

Many truck operators work more than



per day with at least 60% of this time spent driving.<sup>2</sup>

#### What's the cost?

Safely meeting mining production goals requires alert, focused and efficient operators.



**A STANDARD 793F** 

TARGET GROSS MACHINE WEIGHT = 851,000 LBS TOP SPEED = 37.5 MPH FUEL TANK CAPACITY = 750 US GALLONS

2 SECONDS **AVERAGE MICROSLEEP** 

FOR TIRED DRIVERS LASTS **2-20 SECONDS** 

When fatigue creeps into the work day, your site productivity may be impacted.

**DISTANCE TRAVELLED IN** 2 SECONDS AT 31 MPH\*

**91 FEET** 

Up to 65% of surface mining haluage truck accidents are related to fatigue<sup>3</sup>

### Would you let your operators drive drunk?

As waking hours increase, ability to focus and react decreases. Cognitively, someone who is extremely fatigued is no more effective than someone who is drunk. Physiological condition at 17 hours awake mirrors the impairment experienced at a Blood Alcohol Content (BAC) of 0.05, legal intoxication in Australia.

> FATIGUE-RELATED CRASHES ARE **50% MORE LIKELY TO BE FATAL** OR LEAD TO SERIOUS INJURY.4



**40% OF OPERATORS** EXPERIENCE FATIGUE EVERY SHIFT, BUT ONLY 8% ADMIT TO IT.4

#### You can't brake when you're asleep

The impact of fatigue can be fatal. Commuting long distances and working rotating **24 HOURS** rosters can impact the safety and productivity of everyone on site. BAC 0.1%5 17 HOURS BAC 0.05%5 **APPROXIMATELY 50% REDUCTION** IN REACTION TIME.6 0 HOURS **FATIGUE** WAKE UP **IMPAIRMENT MIRRORS ALCOHOL** 

24 HOURS AWAKE IS EQUIVALENT IMPAIRMENT TO A BAC 0.1%5

### Watch out for fatigue and distraction risk





HIGHEST RISK OF FATIGUE FOR MINE SITE OPERATORS7

INTOXICATION

4am – 6am OPERATOR FATIGUE PEAKS7

4am & 11am GREATEST RISK OF DISTRACTION FOR MINE TRUCK OPERATORS7

## What does fatigue look like for other miners?

In a single 24/7 rostered shift, mine sites who undertook a Fatigue Risk Assessment (which tracks fatigue incidents without intervention) identified some alarming statistics.<sup>7</sup>



**SIGNIFICANT FATIGUE EVENT REDUCTION** 

AVERAGE FATIGUE EVENT REDUCTION

**REDUCTION IN** DISTRACTION **EVENTS** 

# What do risk reduction and

productivity improvements look like?

Eliminating fatigue isn't possible because it's a biological force, but you can significantly reduce your risk. Sites using the Driver Safety System (DSS) – an in-cab, non-intrusive, fatigue monitoring system – have achieved some powerful results.

#### Fatigued operators are alerted immediately, and you can receive fatigue alerts and notifications

Know your operators are protected 24/7

directly from Safety Advisors in the 24/7 monitoring and reporting centre.



<sup>2</sup> infrastructure.gov.au/roads/safety/publications/2002/pdf/Fatigue\_related\_sum.pdf\* <sup>3</sup> 2007, Caterpillar Global Mining, Viewpoint

FOOTNOTES / REFERENCES

- rospa.com/road-safety/advice/drivers/fatio
- <sup>5</sup> Dawson, D., and K. Reid, "Fatigue, Alcohol and Performance Impairment," Nature 388 (July 17, 1997): 235
- 6 Williamson A, Feyer A. Moderate Sleep Deprivation Produces Impairments in Cognitive and Motor Performance Equivalent to Legally Prescribed Levels of Alcohol Intoxication. Occup Environ Med. 2000 October; 57(10): 649–655. 7 Caterpillar Monitoring Centre Data
- <sup>8</sup> forbes.com/sites/susanadams/2014/11/03/nearly-one-in-three-workers-falls-asleep-on-the-job/#3fb6fdc77e60

Application of Fatigue Management Systems: Small Mines and Low Technology Solutions \*Nor et al. (2008) [ncbi.nlm.nih.gov/pmc/articles/PMC4539295/]