

Operational Demand Evaluation Checklist (ODEC)

Instructions and Guidance

Purpose of the Tool

A signalling system or signalling workplace can be described in terms of a number of entities or features. These can be constant (static characteristics, such as the number of signals or level crossings) or variable (dynamic characteristics, such as the number of unplanned or emergency possessions). All of these entities can influence the workload of a signaller. ODEC provides a systematic process to evaluate these entities within any one particular workstation or panel, in order to represent the influence the overall system has on the signallers' workload.

ODEC can be used before employing any of the other workload tools, to understand and give context to the work of a signaller. ODEC may also be employed in early predictions of potential workload within new or proposed signalling systems.

Using the Tool

ODEC is an evaluation checklist presented as an excel spreadsheet. There are different versions depending on the type of signalling system you are assessing (i.e. Manual, NX or IECC).

The accompanying document **ODEC data descriptors and notes V2** provides a definition of each entity, where it can be observed or measured and what it represents in terms of the demand upon the signaller. This document is particularly useful for taking with you on a workload assessment and it must be used for recording the evidence collected to make a judgement about the ODEC score.

The nature of the information required by ODEC is available from a number of sources, as indicated within the ODEC tool. These rarely suggest interrupting the signaller. Indeed, a lot of the information can be easily collated by the signalling manager in advance of any visit or meeting at the location concerned.

ODEC should be applied to one workstation/panel/frame at a time and in the case of a two-manned panel ODEC should be applied for each area controlled by a single signaller (there may be some overlap between the areas controlled). Hybrid systems require the appropriate version of ODEC to be used for each system.

Demographic information is required in the top table within ODEC. This is important to data analysis at a national level and to be able to make comparisons across different ODEC assessments.

Having collected information for an entity enter the data values in the 5th column (Data) in the spreadsheet. This will automatically enter a 'Y' under one of the corresponding categories (high, medium or low).

An entity without any data input could affect your results considerably, so it is important to enter a value or if this is not possible '0' for each entity.

Data management

The output of the ODEC tool is the percentage of entities categorised as having high, medium or low workload attributes recorded for the workstation assessed. These data provide a representation of a single workstation, allowing comparison between workstations and the identification of entities most responsible for the demands imposed upon the signaller by the system they operate.

The output of the ODEC tool is the percentage of entities categorised as having high, medium or low workload attributes recorded for the workstation/panel assessed. These data provide a representation of a single workstation/panel, allowing comparison between workstations/panels and the identification of entities most responsible for the demands imposed upon the signaller by the system they operate.

An approximately equal split of elements as possible between high, medium and low would appear to suggest a reasonable balance for a system to be controlled. Greater than 40% of elements within the high category should suggest caution about adding any further elements to a system without compensatory actions.

All data should be reported back to Network Rail Ergonomics Team to allow for further analysis and validation of the tool.

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Limitations

The tool is a structured method of data collection relevant to signaller workload; it is not intended to impose a cut off point to suggest that any one system or workstation should or should not include a particular number of entities.

The categorisations of low, medium or high do not refer to workload per se, but to the extent that different entities are found in the target system or workstation as compared to other systems. That is, the scores are relative.

The categories for high, medium and low values for each entity vary between the type of signalling systems (Lever Frame, RETB, NX panel and IECC).

The implications that Automatic Route Setting (ARS) has to the workload associated with a system are still yet to be understood. A simple exercise comparing systems suggested that a system with 100% ARS active should be considered as being 75% less demanding than a fully manual IECC system (which could be considered as being equivalent to a traditional NX panel). A system with part ARS and part manual should be considered as 33.3% more demanding than a fully manual system. These may assist when comparing the ODEC outputs for systems with ARS in operation. These assumptions and values continue to be validated in the field, which means that feedback must be received after every application of the ODEC tool by any consultant or member of Network Rail Staff.