

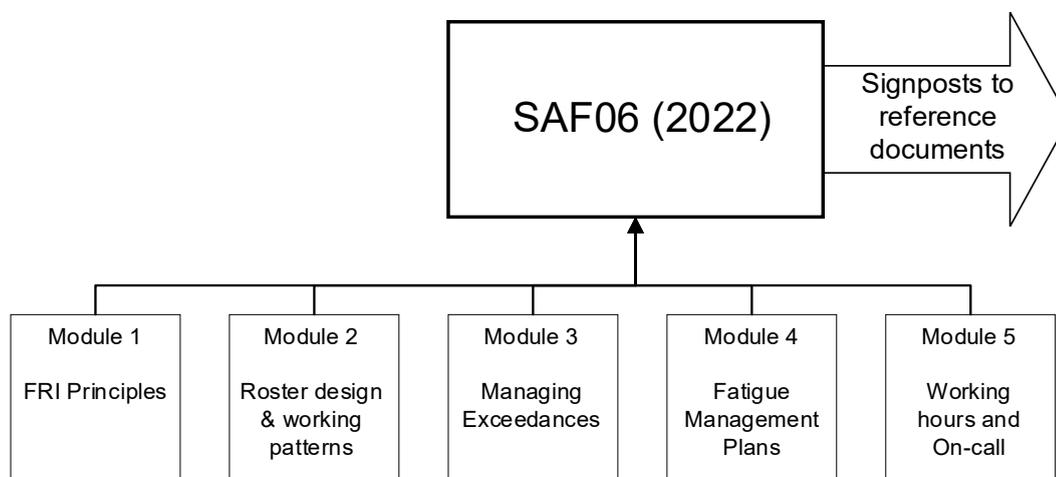
**1 PURPOSE**

The purpose of this procedure is to specify the arrangements required to be in place to reduce, so far as reasonably practicable, risks from fatigue to VolkerRail (VR) employees and all personnel working on behalf of VR. It also aims to educate everyone on fatigue and its effects, as well as prevention of fatigue.

The procedure details how VR will measure and assess the level of fatigue associated with current work patterns, model and analyse the fatigue risk, manage, and mitigate fatigue risk, continually assess, and take appropriate action when needed.

The implementation of the arrangements within this procedure will also demonstrate how VR complies with UK Health and Safety Legislation, applicable Network Rail standards and ORR guidance in relation to managing staff fatigue.

This procedure is designed to be read in accordance with 5 supporting modules which detail relevant working arrangements that support the holistic fatigue risk management system.



**2 SCOPE**

This procedure specifies the principles for managing fatigue and working hours. It applies to all VR employees regardless of their role; and those contractors whose employees work on VR managed infrastructure, assets, and systems.

Only the following SAF06 modules will apply to non-rostered staff:

- Module 2, section 5 specifically details how fatigue should be managed for non-rostered staff
- Module 4, fatigue assessment and management plans
- Module 5, section 4 (on-call as some non-rostered staff may have on-call responsibilities)

This includes volunteering opportunities both within contracted working hours and where representing the business outside of contracted working hours even where the time spent would not be paid. ie. attendance at weekend charity events.

Where VR are employed to deliver works for a client other than Network Rail, and on infrastructure not managed by Network Rail, where alternative arrangements to those specified below are considered, they may only be executed when in receipt of specific written authority from VR's HSQES Director.

**3 REFERENCES (INPUTS)/RELATED DOCUMENTS (in order of precedence)**

**Legislation:**

- Health and Safety at Work Act etc.
- Management of Health and Safety at Work Regulations
- Working Time Regulations
- Railways & Other Guided Transport Systems (Safety) Regulations

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**Guidance:**

- Network Rail NR/GN/INI/001- Guidance on the management of door-to-door work and travel time
- RSSB Managing Fatigue – A Good Practice Guide RS/504
- ORR Guidance Managing Rail Staff Fatigue

**Standards and Procedures:**

- Network Rail NR/L2/OHS/003 – Fatigue Risk Management
- PRO04 – Business Travel and Expenses
- SAF65 – Use of Third-Party Management and Supervision
- SAF93 – Management of On-Call Arrangements

**4 ABBREVIATIONS AND DEFINITION OF TERMS**

Abbreviation / Term	Definition
Commute	Travel between a place of rest (e.g. home or lodgings) and a normal place or site of work as directed by employer in order to undertake a planned shift.
Door to door	A period of time identified as the combined total of travel time from a place of rest (e.g. home or lodgings), work time and return to a place of rest.
Exceedance	Exceeding an identified working time limit as defined within this procedure
Fatigue	A state of perceived weariness resulting from physical or mental exhaustion that can result from prolonged working, heavy workload, insufficient rest and/or inadequate sleep.
Fatigue Risk Index (FRI)	A means to evaluate the pattern of working hours and shifts within a roster that identifies the risk of fatigue or error as a result of how those shifts and working hours were scheduled and/or worked. <i>NOTE: This method will also account for additional factors that can impact fatigue including commuting time, workload, attention and arrangement of rest breaks. The tool that enables this assessment and is recognised by Network Rail was developed and recommended by the Health and Safety Executive (HSE).</i>
Fit for duty	A state where the individual is physically, mentally and emotionally capable to enable them to perform their tasks completely and safely. <i>NOTE: There are various definitions of the term. This is the definition in use in Network Rail.</i>
Functional Head	A person who has management authority over an organisational unit such as a department within a business. For each functional or operational department within VR the specific names fulfilling 'functional head' should be agreed and recorded in Module 6: Business Specific Arrangements. <i>NOTE: Functional heads have ongoing responsibilities including performance management of the goals and objectives of their department or business unit.</i>
Hours of work	Actual (not rostered) time spent working at the employer's disposal. <i>NOTE: This includes:</i> <i>Overtime;</i> <i>rest days worked;</i> <i>paid travelling/walking time;</i> <i>handover/wash-up time;</i> <i>paid meal/rest breaks;</i> <i>Hours of work when travelling to and/or working at a location that is not at a normal place of work (e.g. working from home, home start arrangements).</i>
Line Manager	Responsible for managing employees undertaking work, and for the arrangements in place to manage their fatigue and working hours. This includes Contract staff resourcing.
Nominated Deputy	Any person nominated by a more senior line manager who is considered competent to carry out the role and functions of the line manager.

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Abbreviation / Term	Definition
On-call	An individual waiting to respond to an emergency call out or answering a query from people working in the field. <i>NOTE: The time spent waiting should not be considered as work for the purposes of this procedure. On-call is only to be considered as work when work is actually undertaken e.g. when the individual is managing an incident or supplying information.</i> <i>For non-operational staff, such periods at their employer's disposal may be self-determined and could include "on-call" time when they are not required to be at their employer's place of work.</i>
Period of duty	A shift or period of work activity that includes all activities carried out on behalf of VR.
Rest	Period of time spent not commuting, working at the employer's request including training courses etc., nor on standby or on-call.
Responsible Person	Someone who's responsible for managing employees undertaking work, including arrangements to manage their fatigue and working hours. Normally it will be Line Managers who perform this role.
Roster/working pattern	Working time schedule depicting shifts and/or absence for individuals or groups.
Safety critical task	This definition is taken from the Railways and Other Guided Transport Systems (Safety) Regulations 2006. Where 'vehicle' is referred to, this includes locomotives, whether controlled from within or remotely, a multiple unit, a light rail vehicle, a tram, a road/rail vehicle on the running line, an On-Track machine (OTM), On-track plant (OTP) and an unpowered vehicle, including those for use by passengers or for freight. Safety critical task means: <b>(a) in relation to a vehicle used on any rail infrastructure:</b> (i) driving, dispatching or any other activity which is capable of controlling or affecting the movement of that vehicle. (ii) signalling, and signalling operations, the operation of level crossing equipment, receiving and relaying of communications or any other activity which is capable of controlling or affecting the movement of that vehicle. (iii) coupling or uncoupling. (iv) installation of components, other than where the installation of those components is subject to supervision and checking by a safety critical worker or a controller of safety critical work. (v) maintenance, other than where the carrying out of that maintenance is subject to supervision and checking by a safety critical worker or a controller of safety critical work, or (vi) checking that that vehicle is working properly and, where carrying goods, is correctly loaded before being used. <b>(b) in relation to any rail infrastructure:</b> (i) installation or maintenance of any part of it, or of the telecommunications system relating to it, or used in connection with it, or of the means of supplying electricity directly to that transport system or to any vehicles using it or to the telecommunications system, other than where the carrying out of that task is subject to supervision and checking by a safety critical worker or a controller of safety critical work. <i>NOTE The definition of 'maintenance' includes any repair alteration, reconditioning, examination or testing of infrastructure.</i> (ii) controlling the supply of electricity directly to it or to any vehicles used on it. (iii) receiving and relaying of communications, or (iv) any person ensuring the safety of any persons working on or near to the track, whether or not the persons working on or near to the track are carrying out safety critical work. (c) in relation to training, any practical training or the supervision of any such training in any of the tasks set out in sub-paragraphs (a) to (b).
Safety critical work	Any safety critical task carried out by any person in the course of their work or voluntary work on or in relation to a transport system.

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Abbreviation / Term	Definition
Shift	Any period of time an employee spends at their employer's disposal undertaking their designated duties and activities.
Travelling time	A period of time spent in transit between a rest location to a location where an employee is working at the employer's disposal, irrespective of terms of payment or modes of transport. <i>NOTE: This time should be included in the calculation of door-to-door limits.</i>
Worker	Responsible for working to this process and highlighting any areas at work or personally that might increase their risk of fatigue.
Working time limits	Limits to normal working time that aim to prevent excessive hours of work. <i>NOTE: Excessive hours are defined within the modules of this procedure.</i>

## 5 PROCESS

The process adopted by each business area within VR shall be created, implemented and monitored such that the requirements of the Network Rail standard NR/L2/OHS/003 are complied with in full.

### 5.1 General Responsibilities

#### 5.1.1 Functional Head

A Functional Head has management authority over a department, or other organisational unit, within VR. They are individuals within the organisation who already have accountabilities for managing and monitoring safety, health and environmental requirements.

Key responsibilities:

- To ensure there's a mechanism in place for all staff's working hours to be captured (including on-call).
- To monitor working hours and exceedance trends across their function.
- To decide who'll be responsible for the other roles needed to manage fatigue in their function, as detailed in the procedure.

#### 5.1.2 Responsible Manager

The Responsible Manager/Person is someone who's responsible for managing employees undertaking work, including arrangements to manage their fatigue and working hours.

Key responsibilities:

Have arrangements in place to:

- Monitor Fatigue Risk Index (FRI) scores for rostered staff.
- Oversee the roster-creation process and its subsequent approval, whilst considering any associated risk of fatigue.
- Manage exceedances and maintain records for their staff.
- Arrange fatigue conversations, assessments, and management plans, in line with the procedure.
- Determine whether the level of fatigue indicated by an assessment is acceptable, and if the exceedance can be authorised.
- Identify and agree control measures following fatigue assessment in normal office hours.
- Review existing fatigue management plans in line with the procedure.
- Reporting fatigue performance to the Functional Head.

#### 5.1.3 Line Managers

Even if the responsible manager/person role has been delegated elsewhere, Line Managers still need to understand any fatigue issues affecting their staff. If a Line Manager is off work or unavailable when a fatigue concern is raised, they need to be made aware of it on their return.

Key responsibilities:

- The arrangement and management of fatigue and working hours of their employees, including contract staff.
- Undertaking reviews of fatigue arrangements and ensuring exceedance records and signed authorities are retained.

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- c) Arranging fatigue conversations, assessments, and management plans in line with the procedure.
- d) Regularly reviewing fatigue management plans in line with the procedure.
- e) Maintaining exceedance records for their employees.
- f) Co-signing fatigue assessments and management plans for their employees, if not produced by themselves.

#### 5.1.4 On-call staff

Following an out of hours fatigue assessment that requires escalation, on-call staff will review the assessments and detail appropriate control measures required to proceed or to decline any further fatigue pressures.

Key responsibilities:

- a) Review assessments of each individual, as required.
- b) Details control measures to be added to reduce fatigue risk, to allow continued working.

#### 5.1.5 Rostering Staff

Rostering staff will review planned and actual hours ensuring the planned roster is within fatigue standards and as low as reasonably practicable and below stated exceedance.

- a) To review planned and actual rosters (reference Module 2).
- b) To identify triggers that have occurred after reviewing the actual working hours.
- c) Undertake exceedance risk assessments, during office hours (reference Module 3).
- d) To review out of hours triggers/assessments to ensure suitable rest periods are attained.
- e) To save rosters and Fatigue Risk assessments (including FRI scores) in accordance with the retentions table 5.9.1

#### 5.1.6 VRCC controllers

VRCC Controllers to manage initial contact out of normal office hours and complete fatigue assessments if required.

- a) To complete fatigue assessments for each employee following identification of a trigger.
- b) Following the outcome of the assessments to escalate to appropriate levels of on-call for their review and sign off.

Communicate to site teams the required control measures and assist in implementation of out of hours control measures control measures.

## 5.2 Working time limits

The functional head shall implement arrangements to manage hours of work of staff in their function. This shall include:

- a) Monitoring hours of work (rostered and actual).
- b) Maintaining an up-to-date list of individuals who have opted out of the Working Time Directive (This shall be shared with HR Shared Services for VR staff only).
- c) Applying a working time limit as defined within the modules of this manual.
- d) Allowing a minimum of 12 hours between booking off from a period of duty/shift to booking on for the next period of duty/shift.
- e) Not permitting more than 13 consecutive periods of duty to be worked in any 14 day period
- f) Not rostering more than 12 hours per period of duty/shift.
- g) Providing health surveillance for staff that work night shifts, and
- h) Managing hours of work of staff (directly employed or contract staff) in their function.

**NOTE:** It is not possible to opt out of all the Working Time Directive requirements. Only the 48 hours a week limit can be opted out of.

Table 1 shall be used to determine what activities shall be included when assessing hours of work.

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Description		Criteria
All work regardless of type, e.g. official VR business or attendance at a training or residential course, at or away from the normal place of work, carried out on behalf of VR		Included
Commuting time to and from place of residence (e.g. home) (Commute to designated normal place of work)		Excluded
All travelling time during the period between an employee attending and returning to the location at which they commence working at their employer's disposal		Included
Paid and unpaid leave, e.g. annual leave and sick leave		Excluded
On-call staff	Where work is undertaken, e.g. when the individual is managing an incident or supplying information	Included
	Time spent waiting for a call-out	Excluded

**Table 1 – Hours of work criteria**

### 5.3 Information, Instruction and Training

The information on the processes for managing fatigue is contained in this procedure, the associated modules, the reference documentation listed above and the training material for each level of training.

Four levels of training have been developed to provide the correct level of information and instruction for all roles across the business.

- Level 1 – Fatigue Risk Assessment Preparation aimed at Resource Coordinators, H&S Managers, H&S Advisors and VRCC Duty Controllers
- Level 2 – Line Managers, on call staff and those responsible for approving rosters and creating Fatigue Management Plans
- Level 3 – Operational staff that have a responsibility for working to this procedure and highlighting any things, work or personal, that might increase the risk of fatigue.
- Level 4 – Staff in support functions that require an awareness of this procedure

### 5.4 Fatigue Risk Index Principles

SAF06M001 details the use of the Fatigue Risk Index (FRI) calculator and the interpretation of the output in relation to fatigue risk.

The HSE's FRI calculator is currently used to assist VR with comparing different working patterns but can also be used to identify a particular shift/pattern, within a given roster or plan, which may be of concern.

The FRI should not be used on its own to consider a roster of selection of rosters. SAF06M001 details the other factors that should be considered to determine how appropriate a roster is.

The requirements for Roster Design and Working Patterns are detailed within SAF06M002.

### 5.5 Roster Design and Working Patterns

SAF06M002 details the requirements for managing fatigue and working hours through effective design of rosters/working patterns. The principles will apply to all VR employees and those contractors who work on VR's behalf.

Line Managers shall confirm that roster coordinator(s) is capable of creating and assessing rosters/working patterns. This can take place during training, capability conversations or similar means. Refer to Section 5.2 for further details.

All rosters for their staff are recorded and assessed using the HSE Fatigue Risk Index to attain an FRI score.

Where rosters are amended in response to short notice changes to work requirements or staffing availability, e.g. To cover unplanned staff shortages, emergency works or sickness, the amendments shall be input into the rostering tool being used. Amendments shall be made to minimise the build-up of fatigue.

Where resource shortages occur beyond a 4-week period or are likely to be prolonged beyond a 3 month period, the actual hours worked shall be reviewed and the roster amended. This shall be risk assessed and control measures put in place to manage identified fatigue risks.

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The full requirements for compliance are detailed within SAF06M002.

### 5.6 Exceedance Management

SAF06M003 covers the process for reporting exceedances and actions to be taken when triggers are met. It details the criteria when an exceedance will be declared, the requirements for risk assessment, factors for consideration, mitigation actions and creation of fatigue management plans.

An exceedance shall be declared when any of these conditions are or might be reached:

Trigger type	Criteria	Co-ordination of trigger during office hours	Required to Authorise in office hours	Co-ordination of trigger out of hours	Required to Authorise out of office hours
A	A person exceeds 60 hours of working in a rolling seven-day period. (This shall be classed as a Level 1 exceedance)	Roster coordinator	Business responsible person	VRCC	Project/ Business On Call & H&S on-call
B	A person exceeds 72 hours of working in a rolling seven-day period. (This shall be classed as a Level 2 exceedance)	Roster coordinator	Business responsible person	VRCC	Project/ Business On Call & H&S on-call
C	A person works more than 12 hours in one shift or period of duty	Roster coordinator	Business responsible person	VRCC	Project/ Business On Call & H&S on-call
D	A person receives less than 12 hours break between booking off from their shift/period of duty and booking on for their next shift/period of duty	Roster coordinator	Business responsible person	VRCC	Project/ Business On Call & H&S on-call
E	A person works more than 13 consecutive turns of duty in 14 rolling days	Roster coordinator	Business responsible person	VRCC	Project/ Business On Call & H&S on-call
F	A person works when they are expected to exceed a Fatigue Risk Index (FRI) fatigue score of 35 during daytime or 45 during night-time hours	Roster coordinator	Business responsible person	Not applicable	Not applicable
G	A person works when they are expected to exceed a FRI risk score of 1.6 (regardless of daytime or night-time working).	Roster coordinator	Business responsible person	Not applicable	Not applicable
H	A person exceeds 14 hours door to door	Roster coordinator	Business responsible person	VRCC	Project/ Business On Call & H&S on-call
I	Individual request for a fatigue risk assessment	Roster coordinator	Business responsible person	VRCC	Project/Business On Call & H&S on-call

### 5.7 Fatigue Assessment and Fatigue Management Plans

SAF06M004 outlines the process of management of potential triggers which could impact fatigue and to maximize individual alertness.

It included the process for managing fatigue risk exceedances to the triggers identified in module 3 and the implementation of fatigue management plans.

A fatigue management plan shall be created for a member of staff or a group where:

- a) A fatigue assessment has identified a need for a plan to be produced,

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- b) A person exceeds 60 hours of working in a rolling seven-day period. (Trigger A/Level 1),
- c) A person exceeds 72 hours of working in a rolling seven-day period. (Trigger B/Level 2),
- d) The 14-hour door to door trigger condition is predicted or met (Trigger H),
- e) A member of staff is returning to work after an extended absence,
- f) A fatigue related condition has been identified in an occupational health referral that could cause, contribute or worsen the health and/or wellbeing of a member of staff. The Line Manager should do this in conjunction with VW UK Occupational Health.
- g) A need to amend working hours where a change has been identified in relation to reasonable adjustments,
- h) A request has been made by either a member of staff or their manager.

### 5.8 Working Hours and On-Call

SAF06M005 specifies the types of activities that will be considered as working hours in relation to fatigue management and the requirements for fatigue management in relation to on-call activities.

The on-call fatigue management principle will follow the general principles of fatigue risk reduction throughout this procedure and its associated modules by taking identifying effective means to reduce the risks and appropriate controls that can be implemented during and post on-call activities.

Functional heads shall have arrangements in place to monitor on-call activities, assess trends and review the effectiveness of controls identified to mitigate potential fatigue risks introduced by on-call activities. Further details of the specifics associated to monitoring are detailed within Section 5.7.

### 5.9 Monitoring, Measurement and Review

The necessary processes and systems shall be put in place to ensure proportionate and targeting monitoring of the fatigue risk management system and an understanding of the effectiveness of the procedure.

#### 5.9.1 Collation and Retention of information

All records associated to this procedure must be retained in accordance with the table below. This information is also reflected in VR Procedure QUA10 - Retention of Records which contains a Document Retention Schedule.

Measures	System For Recording	Retention Period
Actual hours worked	Microsoft Power App, VW UK Sharepoint	40 years from last date of employment
Actual hours worked against the identified working time limits for each period	Timesheet process	40 years from last date of entry
Audits and Non-Compliance Records	ECO-Online	10 years
CIRAS Reports	ECO-Online	10 years
Exceedance Risk Assessment	VRCC Validation System	10 years
Fatigue Assessment	VRCC Validation System	10 years
Fatigue Management Plans and roster adjustment forms.	Workspace	40 years from last date of employment
FRI and FRS Calculation and Control Measures	Timesheet process	40 years from last date of entry
Investigation Reports	ECO-Online	10 years
Number and types of exceedances	VRCC Validation System	10 years
Number of action plans generated, authorised, and declined	FRI Dashboards PowerBI	10 years
Number of Close Calls relating to Fatigue Management issues	ECO-Online	10 years
Number of fatigue management plans within review and due review	FRI Dashboards PowerBI	10 years

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Measures	System For Recording	Retention Period
Number, frequency, timings of and reasons for on-call 'call outs'	Timesheet process	10 years
Periods of overtime (planned or unplanned)	Timesheet process	40 years from last date of entry
Planned v Actual Analysis	Timesheet process	40 years from last date of entry
Reasons for exceedances	VRCC Validation System	10 years
Repeat requests for Trigger/Exceedance Assessment	VRCC Validation System	40 years from last date of entry
Rosters	Timesheet process	40 years from last date of entry
Time spent travelling	Timesheet process	40 years from last date of entry
Training Plan	COINS	40 years from last date of entry
Working patterns against the standards and limits	Microsoft excel	40 years from last date of entry

#### 5.9.2 Reporting and reviewing of trends

The **Data and Reporting Analyst** will ensure that all measures are collated each period and published with the VR Monthly HSQES PowerBI Reporting Dashboards.

The Functional Leads are responsible for reviewing the information available to them periodically and consult with their teams to identify further action needed.

The **Head of Performance and Strategy** will ensure that the periodic performance review includes a 'big picture' overview of the patterns of evidence arising from the monitoring, investigation, and audit of the fatigue management system. Outputs will be shared with the HSQES Leadership group to discuss and determine action required. Any recommendations from the reviews will be clearly allocated and tracked through the meeting actions or EcoOnline action tracking module.

#### 5.9.3 Assessment of how effectively fatigue risk is being managed

The effectiveness of the arrangements within this procedure, its associated modules and the controls identified to mitigate potential fatigue risks will be measured through the review/receipt of any of the following:

- a) Established measures or indicators as listed in Section 5.9.1 (above).
- b) Close Call reports relating to fatigue management issues
- c) CIRAS reports relating to fatigue management issues
- d) Safety Representatives and Behavioural Coach feedback
- e) Feedback from Senior Manager Tours
- f) RM<sup>3</sup> Assessments
- g) RM<sup>3</sup> Organisational Culture Surveys
- h) Your Say Survey
- i) Internal Audit activity
- j) External Audit reports/outcomes
- k) Investigation reports/outcomes

#### 5.9.4 Reason for review

Line managers or functional head shall undertake a full review of arrangements for managing fatigue and working hours where:

- a) There are plans to change the existing working patterns.
- b) There has been a change in circumstances, e.g. changes to workload or organisational change.
- c) Fatigue has been identified as a casual factor in an incident investigation which gives reason to doubt the effectiveness of the arrangements.
- d) Monitoring has shown that standards and limits are being exceeded on a regularly basis as defined within this procedure and it's modules.

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- e) Long-term sickness, a significant number of unfilled job vacancies or industrial actions results in frequent exceedances.
- f) Individuals are prevented from carrying out their tasks due to being unfit because of fatigue.
- g) There is any other reason to doubt the effectiveness of the arrangements, or
- h) On receipt of Close Call reports or CIRAS reports that relate to fatigue management issues.

### 5.10 Supply Chain

Suppliers working on behalf of VR shall have arrangements in place for managing fatigue, working hours and exceedances for their employees in accordance with NR/L2/OHS/003.

## 6 ASSOCIATED GUIDANCE & INFORMATION

- Appendix A – Trigger Point Determination and Guidance Flowcharts

Each module should be read in conjunction with this procedure.

- SAF06M001 - Fatigue Risk Index Principles
- SAF06M002 - Roster Design and Working Patterns
- SAF06M003 - Exceedance Management,
- SAF06M004 - Fatigue Assessment and Management Plans
- SAF06M005 - Working Hours and On-call

## 7 DOCUMENTATION (OUTPUTS)

Outputs, where required, are detailed within the relevant modules.

## 8 ISSUE RECORD

Issue	Date	Comments
1	Jul 2011	Formerly referenced as SQE/06. Review and amendments following investigation into unplanned exceedance levels and resulting recommendations. All sections amended
2	07/11/2011	Section 6.2.1 a) amended following investigation into unplanned exceedance levels and resulting recommendations. There is now a 'trigger time' for staff to contact VRCC when they know they will be exceeding their working hours.
3	01/08/2014	Full review by the 'Fatigue Working Party'. Key changes: Clarity on 12 & 14hr rule, how this is managed and who it applies to. Business Specific Appendices detailing how fatigue is managed ORR Guidelines for managing fatigue for office based staff included Clarity on rest periods following a 72hr period of work or 13 turns of duty Clarity on when work time begins and ends for site based staff  Specific details on the expectations of the subcontract/supply chain community to comply with the requirements of SAF06
4	22/03/2019	Update Appendix B – Business Specific Arrangements
5	24/08/2022	Comprehensive re-write - the procedure now incorporates a series of five modules to provide alignment with Network Rail standard NR/L2/OHS/003. <ul style="list-style-type: none"> <li>• SAF06M001 - Fatigue Risk Index Principles</li> <li>• SAF06M002 - Roster Design and Working Patterns</li> <li>• SAF06M003 - Exceedance Management</li> <li>• SAF06M004 - Fatigue Assessment and Management Plans</li> <li>• SAF06M005 - Working Hours and On-call</li> </ul>

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Issue	Date	Comments
		Appendices A and C have been withdrawn/incorporated into modules listed above. Appendix B – has been re-named as Appendix A – Business Specific Arrangements.
6	23/03/2023	Addition of key responsibilities for On-Call staff, Rostering coordinators and VRCC controllers. Exceedance Criteria: Trigger 'I' added to the table - Individual request for fatigue risk assessment. Appendix B added - Trigger point determination and guidance flowcharts.
7	19/05/2023	Appendix B - Trigger point determination and guidance flowcharts, renamed as Appendix A. Previous Appendix A – Business Specific Arrangements withdrawn

## 9 WHAT HAS CHANGED IN THIS LATEST ISSUE AND WHY

The appendices of this procedure have been amended:

- Appendix B - Trigger point determination and guidance flowcharts, renamed as Appendix A.
- Previous Appendix A – Business Specific Arrangements withdrawn

## 10 BRIEFING REQUIREMENTS

All new employees will receive an introduction to the Integrated Management System (IMS) at induction, according to the nature of the role.

All employees with an email address receive the 'Record of Revisions' each month, which details changes to the IMS. All Line Managers retain the responsibility to ensure their staff are briefed on changes as appropriate.

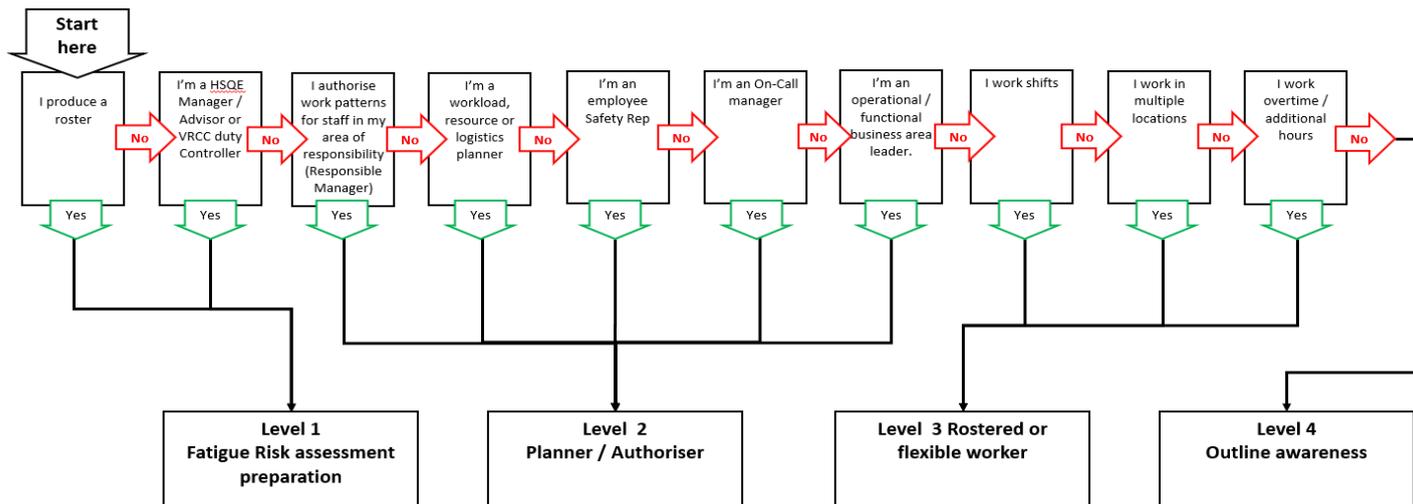
The following table defines how revised issues of this document and supporting modules are briefed to existing employees according to related specific responsibilities. As such, any changes to the procedure should be considered to assess the need for training and/or briefing following the same process used to roll out the initial training.

Four levels of training/briefing have been developed to provide the correct level of information and instruction for all roles across the business:

- Level 1 – Fatigue Risk Assessment Preparation aimed at Resource Coordinators, H&S Managers, H&S Advisors and VRCC Duty Controllers
- Level 2 – Line Managers, on call staff and those responsible for approving rosters and creating Fatigue Management Plans
- Level 3 – Operational staff that have a responsibility for working to this procedure and highlighting any things, work or personal, that might increase the risk of fatigue.
- Level 4 – Staff in support functions that require an awareness of this procedure

Figure 2 below refers:

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Discipline	Role	RACI	Type of briefing
Planning & Rostering	All	Consulted	Level 1
HSQES	H&S Managers / Advisors	Consulted	Level 1
HSQES	VRCC Duty Controller / Manager	Consulted	Level 1
Supervisory	All	Accountable	Level 2
Project Management	All	Accountable	Level 2
Senior Management	All	Accountable	Level 2
Delivery	All	Responsible	Level 3
Labour	All	Responsible	Level 3
Design	All	Responsible	Level 3
Engineering	All	Responsible	Level 3
Welding	All	Responsible	Level 3
Administration	All	Informed	Level 4
Commercial	All	Informed	Level 4
Facilities	All	Informed	Level 4
Finance	All	Informed	Level 4
HSQES	All Quality	Informed	Level 4
HSQES	All Environmental	Informed	Level 4
HSQES	All Training & Competence	Informed	Level 4
HSQES	All Strategy Reporting	Informed	Level 4
HSQES	All Document Control	Informed	Level 4
Human Resources	All	Informed	Level 4
Procurement	All	Informed	Level 4
Students/Graduates	All	Informed	Level 4
Work Winning	All	Informed	Level 4

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**11 IMS AUTHORISATION****Document owner approval:****Stuart Webster-Spriggs**, HSQES Director, 19/05/2023**Approval for IMS:****Paula Roberts**, IMS Coordinator, 19/05/2023

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## APPENDIX A: FATIGUE RISK MANAGEMENT: TRIGGER POINT DETERMINATION & GUIDANCE

### FLOWCHARTS

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SAF06

**1. Reason for issue**

The risk to VolkerRail and its supply chain, is that not interpreting the fatigue standard correctly or understanding the requirements, can lead to staff being put a risk of working when they are not fit and safe to do so. By implementing the trigger process and flow chart, the intent is to provide greater clarity and simplicity to the requirements of the fatigue standard.

**2. Scope**

The change covers modules 2, 3 and 4 of SAF06. It applies to all staff who work to a roster and covers trigger conditions, as stated within SAF06. In addition to which, it will provide a step-by-step guide on when to carry out a fatigue assessment and/or fatigue management plan.

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# APPENDIX A: FATIGUE RISK MANAGEMENT: TRIGGER POINT DETERMINATION & GUIDANCE

## FLOWCHARTS

SAF06

### TRIGGER PROCESS

#### VolkerRail over 60 hours Process ( Trigger A)

Planned					Actual		
Severity	Fatigue Score	Risk Score	Fatigue Management Plan	Roster	Actual Hours Worked Over 60 Hours	Validation System/ Risk Assessment	Considerations
Low	Days < 30 Nights < 40	< 1.2	No	Yes	>60 - <72	Yes Due to Level 1 Trigger ( A) being exceeded	Medication/work-life balance/ Staff consultations/ Type of work/ Future workload/self- assessment ( Karolinska sleepiness scale)/Emergency situation
Medium	Days >30 - <35 Nights >40 - <45	>1.2 - <1.6	Yes Mitigations will need to be agreed upon between the responsible person and the individual concerned	Yes with authority from RP	>60 - <72	Yes Due to Level 1 Trigger ( A) being exceeded	Medication/work-life balance/ Staff consultation/ Type of work/ Future workload/self-assessment ( Karolinska sleepiness scale)/ Emergency situation
High	Days >35 Nights > 45	>1.6	No	No	>60 - <72	Yes remove from duty at the earliest opportunity and give 24 hours rest before next period of duty	An emergency situation that could affect the safe running of trains

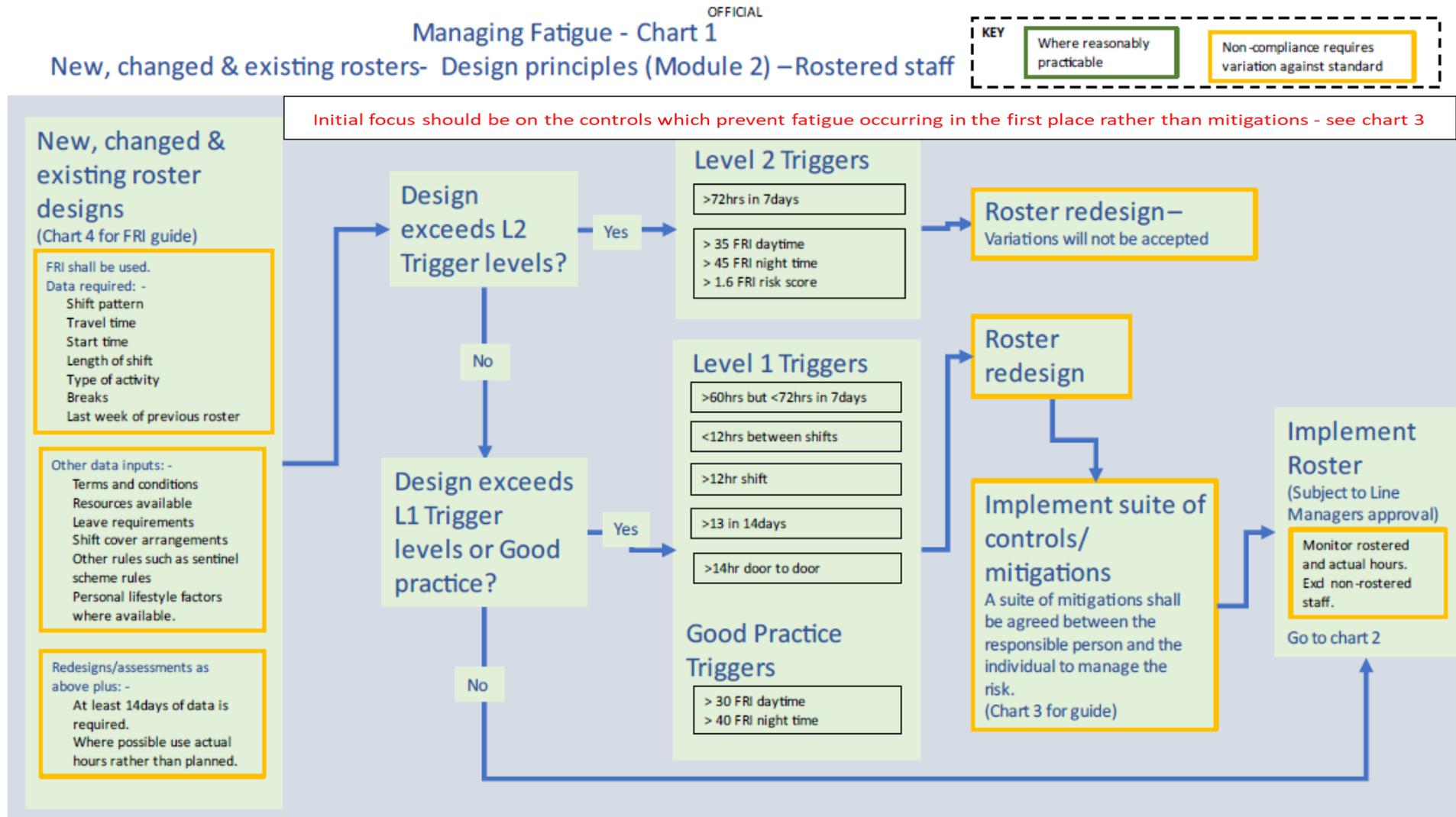
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# APPENDIX A: FATIGUE RISK MANAGEMENT: TRIGGER POINT DETERMINATION & GUIDANCE

## FLOWCHARTS

SAF06

### FLOW CHARTS:



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# APPENDIX A: FATIGUE RISK MANAGEMENT: TRIGGER POINT DETERMINATION & GUIDANCE

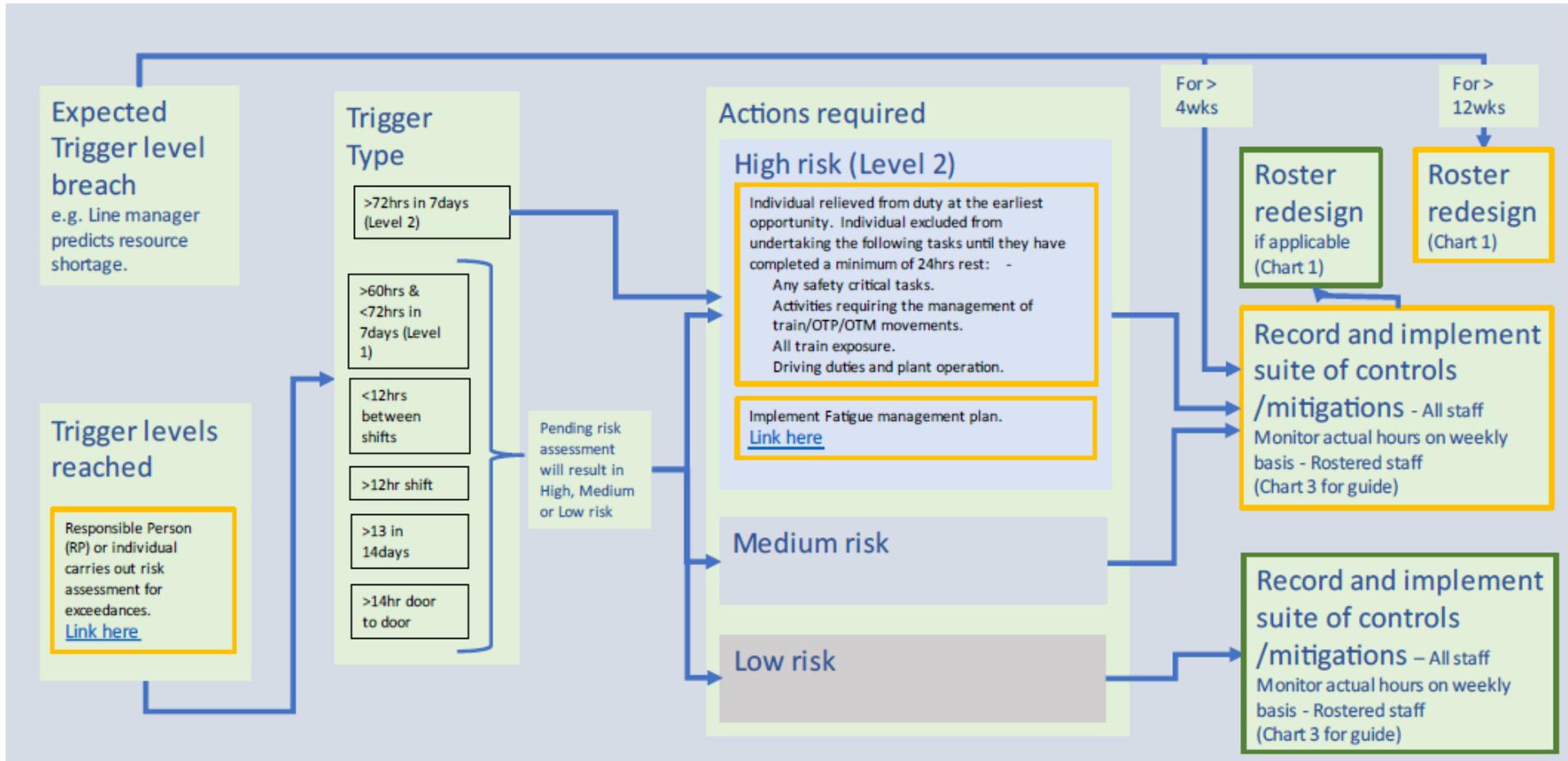
## FLOWCHARTS

SAF06

Managing Fatigue - Chart 2  
 Fatigue assessment principles (Module's 3&4) – Rostered staff

KEY

- Where reasonably practicable
- Non-compliance requires variation against standard



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**Managing Fatigue – Chart 3**  
**Suite of controls and mitigation measures**



The individual fatigue risk assessments and management plans assessment use more than just FRI metric but also use the Karolinska Sleepiness Scale and incorporate many of the mitigations listed. A FRI score of 35 represents a 35% chance that workers struggle to stay awake and experience microsleeps.

Initial focus should be on the controls which prevent fatigue occurring in the first place rather than mitigations

**Record and implement suite of mitigations**

A suite of mitigations shall be agreed between the responsible person and the individual to manage the risk.

**Risk Framework Controls Mitigation measures**



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### Managing Fatigue – Chart 4

#### Components of FRI

The Fatigue and the Risk Indices were both constructed from three separate components:

- i. a **cumulative component** based on the pattern of work leading up to any given shift,
- ii. a **duty timing component** concerned with the effect of start time, shift length and the time of day throughout the shift, and
- iii. a **job type/breaks** component which relates to the activity being undertaken and the provision of breaks during the shift

#### 1. Cumulative component

Based on the **amount of sleep loss** that is likely to have accumulated over the preceding schedule of work, and as a consequence, increased levels of fatigue.

Considers **impact of early start times and late finishes/overnight work**.



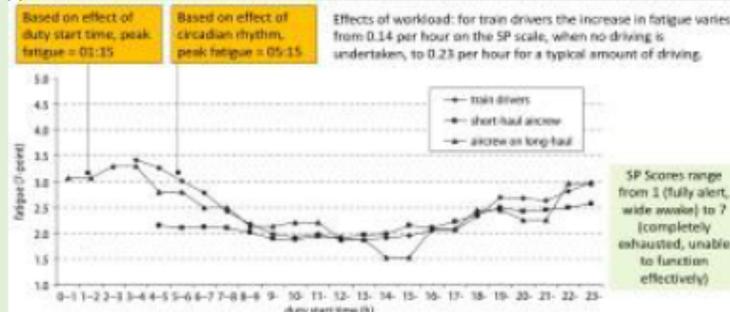
Fig. 1 The duration of sleep related to bedtime

#### 2. Duty Timing component

Three factors contribute to this component:

- I. **Start time** of the duty
- II. **Time of day** throughout the duty period
- III. **Length** of the duty period.

Estimates of these factors derived from studies of aircrew and train drivers.



SP Scores range from 1 (fully alert, wide awake) to 7 (completely exhausted, unable to function effectively)

#### 3. Job type and Breaks component

Two assumptions:

- (i) There is a **baseline level of fatigue** that **increases slowly throughout a shift** (assuming that no naps are taken). This aspect is reflected in the Duty Timing component of the Index.
- (ii) Fatigue **increases with continuous activity**, with the more intense the activity the greater the increase.

**Breaks** initiate a recovery process. Very short breaks (e. g. 2 min), halt, rather than reverse, the accumulation of fatigue.

**Long breaks (e.g. 30 mins), return fatigue to its baseline level**, with 50 % recovery achieved after approximately 15 min.

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