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# Driver Fatigue – Developing a risk management approach

Melvyn Hodgetts, Royal Mail Corporate Social Responsibility
Safety Policy Development

Melvyn started by outlining the scope of his talk, which covered

- Attitude
- Sleep deprivation & relationship to workplace accidents including driving
- Fatigue reasons
- Legal implications & Employer/Employee duties
- The Royal Mail approach

Fortunately, experts are now beginning to unravel the effects of sleep deprivation and its effect on workplace health and safety are becoming more widely recognised. He added that Royal Mail was the largest employer in the UK, with about 197,000 employees, delivering to about 27 million addresses with 84 million items per day. In the context of driving, this required 35,000 vehicles, travelling a colossal 1.5 million miles – **per day!** This consumed 160 million litres of diesel per annum! This is a massive carbon footprint and there is an obvious correlation between Safety and Environmental impact! The scale of the overall accident performance is indicated by these Key Safety Indicators:

- 24,000 reported accidents – 130/1000 sip
- 7,200 lost time accidents – 40/1000 sip
- 160,000 days lost
- 5,000 RIDDORS – 27/1000 sip
- 476 Major RIDDORS – 3/1000 sip

The main causes of these injury accidents are stepping and striking objects, falls outdoors, lifting and handling and animal injuries.

In 2003, Royal Mail were concerned about the high number of RTA involving 40 LGV drivers, with 2 fatalities and 15 injuries (including 4 third party), with no clear reason. Closer examination indicated that 60% were fatigue related with no skid marks high collision speed no avoidance action, severe injuries, time of day and type of route/road. Additionally, the RM Insurers indicated that the policy excess threshold might have to rise unless a Management of Occupational Road risk (MORR) was introduced.

Significantly, Royal Mail also identified that an important risk to their transport operation was not only personal injury but also Vehicle Damage Accidents (VDAs) in their Red Fleet. In 2005/06, these amounted to 19,976 (≡ 38.91/1000 miles) and included on-, or

off-highway incidents! Some interesting conclusions to come out of the monitoring of VDAs are: -

- On highway, RM's average collision rate is c. 2.9 (against an industry average benchmark of 1.7)
- Last year, RM replaced 15,000 wing mirrors at a cost of £600k.
- 73% of accidents are RM blameworthy
- Taking into account TP costs, own vehicle damage repair, write offs, hire vehicles, solicitors' costs and end of life costs, the total cost to the business is about £41.6 million.

The business impact, Melvyn added, was that if RM had a return of 10% on sales, they would have to sell an extra £1.3 billion in first class stamps just to break even! Obviously there is a strong management incentive to tackle this problem seriously.

At the route of many accidents is driver fatigue and attitudes to sleep deprivation are bad, with 94% of persons in recent polls who **"…did not consider getting enough sleep as important"**. In fact, those who sacrifice their sleep on the 'altar' of achievement are often admired! However, There are several recent disasters where fatigue was identified as a major cause: -

- **March 1979, Three Mile Island nuclear power plant**
  Disaster was narrowly averted after a nuclear accident, by a rested and alert day shift who identified and solved a problem with a pressure relief valve that a panic stricken night shift had allowed to reach virtual meltdown.
- **April 1986, Chernobyl nuclear power station**
  Russia was not nearly so lucky, after a team of engineers made a series of bad decisions during an experiment with critical control systems. When the reactor exploded, the engineers had been on shift for 13 hours.
- **March 1989, Prince William Sound, Exxon Valdez supertanker oil spillage**
  The spillage was attributed mainly to the failure of the 3rd Mate to manoeuvre the vessel. The Mate had only slept for 6 hours in the previous 48!

Not all sleep deprivation results in such spectacular disasters and evidence of with many 'minor' incidents is reliant on circumstantial proof. In the case of Gary Hart, whose Land Rover and trailer went off the M62 on to the railway track at Great Heck near Selby, two trains subsequently collided, resulting in the deaths of ten people and injuries to 70 more. Although he had not slept for the previous 36 hours, he stubbornly refused to admit that his tiredness should have been prevented but the jury convicted him of causing death by dangerous driving. Many people disagreed with the conviction and even some 'professional' drivers thought that Hart had been unlucky and should never have been prosecuted.

This is not a view shared by safety professionals and this incident is probably the tip of the iceberg, as revealed in a 1988 BRAKE survey that found 2 out of 3 people admitted falling asleep at the wheel. Professional drivers, company car drivers and night shift workers were particularly at risk! The DfT Transport Statistics Bulletin for 2003 gave these figures: -

- 3,247 deaths, 28,serious injuries and 181,879 slight injuries on UK roads
- Societal Cost of a single RTA fatality is £1.35 million.
- The Cost Benefit of eliminating all accidents is an estimated £13 million. Damage only accidents are costed at another £5 million.

The greatest single, claimed cause is drowsiness! On motorways and dual carriageways, over 20% can be attributed to fatigue and sleepy drivers kill more than drunk drivers. Melvyn added that drivers who fall asleep cause more serious consequences, because there is no attempt at avoiding action and most occur at high speed with no braking. Typically the driver runs off the road or into another vehicle.

The reasons for tiredness are: -

- Medical condition – **Obstructive Sleep Apnoea (OSA)**
- Taking medication that causes drowsiness
- Not getting enough sleep before work, or quality of sleep is poor
- Working very long hours with insufficient time to recover
- Working when their body clock wants to sleep – shift work

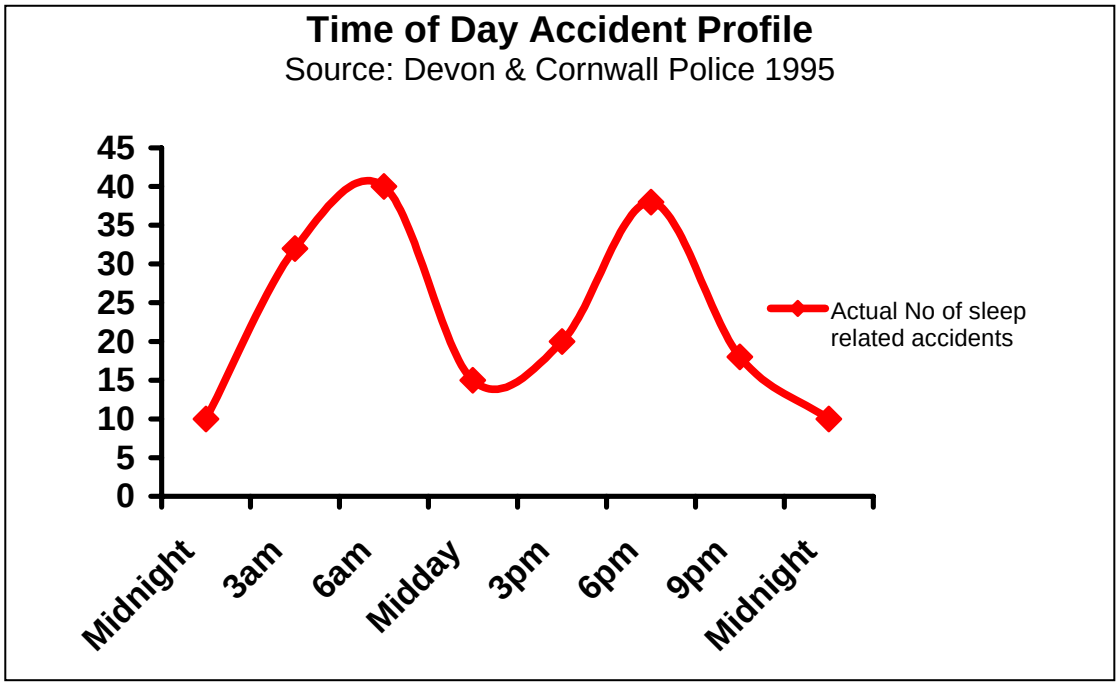
Melvyn went on to say that it is important to understand the nature and effect of OSA: -

- It is a breathing disorder, characterised by brief interruptions of breathing during sleep
- Occurs in all age groups and both sexes (5% Male and 2% female population)
- Sufferers snore loudly, are overweight, have high blood pressure, 17" collar size in men and 16" in women
- 33% of sufferers have had a RTA within the last 5 years. Prevalence in LGV drivers is 28% with clinical sleep disorder, 10% with severe OSA.
- 2004 study showed 59% sample had sleep disordered breathing and 16% OSA
- OSA must be included in employer's Occupational Road Risk strategy as part of driver selection and risk assessments
- **Diagnosis**
  – by initial screening questionnaire and home sleep study with interpretation by clinical consultants.
  **If diagnosed –** it is a legal requirement to inform the DVLA and driving must cease until the condition is satisfactorily controlled.
- **Treatment**
  - # Continuous Positive Airway Pressure pneumatic splint (95% success with patient compliance)
  - # Behavioural interventions – weight loss, no smoking or alcohol, avoidance of sedatives.
  - # Available through NHS or specialist providers www.osaonline.com
- **Ongoing compliance monitoring**

Time of day also has an important bearing on fatigue because: -

- The human body has a natural biological rhythm over a 24 hour period
- Most drivers are vulnerable to sleepiness during 2 – 6 am and 2 – 4 pm
- These troughs are worsened by poor, previous sleep

- Driving accidents peak at these times




Those most at risk are Night Workers driving home after a night shift, lorry drivers, company car drivers (unregulated hours), Men aged 18 – 24 and >50. Falling asleep at the wheel is a **criminal offence** and **company directors and transport managers** can be held legally responsible if they encourage or ignore overworking! Recently, the Produce Connection was fined £30.000 for failing to monitor hours worked by its employees. A sleep related accident could result in millions of pounds of costs and a potential prison sentence under Road Traffic Law, as well as existing Safety law.

The remedy for employers is: -

- Develop a managing occupational road risk (MORR) strategy as part of their existing safety management system
- Carry out risk assessments, looking at the elements of Driver-Vehicle-Journey
- Schedule driving shifts to allow sufficient breaks and days off
- Educate managers and employees about the need for taking proper sleep, how to spot the signs of fatigue and what preventative measures to take.
- Ensure drivers are aware of the effect of some medicines and encourage them to tell their GPs that they drive for a living
- Encourage drivers to prepare by ensuring they have sufficient sleep beforehand and to tell their line manager if they feel they should not be driving
- Encourage drivers to take breaks every 2 hours and never to tackle tiredness by carrying on driving
- Ensure employees' families understand the need for shift workers to get adequate sleep
- Follow the principles laid down in the Highway Code, Section 80, Fitness to Drive

# Members' Questions

Francis Quinn, of Birmingham City Council asked what happened when an employee reported that he/she felt too tired to drive safely? Melvyn said that they would be given alternative work and added that if there were repeated reports from the same person, then this would trigger off an Occupational Health Investigation of the reasons.

Francis then asked if there were any tests made for Obstructive Sleep Apnoea and Melvyn said "No", and that that the decision to drive, or not, was a decision for individual.

David Hughes of Hughes Business Services asked if Royal Mail had discovered any way of enforcing the use of seat belts by the use of, say, interlocks. Melvyn said that many approaches had been tried over the years but it was difficult to force some people, when they would avoid using belts in the work vehicles but still put the belt on to drive home in their own vehicle.

John Wood of the Fire Protection Association asked if cab alarms had been considered as a solution! Melvyn replied that various methods had been tried and many defeated by simple tricks such as fastening the belt on an empty seat and then sitting on top of it!

BHSEA Chairman Mark Hoare, of the University of Birmingham commented risk management measures had been tried in the past by transferring mail from roads and railways to aircraft, which was a safer mode of travel.

John Leah, of the University of Central England, asked if any study had been made of the impact of journey times to and from work? Melvyn said that this had been investigated by the Medical Team, but not by the Safety Department and he was not aware of any findings.

Mark Hoare asked what monitoring and control was applied to Managers? Melvyn replied that they were aware of the principles but that enforcement was achieved by self-regulation only. In any case, he added, Environmental targets to reduce the Carbon Footprint were beginning to be influential, by encouraging lower speeds, which had a beneficial effect on safety, as well! He said that the only policy that he was aware of was that if a manager had to travel by road to a meeting, and the return journey took about four hours, then it was deemed advisable to stop overnight.

David Hughes asked if Royal Mail carried out RoSPA training for Defensive Driving? Melvyn said that they were developing an in-house training course, but it was being driven more by Environmental objectives. He admitted, however, that it did not tackle the problem of fatigue. He went on to say that he had heard of various techniques for overcoming tiredness, like trapping your hair in the sunroof to stop your head from drooping, which suffered from severe problems if you were bald or didn't have a

sunroof! Slightly more sensible was the idea of giving yourself a running commentary, out loud, of your driving and hazards spotted! But the only effective way of combating the fatigue problem was to take regular 15 minute breaks, every two hours, on a long journey.

Ed Friend of E.L. Friend Ltd., asked whether Manager were monitored? Melvyn said that regular monitoring was not done on Managers and, in reply to David Hughes, said that belts were not checked because they could not look at drivers continuously and relied on self-regulation. He went on to say that licences were checked every six months but admitted that short-duration penalties might be missed. He also said it might surprise the audience to know that certain unscrupulous individuals obtained duplicate 'clean' licences, which they used to beat the internal monitoring systems. If any subterfuge was suspected, then the Driver and Vehicle Licensing Centre could be sent a list of a firm's drivers and, when any changes to the details occurred, the employer could be notified!

John Thurman of JFW Gas Ltd, asked if any random tests were imposed for drugs or alcohol abuse? Melvyn that with a 5 am start for most drivers it was unlikely to be a problem and, in any case, managers were trained to look for other signs of a problem instead of relying on random tests, which could get some opposition from the Unions. He added that all road accidents were rigorously investigated and very few, if any, were alcohol-related.

Melvyn concluded by saying that it was intended that Royal Mail would shortly fit black-box journey recorders into all their vehicles.

As there were no more questions, Mark Hoare thanked Melvyn for standing in at such short notice and the members joined in to show their appreciation in the normal way!