



A novel way to hit the mark: Shifting the target from near miss to “NEAR RIGHTS”.

Positive thinking and a shared positive mindset is a step toward good design.

We have the opportunity to excite our workforce through structured, participative methods that empower workers to become architects of superior work design. A participative approach is inherent and fundamental to the tenets of human-centred design (HiD: Humans in Design). Participative ergonomics is consultative by nature and it extends beyond co-design. There is an applied science of human-performance technology when analysing worker decision-making, tactics, biomechanics and energy systems associated with hierarchical task demands. The physical, social, and organisational environment is also considered.

It is a big shift to move beyond generic hazard reports toward something that is contextualised to a task, the environment in which it is performed, and the people assigned to the work. This may serve as a springboard to apply appropriate rating tools and data analytics to achieve meaningful risk determination. It is a bigger shift, again, to help our organisations become ready for change. We must be responsive to good work design initiatives, equipped with decision support systems, and able to demonstrate transparency in decision-making if we are to support this process. We must be budget and resource ready to support innovation and strategic and targeted in approach. This requires us to be focused on addressing the most vulnerable and potent areas that may make significant, positive change for people, business, and sustainability in the social and physical environment.

If improved risk management practice and organisational-readiness represent the first two pillars of transformative business strategy, then good work design and design strategy represents the third. This requires a complete swing in mindset: from one that may be analytic to review historic, problem-based events to that which may be future-oriented, opportunistic, and highly creative.

We introduced this topic at SIA Visions 2016 Twin Waters, QLD, 14-15 July 2016 with the presentation of predictive design review of an asphalt job truck. We discussed Appreciative Inquiry: What may we discover, dream, design, and create as our destiny?

In my practice, I find myself entering conversations about “near rights” more often than immersing myself in the deep analytics of near misses, injuries, or incidents. The latter is certainly important, no

doubt, but to stimulate design thinking and continual improvement in organisations, I hear myself asking workers these questions:

- “Tell me about your **near rights**: the types of events where you have to make a decision about work or use of equipment, tools, or materials and you know or suspect your action might not be in full compliance with a standard procedure but you see more sense in what you propose to do?”
- “You work in a complex environment: pedestrians, mobile plant, and ever-changing work plans. Can you tell me about the numerous things that you have to consider moment-by-moment? Provide me with a snap shot of your day”.
- “Tell me about your work that the ‘ivory tower’ may not fully understand or appreciate”.

When the workers realise that these **near rights** may be something to be celebrated, not admonished, and important discoveries may be made, the discussion becomes quite free. Respect is established as there is a shared understanding that work in the field, work as done, may differ from that which is imagined, on paper, directed, or assigned. Potential for innovation may be better harnessed when we recognise the diverse and spontaneous decision-making that is occurring among team members to continually regulate, moderate, and improve work activity.

A new model for innovation can occur when we reward **near right** reporting as it may trigger work or equipment redesign, or a rewrite of procedures to better reflect and support the needs of operators and maintainers who are in the thick of it all on our behalf. Perhaps it simply leads to improved training as the procedure, as written, is still considered the best possible work method – so be it, then we may explore innovative and meaningful training methods such as mentoring, case methods, simulation, animation, virtual reality and graduated exposure to work in high-risk natural settings. There is so much to be gained from exploring a near right. Setting a foundation for supportive leadership with trustful relationships may be at the heart of it.

(And if you try **near right** reporting, please do share, I’d love to learn from your experiences!).

With thanks to:

- My ongoing research activity and studies with the University of Queensland Minerals Industry Safety Health Centre and our industry partners
- Research Supervisors: Professor Robin Burgess-Limerick and Professor Tim Horberry
- Recent training with Prof Erik Hollnagel, coordinated by Geoff Hurst and hosted by the Safety Institute of Australia

Further reading and references:

- Boatman, L., Chaplan, D., Teran, S., & Welch, L. S. (2015). Creating a climate for ergonomic changes in the construction industry. *American Journal of Industrial Medicine*, 58, 858 – 869.
- Carayon, P. (2006). Human factors of complex sociotechnical systems. *Applied Ergonomics*, 37, 525 – 535.
- Carayon, P., & Smith, M. J. (2000). Work organisation and ergonomics. *Applied Ergonomics*, 31, 649 – 662.
- Cooperrider, D. L. & McQuaid, M. (2012). The positive arc of systemic strengths: How Appreciative Inquiry and sustainable designing can bring about the best in human systems. *Journal of Corporate Citizenship*, 46 (32), 71 – 102.
- Dekker, S. (2014). The bureaucratization of safety. *Safety Science*, 70, 348 – 357.

- Dekker, S. (2003). Failure to adapt or adaptations that fail: contrasting models on procedures and safety. *Applied Ergonomics*, 34(3), 233 – 238.
- EuroControl (September 2009) *A White Paper on Resilience Engineering for ATM: Air Traffic Control*. Accessed 26 October 2015:
<https://www.eurocontrol.int/sites/default/files/article/content/documents/nm/safety/safety-a-white-paper-resilience-engineering-for-atm.pdf>
- Hollnagel, E. (2012). *FRAM – The Functional Resonance Analysis Method: Modelling Complex Socio-Technical Systems*. Ashgate, Farnham, UK.
- Horberry, T., Burgess-Limerick, R., Storey, N., Thomas, M., Ruschena, L., Cook, M., & Pettitt, C. (2014). A User-Centred Safe Design Approach to Control. Safety Institute of Australia, The Core Body of Knowledge for Generalist OHS Professionals. Tullamarine, VIC: Safety Institute of Australia.
- Horberry, T., Sarno, S., Cooke, T., & Joy, J. (2009). *Development of the operability and maintainability analysis technique for use with large surface haul trucks*. Australian Coal Association Research Program report C17033, Brisbane.
- Kramer, D., Bigelow, P., Vi, P., Garritano, E., Carlan, N., & Wells, R. (2009). Spreading good ideas: A case study of the adoption of an innovation in the construction sector,. *Applied Ergonomics*, 40, 826 – 832.
- Nascimento, A., Cuvelier, L., Mollo, V., Dicioccio, A. & Falzon, P. (2015), Constructing Safety, in Falzon, P. (Ed). *Constructive Ergonomics*, 95 - 109. CRC Press: Boca Raton, FL.
- Pazell, S. & Burgess-Limerick R. (2015^a). Design of work for health: A human-centred design perspective: Part I. *Quarry Magazine*, 23(10), 74 – 76. October Edition 2015.
- Pazell, S. & Burgess-Limerick R. (2015^b). Human-centred design: Integration of health and safety: Part II. *Quarry Magazine*, 23(11), 35 – 41. November Edition 2015.
- Wester, J., & Burgess-Limerick, R. (2015). Using a task-based risk assessment process (EDEEP) to improve equipment design safety: a case study of an exploration drill rig. *Mining Technology*, 124(2), 69 – 72.