Review of the Fatigue Risk Management System in an Australian Rail Transport Context

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Introduction: This paper addresses a change approach to the improvement of Fatigue Risk Management Systems (FRMS) and practices across the rail transport cluster in New South Wales.

Practice innovation: This paper demonstrates a collaborative approach to a large scale change of implementing an FRMS in two large heavily unionised, change resistant organisations. The project was led by a team of human factors professionals. Due to the complexity of fatigue, the Kotter (1998) model of change was applied to the project to ensure that the change was embedded across both organisations. Management buy-in to the project was established through a focus on deficiencies in regulatory compliance. Through research and collaboration across the New South Wales Transport cluster, an overarching best practice FRMS framework was established to address these deficiencies.

To embed the change, a working group comprised of worker representatives, safety professionals and general managers across the organisations was established to champion the change and foster two-way communication for the project. Quick wins were established through the up-skilling of the workforce by training selected persons in various layers of the organisation. Training content was in alignment with the fatigue management competencies of the National Skills competency framework. The corporate communication strategy ensured that tailored articles were delivered to the wider organisation firstly to raise awareness of fatigue management and later to inform them of the change which contributed to the project’s success. The FRMS framework was tailored to each workgroup using a risk based approach led by safety professionals resulting in improved fatigue management practices.

This paper presents an example of the recommendations of Gander et al (2011) of reporting projects to the wider human factors community to provide ideas and lessons learned for a fatigue project and large organisational change project generally.

Sources of information: For the initial benchmarking of the existing fatigue management, a range of data was collected from sources including incident reports, survey data, informal interviews, confidential reporting, audit results and an internal audit against the national law. The FRMS framework was developed through a collation of academic research papers, best practice case studies across industries, shared FRMS frameworks and guides from international safety boards.

Findings: Use of the Kotter (1998) approach to this organisational change led to measureable improvements in survey data, informal interviews, audit results and in an internal audit against the Rail National Safety law. This indicated the project success in an improved understanding of FRMS. The FRMS framework was successfully tailored to various workgroups in the organisations leading to improved fatigue practices. The establishment of common fatigue metrics, a meta-analysis of data allowed validation of initiatives and measures of fatigue improvements across both organisations.

The importance of adopting a change model ensured initiation of the consultation process and inclusion of the workforce in the review of systems and procedures; this was a major factor in the successful acceptance of this initiative and embedding of the change.

Discussion: Rail is an industry which has 24 hour operations in order to manage network and rolling stock maintenance, marshalling of trains and freight and passenger services. Workgroups can have unique fatigue profiles with varied fatigue risks. For effective management of fatigue a rigid FRMS and common approach to safety change was not appropriate. Instead an organisational change approach was adopted to create an overarching FRMS framework which was then tailored and embedded in each workgroup according to the risk profile. Fatigue elements of the safety...
management system and any training needs must target all levels of the organisational structure in order to fully address the prevailing culture around fatigue.

The experience of this project reflects all of the factors highlighted by Gander et al (2011). The leadership of the human factors professionals ensured that a holistic and inclusive overview of the project was maintained. All levels of the organisation were included in the review and the outcome reflects the needs of each section of the organisation. A parallel review of the overall safety culture was also undertaken but further work to embed this is required. Methods to capture analyse and review data as part of a continuous improvement program were adopted in order to address the issues highlighted by Di Milia et al. (2011) and to develop a cost benefit model as reported by Gander et al (2011). It is planned that the fatigue measures adopted by higher management will act as lead indicators of organisational performance and safety culture generally. Further work to link the understanding and take-up of fatigue management measures of higher management to overall organisational culture is an area where future research could be directed.

References

