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Level 3

Infrastructure Maintenance process for the management of fatigue and control of working hours for employees undertaking safety critical work

Endorsement and Authorisation

Endorsed by:



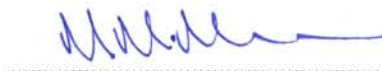
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Issue record

Issue	Date	Comments
1	June 2011	First issue

Compliance

This Network Rail standard is mandatory and shall be complied with by Network Rail and its contractors if applicable from 03/09/2011.

When this standard is implemented, it is permissible for all projects that have formally completed GRIP Stage 3 (Option Selection) to continue to comply with the issue of any relevant Network Rail standards current when GRIP Stage 3 was completed and not to comply with requirements contained herein, unless stipulated otherwise in the scope of this standard.

Reference documentation

NR/L2/ERG/003	Management of fatigue and control of working hours for staff undertaking safety critical work
NR/L3/CPR/302	Supplier qualification – core requirements
NR/L3/INF/02226	Corporate records retention schedule
NR/SP/ASR/036	Network Rail assurance framework
NR/L3/MTC/MG0183	Maintenance Timesheet Process
SMF/MG/464	Infrastructure Maintenance Risk Assessment and request for unplanned exceedences
e-Learning CD	Fatigue Management e-Learning CD ROM,

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1 Purpose

This standard defines the requirements for managing fatigue and working hours for Infrastructure Maintenance employees, and those employed under contract by Infrastructure Maintenance, who undertake safety critical work. Its purpose is to reduce the risks to health and safety that are associated with working patterns, shift work and excessive working hours.

This standard also demonstrates the means by which Infrastructure Maintenance will comply with Regulation 25 of the Rail and Other Guided Transport Systems (Safety) Regulations 2006. The regulation states that:

1. *“Every controller of safety critical work shall have in place arrangements to ensure, so far as is reasonably practicable, that a safety critical worker under his management, supervision or control does not carry out safety critical work in circumstances where he is so fatigued or where he would be liable to become so fatigued that his health and safety or the health and safety of other persons on a transport system could be significantly affected.”*
2. *The arrangements in paragraph (1) shall be reviewed by the controller of safety critical work where he has reason to doubt the effectiveness of those arrangements.”*

2 Scope

This standard applies to all Infrastructure Maintenance employees who undertake safety critical work, and to those suppliers who undertake safety critical work on Network Rail controlled infrastructure.

Specific requirements are set out for line managers or other identified roles who:

- Have responsibility for the rostering and/or management of staff who undertake safety critical work, and/or
- Are responsible for arranging, placing, controlling and monitoring of contracts which involve undertaking safety critical work on Network Rail controlled infrastructure.

The scope of this standard includes controls for:

- Working hours
- Exceedances of working time limits
- Design and risk assessment of working patterns (including rosters)
- Management of fatigue
- Monitoring and review of arrangements for managing fatigue and working hours.

The management of fatigue, working hours and exceedances for all employees undertaking safety critical work including:-

- All Section Managers, Work Delivery Managers, Supervisors and equivalent National Programme posts who undertake safety critical work.
- All engineers, Programme Managers and technical support employees who undertake safety critical work in the Delivery units.
- All engineers and technical support employees who undertake safety critical work in the National Programme teams.
- All other employees who undertake safety critical work not listed above.

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3 Roles and responsibilities

RACI DETAILS	Resources									
	Section Manager	Works Delivery Manager	Line Manager	Supervisor	On Call Manager	Programme Managers	Engineers	Team Leaders	Section Administrator	HRSS
Process Task										
5.1			A/R							
5.2	A/R	A/R		R						
5.3						A/R	A/R			
Section 6	R	R	R	R	R	R	R			
9.1	A/R	A/R				R	R			
9.8			A/R							
10.1			A/R							
10.2			A/R							
10.3.1					A/R					
10.3.2			I							
10.3.3					I					
10.3.4								R		
10.3.5					R					
10.3.6					A/R					
10.3.7			R							
10.3.8			R							
10.3.9			R							
10.4.1									I	
10.4.2			R							
10.4.5			A/R							
11.1						A/R	A/R			
11.2										C
12.1			R							

RACI is a means of linking process steps to roles as follows:

- R – Responsible: the individual(s) who perform an activity – responsible for action/implementation – although usually only one, Rs can be shared
- A – Accountable: the individual who is ultimately accountable including yes/no decision and power of veto – only one 'A' can be assigned
- C – Consulted: the individual(s) to be consulted prior to a final decision being made or action taken – two-way communication.
- I – Informed: the individual(s) who need to be informed after a decision is made or action is taken – one-way communication.

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4 Definitions

For the purposes of this standard, the definitions in NR/L2/ERG/003 apply. The specific definitions relating to the process outlined in this standard are detailed below. Some definitions have been further enhanced to make them more specific to the Maintenance organisation.

Exceedance

Where hours/days are worked over the working time limits defined in this procedure. Where the working time limit is defined in terms of number of hours/shifts, each shift or hour over the limit will be counted as a separate exceedance (e.g. if one shift were 13.5 hours then an Exceedance of 1.5 hours would be recorded).

A **planned exceedance** occurs when an individual or team are aware prior to commencing a shift that their hours of work will take them beyond the working time limits. This may occur when an individual works more than 13 consecutive shifts, or more than 72 hours in a week, for example.

An **unplanned exceedance** occurs when an individual or team are required to work beyond the working time limits as a result of an unplanned event or incident. This may occur when an individual works more than 12 hours in a shift.

NOTE Unplanned exceedances might occur in the following circumstances:

- *when infrastructure faults need to be rectified and to delay would result in degraded working and/or significant operational disruption*
- *when work can be completed within two hours and to call out another relieving team would create additional working time issues*
- *when work cannot be left incomplete and to do so would result in degraded working and/or significant operational disruption*
- *when an unforeseeable event has delayed the start of work and the scope of work cannot be reduced.*

Line Managers

A post that is directly responsible for the management of employees undertaking safety critical work, and for the arrangements in place to manage their fatigue and working hours. This may also include the Network Rail employees responsible for monitoring contractor resources.

Controller of Safety Critical Work

The Line Manager, Supervisor or Team Leader who is directly responsible for the management or supervision of an employee undertaking safety critical work.

Exceptional Circumstances

Where working beyond the identified processes and arrangements for managing fatigue are necessary:

- in order to avoid or reduce risks to the health and safety of persons on the railway
- in order to avoid or reduce significant disruption to services and it is not reasonably practicable to take alternative steps.

NOTE 1 Such circumstances would include:

- *extreme weather*
- *equipment failure*
- *accident or other serious incident*
- *shortage of staff that is unforeseeable (e.g. sudden illness) and which would cause significant operational disruption (e.g. closing a signal box, possession overrun).*

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NOTE 2 The following would not be considered acceptable reasons for exceeding identified processes for managing fatigue:

- *the existence of long-standing job vacancies,*
- *planned organisational changes,*
- *planned training or safety briefings,*
- *extended blocks of maintenance work (e.g. blockades) that affect the number of staff undertaking safety critical work.*

Fatigue

A state of perceived weariness resulting from physical or mental exhaustion that can result from prolonged working, heavy workload, insufficient rest and inadequate sleep. Shift work is one cause of fatigue. Fatigue has been identified as a causal factor in incidents and accidents, largely because it can reduce vigilance and alertness, and lead to an increase in the likelihood of error and impaired decision making.

Fatigue and Risk Index (FRI)

Evaluates the pattern of shifts in a roster to identify risks of fatigue as a result of how the shifts are scheduled, it also accounts for additional factors that can impact fatigue including travelling time, workload, attention and arrangement of rest breaks.

NOTE The FRI is available for download from the Health and Safety Executive website via Network Rails fatigue management e-learning programme

Hours of Work

Actual (not rostered) time spent at work, including overtime, rest days worked, paid travelling/walking time, handover/wash-up time and paid meal/rest breaks.

NOTE 1 For staff commencing duty at a remote location (i.e. not at his/her normal place of work (home station)), travelling time is only included if they are required to attend at their normal place of work before or after the turn of duty/shift, and it is only the travelling time after they have attended their home station that should be included in the calculation of hours worked.

NOTE 2 'Wash up' time or 'handover' time incurred by staff is included. Any kind of paid or unpaid absence (e.g. sickness absence, annual leave) is excluded.

Nominated Person

Any person nominated by the Line Manager who is considered competent to authorise an exceedance.

NOTE This is usually the On Call Manager. In locations where a formal arrangement is in place to utilise Control to document risk assessments for authorisation of exceedances, a member of Control staff may be considered as a Nominated Person.

On Call

Waiting to respond to an emergency call out or answering a query from persons working in the field. The time spent waiting is not considered as work for the purpose of this standard. On call is only considered as work when work is actually undertaken, such as when the individual is managing an incident or supplying information.

On Call Manager

The nominated person during out of hours or emergency situations who is responsible for controlling and authorising Exceedances to the working time limit for staff when the relevant Line Manager is not available.

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Period of Duty

A shift or period of work activity that consists wholly or partly of safety critical work, including overtime and meal or rest breaks.

Roster/Working Pattern

A schedule showing turns of duty or leave of individuals or groups.

Safety Critical Work

The term "Safety Critical Work", as defined by the Railways (Safety Critical Work) Regulations, includes work which has the most potential to lead to significant adverse effect on the safe operation of the railway system.

This includes work which may affect the operation or safety of inter-working on Network Rail's controlled infrastructure.

Applicability to Managers and Supervisors relates to those posts which have a direct management or supervisory role.

Shift

Any scheduled or unscheduled period of time at work with a discrete start and end time. This may be rostered.

Travelling Time

A period of time directly from rest location to place of work including a return journey, irrespective of terms of payment or modes of transport.

Rostered Week

For payroll and rostering purposes a standard working week means a calendar week from 00:01 hours on a Friday until 24:00 hours the following Thursday.

Roster Creation Tool

A tool to support the Delivery Units in developing and recording their rosters and work patterns

Infrastructure Maintenance Risk assessments

Risk assessments undertaken for planned and un-planned exceedances

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5 Requirements for managing fatigue and excessive working hours

5.1 All Line Managers shall manage fatigue and excessive hours together with keeping a record of hours worked for all employees undertaking safety critical tasks. This shall include on call hours.

5.2 All Section Managers, Work Delivery Managers, Supervisors and equivalent National Programme posts who undertake safety critical tasks shall complete a timesheet which shall be submitted to Human Resources Shared Services. This shall include on call hours.

5.3 All Engineers, Programme Managers and technical support employees who undertake safety critical tasks in the Delivery units shall provide a record of hours worked to their Infrastructure Maintenance Engineer (IME). This shall include on call hours.

5.4 All engineers and technical support employees who undertake safety critical tasks in the National Programme teams shall provide a record of hours worked to their line manager. This shall include on call hours.

5.5 All other employees who undertake safety critical tasks not listed above shall keep a record of their hours worked. This shall include on call hours.

NOTE Refer to table 1 in section 13 for details of the review process for fatigue and excessive working hours.

6 Working time limits

The following working time limits shall apply to staff undertaking safety critical work:

- No more than twelve hours to be worked per period of duty/shift
- No more than seventy two hours to be worked in any seven day period
- A minimum of twelve hours rest between booking off from a period of duty/shift to booking on for the next period of duty/shift
- No more than thirteen periods of duty to be worked in any fourteen day period

NOTE 1 Refer to 10.2 and 10.3 for the management of planned and unplanned exceedances

NOTE 2 These are maximum limits, and on their own they are not sufficient to control all of the risks from fatigue. They form part of a set of fatigue management arrangements in conjunction with other measures such as the risk assessment of base rosters and of actual hours worked.

7 Calculation of hours of work

The following criteria shall be used to calculate hours of work:

- Only the travelling time from the period after an employee has attended their normal place of work shall be included in the calculation of hours worked. (Reference shall be made to commuting time when creating rosters as detailed in 9.1).
- All absence, whether paid or unpaid (e.g. annual leave, sickness absence), shall be excluded.
- Work which is not classified as safety critical but which is undertaken by staff during the same shift as safety critical work shall be included in the calculation of hours of work.