



**SUPPLY CHAIN SAFETY  
LEADERSHIP GROUP**

**Highways Safety Hub  
Raising the Bar 22  
Fatigue Management**

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## Objective

Raising the Bar 22 seeks to ensure that All Supply Chain Partners working within the industry take action to measure and understand the causes of fatigue within their workforce and reduce fatigue to levels that are compatible with good health, wellbeing, and safety performance.

## Scope

The expectation is that this document will apply to all those carrying out work across all National Highways worksites and will be implemented by all supply chain partners working with National Highways.

## Background & Definitions

Fatigue is a decline in mental and/or physical performance resulting from prolonged exertion, an accumulation of lack of sleep or disruption to “body clock”.

Fatigue results in slower reactions, reduced ability to process information, memory lapses, absent-mindedness, decreased awareness, lack of attention, underestimation of risk, reduced coordination etc. Fatigue can lead to errors and accidents, ill-health and injury, and reduced productivity. Furthermore, fatigue induced by work is thought to be a risk factor in 20% of major Road Traffic Incidents, some fatal, that take place outside the work environment.

## Governance Requirements

Supply Chain Partners must have a Fatigue Management Policy/Procedure and Plan which ensures that all mitigation measures for fatigue have been considered and exhausted with respect to “Above the Line” controls Elimination and Substitution prior to accepting proposals for Engineered Controls to be relied upon for. See Appendix 1 for more details.

## Minimum Requirements

The following elements are mandatory requirements and suppliers shall ensure these elements are applied fully on National Highways sites.

### ***Mandatory Elements***

- All organisations must have a Fatigue Management Policy/ Procedure and a Fatigue Management Plan. See Appendix 2 for details of Risk Factors which must be addressed.
- Fatigue must be considered as a risk in the design and planning of work, including the following factors:
  - Organisational factors – work patterns, overtime/on call work, rest breaks and accident investigation
  - Work environment – the physical nature of the work, repetitive tasks, design and education of fatigue factors
  - Individual factors – commute time, night working and health
- Arrangements must be made to enable timely inductions to suit working hours, this includes night shift and weekend working
- Health assessments for night workers and safety critical medicals as per Raising the Bar 12 must be in place to ensure there are no health conditions impacting fatigue levels.
- All suppliers must have a way or recording planned versus actual hours. This must include recording of unplanned exceedances.
- Where exceedances are required to allow the continuation of works in emergency situations e.g., to get the strategic road network back to a safe state for opening, a formal process for risk assessing and managing the exceedance must be in place. See Appendix 3 for an example Exceedance Process.
- Fatigue education and awareness training must be rolled out to all workforce so they can recognise signs and symptoms of fatigue in themselves and others.

## Guidance – Applying the Hierarchy of Controls

### Overview

The following guidance is written with the expectation that it represents best practice and as such should normally be followed unless a better local solution has been devised to meet the overall objective. It follows the Above the Line Approach in terms of control measures – see Appendix 1 for more details.

### Elimination

It is extremely difficult to eliminate the risk of fatigue entirely, however employers can exert controls in the working environment, specifically around shift rostering and planning of works. To support this, additional controls for workers should be considered including:

- Planning for overnight stays
- Transport provision e.g. a minibus with designated driver who is “non-working” on the contract/project
- Provision of on-site rest facilities

### Organisational - Design and Planning Process

Work design and planning should take into consideration activities that might negatively impact the risk of fatigue within the workforce. E.g. reducing the amount of work that needs to take place at night, consideration of rotating work tasks which are particularly monotonous etc. Shifts should be scheduled to ensure that works can be safely completed without over-run, with a process in place to deal with unavoidable delays and exceedances built in.

### Work Environment

The Fatigue Management Plan should specify key work-related controls and areas which could be helpful to consider include:

- Time and attendance recording – biometric, on an app or other system, which flags when individuals are working excessive hours
- Implementation of a clear process for managers to follow where people are working excessive hours
- Setting up sites with safely positioned rest facilities for staff
- Identifying opportunities for rotation of workers for mundane or difficult tasks
- In cab cameras identifying micro-sleeps
- Wearable technology – recording hours, sleep patterns, alerting staff when to take a break
- Cognitive testing to test alertness, completed at the start of the day or during a shift

### Individual - Risk Assessment and Monitoring

Fatigue is difficult to assess and ensuring that fatigue education is rolled out to all, will help everyone recognise signs.

There are specific times when fatigue may be an increased risk for specific individuals e.g. during Ramadan and any period where an individual is experiencing a significant life change such as a recent bereavement, pregnant workers, arrival of a new baby etc. At these times managers must ensure fatigue is assessed appropriately and that any help or support is provided as necessary.

### Personal Responsibilities

Organisations should seek to create an open culture where individuals can report fatigue without fear of reprisal. It is the individual's responsibility to ensure that they are fit for work. They must report any health conditions contributing to fatigue to the employer and must use times between work shifts to obtain sufficient rest, sleep and recuperation. For staff working remotely or from home it is essential that individuals stick to normal working shift periods and do not work for extended periods.

## Selection of Appropriate Controls

Routine controls to prevent fatigue at work revolve around shift planning, ensuring adequate resource to undertake works and allowing for regular and sufficient breaks in the working day. It is important that where anything changes such as extreme weather, or a requirement to work a longer shift, or any other factors that might impact fatigue that work is stopped and the risk re-assessed.

In cases where an individual or a team is identified as being at a high fatigue risk, it could be appropriate that they are moved from an area of high risk, or additional controls might be implemented such as:

- Increased breaks
- Working alongside a colleague
- A change of work activity
- A period of rest
- Early finish with safe arrangements made for the individual or team to return home
- Working from home for all or part of the time

## Examples of Good Practice



*Touch screen kiosks used to measure impairment due to fatigue on site.*



*Sleeping pod provided on site.*

## Administrative & PPE Controls

There is no PPE that can protect an individual from the risk of fatigue. However, technology exists that can identify and alert an individual who has become fatigued, such as head bands, wrist band/watches – but these are very much reactive.

Administrative controls largely relate to recording of working hours, exceedances and arrangements describing how fatigue is managed.

## People Requirements

### Training & Competence

Managers responsible for shift rostering and for issuing exceedances to working hour limits must receive training and information on the organisations' processes and procedures, ensuring every effort is made to eliminate and minimise fatigue.

Everybody must be briefed and educated as to the impacts of fatigue and how and why it is being managed to include information on good sleep hygiene, nutrition, mental health etc. This includes those staff working remotely and working from home.

## Fitness to Work

In addition to safety critical medicals night workers require health assessments to be undertaken. Anybody working regularly between the hours of 11pm and 6am for at least 3 hours is a night worker. For details of the questions this assessment must cover please see Appendix 4.

## Assurance Activities

Assurance activities will include auditing against this guidance particularly the mandatory elements, and development of contract/project level fatigue KPIs. (See section below for further details)

## Emergency Arrangements

### Exceedance Procedures

Unplanned exceedances can occur for many reasons and can be unavoidable, due to emergencies, over runs, plant breakdowns, etc.

All exceedances must be investigated to understand what went wrong and how the risk can be mitigated in the future.

Organisations fatigue plans should have established procedures to be put in place in the event of an exceedance and any potential exceedance must be risk assessed and managed in accordance with the plan as soon as the exceedance of hours is identified or becomes likely.

## Accident Investigations

Fatigue must be considered as a contributory or root cause as part of any routine accident or incident investigation, and where it is identified, actions must be put in place to prevent recurrence.

## Reporting and KPIs

To monitor the effectiveness of fatigue management, organisations may wish to consider the following leading and lagging KPIs:

Initial KPIs will ensure that the correct processes are in place as follows:

- Fatigue Management Policy/ Procedure in place
- Fatigue Management Plan in place
- Fatigue considered and addressed in risk assessment process
- % of staff assessed as competent in fatigue education

Additional guidance is available from the ORR around developing Fatigue related KPIs.

## References

The Working Time Regulations 1998 [The Working Time Regulations \(hse.gov.uk\)](https://www.hse.gov.uk/workingtime/)

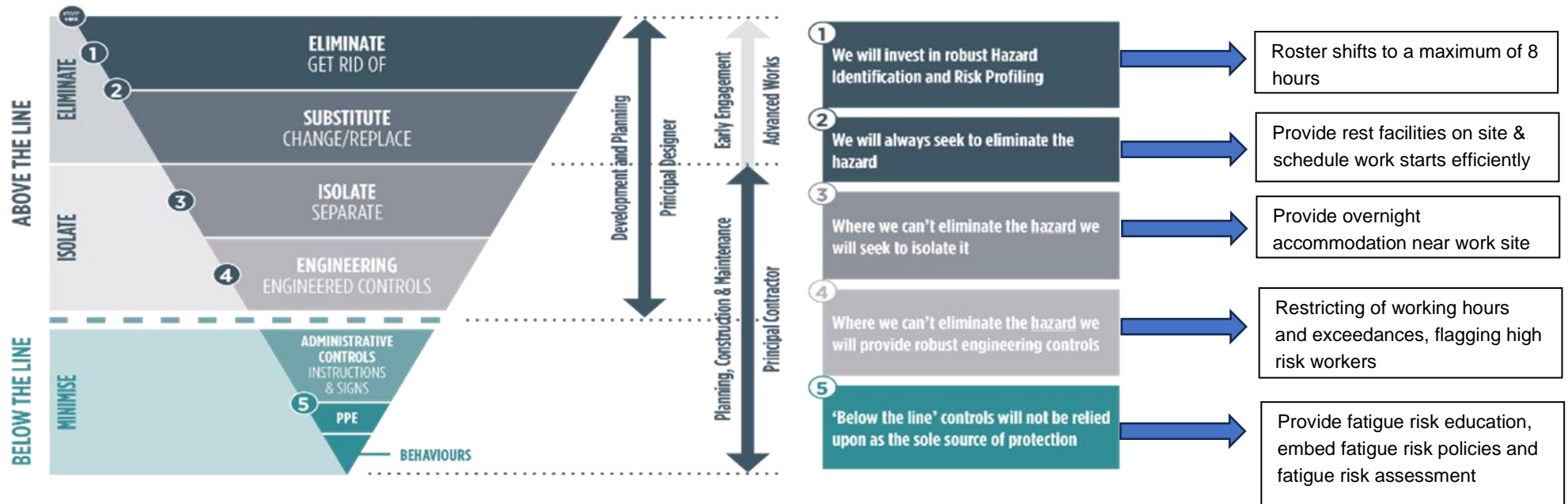
Managing Rail Staff Fatigue -The Office of Rail and Road (ORR) 2012 [Working patterns - fatigue | Office of Rail and Road \(orr.gov.uk\)](https://www.orr.gov.uk/working-patterns-fatigue/)

Fatigue KPIs – The Office of Rail and Road (ORR) 2017

[Fatigue - Key Performance Indicators - May 2017 \(orr.gov.uk\)](https://www.orr.gov.uk/fatigue-key-performance-indicators-may-2017/)

Fatigue Risk Management Review for the Highways Industry – Health & Safety Laboratory 2017

Appendix 1 – Above the Line Approach for Fatigue Risk with some practical examples



## Appendix 2 – Mandatory Elements & Fatigue Risk Factors to be Addressed by Organisation Fatigue Management Policy/Procedures/Plan.

<b>Organisation Name &amp; Site(s) or Business Areas covered:</b>
<b>Commitment statement:</b> A clear concise statement signed by a Senior Leader in the Business formally committing to the active management of health and safety risks posed by fatigue. This can take the form of a Policy created in consultation with employees.
<b>Scope:</b> A statement of the sites, operations, roles and tasks the Plan covers.
<b>Roles &amp; responsibilities:</b> This sets out the shared responsibilities of the organisation and the employees with regards to management of fatigue. Specific responsibilities must be detailed for Managers, Supervisors, employees, contractors and other key personnel.
<b>Consultation:</b> Describe consultation arrangements with staff and contractors.
<b>Planning of work - working hours &amp; overtime limits:</b> Sets out the acceptable limits for maximum working hours, maximum overtime, maximum hours before a break, rest periods, maximum consecutive days etc.
<b>Shift rostering:</b> detail shift patterns where relevant, including night working arrangements.
<b>On call work:</b> detail arrangements for on-call working where relevant and controls.
<b>Home working or hybrid working:</b> Sets out arrangements for working at home in respect of maximum working hours.
<b>Emergencies &amp; exceedance procedures:</b> Sets out planned or unplanned arrangements for exceeding hours including how fatigue of a team is assessed before continuing with works, or calling in additional resource.
<b>Fatigue management process:</b> Sets out all controls for fatigue management on site including recording of hours, use of technology, arrangements for provision of overnight accommodation, on site rest facilities etc.
<b>Fatigue risk education:</b> Details training for Managers and Supervisors, plus fatigue risk education for the workforce.
<b>Protocols for self-reporting of fatigue:</b> There needs to be a robust procedure for self-reporting of fatigue to allow open and honest reporting.
<b>Incident and near miss investigation:</b> Procedure must include exploration of whether fatigue was a root or contributory cause of any incident on site.
<b>Management of health issues:</b> The relationship between fatigue and health, fitness and wellbeing needs to be managed – detail controls here.
<b>Audit:</b> The Fatigue Management Plan requires periodic audit to ensure its effectiveness and identify any opportunities for improvement.



### Appendix 3 – Example of an Exceedance Process Form THIS IS NOT MANDATORY PLEASE DEVELOP / USE YOUR OWN PROCESS

This form can be used to assess and authorise the exceedance of planned hours resulting from an unplanned event. It has two parts.

#### Part A: Extension of Hours Risk Assessment

Contract Name:		Contract Number:	
The circumstances that have led to this situation are (Tick As Required)			
<input type="checkbox"/> Extreme weather conditions			
<input type="checkbox"/> Equipment failure			
<input type="checkbox"/> Accident or serious incident			
<input type="checkbox"/> Delays in material delivery			
<input type="checkbox"/> Shortage of staff which was not foreseeable e.g. sudden illness and which would cause significant operational disruption			
<input type="checkbox"/> Other (provide details):			

Details Of Exceedance			
Estimated Exceedance Time:		Additional Hours Or Additional Shifts:	
Risk Assessment Number:		Location:	
		Date:	
		Shift:	
Method Statement No:		Operation:	
		Start Time:	

Details Of The Person Who Is Required To Work Extended Hours		
Print Name:		Position:
Company:		Type of Work:
Induction Number:		
As the person who is required to work extended hours, I confirm that I am not fatigued and am willing to extend my working hours		
Name:	Signature:	Date:
Yes	No	
<input type="checkbox"/>	<input type="checkbox"/>	Has employee worked more than 60hours in previous 7 days?
<input type="checkbox"/>	<input type="checkbox"/>	Has employee worked more than 12 hours in previous shift?
<input type="checkbox"/>	<input type="checkbox"/>	Has employee had less than 11 hours rest between last turn of duty and this shift?
<input type="checkbox"/>	<input type="checkbox"/>	Has employee worked 13 consecutive shifts prior to this turn of duty?
<input type="checkbox"/>	<input type="checkbox"/>	Does the employee have to drive home? If so, how far?
<input type="checkbox"/>	<input type="checkbox"/>	Can anyone else drive the employee home?
<input type="checkbox"/>	<input type="checkbox"/>	Can the employee be booked into a hotel / B&B after the shift rather than drive home?
<input type="checkbox"/>	<input type="checkbox"/>	Can the employee be put onto non safety critical duties if exceedance cannot be avoided?
<input type="checkbox"/>	<input type="checkbox"/>	Does the employee show any signs of fatigue?

What alternatives have been considered and why have they not been implemented?

## Part B: Authorisation to Work Excessive Hours

Use to authorise the exceedance of planned hours after all controls have been exhausted.

Contract Name:		Contract Number:	
Exceeding Safe Working Hours Risk Assessment No:		Location:	
		Date:	
		Shift:	
RAMS No:		Operation:	
		Start Time:	
Name of Person(s) Exceeding Working Hours		Code No (See below)	Reason for Exceedance

Code Numbers and Description			
01.  Individual will exceed 12 hours	02.  Individual will exceed 60 hours in 7 days	03.  Individual will have a rest period of less than 12 hours between shifts	04.  Individual will exceed 13 turns in 14 days
Circumstance (s) Justifying Threshold Breach (tick)		<input type="checkbox"/> No Alternative Resource <input type="checkbox"/> Safety Critical Task	<input type="checkbox"/> Emergency Works <input type="checkbox"/> Other (Provide Details)
Controls in place (tick)		<input type="checkbox"/> Staying In Local Accommodation <input type="checkbox"/> Reduction In Shift(s) Length <input type="checkbox"/> Increased Frequency Of Breaks <input type="checkbox"/> Reduced Commuting Time	<input type="checkbox"/> Use Of Public Transport <input type="checkbox"/> Other (Provide Details)
Additional controls in places:			
Assessed & authorised by Nominated Person		Name and/or electronic signature	
<b>Date authorised and signed off</b>			

**Appendix 4 – Sample Night Worker Health Assessment Questionnaire**

<b>Name:</b>	<b>Role:</b>	<b>Line Manager:</b>
<b>Date:</b>	<b>Contact Number:</b>	<b>Email:</b>
<b>Do you suffer from any of the following conditions – answer YES or NO</b>		
1. Diabetes?		
2. Heart or circulatory disorders?		
3. Stomach or intestinal disorders?		
4. Any medical condition which causes difficulty sleeping?		
5. Any psychiatric disorder which may be affected by night work?		
6. Chronic chest or respiratory disorders where night-time symptoms might be particularly troublesome? E.g. asthma		
7. Any medical condition requiring medication to a strict timetable?		
8. Any other health factors which might affect fitness for night work?		
<b>If you answer yes to any of the above questions, please give more detail here:</b>		
<b>Signed:</b>		