



CICA – Vic / Tas Branch Crane Safety Bulletin #320 June 2023



Greetings all. Today's Bulletin is about fatigue management.

Operating cranes requires high levels of skill, attention, and mental and physical exertion.

However, prolonged or intense use of cranes and other heavy machinery can lead to operator fatigue, which poses significant risks to both the operator and those in the surrounding environment.

Causes of Fatigue

Several factors contribute to fatigue when operating heavy machinery:

- a. **Physical Exertion:** The physical demands of operating heavy machinery, such as repetitive movements, vibrations, and long hours of operation, can lead to physical fatigue.
- b. **Mental Demands:** Concentration, decision-making, and vigilance are vital in heavy machinery operations. Extended periods of mental effort can lead to mental fatigue.
- c. **Monotony:** Repetitive tasks and a lack of variety in the work environment can contribute to fatigue, reducing engagement and increasing boredom.
- d. **Inadequate Rest and Sleep:** Insufficient rest breaks and inadequate sleep patterns (or too much Netflix) can result in cumulative fatigue, impacting the operator's performance.

Fatigue compared with blood alcohol content

- Being awake for 17 hours impairs performance to the same level as having a 0.05 blood alcohol content.
- Being awake for 20 hours impairs performance to the same level as having a 0.1 blood alcohol content.

(Taken from *Work-related fatigue: A guide for Employers* by WorkSafe Victoria)

Effects of Fatigue

Fatigue can have severe consequences, it impairs an operator's attention and ability to remain alert to potential hazards, increasing the risk of accidents.

Mental fatigue can compromise decision-making skills, reaction times, and situational awareness, leading to errors in judgment. Fatigued operators may experience reduced motor skills, coordination, and

reaction times, which can impact their ability to operate cranes safely.

Chronic fatigue can lead to physical and mental health issues, such as musculoskeletal disorders, stress, and depression, affecting overall well-being.

Mitigation Strategies to address fatigue and ensure the safe operation of cranes

WorkSafe Victoria has produced a guide on how to prevent workplace injuries to employees.

According to the guide, "Fatigue is an acute and/or ongoing state of exhaustion that leads to physical, mental or emotional exhaustion and prevents people from functioning safely and within normal boundaries."

You can find a copy of this guide [here](#).

Adequate Training: Operators should receive comprehensive training on fatigue management, including recognising signs of fatigue and understanding the importance of rest and recovery.

Fatigue Risk Management Systems (FRMS): Implementing FRMS involves assessing and managing fatigue risks by:

Step 1: Identify fatigue-related hazards

Step 2: Assess the risks

Step 3: Control the risks

Step 4: Monitor and review hazards and control measures

(For more information on taking a Fatigue Risk Management approach, read from page 11 onwards in the [Work-related fatigue: A guide for employers](#) publication mentioned above)

Work Schedule Optimisation: Design work schedules that consider circadian rhythms, provide sufficient rest breaks and limit consecutive hours of operation.

Ergonomic Considerations: Optimize the design and layout of the machinery cabin to reduce physical strain and discomfort, thus minimizing the risk of physical fatigue.

Supportive Organisational Culture: Foster a work environment that prioritizes the well-being of operators, encourages open communication about fatigue-related concerns, and promotes a healthy work-life balance.



CICA – Vic / Tas Branch Crane Safety Bulletin #320 June 2023



In Conclusion

Fatigue can pose significant risks to the safe operation of cranes, so recognising the causes and effects of fatigue and implementing effective mitigation strategies are crucial to ensure operator safety, preventing accidents, and promote overall well-being.

By adopting a proactive approach and considering both organisational and individual factors, it is possible to reduce the impact of fatigue and create a safer work environment for crane operators and everyone around them.

Stay Safe - CICA