Fatigue Management Procedure

For N/A

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AB Risk Limited

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Contents

1 INTRODUCTION

The contents of this document can be adapted to suit the staffing arrangements and work/shift patterns for the work area concerned. The example assumes a repeating 12 hour shift pattern (see Appendix 1).

An Fatigue Management Guide has been developed as a separate document. https://abrisk.co.uk/wp-content/uploads/2024/10/ABRisk-Fatigue-Management-guide.pdf

1.1 Fatigue management policy

This company recognises its duty to ensure that people carrying out safety critical tasks are competent and fit. It recognises the need to manage fatigue so that health and safety risks are reduced to As Low As Reasonably Practicable (ALARP).

1.2 Working patterns

12 hour shifts are worked, starting at 07:00 and 19:00. Rotation is forward (i.e. days followed by nights). Each block of work consists of two or three days followed by two or three nights followed by four or five rest days. After the third block the rest is extended to 19 days before the cycle repeats. See Appendix A for an illustration of the shift cycle and evaluation vs guidance.

Shift workers are entitled to up to 60 minutes of breaks per shift organised by the team according to workload with competent cover allowing people to leave the work area.

People working standard days, Monday to Friday, start between 08:00 and 09:00 and work for eight hours. Day workers are entitled to a 30 minute lunch break.

Some day-workers are required to provide on-call cover for one in four weeks. They may be called on weekday nights and weekends to assist the shift team for breakdowns, emergencies etc.

1.3 Shift staffing requirements

Staffing arrangements ensure shift teams have the competencies required to satisfy requirements. Situations can arise where workload is greater than normal or people scheduled to be on duty are not available. The following scenarios can occur:

- Full team on duty – all ‘normal’ activities can be performed;
- Enhanced team – extra people on duty allowing planned high demand activities (e.g. start-up and shutdown) to take place or support team development and training;
- Reduced team – fewer people at work but resources sufficient to maintain steady operations. If issues arise the affected systems are put into a safe hold position until a Full or Enhanced team is available;
- Skeleton team – resources significantly reduced and operations are moved to a safe hold or shutdown, wherever possible during the previous period of work.

Staffing arrangements are reviewed periodically and as part of planning for significant staffing or organisational changes.

1.4 Shift team cover

Cover is obtained if a member of the shift team is not available for duty or if an Enhanced team is required. Cover for day staff is not available and so activities are planned accordingly.

Although absence cover is part of the shift worker contract, individuals have no obligation to be available at all times at short notice. The following guide is used to cover late notice absence (i.e. sickness) or a requirement for an Enhanced team:

- Preferred option – someone on their extended 19 day break;

- Day shift cover – someone about to start a block extends it by starting a day or two earlier;
- Night shift cover – someone about to finish a block extends it by finishing a day or two later;
- Least preferred option – someone part-way through their four or five day rest break works an extra shift.

It may be necessary to swap people between shift teams to provide the right level of competence. Potential fatigue levels have to be balanced with cover requirements.

1.5 Fatigue from a changed work pattern

For shift workers adjustments to the work pattern may occur with minimal concern if:

- Number of consecutive night shifts worked does not exceed four;
- Number of consecutive night shifts does not exceed number of rest days that follow;
- Total number of shifts worked in a block does not exceed six;
- Total number of shifts worked during an extended 19 day break does not exceed five.

Working additional hours (shift and day workers) may occur with minimal concern if:

- Number of hours worked in a 24 hour period does not exceed 13;
- Time between finishing and returning to work is not less than 11;
- Average number of hours in a 28 day period does not exceed 112 (equivalent to 48 hours per week).

Changes to the work pattern that comply with the above restrictions occurring one or two times in a three month period are broadly acceptable (Green). Occurring three to five times in three months it is a concern and will trigger additional monitoring (Amber). More frequent changes or if any restrictions above are deviated will be a significant concern and require immediate action (Red).

It is broadly acceptable (Green) if an on-call day worker receives a call before midnight and the duration is less than 2 hours. Calls between midnight and 06:00 or with duration greater than two hours shall trigger mitigation to that ensures compliance with the above restrictions (in particular the requirement for minimum 11 hours rest before returning to work).

Evaluation checklists provided in Appendix 2 of this procedure shall be completed for all additional or changed work hours including cover, shift swaps and project work.

1.6 Responding to elevated level of fatigue

Mitigation measure shall be implemented if an elevated level of fatigue occurs from working extra hours/ days or any other reason. Individuals are not good at determining their own levels of fatigue so it is incumbent on Supervisors and Managers to proactively recognise and manage the associated risks.

Individuals experiencing a high level of acute fatigue will not participate in safety critical activities that may require them to concentrate, remember information or make decisions. They should take a quality break and given the opportunity to work in a less fatiguing environment. Their travel plans when leaving work should be considered, particularly if they plan to drive for a significant time. Also, cover for the following day or changing to a Reduced Team should be considered so that the individual has time to recover.

The same mitigation measures may be required if individuals suffer a high level of chronic fatigue risk. Also, an investigation shall be carried out to determine the underlying causes. Changes to working arrangements with a staged return to ‘normal’ work should be considered.

1.7 Monthly reviews

Monthly reviews shall take place to identify concerns regarding levels of fatigue and associated risks. Data reviewed shall include:

- People working hours additional or different to their normal schedule;
- People with an amber or red level of fatigue;
- Reduced or Skelton shift team on duty (planned and unplanned);
- Cover required at short notice;
- Competence gaps due to inadequate / inappropriate absence cover;
- Incidents where fatigue may have contributed;
- Incidents where shift handover or communication between shift and day workers may have contributed;
- Consideration of cover requirements and potential for increased risk in plans for future work;
- Plans to cover expended challenges due to reduced staffing levels and / or increased workload.

Appendix 1. Shift pattern analysis

There are five shift teams working the pattern shown below. The cycle always starts on a Wednesday. After three sets of successive days/night there is an extended break of 19 days.

Table 1 - Shift pattern

Monday	
Tuesday	
Wednesday	Day
Thursday	Day
Friday	Night
Saturday	Night
Sunday	Night
Monday	Rest
Tuesday	Rest
Wednesday	Rest
Thursday	Rest
Friday	Day
Saturday	Day
Sunday	Day
Monday	Night
Tuesday	Night
Wednesday	Rest
Thursday	Rest
Friday	Rest
Saturday	Rest
Sunday	Rest
Monday	Day
Tuesday	Day
Wednesday	Night
Thursday	Night
Friday	Extended break – 19 days then repeat

The table below summarises a fatigue assessment of the shift pattern.

Table 2 - Shift pattern fatigue assessment

Requirement	**Ref**[1]	**Evaluation**
Max 48 hours in a week	1	*Pass - Average is 33.6 hours per week.* *Maximum 5 consecutive days (60 hours) on duty. These are followed by a minimum of 4 days rest.*
Minimum 11 hours ‘daily rest’	1	*Pass - Minium is 11.5 hours, allowing for shift handover.*
24 hours ‘weekly rest’ every seven days	1	*Pass - Maximum 5 consecutive days on duty.*
Offer workers choice (regular vs rotating shifts)	2	*Not applicable – allowing choice is not possible for 24/7 operations.*

[1] See Appendix 3 for references

Requirement	Ref[1]	Evaluation
Avoid permanent nights	2	*Pass – no night shifts*
Shifts rotate forward (day to night)	2	*Pass – shift rotate forward (days followed by nights)*
Fast rotation (day to night every 2-3 days). Avoid weekly/fortnightly rotating.	2	*Pass – maximum 3 of either day or night shift at any time in the cycle*
Avoid shift starts before 07:00am	2	*Pass – day shift starts at 07:00am*
Allow at least 2 days off after nights	4	*Pass – minimum 4 full nights before cycle reverts from night to day shift*
Maximum 4 night shifts	3	*Pass – maximum 3 consecutive night shifts*
Plan weekends off (at least every 3 weeks)	3	*Pass – cycle results in 2 weekends worked every 7 weeks.*
Times convenient for public transport, social and domestic activities.	3	*Pass – start / end time is consistent with 'normal' life arrangements*
Consider travelling time of workforce	3	*Pass – site is close to centres of population*
Regular and predictable shift pattern	3	*Pass – shift cycle repeats continuously.*

The table below summaries an evaluation of the additional factors to consider when deciding if the overall risk due to the shift pattern is ALARP:

Table 3 - Evaluation of associated risks

Risk factor	Evaluation
Communication between shifts. Handover between the same individuals at successive handovers can be good. Long gaps can be bad (especially if the whole shift is absent at the same time)	*During periods of duty the same individuals handover several times between shifts.* *The extended 19 day break is recognised as a risk factor. The shift handover procedure includes arrangements to mitigate this risk.*
Communication between shift and day workers. Consecutive day shifts falling Monday-Friday can be good. Long periods when shift workers are absent may be bad, especially when returning to weekend day shift.	*The shift pattern means that teams a regularly present during the day Monday to Friday.* *The extended 19 day break is recognised as a risk factor. A procedure is in place to mitigate this risk.*
Continuity at the start of a pattern of work. 1st day at a weekend may mean work is quieter giving a chance to settle in but fewer people on site to answer questions etc. Monday may be busier for everyone so not an ideal day to start. Flexi Friday's may mean it is like a weekend in some ways.	*The shift cycle after the extended break starts on a Wednesday. This is considered to be optimum.*

Risk factor	Evaluation
Cover for absence. Scheduled holidays can reduce issues (but create other problems). Reliance on shift swaps and overtime for cover can be a problem.	*The extended 19 day break gives everyone the chance to book several holidays each year. Shift swaps are minimised and fully evaluated and monitored.*
Competent cover for absence. Fewer shift teams may mean there are more competent people in each team to provide cover but fewer people on rest days who can actually cover.	*Having 5 shift teams increases the availability of people to cover absence. All extra hours worked are fully evaluated and monitored.*
Fatigue due to working extra shifts, including shift swaps. Rules required for what is allowable (with provision for emergencies). Authorisation is not enough, unless backed up by clear rules applied by competent people.	*All extra hours worked are fully evaluated and monitored.*
Monitoring system of actual hours worked vs fatigue risk. Ensure mutual shift swaps are included (not handled informally between individuals).	*Hours actually worked are reviewed monthly. Situations where additional risk may have occurred due to fatigue or other reasons are highlighted for investigation. Working patterns of individuals are monitored to pick up trends.*
Patterns that include long breaks should facilitate the standard fortnight holiday.	*The extended 19 day break allows several fortnight holidays in a year.*
Change inertia. People plan for holidays, family occasions, Christmas well in advance. They make routine arrangements for childcare, car share, sports training. Consider these when considering changes.	*All shift changes are identified in advance wherever possible. Affected individuals are informed and arrangements put in place to manage transition.*

Appendix 2. Additional / changed hours evaluation

Whenever an individual is required to or wishes to work additional hours or change from the defined work pattern an evaluation shall be carried out. This should confirm that the individual is unlikely to experience high levels of fatigue. If this is not the case the addition or change should be rejected or an evaluation of overall risk shall demonstrate how the overall risks are ALARP.

Table 4 - Prompt list for evaluating additional or changed hours – shift worker

1	Name	
2	Request details (date, time etc.)	
3	Reason for request (cover, swap, project etc.)	
4	Extra / different hours to be worked	Extra time at start of shift ☐ Extra time at end of shift ☐ Extra full shift ☐ Extra part shift ☐
5	Place in shift cycle	Extended break ☐ Rest day ☐ Duty shift ☐ Time between shifts ☐
6	How many changes has the individual made in the last 3 months	1 or 2 ☐ 3 or 4 ☐ 5 or more ☐
7	Has the individual flagged up as Amber or Red due to fatigue in the last 3 months?	Yes ☐ No ☐
8	Will the additional / changed hours elevate their fatigue ranking	From Green to Amber ☐ From Amber to Red ☐
9	Will work time start between midnight and 6am?	Yes ☐ No ☐
10	Will more than four consecutive night shifts be worked?	Yes ☐ No ☐
11	Will the number of consecutive night shifts exceed the number of rest days that follow?	Yes ☐ No ☐
12	Will more than 6 consecutive shifts be worked without a break?	Yes ☐ No ☐
13	If during a 19 day extended break, will more than 5 shifts be worked?	Yes ☐ No ☐
14	Will more than 13 hours be worked in a 24 hour period?	Yes ☐ No ☐
15	Will there be less than 11 hours between shifts?	Yes ☐ No ☐
If the answer to question 8 shows that the additional / changed hours will elevate the individual's fatigue ranking OR the answer to any of questions 9 to 15 is Yes, a full ALARP demonstration shall be documented here stating why it is required and the mitigation actions that will be taken.		

Table 5 - Prompt list for evaluating additional or changed hours – day worker

1	Name	
2	Request details (date, time etc.)	
3	Reason for request (cover, swap, project etc.)	
4	Extra / different hours to be worked	Extended day ☐ Extra day ☐ Work at night ☐
5	Place in shift cycle	Weekday ☐ Weekend ☐
6	How many changes has the individual made in the last 3 months	1 or 2 ☐ 3 or 4 ☐ 5 or more ☐
7	Has the individual flagged up as Amber or Red due to fatigue in the last 3 months?	Yes ☐ No ☐
8	Will the additional / changed hours elevate their fatigue ranking	From Green to Amber ☐ From Amber to Red ☐
9	Will work time start between midnight and 6am?	Yes ☐ No ☐
10	Will more than four consecutive night shifts be worked?	Yes ☐ No ☐
11	Will the number of consecutive night shifts exceed the number of rest days that follow?	Yes ☐ No ☐
12	Will more than 6 consecutive days be worked without a break?	Yes ☐ No ☐
13	Will more than 13 hours be worked in a 24 hour period?	Yes ☐ No ☐
14	Will there be less than 11 hours between shifts?	Yes ☐ No ☐
If the answer to question 8 shows that the additional / changed hours will elevate the individual's fatigue ranking OR the answer to any of questions 9 to 14 is Yes, a full ALARP demonstration shall be documented here stating why it is required and the mitigation actions that will be taken.		

Appendix 3. References

[1] Working time regulations 1998

[2] HSG 256

[3] HSE Inspectors Toolkit – Managing Fatigue Risk
https://www.hse.gov.uk/humanfactors/assets/docs/specific2.pdf

[4] HSE Briefing note – Fatigue (no longer available)