011

Standards and guidelines (www.standards.org.au or www.saiglobal.com)

- AS/NZS ISO 31000:2009 Risk Management – Principles and guidelines

Industry specific guidance

- Queensland Department of Natural Resources and Min–s - QGN 16 Guidance Note for Fatigue Risk Management
- National Offshore Petroleum Safety and Environmental Management Authority (NOPSEM–) - Avoiding Fatigue Guidance Note
- Taxi Services Commission - Fatigue Management Guidelines
- Logging Investigation and Training Association - Guidelines for Developing and Implementing a Fatigue Management Policy in Forestry
- Australian Pipeline and Gas Association - Fatigue Risk Management Guidelines

Worker specific guidance

- Fatigue Management – A Workers Guide

Tool 1. Fatigue factors checklist

Risk factor	Cause	Things to consider	Notes/Follow up questions
Shift type and length	Consecutive shifts	What opportunity for recovery provided between shifts?	
		What impact would consecutive shifts have on the workers personal life and other non-work commitments?	
		Are workers consulted around consecutive shifts?	
		How long do workers need to travel following the conclusion of their shift and by what means do they normally get home (i.e. driving, public transport etc)?	
		Are consecutive shifts kept to a maximum of 5-7 days?	
		Are more than four consecutive 12 hour shifts worked?	
		Are more than five consecutive 10 hour shifts worked?	
		Are more than six consecutive 8 hour shifts worked?	
	Night work	Is any non-essential work routinely scheduled for the afternoon or night shift?	
		Are complex physical or mental tasks undertaken on night shift?	
		Are tasks requiring sustained physical or mental effort undertaken on night shift?	

Risk factor	Cause	Things to consider	Notes
Shift type and length	Night work	Are more than eight hours of work required over night shifts?	
		Are supervisors and workers trained in detecting the signs of fatigue?	
		Are there more than four consecutive night shifts in a roster?	
		Is there a period of non-work following a sequence of night shifts?	
		Can night shifts be kept to a minimum where possible?	
		Do shifts finish before 10.00am so day sleep is not restricted?	
		Are at least two full nights of sleep provided to workers after their last night shift?	
		Are workers on permanent night shifts?	
		Are any workers returning from annual leave being rostered to start a night shift on their first shift back to work?	
		Is 24 hours' notice provided for any required night shifts?	

Risk factor	Cause	Things to consider	Notes
Shift type and length	Early morning work	Is the shift start time before 6.00am?	
		How much time has lapsed since the previous shift?	
		Are the number of successive early morning starts limited to 4 at maximum?	
		Are shifts that have early morning starts shorter in length to counter the impact of fatigue?	
	Shift length (greater than 8-hour shift)	Is a forward rotation shift system in place (e.g. morning to afternoon, afternoon to night)?	
		Is shift swapping allowed?	
		Are shifts capped at 12 hours?	
		Is there a maximum allowed number of hours each week?	
		Are shifts greater than 8 hours undertaken at night?	
		Is there a sufficient number of breaks provided during the shift?	

Risk factor	Cause	Things to consider	Notes
	Irregular shifts	Are irregular shifts kept to a minimum?	
		Can a permanent roster or rotating shifts be provided?	
		Are there irregular or unplanned shifts as a result of call outs?	
	Unpredict-able shifts	Are unpredictable shifts kept to a minimum?	
		Are there monitoring systems in place to determine the impact of unpredictable shifts to workers personal lives and fatigue?	
		Do workers get sufficient notice of any roster changes?	
	Rotating speed (quick rotation of shift type)	Do shift patterns consider individual differences and preferences as much as possible?	
		Is there a quick rotation of shifts only on a select number of days?	
	Split shift	Are split shifts supplied or offered?	
		If split shifts are used, does the timing allow for sleep of workers that is not disrupted due to their working time?	

Risk factor	Cause	Things to consider	Notes
	Travel/ commute time	Do rosters consider workers travel and commute times?	
		Are there any workers who commute more than one hour to work?	
		Are shift start and finish times convenient for public transport?	
Rest breaks	Number of workdays to rest days	Is there enough time between work shifts to allow for adequate sleep?	
		Is there enough time in a break for five hours uninterrupted sleep in 24 hours (only for one night); AND Enough time in breaks for 12 hours of sleep in 48 hours; AND Enough time in breaks for 50 hours sleep in seven days?	
		Can regular weekends be built into the shift scheduled? Ideally at least every 3 weeks?	
		Can consecutive rest days be provided?	
	Minimum rest break within shifts	Is the nature of the work considered in determining breaks? Work that is repetitive or uncomfortable may require additional breaks.	
		Are breaks that are allocated actually being taken by workers; what systems are in place to ensure breaks are being taken?	
		Are breaks within shifts long enough and frequent enough to allow workers to rest, refresh and nourish themselves?	

Risk factor	Cause	Things to consider	Notes
	Minimum consecutive nights off	Are there more than four consecutive night shifts in a roster?	
		Is there a period of non-work following a sequence of night shifts?	
		Are at least two full night's sleep provided to workers after their last night shift?	
Overtime	Emergency	Are there controls in place for when workers are required to work during an emergency?	
		Are emergency calls out kept to a minimum and spread among workers?	
		Are emergency shifts considered in the total hours a worker works during a week?	
	On call	What other shifts has the worker undertaken during the week?	
		What opportunities will the worker have for sleep and recovery?	
	Worker control of overtime	Are there systems in place to identify where a worker is undertaking above a certain threshold of overtime?	
	Employer control of overtime	Is overtime allocated after afternoon or night shifts? This should be avoided.	
	Pay incentives	Do you ensure that working arrangements minimise any pay incentives for shift patterns or working practices that could increase the risk of fatigue?	
	Sickness or unplanned short notice absences	How are unplanned absences managed?	

Risk factor	Cause	Things to consider	Notes
Sleep	Sleep opportunity	Is there adequate facilities for workers to rest if they are residing on site (e.g. little noise, comfort etc)?	
		Do shifts allow for adequate recovery time?	
		Are tools provided to workers and supervisors on sleep and wake calculations?	
	Insufficient or inadequate sleep	Are there processes in place for workers who are fatigued at work (e.g. fatigue leave)?	
	Rest and recovery facilities	Are rest and recovery facilities quiet and comfortable?	
		Are facilities provided for workers to nourish themselves?	
Fitness for work	Sleep disorders	Are there processes of health assessments and/or monitoring of employee health?	
		Are workers with known sleep disorders given special consideration in roster planning or are other controls implemented?	
		Are treatment options provided for workers with known sleep disorders?	
	Alcohol use	Is there a drug and alcohol policy and/or monitoring strategy?	
		Are workers provided information and/or training on the impacts of alcohol on sleep?	

Risk factor	Cause	Things to consider	Notes
Fitness for work	Drug use	Is there is a drug and alcohol policy and/or monitoring strategy?	
		Are workers provided information and/or training on the impact of caffeine intake on sleep and fatigue?	
	Illnesses impacting sleep	Are there processes of health assessments and/or monitoring of employee health?	
		Are workers with known illnesses impacting sleep given special consideration in roster planning or are other controls implemented?	
	Medication use	Are workers encouraged to advise their supervisor of any mediations they are taking that may impact their fatigue?	
	Presence of occupational stress	Are there safety management systems in place for the identification and control of occupational stress hazards?	
		Do workers undertake activities that require constant concentration or awareness?	
Personal factors	Family and social commitments impacting on sleep	Is there education and active discussion which focuses on personal factors which may contribute to fatigue? e.g. fitness, diet, fluid intake, being a carer, financial difficulties, domestic responsibilities, study.	
		Is the home sleeping environment impacting sleep? e.g. noise, light, temperature	
		Are there mechanisms in place to encourage reporting of personal factors which may contribute to fatigue?	
	Secondary employment or volunteer work	Is there a workplace policy and active discussion related to engagement in secondary employment or volunteer work?	
	Physical activity	Is there active discussion of the level of physical activity outside of work which may contribute to fatigue? e.g. sporting commitments, home renovation.	

Risk factor	Cause	Things to consider	Notes
Working conditions	Excessive noise, poor lighting, vibration, temperature extremes, weather events, humidity	Do adverse working conditions exist?	
		Is there significant exposure to adverse working conditions?	
		Have extended working hours increased exposure?	
		Are work tasks impacted by adverse weather events? e.g. outdoor work, operation of equipment, driving.	
		Is there significant exposure to adverse weather conditions?	
		Have extended working hours increased exposure?	
		Do you have agreed procedures for dealing with extreme weather conditions?	
Cultural expecta-tions	Work ethic, incentives, norms	Is there formal recognition of fatigue?	
		Are there adequate staffing levels?	
		Is there a norm of/incentive for working excessive hours?	
		Do planned work schedules vary from those worked?	
		Are workers consulted and participating in the monitoring of workplace fatigue risk?	

Risk factor	Cause	Things to consider	Notes
Fatigue critical tasks	Emergency situations (including drills)	Is there exposure of workers to emergency situations?	
		Are work patterns/shifts adjusted when exposure occurs?	
		Are drills scheduled at times to minimise risk of fatigue?	
Work demands	Safety critical tasks (working at heights, confined space, driving, high pressure testing, hot work)	Are safety critical tasks required to be undertaken?	
		Are they scheduled for day shifts?	
		Have extended hours increased exposure?	
		Are there mechanisms in place to report fatigue (either self or others)?	
	High emotional demands (e.g. emotionally disturbing, requires high emotional involvement, or requires workers to hide their emotions)	Are tasks emotionally challenging?	

Risk factor	Cause	Things to consider	Notes
Work demands	High mental workload (e.g. high levels of vigilance or continuous concentration required, work performed under pressure, tight deadlines, tasks above skill level)	Are there time pressures due to high workload?	
		Is the work fast paced?	
		Is high vigilance/concentration required?	
		Are complex/difficult tasks required at the end of the shift?	
		Are there other psychosocial hazards that are impacting e.g. work-related bullying, workplace conflict, poor support?	
	Low mental workload (e.g. monotonous, tedious tasks, long drives)	Do jobs involve repetitive or monotonous work?	
	High physical demands (e.g. concrete pouring, laying pipe, manual labour)	Is the work physically demanding?	
		Are strenuous tasks required at the end of the shift?	

Tool 2. Organisational self-assessment tool

Organisational structures, governance and processes	Yes	No	Comments/Gaps/Issues
The workplace has a work health and safety (WHS) committee.	☐	☐	
The WHS committee has current terms of reference that are reviewed every three years.	☐	☐	
The terms of reference reflect reporting/ communication requirements and processes to executive and board levels.	☐	☐	
Officers and board members are provided with regular reports on safety performance and risks.	☐	☐	
The workplace has a documented contractor management system, where required.	☐	☐	

Policy content	Yes	No	Comments/Gaps/Issues
The workplace has a formal written policy/procedure for the prevention and management of fatigue risks in the workplace.	☐	☐	
The policy/procedure:			
• applies to all workers and officers	☐	☐	
• acknowledges the PCBU's responsibility to provide a work environment that eliminates or minimises fatigue-related risk	☐	☐	
• includes a statement about identification of risk factors associated with fatigue	☐	☐	
• includes information on the system of work for identifying, assessing and controlling risks associated with fatigue in the workplace	☐	☐	
• states the provision of training and information for workers and officers, appropriate to their identified level of exposure and risk	☐	☐	
• requires all incidents and near misses to be investigated to identify the factors that may have contributed to the fatigue and system-related improvements to be determined.	☐	☐	

Policy content	Yes	No	Comments/Gaps/Issues
• requires consultation, communication and coordination to occur with regard to fatigue-related risks	☐	☐	
• requires monitoring and evaluation to ensure continual improvement	☐	☐	

Fatigue-related procedures and processes	Yes	No	Comments/Gaps/Issues
The workplace has a documented process for identifying, assessing and controlling the risk of fatigue when a worker is observed to be displaying signs and symptoms of fatigue or a worker self-reports 'unfit for duty' due to fatigue.	☐	☐	
The workplace has a process in place for investigating fatigue-related incidents to identify the factors that may have contributed to the fatigue and subsequent fatigue-related error.	☐	☐	
The workplace has a formal documented process for reporting hazards/risks involving fatigue.	☐	☐	
The workplace has established hours of work guidelines designed to manage the likelihood of fatigue (e.g. maximum shift length, maximum number of consecutive shifts, minimum break/rest periods, maximum night shifts, maximum overtime).	☐	☐	
A documented process exists for roster development in accordance with the established roster limits.	☐	☐	
A documented process for risk managing shift changes, call outs, overtime and on call is in place and communicated to workers.	☐	☐	
A risk management process is in place for managing shifts that fall outside of the organisation's hours of work limits (e.g. emergency or unplanned shift extensions).	☐	☐	
The workplace has a process in place for managing fatigue for contractors, subcontractors, suppliers and service providers.	☐	☐	
The workplace has in place processes for identifying and managing secondary employment or volunteer work that may impact on the worker fatigue levels.	☐	☐	
The workplace has in place a workforce plan or workload modelling processes to determine sufficient staffing numbers to meet organisational need.	☐	☐	

Fatigue-related procedures and processes	Yes	No	Comments/Gaps/Issues
Journey management processes have been put in place to manage fatigue-related risks when travelling for work purposes.	☐	☐	
There are processes or controls in place to minimise human error for lone workers and high-risk workers.	☐	☐	
There are processes or controls in place to manage exposure to high emotional demands.	☐	☐	

Reporting and incident investigation	Yes	No	Comments/Gaps/Issues
The workplace has a system for reporting incidents where fatigue was a contributing factor.	☐	☐	
All incidents of work-related fatigue are to be reported within a specified timeframe.	☐	☐	
All incidents where a shift has exceeded the organisation's hours of work limits (e.g. maximum shift length, maximum number of consecutive shifts, minimum break/rest periods, maximum night shifts, maximum overtime) are to be reported within a specified timeframe.	☐	☐	
The system for reporting incidents is accessible to all workers.	☐	☐	
The system captures the following information:			
• type of incident	☐	☐	
• date and time of incident	☐	☐	
• site of incident	☐	☐	
• people involved in the incident	☐	☐	
• outcome of incident	☐	☐	

Reporting and incident investigation	Yes	No	Comments/Gaps/Issues
• injury to worker/s	☐	☐	
• injury to others	☐	☐	
• mitigating circumstances.	☐	☐	
All incidents involving fatigue are systematically investigated to identify:			
• workplace design contributing factors	☐	☐	
• equipment failure, maintenance, requirements that may have contributed	☐	☐	
• human resource contributing factors	☐	☐	
• communications factors that may have contributed	☐	☐	
• previously unidentified risks or hazards.	☐	☐	
Comprehensive reports of incident data are tabled at relevant meetings.	☐	☐	
Outcomes of investigations are made known to the workers involved and HSRs.	☐	☐	
Summaries include:			
• follow-up risk assessments	☐	☐	
• recommendations for control measures	☐	☐	
• action plans for implementation of recommendations, including dates for review and revised control measures.	☐	☐	

Reporting and incident investigation	Yes	No	Comments/Gaps/Issues
Data associated with all incidents is maintained to enable analysis, tracking and identification of trends over time.	☐	☐	

Information, instruction and training	Yes	No	Comments/Gaps/Issues
Position descriptions reference officer and worker obligations in relation to WHS.	☐	☐	
Workers are encouraged to and supported in reporting incidents and hazards involving fatigue.	☐	☐	
The workplace has a training needs assessment that provides a clear outline of the roles and specified training required, dependent on responsibilities.	☐	☐	
The workplace has/accesses a tiered education and training program related to work-related fatigue prevention and management (i.e. mandatory induction training and skills-based training dependent on a training needs assessment).	☐	☐	
Workers who receive skill-based training are provided with updates for skill maintenance on an annual or bi-annual basis.	☐	☐	
There is a suitably qualified individual employed to manage the Fatigue Risk Management System (FRMS).	☐	☐	

Hazard identification, risk assessment and management	Yes	No	Comments/Gaps/Issues
Identified hazards/risks are formally assessed and documented by appropriately trained and/or experienced people.	☐	☐	
Documented risk assessments include control measures to eliminate or minimise risks so far as is reasonably practicable.	☐	☐	
Control measures are reviewed within three months, or sooner, to evaluate their effectiveness.	☐	☐	
Identified hazards/risks and assessments are reported at WHS meetings.	☐	☐	

Hazard identification, risk assessment and management	Yes	No	Comments/Gaps/Issues
Reports received at WHS committee meetings relate to:			
• injuries to workers and others	☐	☐	
• hazard reports	☐	☐	
• risk assessments	☐	☐	
• control measure implementation/action	☐	☐	
• control measure reviews/outcomes	☐	☐	
• recommendations for further actions	☐	☐	
• review of policies, procedures and work practices.	☐	☐	
Minutes of meetings reflect responsibility and accountability for further actions.	☐	☐	
Reviews are conducted following an incident involving fatigue to identify hazards that had not previously been identified.	☐	☐	
Sleeping facilities provided by the workplace are assessed to ensure their suitability and adequacy for providing adequate sleep during rest and recovery opportunities.	☐	☐	

Communication, consultation and co-operation	Yes	No	Comments/Gaps/Issues
Health and safety representatives (HSRs) have been elected.	☐	☐	
The HSRs have received the training required to fulfil their roles within the workplace.	☐	☐	
The workplace has notified WHSQ of elected HSRs.	☐	☐	
A process for consultation has been documented.	☐	☐	
Workers have been consulted during the development of a roster schedule.	☐	☐	
Monitoring and evaluation	**Yes**	**No**	**Comments/Gaps/Issues**
Data and records are used to monitor the fatigue management system, to ensure continual improvement.	☐	☐	

Tool 3. Sample worker consultation survey

This survey should be updated to reflect organisational needs and specific working time arrangements. It may be used to obtain baseline information regarding organisational fatigue and could be repeated following any updates to Fatigue Risk Management Systems to help determine efficacy. Use the questions below in survey monkey or another similar survey tool to gather data and look for trends across your organisation.

Q1. In the last six months, how often have you noticed each of the following symptoms whilst at work? (Please circle one response on each line).

		Never	1-3 times/ month	3-6 times/ month	2-4 times/ week	Every shift
A	Sore eyes	☐	☐	☐	☐	☐
B	Loss of concentration	☐	☐	☐	☐	☐
C	Yawning	☐	☐	☐	☐	☐
D	Headaches	☐	☐	☐	☐	☐
E	Poor decision making	☐	☐	☐	☐	☐
F	Mood changes	☐	☐	☐	☐	☐
G	Increased irritability	☐	☐	☐	☐	☐
H	Feeling uncomfortable	☐	☐	☐	☐	☐
I	Impaired work performance	☐	☐	☐	☐	☐
J	Other (please write in):	☐	☐	☐	☐	☐

Q2. In the last six months, which of the following have commonly caused you to be fatigued while at work? (Please circle one response on each line).

		Never	1-3 times/ month	3-6 times/ month	2-4 times/ week	Every shift
A	Long periods of work without breaks	☐	☐	☐	☐	☐
B	Long shifts (e.g. greater than 12 hours)	☐	☐	☐	☐	☐
C	Rest breaks too short	☐	☐	☐	☐	☐
D	Overtime	☐	☐	☐	☐	☐
E	Shift changes	☐	☐	☐	☐	☐
F	High level of mental exertion	☐	☐	☐	☐	☐
G	High level of physical exertion	☐	☐	☐	☐	☐
H	High level of emotional work	☐	☐	☐	☐	☐
I	Irregular, poor, or not enough sleep before work	☐	☐	☐	☐	☐

		Never	1-3 times/ month	3-6 times/ month	2-4 times/ week	Every shift
J	Starting work in the early morning (between midnight and 6am)	☐	☐	☐	☐	☐
K	Starting work in the afternoon (between 2-4pm)	☐	☐	☐	☐	☐
L	Starting work at night (between 6-10pm)	☐	☐	☐	☐	☐
M	Poor environmental conditions (e.g. uncomfortable mattress/pillow)	☐	☐	☐	☐	☐
N	Poor working conditions (e.g. noise, ventilation, lighting, vibrations)	☐	☐	☐	☐	☐
O	Other (please write in):	☐	☐	☐	☐	☐

Q3. In the last six months, how often have you used the following to deal with fatigue while at work?

		Never	1-3 times/ month	3-6 times/ month	2-4 times/ week	Every shift
A	Report to a Supervisor fatigued to sleep in rest facilities	☐	☐	☐	☐	☐
B	Report to a Supervisor fatigued to rest or take break, but not sleep	☐	☐	☐	☐	☐
C	Report fatigued to return home	☐	☐	☐	☐	☐
D	Eat while working	☐	☐	☐	☐	☐
E	Drink a caffeinated beverage (cola, coffee, red bull)	☐	☐	☐	☐	☐
F	Drink a decaffeinated beverage (water, juice)	☐	☐	☐	☐	☐
G	Smoke a cigarette	☐	☐	☐	☐	☐
H	Take “stay awake” pills	☐	☐	☐	☐	☐
I	Exercise (walk, run)	☐	☐	☐	☐	☐
J	Sing	☐	☐	☐	☐	☐
K	Listen to music	☐	☐	☐	☐	☐
L	Talk to colleagues on the phone	☐	☐	☐	☐	☐
M	Chew gum	☐	☐	☐	☐	☐
N	Reduce air temperature	☐	☐	☐	☐	☐
O	Other (please write in):	☐	☐	☐	☐	☐

Q4. In the last six months, how much of a problem has working while fatigued been for you? Please check the box where appropriate:

1	2	3	4	5	6	7	8	9	10
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
No problem									**Serious problem**

Q5. Would you tell your supervisor if you were worried about being too fatigued to start work?

☐ Yes ☐ No ☐ Maybe

If answer is no or maybe, please explain:

Q6. Would you tell your supervisor if you were worried about being too fatigued to continue work?

☐ Yes ☐ No ☐ Maybe

If answer is no or maybe, please explain:

Q7. On average, how many hours sleep do you need to feel rested for the next day? ☐ hours

Q8. On average, how long does it take you to get to sleep? ☐ minutes

Q9. On average, how many times do you wake up during your sleep period? ☐ times

Q10. How often do you have trouble sleeping?

☐ Never ☐ Rarely ☐ Sometimes ☐ Usually ☐ Always

Q11. Does your weekly work roster allow you to have sufficient time for sleep?

☐ Always ☐ Usually ☐ Sometimes ☐ Rarely ☐ Never

Q12. How many hours of sleep do you typically get before a morning shift? ☐ hours

Q13. How many hours of sleep do you typically get before an afternoon shift? ☐ hours

Q14. How many hours of sleep do you typically get before a night shift? ☐ hours

Q15. How often do you feel fatigued during morning shifts?

☐ Always

☐ Usually

☐ Sometimes

☐ Rarely

☐ Never

Q16. How often do you feel fatigued during afternoon shifts?

☐ Always

☐ Usually

☐ Sometimes

☐ Rarely

☐ Never

Q17. How often do you feel fatigued during night shifts?

☐ Always

☐ Usually

☐ Sometimes

☐ Rarely

☐ Never

Q18. How much do you agree with the following statements?

(please select)

		Strongly agree	Agree	Neutral	Disagree	Strongly disagree
a)	I feel comfortable reporting fatigue to my co-workers	☐	☐	☐	☐	☐
b)	I feel comfortable reporting fatigue to my manager/supervisor	☐	☐	☐	☐	☐
c)	My workplace has adequate rest facilities (including access to water, seating, etc.)	☐	☐	☐	☐	☐
d)	I always take my full break periods	☐	☐	☐	☐	☐
e)	I have received adequate training to identify fatigue in myself	☐	☐	☐	☐	☐
f)	I understand my company fatigue management system	☐	☐	☐	☐	☐
g)	I always feel alert enough to drive home safety after my shifts	☐	☐	☐	☐	☐

Tool 4. Individual fatigue risk assessment and workplace safety plan

The risk assessment and workplace safety plan help managers assess the risks and the level of support needed to assist a worker affected by fatigue. The plan considers an individual's circumstances and should be used on a case-by-case basis.

This risk assessment and workplace safety plan may be used for a worker who:

- reports fatigue
- is observed as displaying behavioural symptoms of fatigue
- has had fewer than 5 hours sleep in the previous 24 hours, or fewer than 12 hours sleep in the previous 48 hours
- is required for a call out; or
- is authorised to work beyond organisation's hours of work principles during an emergency or unplanned event.

The plan helps guide the conversation between a manager and an affected worker about potential risks and control measures, and how they can best be supported in the workplace – it takes a solutions-based approach to managing risks to an individual in the workplace.

An organisation's Human Resources (HR) Unit, Health and Safety Unit and Employee Assistance Program (EAP) are sources of support for both managers and affected workers. With the affected worker's consent, these sources of support can help with the plan and identify any reasonable workplace adjustments.

Record keeping and disclosure of personal information associated with this plan needs to be managed in accordance with the organisation's privacy policies and procedures, and legislated privacy provisions. An affected worker needs to be assured the information they disclose will be kept securely in a restricted personnel file. However, if the organisation is satisfied on reasonable grounds that the use of the information is necessary to lessen or prevent a serious threat to the life, health, safety or welfare of an individual, colleague or member of the public, the information may be disclosed without consent or knowledge.

The plan should be reviewed at pre-determined intervals to ensure the control measures are effective and still required. If an incident occurs in the workplace, follow the organisation's incident reporting and/or the emergency response processes.

Note: For a range of reasons, an affected worker may be reluctant to discuss their circumstances with their manager or others within the workplace. If as a manager you become aware of changes in behaviour or work capacity, you are required to engage in a conversation with the worker to offer appropriate support.

Whether you approach a worker, or a worker discloses they are experiencing fatigue, the following should be considered when discussing the issue and the worker's safety. This level of discussion may not be appropriate for a worker who is reporting fatigue for the first time but may be more necessary where a worker frequently reports fatigue. Furthermore, all conversations should be had in a supportive manner.

- Be sensitive in your approach, use a statement like 'I am worried about you because I have noticed…' to start the conversation.
- Ensure the worker agrees to participate in the conversation, has considered a support person (if necessary/in agreement) and the environment is appropriate (i.e. it is private and they feel safe to speak, you are not likely to be interrupted, there is a telephone available and tissues).
- Reassure the worker that the Employee Assistance Program or local counselling services (e.g. Lifeline, beyondblue.) are available should they ever want to talk about their circumstances.
- If the worker discloses their circumstances, listen without judgement and believe what they tell you.
- Advise the worker their information will be kept confidential. However, to ensure their safety and the safety of others there may be a requirement to let others know certain information, and the sharing of personal information will be discussed with the affected worker first.
- Use the Individual fatigue risk assessment and workplace safety plan to identify support, reasonable adjustments and workplace safety measures which may be required. It is important the employee has a say in the actions/decisions that could affect their work.
- Encourage and support the worker to contact various support services for general counselling or specialist advice.

Before collecting information from the worker, reinforce how privacy is valued. Ensure you remain professional, but personal (the discussion should not be too formal or impersonal).

Example discussion starter around privacy

[Insert organisation name] will collect your personal information for the purpose of ensuring your safety and the safety of your colleagues in the workplace. Any information you provide will be kept securely and confidentially, and will only be used for ensuring workplace safety, or where we are legally required to provide the information to another organisation.

Worker details

Position		
Employment status (e.g. full-time, part-time, job-share)		
Full name		
Email		
Phone	Work	Mobile

Manager's details

Full name
Email
Phone

HR representative

Full name
Email
Phone
Workplace safety plan start date Workplace safety plan review dates (regular check-ins)

Does the worker assess themselves to be fit for duty?

☐ Yes / ☐ Unsure	☐ No	Worker comments
If Yes or Unsure are selected, proceed to complete a fatigue risk assessment using Level 1, 2, and 3 tools below.	If the worker indicates they are not fit for duty and believe they cannot continue to work safely (NO is selected), put in place immediate control measures to support the worker. Immediate control measures may include: • alternative travel or accommodation • adjustments to rostered shifts • leave arrangements.	
	If NO, please note control measures selected: If the worker is not provided transportation home / leave / accommodation, please complete a fatigue risk assessment using Level 1, 2, and 3 tools below. This assessment will help determine appropriate controls based on fatigue-related risk.	

LEVEL 1 Roster dimensions tool

Please circle an answer for each roster dimension and calculate your overall roster score.

E.g. if you are currently working an average of 39 hours per week, you would circle '36-43h' in the 'maximum hours/week' row. This would give you a score of 1. You would then select an answer for the additional four roster dimensions, each giving scores. Add these scores together for your overall roster score. You will use this final score in the level 3 self report tool.

Roster dimensions	Low likelihood of fatigue →				High likelihood of fatigue	
Maximum hours/week	≤36h	36-43h	44-47h	48-54h	55h+	
Shift duration (hrs)	≤8h	8-10h	10-12h	12-14h	≥14h	
Break duration (hrs)	≥16h	16-13h	12-10h	10-8h	≤8h	
Max overnight hrs/wk	0h	1-8h	8-16h	16-24h	≥24h	
Days between reset breaks	<6	6	7-10	11-12	12+	
SCORE ALLOCATION	0	1	2	4	8	
My scores: (fill in)						
				Add your scores together from each column		Level 1 total roster score:

LEVEL 2 Prior Sleep Wake tool

Please complete the questions at X, Y and Z, and calculate each score. Example: You had 4 hours of sleep last night, plus a 30 minute nap in the previous 24 hours, you would write in 4.5 hours in the first box. You then calculate your X score (5 – 4.5 = score of 2).

X Question: How many hours of sleep have you had in the last 24 h?	hrs	For every hour of sleep less than five hours add 4 points:	X score:
Y Question: How many hours of sleep have you had in the last 48 h?	hrs	For every hour of sleep less than 12 hours, add 2 points:	Y score:
Z Question: How many hours have you been awake for?	hrs	For every hour of wake greater than the hours of sleep in the last 48 hours add one point:	Z score:
LEVEL 2 TOTAL PRIOR SLEEP WAKE SCORE: (Add up your X, Y and Z scores)			

You will use this final score in the level 3 self report tool.

LEVEL 3 Self-report tool

Select the number item which reflects how you feel right now.	
☐ 1. Extremely alert ☐ 2. Very alert ☐ 3. Alert ☐ 4. Rather alert ☐ 5. Neither alert nor sleepy ☐ 6. Some signs of sleepiness ☐ 7. Sleepy, but no difficulty remaining awake ☐ 8. Sleepy, some effort to keep alert ☐ 9. Extremely sleepy, fighting sleep	Level 3 Self-report score:

Understanding your scores

In table A below write in your final scores from Level 1, Level 2 and Level 3.

In table B circle your scores at each level. **Use the likelihood number rating aligned to your highest circled score to determine your ISO31000:2009 likelihood score**. EXAMPLE: If your scores were 1 (Level 1), 6 (Level 2), and 2 (Level 3), your ISO31000:2009 likelihood score would be 3.

To use the risk matrix use your ISO31000:2009 likelihood score and your pre-determined consequence ratings in the risk matrix. For example, you would look at the likelihood score of 3, being 'possible' in the white row. You would then determine the consequence A-E. Together consequence and likelihood would provide an answer of Low, Moderate, High and Extreme.

The ISO31000:2009-compliant likelihood scores, consequence ratings and risk matrices may be replaced with equivalent alternatives.

Risk Matrix

Table A Write in your scores:		Table B			
		Likelihood (ISO 31000:2009) Use this column in the risk matrix	Level 1 (roster)	Level 2 (prior sleep wake)	Level 3 (self-report)
Roster:					
Prior sleep wake:		1	0	0	1-2
		2	1-4	1-4	3-4
Self-report:		3	4-8	4-8	5-6
		4	9-12	9-12	7-8
		5	12+	12+	9

Consequence	Likelihood				
	1. Rare	2. Unlikely	3. Possible	4. Likely	5. Almost Certain
E. Catastrophic	High 10	High 15	Extreme 20	Extreme 25	Extreme 30
D. Major	Moderate 4	Moderate 5	High 10	High 15	Extreme 20
C. Moderate	Low 3	Moderate 4	Moderate 5	High 10	High 15
B. Minor	Low 2	Low 3	Moderate 4	Moderate 5	High 10
A. Insignificant	Low 1	Low 2	Low 3	Moderate 4	Moderate 5

Safety Plan		
Date	Fatigue-related risk identified via risk matrix. Please check appropriate box.	Control measures
	☐ Low ☐ Moderate ☐ High ☐ Extreme	

Example control measures

Risk	Example controls
Low	You should be able to continue work without the need for additional controls. If, for any reason, ou do feel unable to work safely due to fatigue let the relevant person know.
Moderate	Ensure peers are aware of the risk. Where appropriate, implement appropriate additional personal controls. These include but are not limited to increased peer interaction and monitoring, increased time off task, task rotation and or task slowing, other approved fatigue countermeasures or the strategic use of caffeine/ energy drinks.
High	Ensure peers and supervisor(s) are aware of the risk. Where appropraite, implement significant additional controls. These include increasing the number and frequency of 'medium' controls in place and/or introducing increased supervisory monitoring. Where possible, 'fatigue mode' procedures should be implemented.
Extreme	Notify peers and supervisor. Document the risk. Do not continue to work unless a pre-existing risk assessment indicates that the risk of ceasing to work exceeds the risk of continuing to work. If work is to continue obtain written 2-up approval. All available 'medium' and 'high' controls should already be in place. Peer and supervisor monitoring should be at the maximum level possible. If you do not feel you are able to continue to work safely you should indicate this to the relevant line manager in plain language.

Support services (dependent on personal issues that may be affecting sleep)

Lifeline 13 11 14

MensLine Australia 1300 789 978

Kids Helpline 1800 551 800

Perinatal Anxiety and Depression Australia (PANDA) 1300 726 306

DV Connect 1800 811 811

Beyondblue 1300 224 636

Suicide Callback Service 1300 659 467

QLife 1800 184 527

Mates in Construction 1300 642 111

Tool 5. Fatigue-related investigation tool

Managers and supervisors may use this tool to guide an investigation into an incident that may have involved fatigue as a causal or contributing factor.

Fatigue is more than feeling tired and drowsy. In a work context, fatigue is a state of mental or physical exhaustion which reduces a person's ability to perform work safely and effectively. It is a condition that can result from inadequate or disturbed sleep, physical exertion, mental exertion, or prolonged waking times. Fatigue can be, in some cases, a natural response to the mental and physical effort of everything we do, and adequate sleep is essential for restoring the balance and promoting recovery.

Completing this incident investigation tool can help prevent further incidents

Manager name:	
Location of incident:	
Today's date:	Incident date:
Incident number:	

Has the situation been made safe?

☐ Yes ☐ No. If yes, provide details:

Have all staff who were present for the incident and the relevant health and safety representative (HSR) been spoken to?

☐ Yes ☐ No. If yes, provide details:

Have all witnesses (e.g. members of the public/volunteers/visitors) who were present for the incident been spoken to?

☐ Yes ☐ No. If yes, provide details:

Have all relevant staff been informed of the incident?

☐ Yes ☐ No. If yes, provide details:

Is this incident notifiable to Workplace Health and Safety Queensland?

☐ Yes ☐ No. If yes, provide details:

Has this incident been reported to the Queensland Police?

☐ Yes ☐ No. If yes, provide details:

Adequate support (e.g. Employee Assistance Service, psychological support) has been offered to the affected worker/s?

☐ Yes ☐ No. If yes, provide details:

Site inspection and walk through:

Have you conducted a site walk through/inspection?

☐ Yes ☐ No

During the walk through, did you consider:

☐ Effects of lighting on fatigue levels

☐ Whether temperature may have contributed to worker fatigue

☐ Effects of vibration leading up to the incident

☐ Noise (e.g. white noise)

Information about the incident:

☐ Where and when did it occur?

☐ Who was there/involved?

What happened?

What (physical or psychological) injuries/impact/damage occurred?

Select all factors that may have contributed to the incident

What characteristics of the situation just prior to the incident were different from usual?

Work design factors

- ☐ Staffing levels
- ☐ Working alone
- ☐ Repetitive tasks
- ☐ Monotonous/tedious tasks
- ☐ Cognitively demanding tasks
- ☐ High mental workload/vigilance
- ☐ High physical demands (e.g. manual labour)
- ☐ Tight timeframes
- ☐ Work performed under pressure
- ☐ Safety critical task (e.g. driving a road vehicle, operating high risk plant, working at heights, medical or surgical procedures)
- ☐ Hazardous manual tasks

Hours of work:

- ☐ Insufficient sleep opportunity provided by the roster
- ☐ Cumulative work hours
- ☐ Night work
- ☐ Early morning work
- ☐ Shift length
- ☐ Irregular shifts
- ☐ Unpredictable shifts
- ☐ Backward rotating shifts (e.g. consecutive shifts start earlier than preceding shift)
- ☐ Split shift
- ☐ Overtime – unplanned
- ☐ Overtime – emergency
- ☐ On call
- ☐ Insufficient rest breaks
- ☐ Consecutive shifts
- ☐ Shift rotating speed (i.e. quick succession from morning to night shift)
- ☐ Rest breaks

Culture

- ☐ Staffing levels
- ☐ Pay incentives
- ☐ Travel arrangements
- ☐ Work ethic (i.e. culture of long working hours)

Work environment factors

- ☐ Excessive temperatures (low or high)
- ☐ High levels of physical exertion
- ☐ Excessive vibration
- ☐ Poor lighting
- ☐ Exposure to hazardous chemicals
- ☐ Unsuitable ergonomic set up
- ☐ Exposure to noise
- ☐ Humidity
- ☐ Weather conditions

Rest and recovery facilities:

- ☐ Poor bedding/pillows
- ☐ Noisy accommodation
- ☐ Temperature of sleep environment
- ☐ Poor environment (e.g. bed bugs, smell)
- ☐ Light impacting sleep (e.g. no block out curtains)

Individual factors

- ☐ Time awake
- ☐ Poor quantity of sleep (e.g. less than individual need)
- ☐ Poor quality of sleep (e.g. interruptions)
- ☐ Alcohol intake affecting sleep
- ☐ Drug use affecting sleep
- ☐ Poor sleep hygiene
- ☐ Diagnosed sleep disorder
- ☐ Undiagnosed sleep disorder
- ☐ Health condition (e.g. mental health condition, anaemia)
- ☐ Influence of illness (e.g. post viral infection)
- ☐ Influence of medication (e.g. causes drowsiness or impacts quality of sleep)
  Commute times
- ☐ Secondary employment
- ☐ Volunteer work
- ☐ Family/sporting commitments
- ☐ Social obligations
- ☐ Intense physical activity (e.g. marathon/high intensity training)
- ☐ Stress – work-related factors
- ☐ Stress – personal factors
- ☐ Worker control of overtime
- ☐ Work ethic (e.g. working above and beyond hours required)

A. Is the incident consistent with a fatigue-related error?

Fatigue Error Likelihood Scale

Score	Description
1	Very low likelihood of fatigue-related error based on positive identification of other, more likely, non-fatigue-related causes.
2	Low likelihood of fatigue-related error due to other, non-fatigue-related causes being more likely or competing explanations.
3	Possible fatigue-related error of judgement, while alternate, non-fatigue-related explanations are less compelling. Investigation indicates that the accident resulted from either: • unnecessarily risky behaviour, • incorrect prediction of other road users' behaviour (e.g., assuming another driver will stop, or assuming there will not be a train at a level crossing based on prior experience).
4	High likelihood of fatigue-related error due to corroborated/objective evidence of limited loss of – or failure to update – situational awareness.
5	Very high likelihood of fatigue-related error due to corroborated/objective evidence of significant or total loss of situational awareness or complete failure to respond to changing circumstances, in the absence of any other, competing explanations.

Fatigue Error Likelihood Score:

B. Was the individual likely to have been fatigued at the time of the incident?

Complete the Individual Fatigue Risk Assessment to determine a Fatigue Likelihood Score (1 – 5).

Fatigue Likelihood Score:

Likelihood that the incident was caused by fatigue:

Calculate the likelihood that the incident was caused by fatigue based on the below look up table:

		B) Fatigue Likelihood Score				
		1	2	3	4	5
A) Fatigue Error Likelihood Score	1	1.0	1.4	1.7	2.0	2.2
	2	1.4	2.0	2.4	2.8	3.2
	3	1.7	2.4	3.0	3.5	3.9
	4	2.0	2.8	3.5	4.0	4.5
	5	2.2	3.2	3.9	4.5	5.0

Score:

Taking into consideration the factors above, what controls are already in place to prevent and manage risks associated with work-related fatigue:

Work design controls

- ☐ Work-related fatigue policy
- ☐ Procedures for managing hours of work
- ☐ Secondary employment processes for monitoring hours of work
- ☐ Roster design
- ☐ Hours of work limits
- ☐ Roster risk assessment tools
- ☐ Roster monitoring software
- ☐ Training for rostering staff
- ☐ Training for supervisors
- ☐ On call checklist/processes
- ☐ Rest/break out facilities
- ☐ Hazard reporting system
- ☐ Incident reporting system
- ☐ Double checking processes
- ☐ Alarms/alerts for safety critical tasks
- ☐ Suitable staff allocation
- ☐ Supervision
- ☐ Consultation
- ☐ Communication
- ☐ Issues or hazard register
- ☐ Succession plan
- ☐ Job rotation
- ☐ Workforce plan
- ☐ Provision of alterative transport (e.g. buses, cab vouchers, car pooling)
- ☐ Buddy system/team work
- ☐ Education and training – Fatigue Risk Management System

Work environment controls

- ☐ Housekeeping
- ☐ Temperature controls
- ☐ Plant and equipment maintenance
- ☐ Inspection checklist – work environment and rest/recovery facilities
- ☐ Lighting
- ☐ Chemicals register
- ☐ Ergonomics
- ☐ Breakout facilities

Rest and recovery facilities

- ☐ Comfortable bedding/pillows
- ☐ Noise policies or restrictions for supported accommodation
- ☐ Temperature control
- ☐ Room maintenance plans

Individual controls

- ☐ Self-assessment tool to determine individual risk
- ☐ Health/medical assessment
- ☐ Clearance certificate – fitness for work/capacity
- ☐ Education and training – causes of fatigue and sleep hygiene

Review and monitor effectiveness of control measures:

During the incident, were the above controls effective?

☐ Yes ☐ No. If not, why not?

How could these controls be improved and/or what additional controls could address the identified contributing factors?

Risk management plan

Use this table to document changes you will make to existing controls or new controls you will introduce, to prevent a similar incident from happening again.

Risk factor	Control measure	Action required to implement control measure	Who has responsibility for addressing this action?	Which contributing factors does this action address?	Who have you escalated this to? When?	Date to be completed by:	Date for review:

Communication and consultation

Actions	Date completed
Staff have been consulted during the investigation as appropriate, including the HSR.	
All relevant staff have been informed of the identified contributing factors and actions.	
The relevant information from this form has been entered into the incident reporting system.	
Any additional documents and attachments have been added into the incident reporting system.	
The relevant risk assessment/register has been updated in accordance with the investigation findings and any actions/additional control measures required have been implemented.	
Data associated with this incident has been updated following investigation to enable analysis, tracking and identification of trends over time.	