

The Dangers of Equipment & Vehicle Interaction (are we gambling with the risk?)

Presented by Cres Bulger

Inspector Of Mines - DNRMR

Presented by Cres Bulger
(Inspector Of Mines - DNRMR)

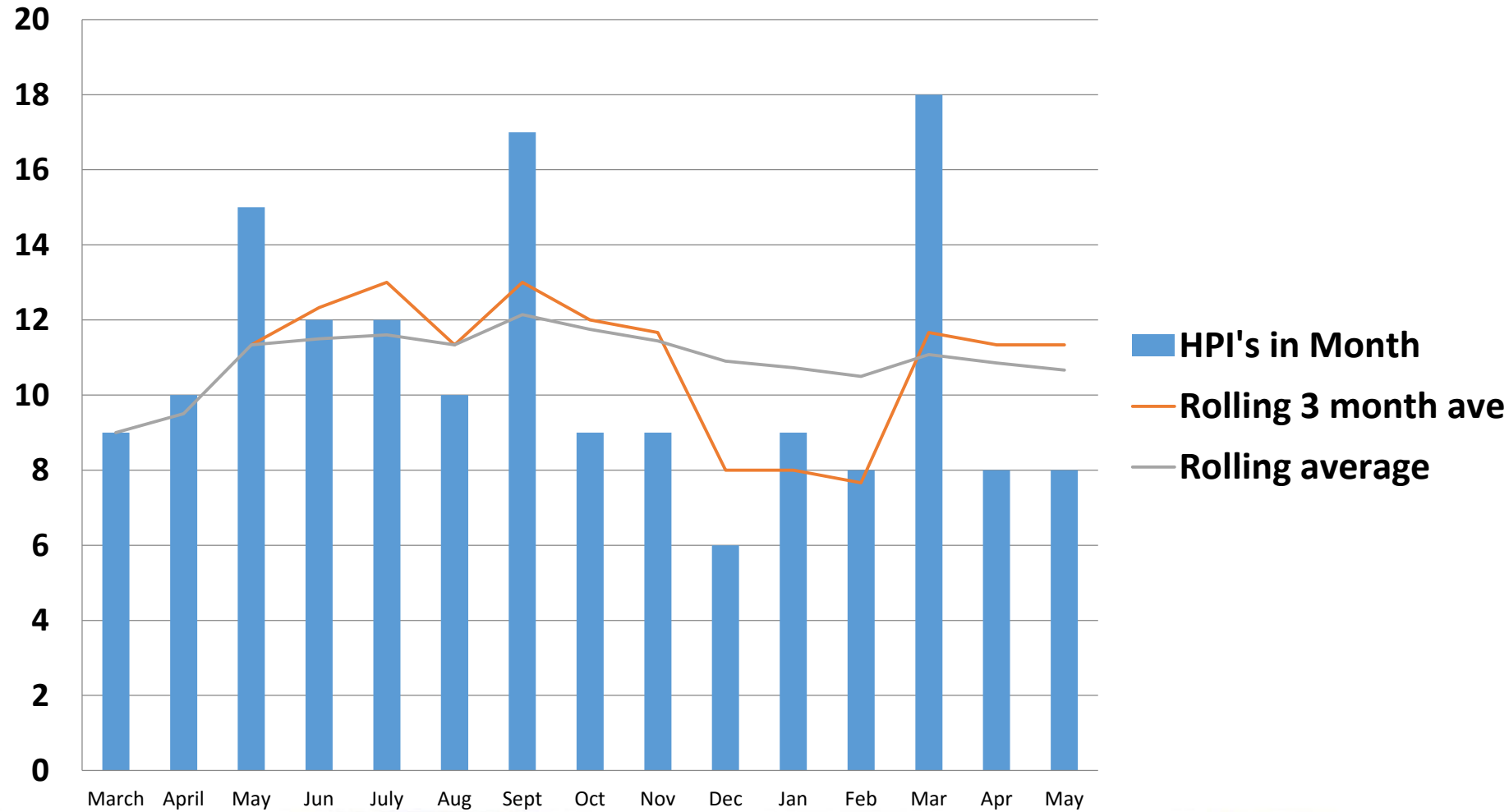


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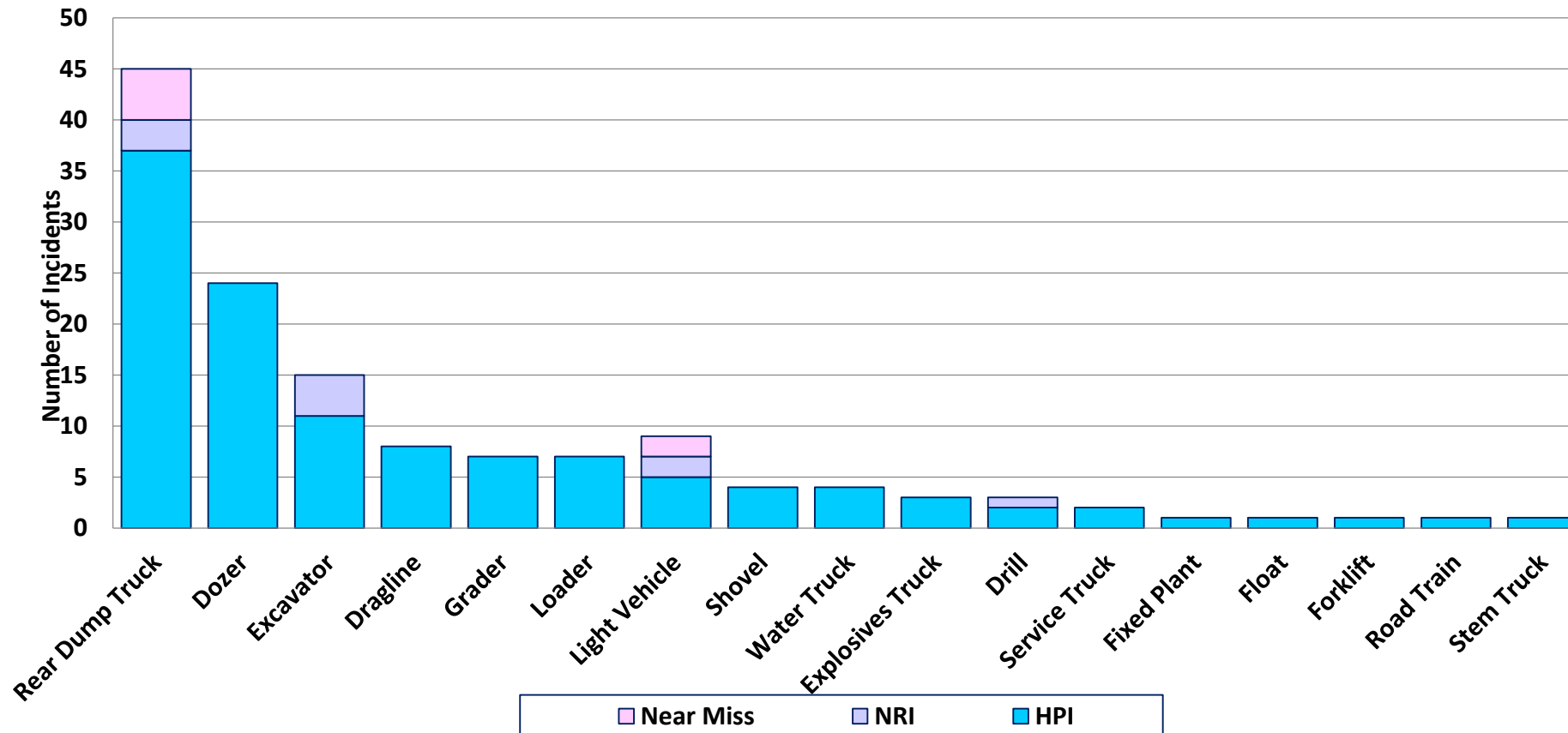
- This presentation explores recent **HPI data** and **prior history** from within open cut coal mines
- **Purpose** of the presentation is to promote the implementation of **hard controls to manage the risk**, and review safety & health management system **effectiveness**
- During the past 50yrs, Qld open cut coal mines have seen **14 fatalities** occur from **mobile equipment and vehicle accidents** and **8** of these were as a result of **collisions**



Collisions by Month - Bowen Basin (1st Mar-15 to 31st May-16)



Collisions - Primary Equipment



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Principal Hazard Management Plan

- Has your risk assessment **identified every potential risk** situation that could result in a collision?
- Does your PHMP contain **controls that effectively manage** the risks identified in the risk assessment?
- Have **industry best practices and leading technologies** been considered as controls? (Collision avoidance system, automation, roads designed that ensures equipment segregation etc.)





- Collision avoidance technology (Safemine etc.)
- Specifications for mine road design and construction, including intersections and mobile equipment parking areas
- Segregation of light and medium vehicles from heavy mobile equipment





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Industry Controls (Strong)

- Restricted access in operating circuits by having Active Mining Areas (AMA's) or High Risk Zones (HRZ's) in place at dig faces and dump areas (use of lookouts etc.)
- Vehicle Monitoring Systems
- Cameras fitted on mobile equipment and vehicles. One mine that implemented this initiative has reported a significant decrease in incidents and equipment damage





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Industry Controls (Not so Strong)

- Safe Work Procedures and Safe Work Instructions
- Training (including work area familiarisations)
- Signage and delineation





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Industry Controls (Not so Strong)

- Documented shift inspections with a checklist (Supervisor and Open Cut Examiner), and formal task observations
- Limited number of people authorised to drive on site, and only allowed to drive in your coded area
- Fitness For Work policies (Alcohol, Drugs, Fatigue, Physical & Psychological impairment)





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Managing the Controls

- All controls for mobile equipment and vehicle interactional hazards should be treated as **critical controls**. Are they at your mine?
- Do you have adequate processes in place to **continually monitor** these critical controls for their **effectiveness**?
- Does your mine **formally audit** all of these interaction critical controls for their effectiveness? And how **frequently** does your mine audit these critical controls?





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Investigation Causal Factors

- Findings often identify **procedural breaches** as a major causal factor
- Findings often identify **individual behaviour** as a major causal factor
- Some investigations **do not consider the hard controls which were missing**, and could have prevented the incident occurring if they were in place (mine road design that ensures segregation of equipment from light vehicles, collision avoidance technology, AMA's or HRZ's etc.)





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Continuing into the future

- If we continue to rely heavily on procedures, training and people behaviour are we always going to get the same outcomes that we've always got?
- If we **implement hard controls** (e.g. collision avoidance technology, automation, design mine roads that segregate heavy equipment from light vehicles) will we then stop playing a game of chance with mobile equipment and vehicle interaction?





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Takeaway from this paper

- Interaction of mobile equipment and vehicles is a **major hazard** in all open cut coal mines that coal mine workers are exposed to every minute of every day.
- History shows **many lives are lost** as a result of mobile equipment and vehicle accidents, and this **is not acceptable**.
- Check and review your safety and health management system to ascertain that you have **adequate and effective controls** in place to ensure that the level of risk to coal mine workers is as low as reasonably achievable.





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Presented by Cres Bulger

(Phone 0749360198 or email Creswick.Bulger@dnrm.qld.gov.au)

Thanks for your interest

Questions???

