



## Standard Guide for Integration of Ergonomics/Human Factors into New Occupational Systems<sup>1</sup>

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<sup>ε1</sup> NOTE—Editorially corrected the Appendix in February 2015.

### 1. Scope

1.1 This guide is intended to assist in the integration of ergonomic principles into the design and planning of new occupational systems from the earliest design stages through implementation. Doing so may reduce or eliminate the necessity for later redesign that could have been foreseen.

1.2 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

### 2. Terminology

#### 2.1 Definitions:

2.1.1 *administrative controls, n*—work practices and policies that are implemented with the objective of enhancing human well-being and overall system performance through the way work is assigned or scheduled; examples may be found in [Appendix X1](#).

2.1.2 *benchmarking, v*—identifying of best practices against which to compare the effectiveness of a process or design; examples may be found in [Appendix X1](#).

2.1.3 *business outcome, n*—required products or services or both, that is, the desired and essential qualities and quantities of the end product of the occupational system.

2.1.4 *design team, n*—departments or individuals or both involved in or consulted during the design process including representatives of those who are involved or affected by the design; examples may be found in [Appendix X1](#).

2.1.5 *engineering controls, n*—physical changes to jobs that are implemented with the objective of enhancing human

well-being and overall system performance through the design and modification of the work equipment, facilities, or processes, or combinations thereof; examples may be found in [Appendix X1](#).

2.1.6 *ergonomics/human factors, n*—scientific discipline concerned with the understanding of interactions among humans and other elements of a system and the profession that applies theory, principles, data, and methods to design to optimize human well-being and overall system performance. (International Ergonomics Society)

2.1.7 *job, n*—set of tasks performed by one or more workers.

2.1.8 *knowledge base, n*—organized body of information applicable to the integration of ergonomics into new occupational systems including both general ergonomic resources, such as those found in the bibliography, and the experiences of the organization.

2.1.8.1 *general knowledge base, n*—ergonomic textbooks, guidelines, recommendations, reports of other companies' ergonomic programs, and so forth.

2.1.8.2 *internal knowledge base, n*—organized account of the organization's positive and negative experiences with occupational processes.

2.1.8.3 *project knowledge base, n*—working collection of experiences for the current project in which decisions made at each stage are added to the project knowledge base for use at later design stages, and after the completion of a project, the project knowledge base is integrated into the internal knowledge base.

2.1.9 *occupational ergonomic risk analysis, n*—occupational ergonomic risk analysis may include, but is not limited to, the evaluation of force (including dynamic motion), repetition, awkward or static postures, contact stress, vibration, and physiological and environmental factors such as temperature and other ambient air conditions and occupational ergonomic risks can be affected by workers' lifestyles and other nonoccupational risk elements.

<sup>1</sup> This guide is under the jurisdiction of ASTM Committee E34 on Occupational Health and Safety and is the direct responsibility of Subcommittee E34.80 on Industrial Health.

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