

# System Requirement

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## Managing Fatigue



## Version control

Version	Change from previous	Date	Comment
1.0	First release	Feb 2010	

## Contents

<b>1. Purpose and scope.....</b>	<b>4</b>
<b>2. Background.....</b>	<b>4</b>
<b>3. Overview.....</b>	<b>5</b>
<b>4. RailCorp’s Fatigue Management Program .....</b>	<b>5</b>
4.1 Risk management approach .....	6
4.2 Rostering principles .....	6
4.3 Fatigue Audit InterDyne (FAID®) .....	6
4.4 Health assessments .....	6
4.5 Human resources practices.....	7
4.5.1 Secondary employment/voluntary work.....	7
4.5.2 Managing leave.....	7
4.5.3 Employee Assistance Program .....	7
4.6 Awareness campaigns/programs .....	7
4.7 Safety incident investigations .....	7
<b>5. Program review and evaluation.....</b>	<b>8</b>
<b>6. Performance requirements .....</b>	<b>8</b>
<b>7. Records management .....</b>	<b>9</b>
<b>8. Training and instruction.....</b>	<b>9</b>
<b>9. References .....</b>	<b>10</b>
<b>10. Definitions .....</b>	<b>10</b>

## 1. Purpose and scope

RailCorp is committed to establishing and maintaining safe systems of work for all its employees, including systems to manage the risk of fatigue.

The purpose of this system requirement is to define RailCorp's Fatigue Management Program.

This system requirement and its associated procedures apply to employees across groups and worksites where shift work or extended hours arrangements are undertaken.

Contractor organisations must demonstrate compliance with this system requirement and its associated procedures through their own safe systems of work.

## 2. Background

RailCorp operates 24 hours a day, 7 days a week, providing rail services to customers, maintaining rail infrastructure and responding to unforeseen events. This can involve work arrangements such as shift work or extended hours. If not managed appropriately, these work arrangements can increase the risk of fatigue.

Fatigue is more than feeling tired or drowsy. It is mental or physical exhaustion that prevents a person from functioning normally. Fatigue reduces a person's ability to concentrate, coordinate tasks, respond to situations and recognise risks. It ultimately increases the risk of incidents in the workplace and has long-term health effects.

Fatigue is caused by a lack of good quality (restorative) sleep. A lack of restorative sleep can occur when the body's circadian rhythms and natural sleep cycles are disrupted. Fatigue can affect anyone regardless of their skill level or training. A continued lack of sleep over a period of time causes a sleep debt which further increases the risk of fatigue. Obtaining restorative sleep is the only way to reduce fatigue levels.

There are a range of factors that affect the amount and quality of sleep including both work- and non-work factors. Work factors include work arrangements such as shift work, work demands, how work is scheduled and environmental conditions. Non-work factors include family/carer responsibilities, secondary employment and study or sporting commitments. All these factors both individually, and in combination, affect a person's ability and opportunity to obtain restorative sleep. This means that fatigue cannot be managed effectively by isolating factors that cause fatigue.

RailCorp's Fatigue Management Program is designed to meet the requirements of the following legislation and guidelines:

- *Rail Safety Act, 2008 (NSW)*
- *Rail Safety (General) Regulation, 2008 (NSW)*
- *Occupational Health and Safety Act, 2000 (NSW)*
- *Occupational Health and Safety Regulation, 2001 (NSW)*
- *Road Transport (General) Regulation 2005 (NSW)*
- *Guidelines Relating to the Management of Fatigue, ITSSR*
- *Fatigue Prevention in the Workplace, Workcover NSW & WorkSafe Victoria*

The objective of RailCorp's Fatigue Management Program is to manage the work factors causing fatigue. It also aims to improve employees' awareness so they are better able to recognise and redress non-work factors that can contribute to fatigue.

### 3. Overview

This system requirement is supported by Safety Management System (SMS) procedures about how to manage fatigue.

SMS procedures are supported by education, training and awareness activities and human resources programs. These focus on educating managers and employees about fatigue and the actions required to eliminate/reduce fatigue risks.

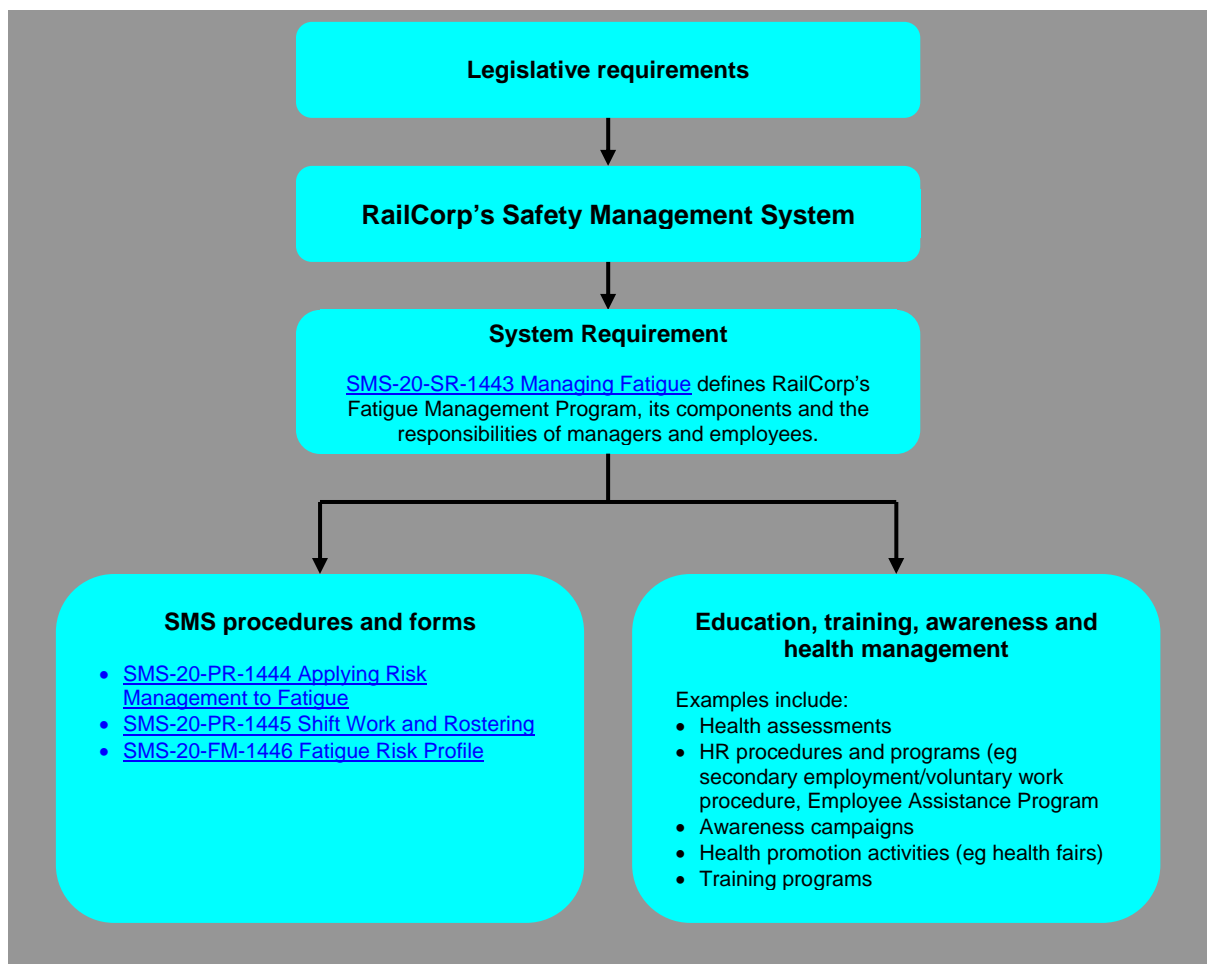


Figure 1 Overview of RailCorp's Fatigue Management Program

### 4. RailCorp's Fatigue Management Program

RailCorp's Fatigue Management Program targets workplace risk factors that contribute to fatigue. It recognises, however, that non-work factors also contribute to fatigue. Therefore, in addition to SMS procedures, RailCorp's Fatigue Management Program includes training, awareness campaigns and health promotion activities.

This provides a broad approach to reducing the risk of fatigue and is underpinned by:

- managers managing the risk of fatigue at operational level, and
- employees reporting to work fit-for-duty and free of fatigue.

## 4.1 Risk management approach

RailCorp's Fatigue Management Program adopts a risk management approach as required by the [Occupational Health and Safety Regulation, 2001](#) and as defined in [SMS-06-SR-0030 Safety Risk Management](#). This approach recognises that fatigue has many causes and that multiple control measures are needed to reduce the risk of fatigue.

[SMS-20-PR-1444 Applying Risk Management to Fatigue](#) explains how risk management processes are applied to fatigue.

Line managers, in consultation with employees, must complete a Fatigue Risk Profile ([SMS-20-FM-1446 Fatigue Risk Profile](#)). The profile must be signed by managers to acknowledge the actions required to control fatigue risks. General managers must sign the profile to confirm that fatigue risks are being managed according to ALARP principles.

Line managers must review profiles at least annually or more often if, for example, there are changes to work practices, additional hazards are identified, control measures are found to be inadequate or ineffective or if there is a fatigue-related incident.

Unresolved issues arising from the Fatigue Risk Profile must be addressed through the Safety Action Management process explained in [SMS-18-SR-0092 Safety Action Management](#).

## 4.2 Rostering principles

Line managers must use rostering principles designed to reduce the risk of fatigue resulting from shiftwork and extended hours arrangements.

[SMS-20-PR-1445 Managing Shift Work and Rostering](#) explains how shift work and extended hours arrangements must be managed using rostering principles covering:

- acclimatisation to shift work
- shift length and hours of work
- breaks during and between shifts
- shift cycles

The procedure also provides a context for using Fatigue Audit InterDyne (FAID<sup>®</sup>) as a tool to calculate predicted fatigue levels associated with hours of work.

## 4.3 Fatigue Audit InterDyne (FAID<sup>®</sup>)

Line managers must only use FAID<sup>®</sup> in the context of a risk management approach. FAID<sup>®</sup> is used to calculate the predicted fatigue levels associated with hours of work. FAID<sup>®</sup> provides an indication of the level of fatigue based solely on the roster. It does not, and is unable to, take into account other causes of fatigue. For this reason, control measures identified in [SMS-20-PR-1444 Applying Risk Management to Fatigue](#) must be used.

## 4.4 Health assessments

The Manager, Human Resources Service Centre (HRSC) must schedule health assessments for rail safety workers to meet the requirements of the National Rail Safety Standards. Health assessments are conducted in accordance with the [National Standard – Volume 2: Assessment Procedures and Medical Criteria](#). Category 1 and 2 health assessments use the Epworth Sleepiness Scale to identify sleep disorders and medical conditions that may contribute to fatigue.

Line managers must provide time off work for employees to attend health assessments. They must follow-up with the Manager, HRSC if an employee is unable or fails to attend.

The Chief Health Officer is responsible for overseeing implementation of national health standards relating to rail safety workers.

## 4.5 Human resources practices

### 4.5.1 Secondary employment/voluntary work

All employees must comply with RailCorp's [Secondary Employment and Voluntary Work Procedure](#) and complete an annual [Secondary Employment/Voluntary Work Form](#). Employees must seek permission before engaging in secondary employment/voluntary work. This is to ensure that additional work does not affect their responsibilities to RailCorp, and their obligation to report to work fit-for-duty including being free from fatigue.

### 4.5.2 Managing leave

RailCorp's [Union Collective Agreement](#) limits the accrual of annual leave. Employees are advised of leave balances so they can arrange to take leave. Managers cannot unreasonably refuse requests for leave. This is designed to ensure employees schedule breaks from work so that they can rest and recuperate.

RailCorp's Union Collective Agreement also contains an [attendance management process](#) to manage excessive sick leave and to discover the underlying cause of excessive sick leave, including the possibility of excessive absences owing to fatigue.

### 4.5.3 Employee Assistance Program

RailCorp's Employee Assistance Program (EAP) provides confidential and professional assistance to employees and their family members. It helps employees resolve problems that may affect their quality of life or impair their work performance. In doing this, the EAP assists employees resolve issues that may contribute to fatigue. More information on the EAP is available in the [EAP brochure](#) or by phoning 1300 364 213.

## 4.6 Awareness campaigns/programs

RailCorp's Fatigue Management Program recognises there are non-work factors, such as family/carer responsibilities, study and sporting commitments and social activities that may contribute to fatigue. RailCorp does not seek to interfere in employees' non-work activities but provides information to increase employees' awareness of fatigue, including what they can do to manage non-work factors contributing to fatigue. Awareness campaigns include, but are not limited to:

- a fit-for-work program which prompts line managers to check that employees are fit-for-work at the beginning of each shift
- awareness of sleep disorders that may contribute to fatigue, promoted through the [fatigue management](#) page on the RailCorp Intranet
- employee health and well-being activities promoted through annual events such as Health Fairs, the Safety Convention and the Safety Competition. These activities may help employees to better manage shift work, extended hours and on-call arrangements.

## 4.7 Safety incident investigations

Line managers and safety investigators must consider the effects of fatigue when conducting investigations into safety incidents. Depending on the nature and circumstances of each incident this may include examining:

- shift patterns and number of shifts worked in the preceding fortnight
- risk management documentation
- logbooks/work diaries associated with heavy vehicles

- FAID scores associated with rosters
- prescribed/non-prescribed medication and whether this could have induced fatigue
- secondary employment and voluntary work undertaken
- work/life balance and personal issues that may contribute to fatigue

Recommendations arising from incident investigations are followed up through the safety action process in accordance with [SMS-18-SR-0092 Safety Action Management](#).

## 5. Program review and evaluation

The General Manager, Safety Systems reviews and evaluates RailCorp’s Fatigue Management Program annually and reports findings to the Executive Management Committee.

## 6. Performance requirements

<b>Position or Role</b>	<b>Performance requirements</b>
<b>Group general managers</b>	Group general managers must direct and lead the implementation of RailCorp’s Fatigue Management Program within their area of responsibility.
<b>General Manager, Safety Systems</b>	The General Manager, Safety Systems must develop, promote and review RailCorp’s Fatigue Management Program.
<b>General Manager, RailCorp Training</b>	The General Manager, RailCorp Training must develop and manage training to support the implementation of RailCorp’s Fatigue Management Program.
<b>General Manager, Assurance</b>	The General Manager, Assurance must manage the Safety Action Management program.
<b>Chief Health Officer</b>	The Chief Health Officer is responsible for overseeing the implementation of national health standards relating to rail safety workers.
<b>General managers</b>	General managers must lead the implementation of RailCorp’s Fatigue Management Program in their area of responsibility.
<b>Line managers</b>	Line managers must implement RailCorp’s Fatigue Management Program within their area of responsibility.
<b>Employees</b>	Employees must comply with RailCorp’s Fatigue Management Program.

## 7. Records management

Records must be maintained according to [SMS-05-SR-0027 Records Management](#).

Records produced when implementing the Fatigue Management Program include:

- [SMS-20-FM-1446 Fatigue Risk Profile](#)
- SMS audit reports
- SMS risk management documentation
- Investigation reports

## 8. Training and instruction

General managers of workgroups engaged in shift work and extended hours arrangements must ensure that managers and employees receive fatigue management training. Fatigue management training includes:

<b>Employee category</b>	<b>What the training/instruction covers:</b>
Line managers/team leaders	<ul style="list-style-type: none"> <li>• what fatigue is, how it affects health and safety and the importance of sufficient restorative sleep</li> <li>• how work and non-work factors contribute to fatigue</li> <li>• applying risk management processes to fatigue</li> <li>• implementing work practices to reduce the risk of fatigue</li> <li>• using FAID<sup>®</sup> to calculate fatigue associated with roster patterns.</li> </ul>
Rosterers and schedulers	<ul style="list-style-type: none"> <li>• what fatigue is, how it affects health and safety and the importance of sufficient restorative sleep</li> <li>• how work and non-work factors contribute to fatigue</li> <li>• implementing work practices to reduce the risk of fatigue</li> <li>• using FAID<sup>®</sup> to calculate fatigue associated with roster patterns</li> </ul>
Employees (who undertake shift work or extended hours arrangements).	<ul style="list-style-type: none"> <li>• what fatigue is, how it affects health and safety and the importance of sufficient restorative sleep</li> <li>• how work and non-work factors contribute to fatigue</li> <li>• being aware of their responsibility to report to work fit-for-duty and their role in managing non-work causes of fatigue</li> </ul>
Incident investigators	<ul style="list-style-type: none"> <li>• what fatigue is, how it affects health and safety and the importance of sufficient restorative sleep</li> <li>• how work and non-work factors contribute to fatigue</li> <li>• identifying and assessing fatigue-related causes when conducting incident investigations</li> </ul>

## 9. References

- [Rail Safety Act 2008 \(NSW\)](#)
- [Rail Safety \(General\) Regulation, 2008 \(NSW\)](#)
- [Occupational Health and Safety Act, 2000 \(NSW\)](#)
- [Occupational Health and Safety Regulation 2001 \(NSW\)](#)
- [Road Transport \(General\) Regulation 2005 \(NSW\)](#)
- [Guidelines Relating to the Management of Fatigue, ITSSR](#)
- [Fatigue Prevention in the Workplace, Workcover NSW & WorkSafe Victoria](#)

## 10. Definitions

<b>Term</b>	<b>Means</b>
ALARP	As low as reasonably practical.
Circadian rhythms	<p>Circadian rhythms are the body's internal clock. These body rhythms are repeated approximately every 24 hours and control a number of body functions such as:</p> <ul style="list-style-type: none"><li>• body temperature</li><li>• digestion</li><li>• hormone levels</li><li>• sleeping patterns</li></ul> <p>Humans are programmed to be active during the day and sleep at night. Circadian rhythms are responsible for this.</p>
Extended hours	Work hours that that are an extension of standard shift hours as a result of overtime or being recalled to duty.
FAID <sup>®</sup>	<p>Fatigue Audit InterDyne – a computerised mathematical calculation applied to rosters to predict the fatigue associated with roster patterns. It takes into account hours of work, time of day when work is undertaken and breaks within and between shifts.</p> <p>It does not take into account other work and non-work factors.</p>
Fatigue	Fatigue is acute and/or ongoing tiredness that leads to mental or physical exhaustion and which prevents people from functioning within normal boundaries.
Restorative sleep	Involves cycles of deep sleep that allow a person to recuperate and wake up refreshed. Restorative sleep is the only process by which the human body can overcome the effects of fatigue.
Shift work	For the purposes of managing fatigue, shift work involves working outside normal daylight hours (7am – 6pm).