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Human Factors Management

Procedure

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1   Purpose

This procedure identifies areas, where the actions of human involvement when undertaking operational activities for OTHR, can present a safety risk.

The procedure identifies the level of human factors analysis that is to be considered by OTHR, based on the safety criticality of the human action or activity and appropriate risk controls.

2   Scope

Applies to all of OTHR's railway operations

3   References

Rail Safety National Law

AS 4292.1; the Australian Standard for Rail Safety Management

ONRSR Guidelines for Preparation of a Rail Safety Management System

National Voluntary and Confidential Reporting Scheme - ATSB

RSSB Understanding Human Factors – a guide for the rail industry

4   Requirements

Human Factors is an essential aspect of OTHR's operational and business systems that make up its SMS, these include but are not limited to:

- Risk management
- Management of change
- Design and procurement of systems, equipment and rollingstock
- Job and task design
- Health and Fitness o Health Risk Assessments
- Drug and Alcohol
- Fatigue Risk Management
- Training of rail safety workers
- Safety reporting and data analysis
- Incident investigation.

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5 Risk Assessment

Risk assessments may identify additional aspects or operational and business systems where integration of human factors needs to be considered.

Risks arising from the involvement of human activity should be assessed as part of OTHR's risk management process.

6 Human Factor Processes

The following generic human factors processes support the integration of human factors into operational and busines systems.

6.1 Identification and Analysis

Identification of the people who use the equipment, interact with the system and are affected by change including:

- Identification of user requirements.
- Involvement of users in the design and assessment of systems of work.
- Understanding the broader operational context in which work is performed.
- Analysis of roles and tasks people will perform.
- Assessment of tasks for the potential for human error and how they may affect safety and the efficacy of current and potential controls.

6.2 Implementation and Monitoring

Identification of appropriate strategies for mitigating the risk of error Implementation and monitoring:

- Implementation of recommended human factors solutions, that is, implementation of appropriate strategies for mitigating the risk of error;
- Monitoring and review of implemented design and risk mitigation measures to ensure their suitability

6.3 Management of Change

Change has the potential to introduce new or exacerbate existing human factors risks. For example, changes in rolling stock, equipment, technology, procedures, work organisation or work processes are likely to increase the potential for human error unless appropriately managed.

6.4 Design and Procurement

The design of equipment, plant and rolling stock can seriously affect human performance. Well-designed interfaces such as display and control systems, alarm and warning systems, signalling and cabs can significantly reduce the risks associated with human performance.

6.5 Job and Task Design

Appropriate job and task design improves performance and decreases the potential for human error. Poor task design can have a negative impact on performance.

6.6 Training of Rail Safety Workers

Training of rail safety workers directly affects their ability to respond appropriately when things happen that pose a threat to safety.

7 Data Analysis

The objective of OTHR's reporting system (including data collection and analysis) is to identify safety trends and understand their origins so that effective corrective action can be taken.

It is important to identify the systemic issues and related human errors which contribute to occurrences.

Individual or group error (such as communication break downs, incorrect decisions and misperceptions) and the factors which caused them are often the same whether they lead to accidents, incidents or near misses.

8 Safety Reporting Systems

OTHR Members and contractors are trained and encouraged to report adverse events with apparently minor significance, to help avert more serious incidents.

OTHR's Systems encourage open reporting and include:

- Non-punitive, confidential hazard and incident reporting system.
- Formal and informal meetings to discuss safety concerns.
- Feedback from management about action taken as a result of hazard and incident reports or safety meetings Investigation.

9   Human Factors in Investigation

The main purpose of investigating an accident or incident should be to understand what happened, how it happened and why it happened in order to prevent similar events in future.

The human factors component of investigation should be based on a model or framework for systemic investigations considering human error, both at the individual and organisational levels.

10   Human Factors Integration

The following chart is an example of the inter-relationship between the various elements of the OTHR SMS and areas of responsibility.

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