ASLEF
THE TRAIN DRIVERS UNION

More than just a union

Rostering Best Practice

ASLEF

THE TRAIN DRIVERS UNION

Rostering Best Practice

This leaflet is a brief guide to Representatives on "best practice" when scrutinising rosters.

More details on shift work can be found in the ASLEF Lifestyle booklet.
Rostering is a negotiable issue at LLR level, with parameters set within company agreements.

However, the 2002 AAD adopted policy of closer co-operation between the LLRs, Company Councils and H&S Reps.

Circadian rhythms

This is a 24 hour cycle that virtually all bodily functions have, with a high and low point over the day. Body temperature and alertness both have a cycle for example. We are programmed to sleep at night and be alert in the day. For shift workers, this means that it is very difficult to fall asleep in the day, or keep awake at night – our bodies just do not work that way. The hours between 23.00 and 06.00 are when the body naturally wants to go to sleep, with maximum sleepiness between 03.00 and 05.00. Early afternoon between 15.00 and 17.00 is another period when the body naturally wants to sleep.

The internal circadian clock also receives external cues from changes between day and night, and between work and your social life.

"Jet Lag" is a well know example of body rhythms being upset, but working shifts and suffering sleep debt can also produce chronic fatigue and worsening safety performance at work.

Impact Of Shift Work and Fatigue on Safety and Also On Mental and Visual Acuity.

The paper by Professor Folkhard commissioned by Railtrack gives an overview of the current research into fatigue and shift working.

Main points

- Safe duties are those between 8 and 10 hours (This fits well with ASLEF policy)
- Second to fourth hour on duty is a SPAD risk and about 50% of all SPADs occur in this

period. This has implications and suggests that longer, but less, turns are safer than shorter, but more turns. (An example would be that 4x10 hours = 40 is actually "safer" than 5x8 = 40 hours, as 4x 2/4 hour peak has one less 2/4 hour SPAD peak risk).
- The Report believes that "there is a strong case to be made for developing and piloting a set of guidelines for good practice on one or more TOCs. Drivers and Management's would set guidelines with benefit from expert advice. Trial would last 2/3 years. Then follow up with 6 monthly surveys.

Other findings

- Night turns - should be only 2/3 consecutive turns
- Early's again 2/3 consecutive turns
- Rest Periods - minimum 14 hours (Now 12).
- PNB's need research to find optimum times and duration.
- Commuting time to and from work. No established maximum. DERA suggests max. of 1 hour (Eurostar have this already).

This research could be very useful for pushing the ASLEF's agenda of a 35-hour week, 10 hour day, Sundays in working week and also looking at PNB's.

How to improve sleep and fight "sleep debt"
- Before the first night shift try napping for 2 to 3 hours in the evening;
- Inform your family that you need peace and quite to be able to sleep in the daytime – you could use a "do not disturb" notice;
- Make sure that the bedroom is dark and cool;
- Think about using earplugs;
- Remember that tea and coffee are stimulants and also make you want to go to the toilet:
- Following your last night shift, try sleeping for only 3 or 4 hours, then stay awake all day and go to bed at your normal time.

Fixed shifts cause the least disruption to circadian rhythms, provided that the workers maintain the same sleep/wake cycle on their rest days as on their workdays. However, most night workers revert to a normal day/night cycle on their days off to participate in family/social life, thus negating any adjustment in circadian rhythms.

Slowly rotating shifts allow greater time for circadian rhythms to adjust to each new shift. However, this type of shift system can result in sleep debt and fatigue due to more consecutive periods of day sleep. Studies on shiftworkers have shown it takes about 21 consecutive days for circadian rhythms to fully adjust to nightshift. Again, workers tend to revert to a normal day/night cycle on their rest days during this period, thus negating any adjustment which has begun.

Weekly rotating shifts have been shown to provide insufficient time for the circadian

rhythms to adjust completely and enough time for a sizeable 'sleep debt' to build up. Working 4 to 7 night shifts in a row is now widely condemned by experts. Those Police Forces which adopted the 'Ottowa' shift pattern in the early 1990 (which included 7 consecutive nights) are now looking at VSA's (Variable Shift Arrangements) which minimise consecutive nights.

Rapid rotating shifts have the advantage that (i) the circadian rhythms remain day orientated since not enough time elapses for them to adjust to the new routine;(ii) there is less accumulation of sleep debt; and (iii) there are free evenings every week for social/ family contact. The disadvantage is that when on the 2 to 4 nights of work, the worker will be out of sync and alertness may be affected.

Direction of Rotation: Forward rotation (earlies/lates/nights) is recommended from a circadian perspective because the internal body clock naturally tends to run slow (i.e. every 25 hrs). It is easier then, to delay sleep than it is to advance it. Consider 'jet lag' - people experience less jet lag going from east to west than from west to east. The same principle is at work. However some workers prefer a backward rotation (nights/lates/earlies) because it affords more time to recover lost sleep and prepare for the next night shift.

Early starts to the morning shift should be avoided. Early starts reduce sleep as, by choice or by family circumstances, most workers go to bed around their normal time. Reduced sleep leads to fatigue which increases the risk of errors and accidents on the morning shift.

There is no optimum starting time - but 0700hrs is better than 0600hrs which is better than 0500hrs.

Consider shorter night shifts. As mental alertness and physical performance deteriorate during the night, it is argued that night shift should be restricted to 7 or 8 hours to minimise the risk of errors and accidents. VSA's enable the Early or Late shifts to be extended accordingly.

Minimise sequence of nights. Minimising the sequence of nights worked minimises the degree of adaptation (or disruption) of the circadian rhythms from their normal day orientation. Academic recommendations vary between a maximum of 2 and 4 consecutive nights.

Operators inexperience

Fatigue has more of a detrimental impact on the performance of inexperienced operators who are not as familiar or practised with the task in hand.

Night shifts

Fatigue will normally be greater on a night shift than on a day shift because the internal body clock causes levels of alertness and performance to be at there lowest between 02.00 and 06.00. There is good objective evidence that risk is increased at night by about 30% relative to the morning/day shift. There is also good evidence indicating that risk increases in an appropriately linear fashion over at least four successive night shift, such that it is about 40% higher on the fourth night shift than on the first night shift. It is also the case that as single night's shift following as span of night shifts may not fully dissipate the fatigue that may accumulate over a span of night shifts.

Early starts

Early turns with a start time before 07.30 results in less sleep and an increase in fatigue. An earlier bedtime to compensate for an early start may not be practical, partly as a result of social pressures, but also because of the influence of the so-called forbidden zone for sleep. This is a period, lasting for about four hours in the evening when the body's higher level of alertness hinders the onset of sleep.

Shift duration

There is good evidence that risk increase over the course of a shift in an approximately exponential manner such that longer shifts are associated with a substantially increased risk. Thus, for example it has been estimated that, all other factors being equal, the risk on a 12-hour shift system is more than 25% higher than that on an 8-hour system. Shifts longer than 12 hours are thus considered as undesirable.

Breaks

The break between two successive shifts must be sufficient to allow the individual concerned to travel home, wind down sufficiently to sleep have a full 8- hour sleep, have at least one meal, and travel back to work. The EU's working time directive sets this limit at 11 hours.

Rotation of shift systems

Advancing systems (earlies, lates, nights) are less fatiguing than delaying systems (nights, lates, earlies).

Commuting times

Research shows that commuting times of over an hour have an impact on fatigue. However, using the Fatigue Index, commuting over half an hour should be included in the calculations.

ASLEF policy on working time for Train Drivers

Length of weekly working time - 44 hours maximum for each seven day period. 35 hours maximum per week on average over a 52-week period, save for any excluded days in

that period.

Length of daily working time - Maximum in a 24 hour period, ten, when worked during the period between 6 am and 11 pm; or eight, when worked during night time. In exceptional circumstances, may be increased to twelve. A train driver's minimum period for a turn of duty shall be six hours.

Night working

Defined as the not less than six hours, which includes at least three hours in the period between 23.00and 06.00.

Weekly rest period

Maximum four consecutive daily turns of duty, when the turns of duty are worked between the hours of 6 am and 11 pm, or maximum three consecutive turns of duty during night time.

Uninterrupted rest period per week

Not less than 48 hours on completion of a turn of duty and in any event in each seven-day period during which he works for his employer, such seven-day period to begin at the start of each week. Week starts at midnight between Sunday and Monday.

Daily rest period

Not less than 14 consecutive hours in each 24-hour period.

Rest breaks

Six hours, a rest break of not less than 20 minutes to be taken between the commencement of the third hour of duty and the end of the fifth hour of duty. Over six hours, two rest breaks of not less than 20 minutes each; the first to be taken between the commencement of the third hour of duty and the end of the fifth hour of duty and the second to be taken between the commencement of the sixth hour of duty and the end of the eighth hour of duty.

Detailed advice on PNB's

All diagrams should have at least one PNB. For health reasons, it is better to have two shorter breaks rather than one long one. The longer the diagram, the more this is true. This is based on blood sugar levels, which if they drop affect performance and alertness.

PNB's should be positioned within the diagram as evenly as possible, and where practical avoiding the first and last hour of a turn. It is better to have a PNB in the middle of a diagram, if only one break is provided, not right at the start or end of the turn.

published by the
ASSOCIATED SOCIETY OF LOCOMOTIVE ENGINEERS AND FIREMEN
9 Arkwright Road, Hampstead, London NW3 6AB
020 7317 8600 Fax: 020 7794 6406
www.aslef.org.uk