

Workload Assessment Process

1. Purpose

This document provides guidance on how to conduct a workload assessment using the Network Rail Signaller Workload toolkit. Specifically, it describes the process for:

- Identifying the aims and objectives of the workload assessment
- conducting a workload assessment
- publishing the workload assessment report
- recording the data arising from the workload assessment report so that it can be analysed and patterns and trends identified

2. Scope

This procedure applies to the Network Rail Ergonomics team and to suppliers contracted by Network Rail to undertake workload assessments of signalling activities.

3. Process

3.1 Identifying the aims and objectives of the workload assessment.

The requirement for a workload assessment may come from a number of different sources:

- A request from the line manager or local signalling inspector, usually following complaints/concerns from employees about the workload at a location
- A request from a health and safety representative
- A request from a Project involving a signalling upgrade, equipment renewal or enhancement, transfer of additional infrastructure and/or introduction of new operating procedures
- Following an investigation into an incident
- In the course of a regular ergonomics audit/visit
- As a result to changes in the operating environment (i.e. timetable changes, additional infrastructure to operate or traffic/service level changes)

Workload assessments should not be conducted to support cases for re-grading of signal boxes. There is a comprehensive process for undertaking grading and whilst there are some similarities between the two processes they are fundamentally different.

The aims of any assessment and the end goals should be agreed with the person requesting the workload assessment. If this is not the local management team they **MUST** be contacted and involved in the assessment.

The end goals may include:

- Establishing whether the workload is at a level considered to be acceptable and not to have a detrimental affect on employee's health or their safe performance
- Determining whether workload may have been a contributory factor in an incident.
- Determining whether workload is such that there are insufficient opportunities for signallers to take adequate breaks (see also Section on Meal Breaks).
- Determining where to set the boundaries for an area of control
- Determining whether additional level crossings and/or infrastructure can be added to an existing area of control without having a detrimental impact on the signaller's health and well-being as well as their safe performance
- Determining whether changes in the train service are such that it is still manageable with the current staffing levels.

It is important to be as clear as possible from the beginning what answers the workload assessment will and will not provide.

3.2 Conducting the Workload Assessment

3.2.1 Preparation

Before making a final choice about how to conduct the workload assessment and what tools to use, consider relevant documentation and incident reports in order to gain further clues about why workload has been highlighted as an issue.

Any workload assessment should commence with a conversation with the local manager responsible for the location concerned to gain an overall insight into why workload has been raised as an issue or why an assessment has been considered necessary. This will focus the attention of the assessor to develop specific questions about workload and help identify useful sources of information that can be collected during the workload assessment.

Before making a final choice about how to conduct the workload assessment, it may be useful to undertake a preliminary visit/investigation using the Workload Principles tool to structure your observations and questioning and obtain further clues about why workload has been highlighted as an issue.

3.2.2 Choosing the appropriate workload tools

The guidance on assessing workload emphasises that more than one tool should be applied to provide an understanding of workload in any particular situation. Therefore, the toolkit provides a selection of tools targeting different factors relevant to workload, which can be combined in such a way as to present a 'workload profile' of an area of control.

The final choice of which tools to combine in any investigation should be a professional judgement made by the human factors expert leading the assessment, as every situation will be different and subtle modifications to the combinations of tools may be necessary.

3.2.3 Using the Toolkit

All assessors must:

- read the guidance notes and instructions provided with the Network Rail Workload toolkit (and in Appendix A – E of this document) before using the tools
- use the tools in accordance with the instructions

A workload assessment will inevitably involve a visit to the location concerned. In advance of the visit, if possible, it must be made clear to the signallers the purpose of the visit. There may be anxieties created by a workload assessment and specific motivations to portray the work in a particular way. So an introduction explaining the purpose of the assessment and what it will involve will help mitigate these effects. Furthermore it can be useful to avoid using the term workload altogether and instead refer to how the system and environment they work in either helps or hinders, increases or decreases, the effort required to perform their functions and achieve their goals.

If interviews need to be conducted with signaller's (i.e. if using the Workload Probe or ASWAT) then a relief signaller will need to be made available to cover. This should be arranged with the Local Operations Manager.

In order to make the most of the site visit, it is useful to send questions and/or a copy of ODEC (if appropriate) in advance to the Local Operations Manager for them to complete or at least make available the data required, for example:

- Simplifiers
- Occurrence book
- Possession and Line Blockage forms

3.3 Interpreting and Reporting the Results of the Workload Assessment

3.3.1 Results

The output of the workload assessment is the workload profile: this is a description of the workload overall and will specifically refer to demand factors that contribute to the individual's perceptions of effort.

In order to develop a profile you will need to provide some commentary on the results from each of the tools used. It is not sufficient to simply report the findings.

In developing the profile it may be useful to consider the following questions:

- What are the sources of high demand?
- To what extent is the workload a function of the combination of activities that have to be performed or simply the volume of activities?
- To what extent do the signaller's actually find them challenging? Information from the Workload Probe can be particularly useful in considering this question
- What impact do these high demand factors have on:
 - health and well being
 - safety and performance
- Some of the ODEC scores require a maximum and an average score (i.e., level crossing use, communications with depots, yards and siding, possessions/line blockages, incidents and occurrences). Consider what sort of factors or circumstances create the maximum score. What implications does this have for a manageable level of workload?
- What are the peaks and troughs in activity and what causes them?
- How complex is the regulating demand? Consider the factors concerned with :
 - Train movements/timetable
 - Train and line speed (mix of traffic)
 - Factors that disrupt the train service: level of perturbation, line blockages, incidents and occurrences

3.3.2 Additional Observations

Often during a workload assessment issues may arise that do not have a direct influence on workload but which are significant enough to justify including in the report. They may include issues relating to special working instructions, faulty equipment, training and assessment where the issues identified, in the opinion of the assessor, as not impacting on workload.

3.3.3 Conclusions

Your conclusions should address the aims of objectives of the workload assessment and are likely to include a judgement in terms of acceptability of the workload. Underload and overload are both considered as unacceptable, in terms of safety, performance and well being of the signaller.

Understanding if the workload is acceptable is not a cut and dried decision. The nature of workload and the influence that individual experiences have on it means a single figure is rarely adequate to judge workload as too high or too low. However, how compatible the working environment or context is in accommodating the signaller to achieve their work does offer a pragmatic approach to judging how acceptable their workload is.

The instructions and guidance documents for each tool provide guidance on how to judge the outputs from each tool and determine levels of acceptability.

3.3.4 Recommendations and Actions

Recommendations should be made to address any workload issues identified and/or to mitigate the consequences of a workload issues for signaller performance and well being.

As far as reasonably practicable within the scope of a workload assessment each recommendation should:

- Include one action
- Detail the desired deliverable/outcome
- Provide an indication of timescale for completion
- Identify the party or parties nominated to address the recommendation

Recommendations should also be cross referenced with the relevant paragraphs in the report which provide the justification for the recommendation.

As with any ergonomics assessment a workload assessment that leads to changes should then allow for time for monitoring and further evaluation of the changes made, particularly identifying any unintended and adverse effects due to the changes made.

3.3.5 The Workload Assessment Report

All reports will be written in accordance with the Workload Assessment Report Proforma, available with the Workload Toolkit or from the Principal Ergonomist, Support and Delivery.

The Workload Assessment Report Proforma has been developed to promote some consistency in how workload assessments are published. Used in conjunction with the tools and the instructions and guidance contained in the Network Rail Workload Toolkit it helps to ensure a standard approach overall to workload assessments.

All workload assessment reports will be reviewed and approved by a member of the Network Rail Ergonomics team who has not been directly involved in the assessment. This review will involve:

- An assessment about whether the tools have been used appropriately
- Checking comprehensibility of the report
- A review of the recommendations to ensure they are practicable and reasonable given the evidence presented in the report

A record of amendments and re-issues will be made at the front of the document as per the Workload Assessment Report Proforma.

The following version control process is to be used for the reports.

- Draft reports will be referenced as Draft and numbered sequentially, as follows:
Draft 01, Draft 02 etc
- The version will be indicated in the report proforma header as the Issue
- The draft report will be finalised once it has been reviewed by Head of Ergonomics (or a nominated representative) and the customer for whom the report was written and both are satisfied about the quality and content of the report.
- The final report will be referenced as Final
- Details of who the report was distributed to and the nature of the changes from version to version will be recorded in the Document Distribution and Document History tables respectively.

Once approved reports will be saved in a pdf format and forwarded to the Principal Ergonomist, Support and Delivery.

The Principal Ergonomist, Support and Delivery will be responsible for collating all the workload assessment data centrally, including those produced by consultants as part of out-sourced projects, so that national trends can be monitored and issues identified that may require amendments to the workload tools.