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Professional Practice
Guideline PPG-01-1998

Guideline for the Preparation of Ergonomics Reports (Physical Ergonomics)

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Contact ACE directly for additional information

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PPG-01-1998: Guideline for the Preparation of Ergonomics Reports (Physical Ergonomics)

1. Introduction

This document was originally prepared by the Ontario Region of the Association of Canadian Ergonomists/Association canadienne d'ergonomie (ACE). It was meant to be one of a series of Professional Practice Guidelines to be produced by ACE. It was updated in 2018 by Drs Village and Black.

2. Purpose

This document has been prepared to provide professional guidance for the preparation and writing of reports based on physical ergonomics analysis.

3. Rationale

The following is the rationale for the production of this guideline.

- The members of ACE are Ergonomics and Human Factors Professionals and as such recognize that we have a duty of care to the public to ensure that work performed by our members, as Ergonomists, meets a minimum professional standard.

- There is a need to inform the public as to what they should expect from an ergonomics analysis report, in terms of scope and detail.

- There is a need for a guideline that represents a minimum professional standard for the production of a report for a physical ergonomics analysis

4. Scope

This document represents the view of ACE as to what constitutes a minimum professional standard for an ergonomics analysis report.

Specifically, this guideline applies to physical ergonomics analysis performed in any work setting, including:

- manual material handling tasks;
- tasks involving repetitive and/or forceful exertions;
- workplace and job task postures;
- physical work station design, set-up, and layout issues;
- control, tool, and equipment design;
- computer and general office work environments; and
- exposure to environmental stressors (heat, lighting, vibration, etc.).

This guideline may not be appropriate for certain types of ergonomics analysis, including:

- cognitive ergonomics analysis;
- psycho-social and organizational design and management assessments;
- human-computer interaction; and
- detailed display/control assessments.

It is not the intention of this guideline to limit or restrict the techniques and approaches used by individual Ergonomics Professionals, but to provide a minimum standard for ergonomics analysis reports in order to ensure a minimum professional standard of practice is maintained.

It is expected that this guideline will be used by individuals responsible for contracting (procuring) the services of an Ergonomics Professional, both as a source of information (telling them what they should expect from an analysis report) and as a reference document that can be referred to when preparing “Request for Proposal” documentation.

5. What is Ergonomics/Human Factors and Who are Ergonomists?

Ergonomics is the scientific discipline concerned with the interactions between humans and the other elements of a system (environment, people and objects) with the goal of optimizing human well being and overall system performance. Ergonomists contribute to the design and evaluation of systems in order to make them compatible with the needs, abilities and limitations of people. Ergonomists with the appropriate academic background are recognized through the Canadian College of Certified Professional Ergonomists (CCCPE) as Associate Ergonomists (AE). Fully qualified ergonomists also have a set amount of professional experience and are then recognized as Canadian Certified Professional Ergonomists (CCPE).

6. Guideline Specifications: Required Sections in an Ergonomics Analysis Report

An ergonomics analysis report should be sufficient to allow another ergonomics professional, and others, to understand fully how the conclusions of the ergonomics analysis were determined. An ergonomics analysis report should contain, but not be limited to the parts listed in this section.

6.1. Abstract or Executive Summary

An abstract or executive summary should contain a succinct summary of the findings and recommendations of the report.

6.2. Introduction

The introduction should provide the following information,

- the objective of the analysis;
- the scope of the analysis activities performed and dates;
- the names and job titles of workplace parties contacted during the analysis;
- a general description of the workplace; and
- where appropriate, injury statistics for the job(s) assessed.

6.3. Job(s)/Task(s) Documentation

This report section should clearly describe the job(s)/task(s). The information required in this section will depend on the goal of the analysis being performed. Normally, this section should include the following information:

- the number of workers performing the job or task;
- characteristics of the workforce population (e.g., age, gender, specific worker limitations, anthropometric details, etc.);
- details of work schedules (hours of work), shift schedules, scheduled and unscheduled rest breaks, job rotation schemes, etc.;
- a detailed description of work goals and objectives (e.g., what is

purpose of the job/task?);

- job performance standards, such as: production figures, line speeds, work rates, quality standards, any incentive systems in place (piece work pay rates), etc.; and
- a detailed listing of job tasks and sub-tasks.

6.4. Methods & Measurements

This section of the report should clearly describe the methods and measurements used to collect data. The report content required in this section will depend on the goal of the analysis, however, this section should normally include the following information:

- physical measures (e.g., weights, forces, distances, dimensions);
- frequency & duration measures (e.g., rates of repetition, total activity time, static effort times);
- a description of physical tasks and actions measured (e.g., reaches, grasps, lifts, carries, pushes, pulls, tool use, etc.);
- postural measurements (e.g., relevant joint angles and body postures);
- relevant information and measurements of hand tools, controls, workstation layout, etc. (sketches, diagrams, or pictures may be included where appropriate);
- measurements of environmental stressors (e.g., noise, illumination, indices of thermal conditions like Web-Bulb-Globe-Temperature WBGT, vibration, etc.); and
- where appropriate, any information regarding work organization and psycho-social stressors that may be relevant to the physical job or task.

Note A: It may be appropriate to include copies of worker surveys, checklists or other measurement tools in an appendix.

Note B: Where worker movements and/or postures are being measured, it may be appropriate to submit a videotape of representative workers with the written report. It may also be appropriate to submit such a video tape as a substitute for a detailed job or task description.

6.5. Analysis Criteria & Results

This section of the report should detail the generally accepted criteria (*i.e.*, standards, guidelines, relevant population parameters, etc). used in the ergonomics analysis. It is expected that professional judgement will be applied in selecting the appropriate criteria for analysis. Professional judgement involves respecting the applications, limits and assumptions of the criteria. Other considerations for this section of the report include:

- the source/origin of all criteria used should be appropriately referenced; and

- appropriately detailed justification for the use of any criteria should be provided.

More than one criteria / standard may be used to ensure results appropriately consider relevant risks and concerns. Notably, since different tools may result in different conclusions, interpretation of each result should be clearly presented.

6.6. Conclusions

This section of the report should state clearly the conclusions of the ergonomics analysis determined by the Ergonomics Professional. The following information should be provided:

- which job(s)/task(s) satisfy the analysis criteria and which do not;
- if job(s)/task(s) do not satisfy the analysis criteria, which specific results from the analysis lead to the determination of such conclusions; and
- if job(s)/task(s) do not satisfy the analysis criteria, indicate if there a probable elevated risk to people.

6.7. Recommendations

This section of the report should contain appropriate recommendations to meet the goal of the analysis. Recommendations should reflect best approaches for having job(s)/task(s) satisfy the analysis criteria. Approaches that may be considered when making recommendations include:

- participatory problem solving;
- engineering controls;
- administrative controls;
- re-design;
- work organization; and
- work practices.

6.8. Date and Signature

The report should be signed and dated by the ergonomics professional responsible for the accuracy and appropriateness of the report.

7. Ethical Considerations

The person signing the report should subscribe to the code of ethics provided and shared by ACE and the Canadian College for the Certification of Professional Ergonomists.