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Ergonomic design of control centres — Part 1: Principles for the design of control centres

Conception ergonomique des centres de commande —

Partie 1: Principes pour la conception des centres de commande



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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this part of ISO 11064 may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 11064-1 was prepared by Technical Committee ISO/TC 159, *Ergonomics*, Subcommittee SC 4, *Ergonomics of human-system interaction*.

ISO 11064 consists of the following parts, under the general title *Ergonomic design of control centres*:

- *Part 1: Principles for the design of control centres*
- *Part 2: Principles for the arrangement of control suites*
- *Part 3: Control room layout*
- *Part 4: Layout and dimensions of workstations*
- *Part 5: Displays and controls*
- *Part 6: Environmental requirements for control rooms*
- *Part 7: Principles for the evaluation of control centres*
- *Part 8: Ergonomic requirements for specific applications*

Annex A and B of this part of ISO 11064 are for information only.

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Introduction

Driven by demands for safer, more reliable and efficient operations, innovations in information technology have led to the increased use of automation and centralized supervisory control in the design of user-system interfaces and their associated operational environments. Notwithstanding these developments, the operator has retained a critical role in monitoring and supervising the behaviour of these complex automated systems. As the scale of automated solutions has grown, so have the consequences of equipment and human failures.

The job of the operator can at times be very demanding. The consequences resulting from inappropriate operator action in control rooms, such as acts of omission, commission, timing, sequence and so on, can be potentially disastrous. Accordingly, this part of ISO 11064 has been prepared to set up a generic framework for applying requirements and recommendations relating to ergonomic and human factors in designing and evaluating control centres with the view to eliminating or minimizing the potential for human errors.

A specific control centre project is often part of a design project for a larger system. The design of the control centre should not be developed separately from the objectives and goals associated with the context of this wider system. Consequently, it is necessary to view the ergonomic aspects of a control room design in relation to issues which, at first sight or by tradition, may seem to fall outside the scope of ergonomic design projects. These judgements will need to be taken on a case by case basis and are not necessarily resolved by a prescriptive approach.

This part of ISO 11064 includes requirements and recommendations for a design project of a control centre in terms of philosophy and process, physical design and concluding design evaluation, and it can be applied to both the elements of a control room project, such as workstations and overview displays, as well as to the overall planning and design of entire projects. Other parts of ISO 11064 deal with more detailed requirements associated with specific elements of a control centre.