

Section 53

FATIGUE MANAGEMENT

1. Purpose

The purpose of this policy is to establish the requirements for managing fatigue. It is intended that this policy will reduce the risk of fatigue-related injuries and incidents in the workplace.

2. Policy statement

The MAPP Construction LLC is committed to providing and maintaining safe systems of work for all its employees, including those whose work involves shifts work, extended hours or on-call arrangements.

- 2.1. Fatigue is a mental or physical exhaustion that prevents a person from functioning normally and can impair safe work performance.
- 2.2. Fatigue can be caused by both work and non-work related factors.
 - 2.2.1. Non-work factors include family responsibilities, social activities, health issues—such as sleep disorders—study commitments, and sporting commitments.
 - 2.2.2. Work factors include shift work—especially night shift— and working extended hours.
- 2.3. Whereas not all people respond to fatigue in the same way, fatigue can cause reduced concentration, impaired co-ordination, compromised judgment and slower reaction times; ultimately increasing the risk of incidents and injuries.
- 2.4. MAPP Construction LLC managers are accountable for managing fatigue by applying risk management processes prescribed through PSSP’s.

3. Scope and coverage

This policy applies to all staff—especially those whose work involves shift work—extended hours and on-call arrangements.

- 3.1. Project Site Safety Plan (PSSP) shall identify fatigue qualifying factors and indicate management systems appropriate to avoid such conditions.
- 3.2. Following Risk Assessment Chart will assist in developing Project Specific Fatigue Management Plan and can be used as a go-to when coaching employees on fatigue work practices.

Risk Factor	Control measures to consider
These include, for example: <ul style="list-style-type: none"> • repetitive or monotonous work; • sustained physical or mental effort; • sustained and/or complex physical or mental tasks 	<ul style="list-style-type: none"> • Re-design jobs to eliminate boring, repetitive tasks • Improve communication • Provide training to allow multi-skilling and effective job rotation • Use alarms and monitors, particularly for solo work (ex driving vehicles) • Use plant, machinery and equipment to eliminate or reduce the excessive physical demands of the job • Reduce the amount of time employees/workers need to spend performing sustained physically and mentally demanding work • Ensure there are adequate employees/workers and other resources to

Section 53

FATIGUE MANAGEMENT

	<p>do the job without placing excessive demands on staff</p> <ul style="list-style-type: none"> • Roster enough employees/workers during peak times and demands • Ensure adequate breaks during shifts to allow recovery • Allow supervisors and employees/workers to reschedule tasks if fatigue becomes a problem • Ensure work demands gradually increase towards the middle of the shift and decrease towards the end • Eliminate sources of risks that might exacerbate fatigue (eg lack of job control, manual handling, extremes of temperature) • Improve communication processes • Improve the duration and timing of work • Ensure safe and efficient shift hand-over
Work scheduling and planning	
<p>Night shifts, including the number of consecutive night shifts</p>	<ul style="list-style-type: none"> • Eliminate or limit night work where possible • Eliminate the use of night shifts for particular jobs or activities • Schedule complex tasks for daytime • Schedule work for hours when the risks may be lower – for example, complex and safety-critical tasks are best undertaken during normal day shifts when employees/workers are less likely to be fatigued, rather than during low body clock periods (ie don't schedule tasks between 2am and 6am and, to a lesser degree, between 2pm and 4pm) • Avoid scheduling higher risk tasks on the first night of a night-shift cycle. If unavoidable, when planning the task consider additional controls such as job rotation or additional rest breaks • Minimize or redesign routine administrative tasks to ensure employees/workers can focus on core duties during their night work • Limit the number of consecutive night shifts worked – no more than four night shifts in a row • Allow regular night-shift employees/workers periods of normal night's sleep to catch up on their sleep deficit • Ensure that rosters allow for at least two full night's sleep after the last night shift • Arrange shifts so that day sleep is adequate • Use a forward-rotation shift system (ie morning to afternoon, afternoon to night) • Improve the order, speed, direction and length of rotation of the shift cycle • Except for emergencies, give at least 24 hour's notice before night work. Consider 22 providing a longer period of notice so that employees/workers have time to adjust their activities • Allow for naps during night shifts.(Not allowed in industrial facilities)
<p>Long hours of work in a single shift. This includes travel time, especially for remote sites.</p>	<ul style="list-style-type: none"> • Reduce working hours • Increase resourcing • Eliminate the use of extended hours for particular jobs or activities • Control the length of shifts • Limit the use of overtime, especially unscheduled overtime

Section 53

FATIGUE MANAGEMENT

	<ul style="list-style-type: none"> • Monitor hours of work • Provide alternative transport at end of overtime/long shift
Long hours of work across a shift cycle	<ul style="list-style-type: none"> • Develop a working-hours policy on daily work hours, maximum average weekly hours, total hours over a three-month period and work-related travel • Reduce working hours • Reduce the number of consecutive day shifts that can be worked • Eliminate or reduce the need to work long shifts for more than four consecutive days • Allocate shift employees/workers consecutive days off, including some weekends, depending upon their fatigue-risk level • Avoid working arrangements that provide incentives to work excessive hours • Control overtime, shift swapping and on-call duties • Offer alternatives to employees/workers who may have difficulties adjusting to working hours
Long hours because of on call duties	<ul style="list-style-type: none"> • Limit use of standby and on-call duties • Ensure that exchange of shifts does not result in excessive hours • Ensure that responding to emergencies does not result in excessive hours
Short breaks between work shifts	<ul style="list-style-type: none"> • Increase the length of breaks between shifts • Allow for recovery between work periods • Defer non-urgent work to allow appropriate rest and recuperation for employees/workers • Provide rest days (opportunity for two consecutive night sleeps) • Improve the timing of shifts • Allow for family and social commitments between shifts and shift cycles • Make sure that there is enough time in a break for six hours uninterrupted sleep
Short breaks within work shifts	<ul style="list-style-type: none"> • Provide more and/or longer breaks to allow for recovery within work periods • Provide adequate resources to cover breaks • Ensure adequate number and location of crib and toilet facilities • Reduce the use of split shifts • Where split shifts are used, arrange timing so sleep of employees/workers is not disrupted due to the times they are required to work
Shift start/finish times	<ul style="list-style-type: none"> • Don't start or finish between 10pm and 6am • Ensure time for adequate communication at shift handovers • Match shift times to the availability of public transport
Changes to rosters	<ul style="list-style-type: none"> • Set shift rosters ahead of time and avoid sudden changes of shifts to employees/workers to plan leisure time • Reduce irregular and unpredictable work schedules • Manage workload and work-pace change caused by machinery breakdowns planned and unplanned absences • Allow for family and social commitments within the roster cycle

Section 53

FATIGUE MANAGEMENT

Work Environment Conditions	
Stress	<ul style="list-style-type: none"> • Improve job control and the other risk factors associated with stress • Ensure opportunities to clarify stress-related issue
Adverse physical conditions	<ul style="list-style-type: none"> • Avoid working during periods of extreme temperature • Control exposure to hazardous substances and environments • Provide effective protective clothing and equipment, allowing for different shifts • Use heating and cooling to control ambient temperatures to support alertness • Provide adequate facilities for rest, sleep, meal breaks, onsite accommodation (if appropriate) and other essential requirements, such as bathroom facilities • Install adjustable, vibration-free seats in appropriate machinery and vehicles • Ensure the workplace and surroundings are well lit, safe and secure
Excessive commuting times necessary	
	<ul style="list-style-type: none"> • Start work at long distance commute sites on the day after arrival and start travel home on the day after the shift cycle is finished • Assist with travel arrangements, ex provide transport • Reduce active working time to account for long commuting time or distance
Individual and non-work factors	
	<ul style="list-style-type: none"> • Provide suitable professional advice, ex an employee assistance program, sleep disorder clinic • Maintain vigilance in identifying non-work related factors • Subsidies modifications to private homes to improve sleeping conditions (ex. air conditioning) • Provide information and education about how non-work related factors can increase the risks of fatigue • Provide a mechanism to encourage employees/workers to report non-work factors that might affect fatigue management
Effect of exposure during extended shifts	
	<ul style="list-style-type: none"> • Employees/workers who perform repetitive manual tasks should have regular rest breaks • Ensure exposures are carefully monitored and exposure levels adjusted. For example, exposure during a 10-hour shift may not equate to 1.25 times the exposure experienced during an eight-hour shift

4. Definitions

4.1. Extended hours: Work hours that are an extension of the standard working week, as a result of overtime, on-call arrangements, or secondary employment.

4.2. Fatigue: A mental or physical exhaustion that prevents a person from functionally normally. In the work environment this can mean that a person is also

Section 53

FATIGUE MANAGEMENT

unable to function safely. It has many causes, but is usually related to inadequate restorative sleep.

- 4.3. Restorative sleep: Restorative sleep is the process by which the body overcomes fatigue. It involves cycles of deep sleep that allow a person to recuperate and wake up refreshed.
- 4.4. Shift work: Work performed outside the hours between 0600 and 1800 hours, Monday to Friday.
- 4.5. Sleep cycles: Sleep cycles are determined by the body's natural biological rhythms (also known as circadian rhythms or the 'body clock') which are repeated every 24 hours. As well as regulating sleep cycles, biological rhythms also regulate body temperature, digestion and hormone levels.

5. Responsibilities

Managers and employees have a responsibility to ensure that fatigue does not impact on the safety, health and well-being of themselves and others.

5.1. Managers and supervisors are responsible for:

5.1.1. Applying risk management in consultation with staff.

5.1.1.1. Interviewing staff members that are indicating signs of fatigue in attempt to make accommodations in cooperation with that employee that will demonstrate effective treatment of those contributing factors.

5.1.1.2. Utilize Examples of control measures for various fatigue risk factors Section 2.2.

5.1.1.3. Work task are analyzed a evaluated periodically for fatigue causing factors.

5.1.2. Ensuring systems of work that minimize the risk of fatigue—for example, reasonable rosters, reasonable overtime practices, and adequate recuperation between shifts.

5.1.3. Providing opportunities for employees to obtain adequate rest from work.

5.1.4. Monitoring workloads, work patterns and roistering arrangements to ensure employees are not placed at risk from fatigue.

5.1.5. Consulting with employees when introducing shift work or new roistering systems.

5.1.6. Providing information, instruction and training about risks to health, safety or welfare of employees involved with shift work, extended hours and on-call arrangements.

5.1.7. Ensuring employees performing shift work are properly supervised and that tasks are undertaken safely.

Section 53

FATIGUE MANAGEMENT

- 5.1.8. Ergonomic equipment will be used to improve workstation conditions such as anti-fatigue mats for standing, lift assist devices for repetitive lifting, proper lighting and control of temperature, and other ergonomic devices as deemed appropriate.

- 5.2. Employees are responsible for:
 - 5.2.1. Participating in risk management processes.
 - 5.2.2. Using time off from work to recuperate in order to be fit and able for the next shift.
 - 5.2.3. Participating in education and training in order to gain an understanding of fatigue.
 - 5.2.4. Avoiding behaviors and practices that contribute to fatigue, and which could place themselves and others at risk—for example, secondary employment, or not using time off work to recuperate.
 - 5.2.5. Recognizing signs of fatigue that could place health, safety and well-being of themselves or others at risk and reporting this to their manager or supervisor.
 - 5.2.6. Tips for individual on avoiding fatigue.
 - 5.2.6.1. Sleep
 - 5.2.6.1.1. The best sleep is night sleep
 - 5.2.6.1.2. If sleeping during the day, darken the room and allow more time than normal to fall asleep
 - 5.2.6.1.3. Choose a quiet, peaceful place to sleep and adhere to a routine
 - 5.2.6.1.4. Seven to eight hours uninterrupted sleep is adequate.
 - 5.2.6.1.5. Seek medical advice for excessive snoring, irregular breathing and insomnia.
 - 5.2.6.2. Drugs and alcohol
 - 5.2.6.2.1. Avoid excessive consumption of alcohol – it affects quality of sleep
 - 5.2.6.2.2. Avoid stimulants – they delay the need for sleep
 - 5.2.6.2.3. Do not consume coffee or tea before going to bed
 - 5.2.6.3. Medical conditions
 - 5.2.6.3.1. If you have a medical condition, you should seek advice from your doctor if you are in a job that involves shift work or long working hours.

Section 53

FATIGUE MANAGEMENT

5.2.6.3.2. Tell your employer about any medical conditions that may limit your ability to work or make you susceptible to fatigue.

5.2.6.3.3. Ask your doctor for an alternative medication if it causes you drowsiness when you need to be awake

5.2.6.4. Fitness

5.2.6.4.1. Maintain a basic level of fitness

5.2.6.4.2. Exercise regularly

5.2.6.4.3. Keep your weight in check – obesity contributes to sleeping disorders

6. Training

6.1.1. Initial and annual training will be provided:

6.1.1.1. Recognize fatigue.

6.1.1.2. How to control fatigue through appropriate work and personal habits.

6.1.1.3. Reporting of fatigue to supervision.

7. Reference:

NSW Mine Safety Advisory Council

“Development and implementation of a Fatigue”.

Management Plan for the NSW mining and extractives industry. December 2009, version 1.0.

© Industry & Investment NSW for and on behalf of The State of NSW – 2009.