

Safety Management System Modules

Element 17 – Human Factors

What and Why

'Human Factors' is the term that is used when we talk about what people do and why they do it.

Safety issues may arise when people may behave in certain ways that could be as a result of:

- Poor interaction with tools or equipment due to design, construction or engineering;
- Personal attributes – health (mental and physical), influence of drugs and/or alcohol etc.

By considering human factors, operators can:

- Reduce the likelihood of human error;
- limit the consequences of human error;
- increase the margin for safety; and
- increase efficiency and effectiveness.

The study of Human Factors has become more widely acknowledged in recent years and is worthy of some consideration given the design and age of heritage assets.

It would be expected that all operators acknowledge that human behaviour has an impact on safety, and that this aspect has been considered when identifying and managing safety risks.

How

Things that could be considered when thinking about human factors are that:

- Heritage assets were not designed with ergonomics in mind;
- Manual handling issues may arise from shovelling coal in a steam locomotive;
- Heritage station platforms may not compare with current standards;
- Track worker skills and experience may be appropriate for high speed mainline track, not heritage track;
- Volunteer labour may not fully comprehend the safety risk; and
- People can make mistakes when distracted, tired, poorly trained, etc.

This element could consist of a statement that notes that the operator considers human factors in all risk assessments, that humans are susceptible to:

- making mistakes and errors;
- behaving in certain ways; and
- risk controls that help manage human factors are also considered.

Who

When ONRSR conducts an audit, they will assess the operator's performance against the content of their SMS.

To demonstrate compliance, operators must do what they say that they do in their safety management system.

When conducting risk assessments, the operator should think about the following for any given circumstance:

1. How would a person normally react?
2. What sort of mistake can be made?
3. What can go wrong?
4. How likely it is someone will make the mistake?
5. What are the consequences if the mistake is made?
6. How do other risk controls prevent or limit the chances of a mistake being made?
7. How do other risk controls minimise the consequence of the mistake if it is made?

The Executive Committee/ Board may wish to sign off on these risk assessments or other relevant procedures as part of their governance processes.

When

Operators should consider human factors associated with every activity that is risk assessed.

List of relevant documents (internal)

Element 16 - Risk management

Element 27 - Health and Fitness

Element 28 - Drugs and Alcohol

Element 29 – Fatigue Risk Management

Links (external)

[ONRSR Website](#)

[ATSB Website](#)

Appendices

None