



ergonomics

SOCIETY OF
SOUTH AFRICA

- **Background on the Ergonomics Regulations of 2019**

- The Ergonomics Regulations were gazetted on the 6th of December 2019 by the Department of Employment and Labour under Section 43 of the Occupational Health and Safety Act 85 of 1993.
- Contrary to popular belief, while the Ergonomics Regulations are new, the requirement for organisations to manage ergonomic risks is covered in the Occupational Health and Safety Act 85 of 1993 although the term ergonomics is not used explicitly. For example, the Act requires employers to ensure that occupational risks are managed and that workplaces, as far as reasonably practicable, are safe and without risks to the health of employees. Ergonomic risks are regarded as occupational risks and can have negative health and safety consequences on employees. Despite the fact that ergonomics is covered by the Act, the application and implementation of ergonomics within organisations is not widespread.
- The Ergonomics Regulations provide guidelines for the management of ergonomics within organisations and also present an opportunity for organisations to benefit from the dual objective of ergonomics which is to improve worker health and safety while also optimising work output.

- **What is Ergonomics**

- The term ergonomics is used synonymously with the term human factors
- The official International Ergonomics Association (IEA) definition of ergonomics is as follows: *"Ergonomics is the 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 in order to optimize human well-being and overall system performance (www.iea.cc).

- Ergonomics is a discipline that aims to improve work systems in order to ensure the health and safety of employees while also optimising productivity and quality of output. This is done by designing work that is compatible to workers' capabilities and limitations. Consequently, ergonomics is said to be human-centred because all designs, interventions or programs are based on the need to match the human/workers' capabilities and limitations. Ergonomics assists in optimising or creating a balance between humans and systems/things with which they interact.
- Ergonomics deals with three domains; namely physical ergonomics, cognitive ergonomics and organisational ergonomics however its primary focus should be on adopting a *systems* approach to understand how workers interact with the various elements within the working environment (e.g. the task, equipment/tools, workstations, organisation and environments etc.). Figure 1 illustrates the systems approach that Ergonomics must consider.

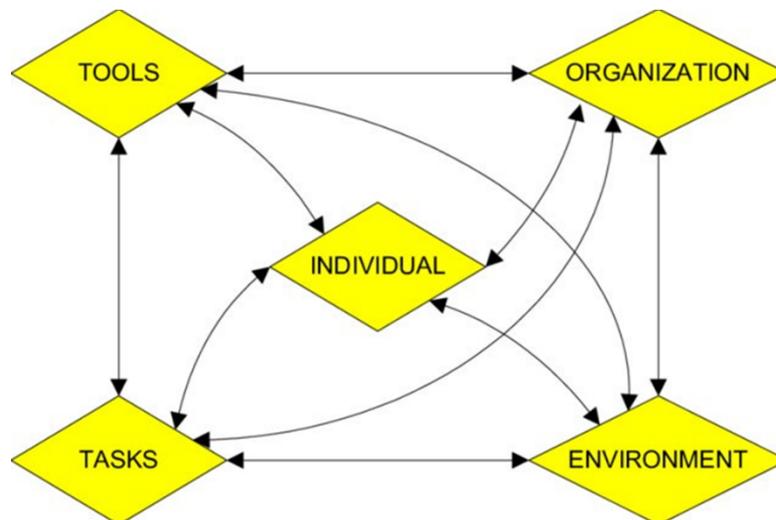


Figure 1: Work System Model (Carayon & Smith, 2000; Smith & Carayon-Sainfort, 1989)

- **What are the benefits of applying ergonomics in workplaces?**

- Organisations that take ergonomics into consideration by matching the work requirements to the workers can reap the following benefits:
 - Improved worker health and safety as a result of the following:
 - ✓ Reduction in injuries, near-misses and accidents
 - ✓ Reduction in exposure to ergonomic risks that are associated with the development of occupational diseases such as musculoskeletal disorders
 - ✓ Reduction in absenteeism
 - Improved quality and productivity of output, leading to cost savings, can be achieved because of the following:
 - ✓ Fewer errors
 - ✓ Greater efficiency
 - ✓ Greater employee satisfaction and motivation
 - ✓ Lower medical costs associated with ergonomic risk exposure at work

- **What is an Ergonomic Risk**

- Ergonomic risks arise from hazards that manifest when there is a mismatch between the worker's capabilities and limitations, the work requirements and environment within the work system. Ergonomic risks can be physical, cognitive, organisational or result from the interaction of any/all the elements within the work system. As such, when identifying ergonomic hazards and risks, it is critical that all ergonomic domains, and their interaction within the system, are adequately considered

- **What is an Ergonomics Risk Assessment?**

- An Ergonomics Risk Assessment is the process of identifying ergonomic risks within the work system. In accordance with Regulation 6.2.b of the Ergonomics Regulations of 2019, an Ergonomics Risk Assessment should include the following:
 - ✓ A complete hazard identification;
 - ✓ The identification of all persons who may be affected by the
 - ✓ ergonomic risks;

- ✓ How employees may be affected by the ergonomic risks;
- ✓ The analysis and evaluation of the ergonomic risks; and
- ✓ The prioritisation of ergonomic risks.

- **Who should conduct Ergonomics Risk Assessments?**

- Regulation 6.1.a of the Ergonomics Regulations stipulates that Ergonomics Risk Assessments should be conducted by a “*competent person*”. A competent person is defined as someone:

“who has in respect of the work or task to be performed the required knowledge, training and experience in ergonomics and, where applicable, qualifications specific to ergonomics”.

- In line with the participatory approach advocated by the ergonomics discipline, the Ergonomics Risk Assessment should involve the employees that perform the task being assessed. Additionally, the risk assessment should be done after consultation with the health and safety committee or the health and safety representatives in line with Regulation 6(1)(b) of the Ergonomics Regulations of 2019.

- **What is an Ergonomics Programme**

- There are various ways of implementing ergonomics within organisations. One such way is by introducing an ergonomics programme, within an organisation. Ergonomics programmes can have the following features:

- Ergonomics programmes should provide a comprehensive roadmap for the management of ergonomic risks within the work system.
- The programme should be premised on a systems approach and should adequately cater for the management of physical, cognitive and organisational ergonomic risks.
- Some of the critical elements that should be included in the ergonomics programme are:
 - ✓ Appropriate policies and procedures on the management of ergonomics within the organisation;

- ✓ Ergonomic risk management (identification, measurement, control and review of ergonomic risks);
 - ✓ Education and awareness for all stakeholders in an organisation;
 - ✓ Medical surveillance programmes that assist in adequately identifying and managing the effects of ergonomic risk exposure; and
 - ✓ A participatory approach should be encouraged and support for the program should be ensured at all levels starting with top management.
- The objective of an ergonomics programme should be to move beyond a piece-meal approach in managing ergonomic risks to rather inculcating a culture of managing ergonomics by all stakeholders within the organisation such that the program becomes self-sustaining.

- **How to become a CPE / CEA**

The ESSA Professional Affairs Board (ESSA PAB) sets the minimum learning standards and qualifications for the recognition of competency in Ergonomics. This is in line with the standards of the International Ergonomics Association as well as the European and US certification bodies (CREE and BCPE). Individuals who meet predetermined educational and practical experience criteria may apply to be certified and registered by the Board. Two levels of certification are available, namely Certified Professional Ergonomist (CPE) and Certified Ergonomist Associate (CEA). Applicants with sufficient education but less than the required amount of professional practice may apply as CEA/CPE in training.

An applicant must have knowledge of all domains of ergonomics, namely physical, cognitive, and organisational ergonomics. The required education may be composed of any combination of courses performed for an academic degree at a nationally or internationally recognised University (e.g for a Master's in Ergonomics) and of short courses that are recognised by the ESSA Professional Affairs Board.

Practical experience may include working as an ergonomics practitioner, educating others about ergonomics, or conducting ergonomics research, where ergonomics practice also forms part of the person's total activity. At least two thirds of the professional practice must be obtained after ergonomics education has taken place.

Formal educational requirements:

- ✓ 660 hrs for CPE certification, and
- ✓ 360 hrs for CEA

Relevant ergonomics experience:

- ✓ 4 years full time for CPE, and
- ✓ 2 years for CEA (or the equivalent amount part time)

- **Becoming a member of ESSA**

- The Ergonomics Society of South Africa (ESSA) was inaugurated in 1985 and is a federated member of the International Ergonomics Association (IEA). As a society, ESSA, aims to promote an awareness of ergonomics in South Africa and both the health and safety and productivity benefits that can be derived from the implementation of sound ergonomics principles.
- Some of the major roles of ESSA include the following:
 - Certification of ergonomists (through the PAB)
 - ESSA promotes an understanding of ergonomics and raises awareness of the discipline and the benefits that can be derived from the successful implementation of ergonomics principles in the workplace.
 - ESSA serves as a resource point for all of its members and those interested in ergonomics.
 - ESSA establishes and maintains strategic partnerships with key stakeholders involved in promoting and managing ergonomics in workplaces.

- Some of the benefits of becoming a member of ESSA include the following:
 - ✓ All members will receive newsletters and the ergonomicsSA journal
 - ✓ Attend ESSA organised events to get information and resources on the ergonomics discipline and network with other stakeholders that are involved in advancing the discipline and managing ergonomics within organisations
 - ✓ Earn CPD points when you attend some of the ESSA events including conferences and workshops
 - ✓ Being a member of ESSA is a requirement for getting certified

ESSA would also like to thank the Department of Employment and Labour who actually initiated the establishment of the Regulations. The support from the Department has been instrumental and without the assistance of the various representatives along the way, these Regulations would not be in place.



Figure 2: The launch of the Ergonomics Regulations that took place in Johannesburg on the 10th of March. Pictured are the President of ESSA, Dr Jessica Hutchings (speaker) and on stage, from left to right, Ms. Sethunya Matsie (ESSA), Ms. Bulelwa Huna (Department of Employment and Labour) and Mr. Tibor Szana (Department of Employment and Labour)

Should you be interested in becoming a member of ESSA, please visit our website or email us.

- www.ergonomicssa.com
- ergonomicssa@gmail.com

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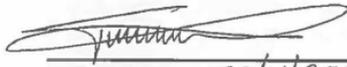
NO. R. 1589

06 DECEMBER 2019

DEPARTMENT OF EMPLOYMENT AND LABOUR

OCCUPATIONAL HEALTH AND SAFETY ACT, 1993
ERGONOMICS REGULATIONS, 2019

The Minister of Employment and Labour has, under section 43 of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), after consultation with the Advisory Council for Occupational Health and Safety, made the regulations in the Schedule.



TW NXESI, MP 20/11/2019
MINISTER OF EMPLOYMENT AND LABOUR