

# MCLAREN

## RESOURCING

### Fatigue Management

#### Document Record

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# Fatigue Management

## 1. Purpose

To ensure that Management implements the requirements of the ROGS Safety Critical Work Regulations and Network Rail Company Standard NR/L2/OHS/003 to ensure its employees and contractors do not suffer the effects of fatigue.

## 2. Scope

The requirements of this policy applies to anyone that has a responsibility for managing staff who may be exposed to fatigue risk and especially those that manage staff who have safety critical competencies or are required to drive as a part of their duties.

## 3. The HSE FRI Index

The FRI was designed primarily for comparing different shift schedules but can also be used to identify any particular shift, within a given schedule, which may be of concern however, in June 2021 the HSE removed the calculator from its website owing to the software being obsolete. The HSE's FRI calculator is still used for this purpose at Network Rail. The calculator is built on research looking at the effects of shift work on fatigue levels and error rates. It also takes into account factors including travel time, workload, attention and the frequency of breaks within shift as all of these have been found to impact fatigue and the risk of error.

**NOTE :** Within Network Rail the preferred rostering tool has the FRI functionality built into it and delivers the requirements of the Fatigue standard.

The FRI should not be used on its own to consider a roster or selection of rosters.

The tool does not take into account a number of factors that may impact how appropriate a particular roster is, and these include:

- a) quality and length of sleep between shifts;
- b) whether rest breaks are taken as detailed within the tool's default settings;
- c) personal preference (are people morning/evening/night people?);
- d) ability to adjust to night working;
- e) whether sufficient rest is actually obtained on rest days;

- f) changes in workload on site and environmental conditions during the work activity;
- g) domestic and/or personal circumstances or situations;
- h) whether individuals are actually turning up well-rested and fit for duty.

These should be considered at a local level when reviewing the roster and judgement made about the impact they might have. Education on individual responsibility, health and wellbeing lifestyle choices on managing fatigue outside of work is advisable.

## 4. When to use the Fatigue and Risk Index Calculator

The FRI shall be used in the following situations:

- a) when developing a new roster to identify potential risks and opportunities to apply controls; or
- b) when a material or environmental change occurs that affects a working roster; or
- c) to make comparisons between a series of rosters during negotiation, so that the fatigue risk is accounted for in selecting a final roster; or
- d) following an incident or during an investigation, to assess the actual hours worked leading up to an event and whether fatigue might have been a contributing factor; or
- e) to assess the impact of changes to a roster, such as when it is adjusted to account for long term sickness or absence; or
- f) to assess an existing roster when there is any reason to believe it may be posing a risk of fatigue to those working to it. or
- g) to assess an individual or group using actual worked data (e.g. submitted timesheets) to establish fatigue and risk when planning work; or
- h) to assess the fatigue risk of worked hours for staff who do not have a fixed/rostered working pattern (e.g. role clarity staff).



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## 5. When reviewing the FRI output consider:

- a) the fatigue values and risk values, to be sure they are in the right range;
- b) the number of consecutive shifts, especially if they:
  - 1) involve more than seven 8-hour shifts or four 12-hour shifts in a row;
  - 2) are longer in length (10 or 12 hour shifts);
  - 3) involve a lot of nights; or
  - 4) have less opportunity for breaks within them;

**NOTE:** For example, 12-hour weekends at the end of a series of night shifts result in higher scores than 12-hour weekends at the beginning. All of these factors contribute to an increase in the fatigue and error risk of a roster

- c) the impact of factors like travel time and workload;
- d) how often high values are occurring, and variation over the roster;

**NOTE:** For example- Lots of shifts with low values and few shifts with high values would be preferable – a roster with many high values (e.g. in the high 30s and 40s almost consistently on the Fatigue index, and around 1.6 consistently on the Risk index) would be of concern as it would not be effectively managing the associated fatigue and error risk. It would not be effectively managing fatigue to rostering a person on a series of continuous night shifts and then affording them one rest day, to recover prior to the next working shift on days- as it takes longer to re-orientate to day working. Best practice would be to afford two full night's sleep when coming off a series of night turns.

- e) for staff classed as Safety Critical, any working hours exceedances (and in the case of post-incident review, any occurring towards the end of the block of shifts being reviewed would be of concern);
- f) individual factors that might affect fatigue such as:

- 1) physical capability to perform the activity;
- 2) mental capability, such as current mental health status;
- 3) known lifestyle that may impact on fatigue levels (e.g. young family).

### g) environmental factors such as:

- 1) Ergonomics related issues including workplace set up;
- 2) surroundings, including elements such as lighting, air quality and temperature; and
- 3) welfare availability and quality.

### h) organisational factors, including;

- 1) effectiveness of management support;
- 2) the ability for the organisation to cover absence;
- 3) the presence of additional work requirements, such as on-call; and
- 4) method of commute to and from work.

## 6. Follow up

If there are concerns with the roster, whoever is assessing the risk shall make recorded recommendations about the next steps.

Depending on a judgement about the severity of the risk, recommendations might include:

- a) revision of the roster to address specific factors that are contributing to fatigue/error risk (e.g. change shifts around, break blocks up with rest days, reduce number of consecutive nights);
- b) implementation of mitigation measures, which might include;
  - additional meal breaks within-shift;
  - additional supervision by managers on site for shifts where the risk is higher;
  - provision of (rested) drivers;
  - provision of accommodation;
  - use of local staff rather than those having to travel long distances to site;
  - rotation of activity within shift to reduce boredom;



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## 7. Exceedance criteria

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

- a) a person exceeds 60 hours of working in a rolling seven-day period. This shall be classed as a level 1 exceedance;
- b) a person exceeds 72 hours of working in a rolling seven-day period. This shall be classed as a level 2 exceedance;
- c) 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;
- d) a person works more than 12 hours in one shift or period of duty;
- e) a person works more than 13 consecutive turns of duty in 14 rolling days;
- 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;
- g) a person works when they are expected to exceed a FRI risk score of 1.6 (regardless of daytime or night time working);
- h) a person exceeds 14 hours door to door.

The Director shall nominate responsible persons within their organisation to manage exceedances on their behalf.

## 8 Action levels

8.1 An exceedance shall be risk assessed by a responsible person.

If the FRI fatigue score of 35 for daytime working and 45 for night time working and/or the FRI risk score of 1.6 are reached or exceeded, the responsible person shall make additional plans to reduce the FRI:

- a) to as low as reasonably practicable; and
- b) below the scores of 35 for daytime working and 45 for night time working.

If an individual works 60 or more hours but less than 72 hours in any rolling 7-day period, this shall be recorded as a level 1 exceedance.

If an individual works 72 hours or more in any rolling 7-day period, this shall be recorded as a level 2 exceedance.

If an exceedance of 14 hours door to door is triggered:

- a) the line manager shall produce a fatigue management plan; or
- b) if a fatigue management plan already exists for the individual, the line manager shall review it and determine if it is still effective in the control of the fatigue risk.

On completion of the risk assessment the responsible person shall determine whether the level of risk is acceptable. If it is, they shall authorise the exceedance.

A responsible person shall only authorise an exceedance if they believe:

- a) work cannot be completed at another time without disruption; or
- b) working beyond the identified processes and arrangements for managing fatigue is necessary to avoid or reduce:

- 1) risks to the health and safety of persons on the railway; or
- 2) significant disruption to services and it is not reasonably practicable to take alternative steps.

Any existing restrictive controls shall apply in addition to further proposed controls.

## 8.2 Level 1 exceedance - actions

Where the assessed fatigue risk is not identified as high, the responsible person shall decide whether to allow further work to be undertaken with this mitigation applied to affected staff:





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- a) safety critical duties shall be confined to a minimum or additional supervision shall be provided for those affected staff; and
- b) affected staff shall not be nominated for driving, lookout duties and/or IWA duties.

The functional head shall review this information and inform the responsible person whether they are satisfied that the fatigue risk associated with the individual is being effectively managed.

## 8.3 Level 2 exceedance - actions

If a level 2 exceedance is identified or foreseen, the responsible person shall arrange for the affected individual(s) to:

- a) not be rostered for any further shifts until they have taken a rest period of at least 24 hours; and
- b) be excluded from undertaking the following tasks until they have completed the minimum 24hrs rest:
  - any safety critical tasks;
  - activities requiring the management of train/OTP/OTM movements;
  - all train exposure;
  - driving duties; and
  - plant operation.

If an individual has more than one level 2 exceedance during a rolling 13-week period, the line manager shall:

- a) document it; and
- b) report it to the functional head with the FRI number recorded for the individual.

If more than 25% of a functional head's workforce have a level two exceedance during a 13-week period, the functional head shall:

- a) undertake a review of the rostering process and shift management; and
- b) identify potential organisational/systemic causes of the exceedances; and
- c) propose additional controls.

## 9 Limiting and recording exceedances

The resources plans should minimise the potential for working time exceedances where there are shifts affected by the changes. If a line manager expects a resource shortage to occur beyond a four-week period, they shall:

- a) monitor the actual hours worked on a weekly basis; and
- b) record the mitigation measures taken to minimise the potential for working time exceedances.

If resource shortages are predicted to occur beyond a three month period, the line manager shall develop resources plans in conjunction with the Director.

Where mitigation is required to manage resource shortages, the line manager shall:

- a) review and amend the roster/working pattern to minimise fatigue risk; or
- b) identify other mitigation measures and apply them to control the exposure to fatigue risk.

Any mitigation taken shall be recorded and maintained along with the roster.

**NOTE:** This includes where a change of roster has been implemented as a means to manage fatigue risk.

A record of the FRI risk assessment and control measures (e.g. Fatigue Management Plan) implemented for each roster/working pattern shall be maintained in accordance with the requirements of NR/L3/INF/02226.

Where there is recognised trade union(s) representation within the organisation, the relevant Union Health & Safety Representative shall be:

- a) consulted on the proposed roster/working pattern in relation to fatigue risk; and
- b) provided with the FRI assessment output.



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Where the workplace has no recognised union(s) representation but has appointed Representative(s) of Employee Safety (e.g. supply chain organisations), consultation of the roster/working pattern and FRI outputs shall be undertaken with the appointed person(s).

After completion of the recorded roster/working pattern, the approved roster/working pattern, FRI output and record of any applied mitigation shall be maintained on file together and held on file for a minimum of three years.

**NOTE:** They are held on file together to enable cross reference.

## Non-rostered working patterns

Any member of staff who works a non-rostered working pattern shall inform their line manager if they exceed or expect to exceed;

- a) any of the working time limits or triggers as defined within this standard; or
- b) their contractual working hours.

The line manager shall arrange for a fatigue management plan to be produced and reviewed with the member of staff.

If the member of staff has identified a potential for regular exceedance of their contractual working hours, the line manager shall agree a regular review of the fatigue management plan with the member of staff.

The line manager shall also conduct a fatigue management conversation with any staff member who has returned to work after:

- a) extended absence; or
- b) where flexible or compressed working arrangements have been requested; or
- c) where there is a need to amend working hours where a change has been identified in relation to reasonable adjustments.

**NOTE:** Examples of extended absence include maternity or paternity leave and long term sick leave.

If the working time trigger is defined in terms of number of shifts, each shift over the trigger shall be counted as a separate exceedance for the purposes of recording.

Line managers shall maintain records of all exceedance risk assessments completed for a minimum of 3 years.

If a responsible person other than an individual's line manager has authorised an exceedance, the line manager or nominated deputy shall co-sign the exceedance on their next working day.

Responsible persons shall:

- a) relieve staff that have triggered an exceedance at the earliest opportunity; and
- b) allow a minimum of:
  - 12 hours before their next period of duty if a level 1 exceedance has been triggered; or
  - 24 hours before their next period of duty if a level 2 exceedance has been triggered.

Responsible persons shall implement control measures to mitigate against further exceedances

## 10. Working hours

Where the purpose is to manage fatigue, working hours shall include:

- a) work activities (including time spent travelling) undertaken that supports the employer in the delivery of a service or product;
- b) any activity undertaken in relation to employer sponsored and/or arranged personal development (including higher education);
- c) charity activities that have been planned or arranged by the employer.

Where the purpose is to manage fatigue, working hours shall not include:

- a) commuting between a place of rest and a usual place of work;



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- b) on call activities when work is not being undertaken
- c) charity work undertaken by an employee at their personal arrangement;
- d) educational studies not required or arranged by the employer;
- e) social activities that fall outside of typical working hours.

The company shall have arrangements in place so their employees can maintain an accurate record of hours worked.

Where employment is arranged under zero hours contract arrangements, a fatigue management plan shall be created for those affected employees. The plan shall take into account other potential employment that might affect the fatigue and/or management of fatigue of the affected employees.

## On call fatigue management

An employee shall be considered on call when they are:

- a) required to physically attend site outside of rostered or typical working hours;
- b) available to provide advice, guidance and/or expertise as the business requires; and/or
- c) 'on standby' to provide advice, guidance and/or expertise as the business requires.

Where an organisation has on call as part of its working practice, it shall have arrangements in place to record the principles of how fatigue will be managed in association to those on call activities.

The record of on call fatigue management principles shall identify a hierarchy of controls for the management of fatigue. This hierarchy shall include consideration as to how the following principles can be applied, so far as is reasonably practicable:

- a) the opportunity to eliminate the need for on call activities within the organisation;
- b) where on call activities cannot be eliminated altogether, identifying effective means that reduce the frequency of call out events;

- c) identification of the appropriate roles required to respond to each type of call out; and
- d) controls that can be implemented during and post on call activities and how they can be implemented, including investigating opportunities to reduce the length of on call activities.

On call fatigue management principles shall include:

- a) a stakeholder list that identifies who is required to be contacted in typical circumstances; and
- b) the process that defines the levels of escalation for common/foreseeable events.

Fatigue management plan shall be produced for any on call member of staff or for any group of staff that are working with common on call activities. The plan shall include:

- a) specific detail on the activities likely to be undertaken; and
- b) how the associated risks relating to fatigue will be managed.

When creating a fatigue management plan for an employee who undertakes on call activities, the responsible person shall take into account and document any potential effects of the employee maintaining a level of preparedness throughout the period of on call.

Consideration of potential/actual issues relating to travelling or commuting relating to on call activities shall be recorded in the fatigue management plan.

For the purposes of FRI assessment, the duration in which someone is on call and not working shall not be included as part of the duty length. Functional heads shall have arrangements in place to:

- a) monitor on call activities within their organisation, including the number, frequency and timings of call outs;
- b) assess trends associated with on call activities (e.g. call out types);



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- c) review the effectiveness of controls identified to mitigate potential fatigue risks introduced by on call activities.

## 11. Fatigue Management Plan

Where a fatigue management plan is created for an individual member of staff, the responsible person shall provide adequate opportunity to the individual to enable them to provide input into the plan.

Where a fatigue management plan is produced for a group of staff, the responsible person shall engage with the staff to enable them to provide input into the plan.

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

- a fatigue assessment has identified a need for a plan to be produced;
- a level 1 or level 2 exceedance has been triggered;
- the 14hr door to door trigger condition is predicted or met;
- a member of staff is returning to work after an extended absence;
- a need to amend working hours where a change has been identified in relation to reasonable adjustments;
- a request has been made by either a member of staff or their manager; and/or
- o 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;
- o where on call activities are identified as defined in NR/L2/OHS/003/05.

When a fatigue management plan is required, it should be completed as soon as reasonably practicable.

It shall be completed no later than 21 days from the time of identification.

A fatigue management plan shall include these details:

- o employee name or group name where applicable;
- o normal location of work;
- o date of the plan creation;
- o name of person completing the management plan;
- o reason for creation of management plan;
- o date of medical triggering the creation of the plan, where appropriate;
- o specific detail on the (potential) causes of the fatigue issue identified;
- o specific detail on the potential impact of the fatigue issue on safety;
- o agreed action on how fatigue will be managed that includes accountabilities and responsibilities of both organisation and member(s) of staff;
- o any recommendations identified during occupational health referral.

A review date of no longer than 12 months from the point of creation for the fatigue management plan shall be agreed and recorded on the plan.

The plan shall be reviewed and updated if any changes (actual or potential) to any circumstances, risks and/or controls are identified.

When the fatigue management plan has been created and review date agreed, it shall be signed to confirm that the details within the plan are correct and understood.

The signatories shall include:

- the responsible person who has created the plan;
- (where applicable) the line manager of the member or group of staff the plan applies to; and
- the member of staff that the plan applies to, or a representative of the staff affected where the plan has been produced for a group.

Where a member of staff is already subject to a health management action plan (e.g. HAVS), the existing documentation can be updated to include fatigue as an additional element.





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## 12. Information, instruction and training

Responsible persons shall have arrangements in place to provide information and instruction on fatigue and working hours for their direct reports.

## 13. Assurance

The Company must have arrangements in place to:

- a) collate information on working hours and exceedances;
- b) review trends; and
- c) assess how effectively fatigue risk is being managed within their organisation.

Exceedance related fatigue risk information shall be monitored and reported to the Director each period.

This information shall include:

- a) the number, type and causes of exceedances that occur within the period;
- b) identification where individuals repeatedly trigger a need for exceedance management;
- c) the number of authorised actions plans generated;
- d) the number of non-compliances to this standard identified; and
- e) delivery of training/briefing of exceedance management against target.

Responsible persons shall retain records of all exceedances incurred and the signed authority to support them in accordance with NR/L3/INF/02226. The Director shall initiate a 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 significant change in circumstances such as job redesign, changes to workload or organisational change;
- c) fatigue has been identified as a causal factor in an accident or incident that gives reason to doubt the effectiveness of the arrangements;

- d) monitoring has shown that exceedances are occurring on a frequent basis despite mitigating actions;
- e) long-term sickness, a significant number of unfilled job vacancies or industrial action results in frequent exceedances;
- f) there is a significant number of individuals within the organisation being identified as unfit for work because of fatigue;
- g) the functional head has 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.

## 14. Document retention

A fatigue assessment shall be retained for a minimum of 3 years unless there is a requirement mandated elsewhere for longer document retention.

Fatigue management plans shall be maintained with the employee's employment records in line with existing processes for managing records and personal information relating to health and wellbeing.

Where fatigue management plans are updated the superseded plan shall be maintained with the active plan.

Fatigue management plans shall be stored for a minimum of 3 years after the completion/closure of the plan.

S. Smith.  
Director

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