

**Occupational Safety and Health
(Display Screen Equipment) Regulation**

**Administration's Response to Issues raised
by Members at the Sub-committee Meeting on 23 January 2002**

At the Sub-committee meeting held on 23 January 2002, some Members and the Senior Assistant Legal Adviser raised the following concerns:-

- (a) The definition of "user" in the proposed Occupational Safety and Health (Display Screen Equipment) Regulation ("the Regulation") was somewhat inconsistent with the elaborated meaning of "user" in the Code of Practice.
 - (b) As the proposed new provision that made express reference to the Code of Practice, i.e. section 4(4), was put under the section on risk assessment, that provision was relevant to risk assessment only, yet it should be relevant to the entire Code which covered both risk assessment and the definition of "user".
2. Members also requested the Administration to consider making a statement, in the Secretary for Education and Manpower (SEM)'s speech when moving the motion on the Regulation, about issuing improvement notices before taking prosecution actions for less serious offences, and reviewing the definition of "user" in the light of future medical research findings substantiating the health risks of cumulative use of display screen equipment (DSE) for 4 hours during a day, and more or less daily.
 3. This paper sets out the Administration's response to the Sub-committee's concerns and requests.

Definition of "user" in the Regulation

4. At the last Sub-committee meeting, Members discussed the Administration's proposal to re-define "user" in the Regulation to mean "an employee who, by reason of the nature of his work, is required to use display screen equipment more or less on a daily basis and for the majority of his working hours". Some Members and the Senior Assistant Legal Adviser were concerned that the wording "the majority of his working hours" could be

construed as, say, 2 out of a total of 4 working hours during a day or any similar meanings, which would be inconsistent with the elaborated meaning of “user” in the Code of Practice, i.e. continuously for at least 4 hours during a day or cumulatively for at least 6 hours during a day.

5. The Administration agrees that the wording “the majority of his working hours” means anything that is more than half of the total working hours, rather than a prolonged duration of time which is the policy intent. In this regard, the Administration proposes to substitute “a prolonged period of time” for “the majority of his working hours” in the definition of “user” in the Regulation. This proposed form of wording in the definition of “user” in the Regulation will better and succinctly reflect the policy intent. By incorporating this proposed revision, the new definition of “user” in section 2 of the Regulation will be “an employee who, by reason of the nature of his work, is required to use display screen equipment for a prolonged period of time almost every day”.

Reference to the Code of Practice

6. The Commissioner for Labour will issue a Code of Practice under section 40 of the Occupational Safety and Health Ordinance (Cap. 509) to provide practical guidance on the interpretation of “user” as defined in the Regulation, and how risk assessments required under the Regulation should be performed.

7. At the last Sub-committee meeting, Members discussed the Administration’s proposal to add a new section 4(4) to the Regulation to provide an express reference to the Code of Practice. Some Members and the Senior Assistant Legal Adviser were concerned about the restrictive relevance of the new provision, as it was put under section 4 of the Regulation. The Senior Assistant Legal Adviser also remarked that the new provision was not necessary, given that its effect would be the same as section 41 of the principal Ordinance.

8. In fact, the Department of Justice has previously advised the Administration that the new provision is unnecessary because its effect is the same as section 41 of the principal Ordinance. Nevertheless, having regard to some Members’ suggestion that the Regulation should have express reference to the Code of Practice in order to establish a link between the Regulation and the Code, the Administration has no objection to adding in this new provision.

9. As for the relevance of the new provision, the Administration agrees that the express reference to the Code of Practice should not be restricted to the subject of risk assessment alone. In this connection, the Administration proposes to delete section 4(4) and put the new provision under a new section 10 to make a general reference to the Code of Practice.

10. The revised Regulation, draft Code of Practice and draft Health Guide are at Annexes 1, 2 and 3 respectively.

Statements in the Secretary for Education and Manpower's speech

11. At the last Sub-committee meeting, some Members requested SEM to state, in her speech when moving the motion on the Regulation, that in enforcing the Regulation, the Labour Department (LD) would normally issue improvement notices before taking prosecution actions for the less serious breaches, and take immediate prosecution actions for serious breaches or non-compliance with improvement notices. As this is LD's established enforcement policy, the Administration has no objection to including such a statement in SEM's speech.

12. Some Members also requested SEM to state that LD would review the definition of "user" in the Regulation if there were future medical evidence substantiating that cumulative use of DSE for 4 hours during a day, and more or less daily, would cause health problems. Following the coming into effect of the Regulation, LD will monitor the trend of reported health problems arising from work with DSE, keep in view findings of relevant medical researches, and make reference to its enforcement experience, with a view to reviewing the definition of "user" if need be. In response to Members' request, the Administration will include a statement on this in SEM's speech.

Labour Department
February 2002

**OCCUPATIONAL SAFETY AND HEALTH (DISPLAY
SCREEN EQUIPMENT) REGULATION**

(Made under section 42 of the Occupational Safety and Health Ordinance (Cap. 509) subject to the approval of the Legislative Council)

1. Commencement

This Regulation shall come into operation on a day to be appointed by the Commissioner for Labour by notice published in the Gazette.

2. Interpretation

In this Regulation, unless the context otherwise requires -
"display screen equipment" (顯示屏幕設備) means any display screen which shows letters, numbers, characters or graphics, regardless of the display process involved;

"user" (使用者) means an employee who, by reason of the nature of his work, is required to use display screen equipment for a prolonged period of time almost every day~~normally uses display screen equipment as a significant part of his normal work~~;

"workstation" (工作間) means an assembly comprising -

- (a) display screen equipment;
- (b) any chair, desk, work surface, printer, document holder or other item peripheral to the display screen equipment; and

- (c) the immediate working environment around the display screen equipment.

3. Application

(1) ~~This Regulation applies to all workplaces in which display screen equipment is used for or in connection with work. This Regulation applies to a workstation in a workplace that is -~~

- ~~(a) provided by a person responsible for the workplace to be used by users for work;~~
- ~~(b) not intended for use by the public; and~~
- ~~(c) normally used or intended to be normally used by users.~~

(2) This Regulation does not apply to or in relation to the following -

- (a) display screen equipment that is used mainly to show pictures, television or films;
- (b) drivers' cabs or control cabs for vehicles or machinery;
- (c) display screen equipment on board a means of public transport;
- (d) portable systems not in prolonged use;
- (e) calculators, cash registers or any equipment having a small data or measurement display required for direct use of the equipment; or
- (f) window typewriters.

4. Risk assessment

(1) The person responsible for a workplace shall perform a risk assessment of a workstation in the workplace before it is first used

by users.

(2) For workstations in service in the workplace immediately before the commencement of this Regulation and used by users on or after that commencement, the person responsible for the workplace shall perform a risk assessment of those workstations within 14 days after that commencement.

(3) For the purpose of complying with subsections (1) and (2), the risk assessment shall consist of a process of -

(a) identifying and assessing the risk to the safety and health of users of a workstation~~the potential hazards arising from the work in the workstation;~~

~~_(b) deciding who might be at risk and how the person is affected;~~

~~(c) evaluating the risks arising from the potential hazards~~ and deciding whether existing precautions are adequate;
and

~~(d)~~ recording the findings.

(4) If -

(a) the person responsible for a workplace has reason to ~~suspect~~believe that there has been a significant change in the conditions of a previous assessment ~~may have changed;~~ or

(b) there has been a significant change in a workstation, the person responsible for the workplace shall review the risk assessment performed in respect of the workstation and revise the record of findings accordingly.

(5) The person responsible for a workplace shall, so far as

reasonably practicable, keep a record of all risk assessments performed by him in respect of a workstation, which shall include all findings recorded or revised under subsections (3)(~~dc~~) and (4), and shall retain that record for a period of at least 2 years after that workstation ceases to be used by any user.

(6) The person responsible for a workplace shall -

(a) upon request by an occupational safety officer, produce for inspection any record kept and retained by him under subsection (5); or

(b) in case he is unable to comply with paragraph (a), deliver a copy of the record to the officer for inspection within such period as may be specified in a request in writing sent by the officer.

~~(6) Upon request by an occupational safety officer, the person responsible for a workplace shall produce for inspection any record kept and retained by him under subsection (5).~~

~~(7) Upon request in writing by an occupational safety officer, the person responsible for a workplace shall, within such period as may be specified in the request, deliver to the officer a copy of any record kept and retained by him under subsection (5).~~

5. Reduction of risks

The person responsible for a workplace shall take steps to reduce any risks identified in a risk assessment performed by him under section 4 to the lowest extent as is reasonably practicable.

6. Provision of information

The person responsible for a workplace shall, so far as reasonably practicable, inform ~~make available to~~ users ~~who normally use of~~ a workstation in respect of which a risk assessment has been performed under section 4 a copy of the following documents -

(a) about a record of the findings of the risk assessment ~~;~~

and

(b) a record of any action he has taken after the assessment.

7. Requirements for workstation

The person responsible for a workplace shall so far as reasonably practicable ensure that the workstations ~~normally used by users~~ in the workplace are suitable having regard to the safety ~~and~~ and health ~~and~~ welfare of ~~those~~ users of those workstations.

8. Provision of safety and health training

~~(1)~~ An employer shall, so far as reasonably practicable, ensure that a user employed by him is provided with ~~adequate~~ necessary safety and health training in the use of ~~the~~ workstations ~~normally used by the user~~.

~~(2)~~ ~~Whenever the organization of a workstation normally used by a user is substantially modified, an employer shall ensure that the user is provided with adequate safety and health training with regard to the workstation as modified.~~

9. Users to co-operate with responsible person

~~A user shall conform to any system of work and any work practices~~

~~that the person responsible for the workplace at which the user is employed has provided or established for the safety and health of users at the workplace.~~

A user of a workstation in a workplace shall, so far as reasonably practicable -

(a) conform to any system of work and work practice that the person responsible for the workplace has established in order to comply with the requirements imposed by this Regulation; and

(b) comply with any risk reduction measure taken as a result of any risk identified in a risk assessment performed under section 4.

10. Effect of code of practice

Without prejudice to section 41 of the Ordinance, in any legal proceedings for an offence under this Regulation, proof that a person contravened or did not contravene a relevant provision of a code of practice issued under section 40 of this Ordinance in respect of this Regulation may be relied on by any party to the proceedings as tending to establish or negate a matter that is in issue in the proceedings.

11. Offences

(1) A person responsible for a workplace who fails to comply with section 4(1), (2), (4), (5), ~~or~~ (6) ~~(b) or (7)~~, 5, 6 or 7 commits an offence and is liable on conviction to a fine at level 5.

(2) An employer who fails to comply with section 8 ~~(1) or (2)~~ commits an offence and is liable on conviction to a fine at level 5.

(3) A user who fails to comply with section 9 commits an offence and is liable on conviction to a fine at level 3.

(4) The offences mentioned in subsections (1) and (2) are offences of strict liability.

Commissioner for Labour

November 2000

Explanatory Note

The purpose of this Regulation is to protect the occupational safety and health of employees who normally use workstations (which include display screen equipment such as computer monitors) in their work.

2. Section 1 provides for the commencement of the Regulation.

3. Section 2 defines certain expressions used in the Regulation.

4. Section 3 describes the scope of application of the Regulation.

5. Section 4 contains provisions outlining the risk assessment which has to be performed by the person responsible for a workplace.

6. Section 5 imposes a duty on the person responsible for a workplace to take steps to reduce any risk identified by him.

7. Section 6 imposes a duty on the person responsible for a workplace to ~~inform~~make available to users of a record of the findings of the

risk assessment and of the actions he has taken after the assessment.

8. Section 7 requires the person responsible for a workplace to ensure that the workstations are suitable having regard to the safety~~7~~, and health ~~and welfare~~ of users.

9. Section 8 requires an employer to ensure that a user has been provided with ~~adequate~~necessary safety and health training.

10. Section 9 imposes a duty on a user to avoid risks by conforming to a system of work and work practices ~~provided or~~ established by the person responsible for a workplace and by complying with any risk reduction measures taken as a result of risks identified in a risk assessment.

11. Section 10 describes the effect of a code of practice issued under section 40 of the principal Ordinance.

~~12~~11. Section ~~10~~11 creates offences for failure to comply with the provisions of the Regulation and sets out the penalties to be imposed on offenders.

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Code of Practice for Working with Display Screen Equipment

1. Introduction

- 1.1 The Occupational Safety and Health (Display Screen Equipment) Regulation (“the Regulation”) aims at protecting the safety and health of employees who use display screen equipment at work for prolonged periods of time.
- 1.2 This Code of Practice is issued by the Commissioner for Labour under Section 40 of the Occupational Safety and Health Ordinance (Cap. 509) for the purpose of providing the person responsible for a workplace and employees with practical guidance as to whether an employee is a “user” as defined in the Regulation, and how risk assessments required under the Regulation should be performed. The advice contained in this Code should not be regarded as exhaustive to cover all legal requirements under the Regulation, nor is it intended to relieve duty-holders of their statutory responsibilities.
- 1.3 The terms used in this Code of Practice have the same meaning as those in the Regulation and the Occupational Safety and Health Ordinance.
- 1.4 Although a person does not incur any civil or criminal liability only because he has contravened a provision of this Code of Practice, proof of compliance with, or failure to comply with, this Code may be relied on in legal proceedings by any party to the proceedings as tending to establish or negate a matter that is in issue (see section 41 of the Occupational Safety and Health Ordinance).
- 1.5 The statutory provisions to which reference has been made in this Code of Practice are those in force as at _____.

2. Interpretation of “user”

2.1 Under Section 2 of the Regulation, “user” is defined to mean an employee who, by reason of the nature of his work, is required to use display screen equipment ~~for a prolonged period of time almost every day, more or less on a daily basis and for the majority of his working hours.~~

2.2 An employee would be a “user” if he, by the nature of his work, e.g. data processing, telecommunications, computer graphic design, etc, is required to use display screen equipment ~~almost every day more or less~~ daily,

- (a) continuously for at least 4 hours during a day; OR
- (b) cumulatively for at least 6 hours during a day.

Breaks not exceeding 10 minutes in an hour away from the display screen equipment shall not be regarded as breaking the continuity of use of the display screen equipment.

3. Risk assessment

3.1 Under Section 4 of the Regulation, the person responsible for a workplace is required to perform a risk assessment of a workstation in the workplace.

3.2 A risk assessment of a workstation should consist of a process of identifying and assessing the risks to the safety and health of users of the workstation, deciding whether existing precautions are adequate and recording the findings. It is recommended that such a risk assessment be made by means of a checklist. The checklist should comprise a set of questions on the display screen, input devices, work desk, chair, accessories like document holder and footrest, and the working environment, as appropriate. It is also recommended that a copy of the completed checklist be provided to users concerned for reference.

3.3 The Workstation Risk Assessment Checklist at the Annex may be used in performing risk assessments of workstations. In completing the checklist, the person making the assessment should answer the questions in Part A. Where the answer is “Yes” or the question is not applicable, no follow-up action is required. Where the answer is “No”, follow-up actions will be needed to reduce the risks. Any follow-up action to be taken should be recorded in Part B of the checklist. On completion of the assessment, the person making the assessment should sign and record the date of assessment on the checklist.

Workstation Risk Assessment Checklist

Name of organization : _____

Address: _____

Workstation location: _____

Name of user : _____

Description of task: _____

Part A : Assessment

	Yes	No	N.A.*	Remarks
Display Screen				
1. Does the screen give a clear, sharp and steady image?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2. Are the characters readable?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3. Are the brightness and contrast adjustable?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4. Does the screen swivel and tilt?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5. Is the screen positioned at about or slightly below the eye level and in front of the user?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6. Is the screen free from reflections and glare?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Input Devices (keyboard, mouse, numeric pad, etc.)				
7. Is the keyboard tiltable and detached from the display screen? <u>(not applicable to portable systems)</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
8. Are the characters on the keys of the keyboard/ numeric pad readable?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
9. Is the keyboard/numeric pad glare free?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
10. Are the input devices positioned at about the elbow level?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
11. Is there enough space to rest hands in front of the input devices?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Work Desk				
12. Is the desk surface large enough for the screen, input devices and documents?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

	Yes	No	N.A.*	Remarks
13. Is there adequate leg-room below the desk?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Chair				
14. Is the base of the chair stable?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
15. Do the casters allow easy movement of the chair?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
16. Is the seat height adjustable to suit the body size of the user?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
17. Is the backrest adjustable in both height and tilt to provide adequate support to the lower back?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
18. Is the seat pan padded and free from sharp edges?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
19. Do the armrests, if any, allow the user to get close enough to key comfortably?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Document Holder				
20. Is the document holder, if provided, properly positioned to avoid awkward neck posture and movement?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Footrest				
21. Is the footrest, if required, stable and provided with a non-slip surface?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Illumination				
22. Is the lighting level suitable for the work?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Noise				
23. Is the noise produced by the workstation acceptable?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Part B : Follow-up Actions

(If a “No” answer is given to any of the above questions, follow-up actions are required.)

Person making the assessment: _____ Date of assessment: _____

Note: *Not Applicable

Enquiry

If you wish to enquire about this Code of Practice or the Regulation, please contact the Occupational Safety and Health Branch through:

Telephone: 2852 4041

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E-mail: laboureq@labour.gc.gov.hk

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A Health Guide on Working with Display Screen Equipment

Preface

The Occupational Safety and Health (Display Screen Equipment) Regulation ~~aims at protecting the safety and health of employees who use display screen equipment (DSE) at work for prolonged periods of time.governs the safety and health of employees who normally use display screen equipment (DSE) as a significant part of their normal work.~~

This booklet is intended to help employers and employees minimize health risks associated with prolonged work with DSE in the office environment. Part I explains the meaning of ‘display screen equipment’, ‘workstation’ and ‘user’ in the context of the Regulation. It also discusses various health issues related to prolonged work with DSE. Part II provides guidance on the requirements in respect of risk assessment of workstations,~~including easy to follow steps for conducting such an assessment.~~ Part III gives practical guidance on the ergonomic requirements of workstations and measures for reducing risks, safety and health training, as well as users’ responsibility. Part IV covers offences under the Regulation.

Occupational Safety and Health Branch
Labour Department
November 2000

(Feb 2002 Revision)

Part I

What is display screen equipment (DSE) ?

1.1 Under the Occupational Safety and Health (Display Screen Equipment) Regulation (the Regulation), ‘display screen equipment’ means any display screen which shows letters, numbers, characters or graphics, regardless of the display process involved. It covers conventional display screens, whether based on cathode ray tube displays, flat panels or any other display technology, e.g. ordinary computer displays and microfilm viewers.

What is a workstation?

1.2 Under the Regulation, ‘workstation’ means an assembly comprising the DSE, any chair, desk, work surface, printer, document holder or other item peripheral to the DSE, and the immediate working environment around the DSE, e.g. lighting and noise.

Who and how are employees affected by the use of DSE ?

1.3 Employees using DSE only occasionally are unlikely to suffer significant health problems arising from the use of such equipment. However, some employees, by reason of the nature of their work, are required to use DSE for a prolonged period of time almost every day (‘user’ under the Regulation). Please refer to the Code of Practice for Working with Display Screen Equipment for practical guidance as to whether an employee is a “user” as defined in the Regulation. are normally using DSE as a significant part of their normal work (‘user’ under the Regulation).—These users are usually highly dependent on the use of DSE to do their jobs, and normally use the equipment for continuous spells of an hour or more at a time and more or less daily.—Significant training and/or particular skills may be required in performing the DSE work.—Moreover, rapid transfer of information between the user and screen as well as high levels of attention and concentration may be important requirements of the job.—Examples of users are word processing operators, data input operators, telecommunications operators, computer graphic designers, etc.

1.4 As a result of prolonged DSE work, users could suffer discomfort and other short-term health problems like upper limb pains and discomfort, eyestrain, fatigue and stress. Whilst many of these problems are temporary and may go away after work, they can and should be avoided. If the

temporary ailments are ignored, such symptoms can deteriorate into chronic health problems requiring long-term treatment which is expensive to both employers and employees, and ultimately to the health care service at large. Further information on DSE-related health issues is at [the Annex Appendix A](#).

Which workstation is covered by the Regulation?

1.5 In any workplace, there may be workstations which are set up for use by different persons for different purposes. For the sake of protecting the safety and health of users, those workstations that fulfil the following conditions fall within the scope of the Regulation:

- a) provided by a person responsible for the workplace (employer or occupier of the workplace, as the case may be) to be used by users for work;
- b) not intended for use by the public; and
- c) normally used or intended to be normally used by users.

1.6 The Regulation, therefore, does not apply to workstations that are normally used by employees who are not users (as defined in the Regulation), nor to workstations that are intended for public operation, e.g. workstations in public libraries and information/directory kiosks.

1.7 Moreover, the following DSE applications that would pose minimal health risks are excluded from regulatory control :

- a) DSE that is used mainly to show pictures, television or films;
- b) drivers' cabs or control cabs for vehicles or machinery;
- c) DSE on board a means of public transport;
- d) portable systems not in prolonged use;
- e) calculators, cash registers or any equipment having a small data or measurement display required for direct use of the equipment;
or
- f) window typewriters.

Part II

As a person responsible for a workplace, how can I assess the risks arising from workstations?

2.1 Under Section 4 of the Regulation, a person responsible for a workplace should perform a risk assessment of a workstation in the workplace before it is first used by users. [Please refer to the Code of Practice for Working with Display Screen Equipment for practical guidance on how such a risk assessment should be performed.](#)~~The assessment serves to identify the potential hazards and evaluate their risks so that appropriate measures can be taken to safeguard the health of the users.~~

~~2.2 In the assessment, the responsible person should identify the potential hazards arising from the workstation, which may be related to the DSE, the peripheral items, the furniture, or the immediate working environment around the DSE. He should also decide who may be at risk and how the person is affected, evaluate the risks arising from the potential hazards and decide whether existing precautions are adequate. He could then draw conclusions from the assessment to help identify and plan any improvement measures that may be required.~~

~~2.3 A sample computer workstation assessment checklist is at Appendix B. It helps responsible persons conduct the risk assessment for common computer tasks in the office. The responsible person may use this checklist to assess the workstation. Based on the results, the responsible person can formulate and implement follow-up actions, if necessary, to reduce the risks. However, it is worth noting that the sample checklist may not cover every work condition. The responsible person may need to add more questions or modify them according to the characteristics of their work situations. In complex cases, the responsible person may have to seek expert advice.~~

2.2.4 The responsible person should review the risk assessment performed in respect of a workstation whenever there has been a significant change in the workstation or in the conditions of the previous assessment, for example:

- a) workstation furniture;
- b) hardware devices particularly the screen, keyboard or other input devices; and
- c) working environment.

After completing the review, the responsible person should revise the assessment record accordingly.

~~2.32.5~~ ~~After completing a risk assessment of a workstation, the responsible person should record the findings. If the risk assessment has been reviewed, he should revise the record accordingly. He~~ The responsible person should also, so far as reasonably practicable, keep and retain a record of all risk assessments performed by him in respect of a workstation~~that record~~ for a period of at least 2 years after the workstation ceases to be used by any user.

~~2.46~~ The responsible person should produce the risk assessment records for inspection by an occupational safety officer upon request. In case he is unable to do so, he should deliver a copy of those records to the occupational safety officer within the period specified in the request in writing sent by the officer.

Part III

How to reduce the risks ?

3.1 Under Section 5 of the Regulation, the person responsible for a workplace is required to reduce any risks identified in a risk assessment of a workstation to the lowest extent as is reasonably practicable. For the information of the users concerned, he should, so far as reasonably practicable, make available to them the record of the findings of the risk assessment and the record of actions he has taken to reduce the risks (Section 6). He should also, so far as reasonably practicable, ensure that workstations in the workplace are suitable with regard to the safety and health of users of those workstations (Section 7). The guidance in the following paragraphs describes the general requirements for setting up such a workstation. The responsible person may need to reduce the risks through modifying the work organization or work practice.

General Requirements for a Workstation

3.2 A workstation is preferably designed ergonomically such that the safety and health of the user are secured, apart from fulfilling the inherent requirements of the task.* The main features of such a workstation and some suggested precautionary measures are as follows (please also see the diagram) :

**In general, the requirements are fully applicable to a typical office environment. However, there are special situations where some of these requirements may not be applicable because of the inherent characteristics of the task or some practical considerations, for example :*

- a) when a user needs to rapidly locate and operate emergency controls, a detachable keyboard may not be suitable;*
- b) a user who is on wheelchair normally could not adjust the seat height of the chair;*
- c) when the original document is of poor quality, the scanned image on screen may not be clear.*

In these special situations, the responsible person may need to make some other arrangements to ensure the safety and health of the worker when the latter performs DSE work.

Screen

The screen should give a clear, sharp and steady image.

- Replace aging monitors or repair defective ones.
- Clean the screen if necessary.
- When the colour blurs or the image deteriorates, try to relocate the screen away from any source of strong electromagnetic fields, e.g. high power speakers, or vice versa.
- In avoiding image deterioration caused by external electromagnetic fields, a LCD monitor may be chosen.
- If the software application allows, turn the display to light characters on a dark background to make the flicker less perceptible.
- Users who are susceptible to the flickering effect should look for other screen models which produce a more stable display.

The characters should be of adequate size, with adequate spacing between the characters and the lines.

- Use a monitor of adequate screen size.
- Adjust the image size and spacing by software control.
- Adopt a viewing distance where the image can be comfortably read. A distance of 35 - 60cm would be appropriate for text of normal font size.

The brightness and contrast of the image should be easily adjustable.

- Choose a screen with brightness and contrast controls.
- Always set the brightness and contrast to a comfortable level.

The screen should be swiveled and tilted, if so adjustable, to suit the needs of the user.

- A screen with swivel and tilt adjustment is preferable.
- Adjust the screen to make viewing comfortable.

Keyboard

The keyboard should be tiltable and detachable from the display screen so that the user may adopt a comfortable working posture.

The surfaces of the keyboard and keytops should be non-reflective. The letters and symbols on the key tops should be clear and easily recognizable.

There should be sufficient space in front of the keyboard to provide support for the hands.

- The table edge should preferably be rounded.
- A wrist support pad may be considered if the user finds it more comfortable.

Work Surface

The work surface should be large enough for the screen, keyboard, document and peripheral equipment.

- If the mouse is used intensively, the work surface or the keyboard shelf, if provided, should be large enough to hold the mouse as well. This allows the mouse to be within easy reach.
- If the work surface is limited, try to reorganize the surface layout. Less frequently used items may be taken away.
- Try to use compact equipment.
- Before new DSE is installed, it is desirable to anticipate the space allocation for the workstations.

The heights of the work surfaces for the screen and keyboard should be set to suit the needs of the user.

- For optimal screen positioning, place the screen in front of the user. The first line of screen display should preferably be at or slightly below the eye level.
- The screen height may be adjusted simply by placing the monitor on a stable object, e.g. the computer case. Other options like using height adjustable monitor arms can also be considered.

- The keyboard and the mouse should be positioned at a height that allows the user to adopt a natural hand-arm posture, i.e. the upper arms held vertical and the forearms approximately horizontal.
- So far as reasonably practicable, a height adjustable desk should be used to support the keyboard, the mouse or other input devices so that the natural hand-arm posture can be adopted.
- If a desk of fixed height is used and it is too high, an adjustable keyboard shelf can be installed under the desk to keep the keyboard at the right level. Alternatively, one may raise the chair to suit the height of the table and provide a suitable footrest to compensate for the raised seat height.

There should be adequate legroom below the work surface.

- Ensure that the workstation has sufficient legroom so that the user may stretch his legs or change posture.
- Clear any obstructing materials beneath the work surface.

A document holder, if provided, should be stable and preferably be adjustable, and be properly positioned to avoid awkward neck posture and movement.

Chair

The chair should be adjustable in height to suit the body size of the user.

- The chair should be so adjusted that the user can sit with thighs in a horizontal position when the lower legs are vertical and the feet are resting firmly on the floor. In general, the seat height should be adjustable in the range of 40 - 50cm from the floor.
- The seat height control should preferably be operable from the normal sitting position, and excessive force or tools should not be required.

The backrest should be easily adjustable in both height and tilt to provide adequate support to the lower back.

The seat pan should be of appropriate hardness and the front edge should be scrolled.

Armrests, if provided, should not interfere with keyboard operation.

The chair should have a stable base. Smooth castors should be provided at its base to allow easy movement if mobility is required.

- A five-pronged base is generally recommended to prevent the chair from toppling over.
- The type of castor should suit the properties of the floor surface. Castors with low resistance should not be used on a hard floor surface.

Footrest

A stable footrest should be made available to the user if the chair is too high for the feet to rest firmly on the floor.

- The footrest should be stable, should have a non-slip surface and be of sufficient size to allow some freedom of movement. The inclination of the support surface should preferably be adjustable.

Illumination

General lighting or task lighting should be suitably provided in accordance with the nature of the work and the visual demand on the user.

- The wall, ceiling and floor surfaces should be of medium reflectance to avoid gloom or glare.
- When documents are read in conjunction with computer work, it is best to use low lighting for the surrounding and a desk lamp for reading the documents. If task lighting is not provided, the illuminance level of the work area should be 300 - 500 lux.

Reflections and Glare

Reflections and glare should be avoided.

- Re-position the screen and/or control the light sources appropriately to prevent glare and reflections.
- The finishes of walls and furniture located near the workstation should not be highly reflective. Walls can be painted in subdued colours.
- The work area should preferably be located away from windows, and the screen be placed at right angle to windows. Sunlight through windows can be screened by blinds.
- Light fixtures can be equipped with diffusers or louvres to control distribution of light.
- Avoid placing the screen under rows of light fittings to eliminate light images.
- Turn the screen display to dark characters on a light background to make reflections less perceptible.
- Using a screen glare filter is another way of reducing screen reflections. In general, screen glare filters reduce the brightness of the image. Therefore the user should ensure that the image's brightness can be adjusted to an acceptable level if a filter is to be added. Nowadays the screens of some monitors are anti-reflective and do not need filters at all. Using a screen filter is not a substitute for proper lighting, but a supplementary solution only.

Noise

Noise produced by the workstation should be controlled to avoid disturbance to the user.

- For general computer work, a noise level below 60dB(A) is optimal.

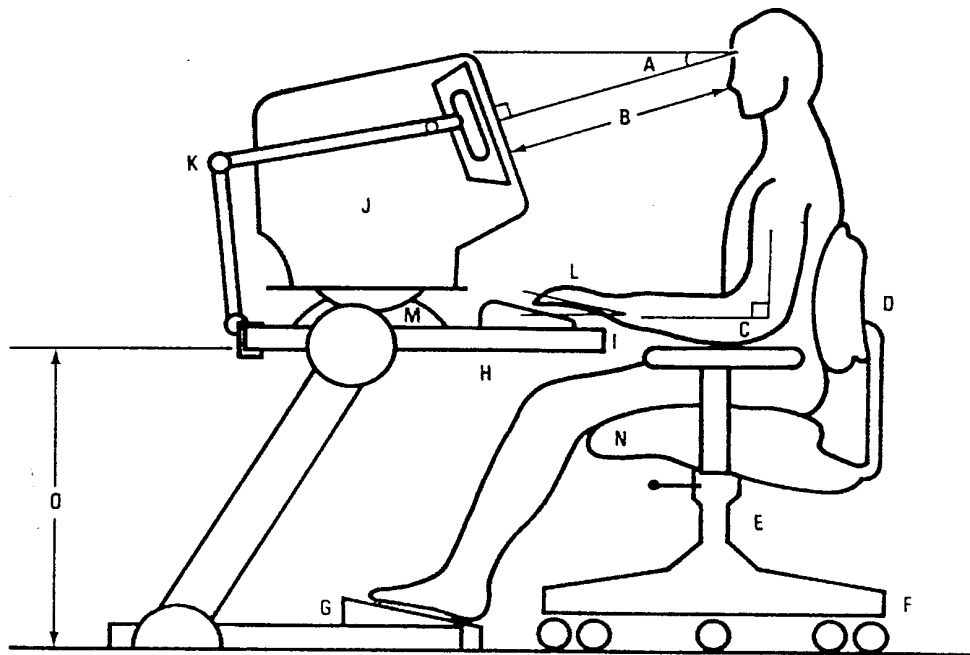


Diagram : The optimal workstation and working posture

- A First line on screen at about or just below eye level
- B Comfortable viewing distance e.g. 35 - 60 cm for text of normal font size
- C Forearm at about right angle to arm
- D Backrest adjustable in height and tilt
- E Adjustable seat height : allowing the user to sit with thighs approximately horizontal, lower legs vertical and feet resting firmly on the floor
- F Stable base, with castors if necessary
- G Firm footrest if required
- H Adequate leg room
- I Support for hands
- J Screen at about right angle to line of sight
- K Adjustable document holder if required
- L Wrist kept straight or at most slightly inclined
- M Screen support easily adjustable for rotation and tilting
- N Rounded or scrolled edge seat pad
- O Adjustable table height preferable

How to reduce the risks by improving work organization or work practice ?

3.3 Continuous DSE work can be monotonous, while prolonged sitting is tiring. It is advisable that a DSE user performs DSE work and non-DSE work alternately so that posture can be changed and the fatigue arising from prolonged DSE work can be relieved. Where non-DSE work cannot be arranged, appropriate rest breaks are recommended, e.g. a 5 - 10 minute break after 1 - 2 hours continuous DSE work depending on the intensity of the work. Moreover, job enrichment can often give an employee more job satisfaction.

3.4 Heavy workloads and tight deadlines can cause work stress, which if not properly managed, may become excessive and affect health. It is advisable that a supervisor effectively plans and organizes the work of his subordinates so that workloads and deadlines are reasonable. In doing so, the supervisor can discuss with the subordinates in setting deadlines and work priorities.

As an employer, do I need to provide safety and health training to users?

3.5 Safety and health training is essential for helping a user avoid risks associated with DSE work. Under Section 8 of the Regulation, an employer should, so far as reasonably practicable, ensure that users employed by him are provided with necessary safety and health training in the use of workstations. It is recommended that the training should enable the users to recognize and understand:

- a) the risks of the DSE work;
- b) various precautions for avoiding the risks and their importance, for example, a correct working posture, adjusting the equipment and furniture to suit own body features and work comfort, changes of activities at suitable intervals, etc.;
- c) how to report problems and symptoms; and
- d) how to get assistance from the employer.

3.6 The format of training is not restricted to lectures. Other means like video shows, educational leaflets, seminars can also be considered so long as they are effective in meeting the purpose.

As a user, how can I co-operate with the person responsible for the workplace?

3.7 Under Section 9 of the Regulation, a user of a workstation in a workplace should, so far as reasonably practicable, conform to the safe system of work and work practices and comply with any risk reduction measures, that the person responsible for the workplace has established or taken for the safety and health of users at the workstation. A user should co-operate with the responsible person in conducting risk assessments and in the implementation of preventive and remedial measures to reduce identified risks. In the case where serious problems relating to the DSE work arise, a user should immediately notify the responsible person of the matter.

Part IV

What are the offences and penalties?

4.1 A person responsible for a workplace or an employer who fails to comply with the relevant provisions of the Regulation commits an offence and is liable to a maximum fine of \$50,000. These offences are offences of strict liability.

4.2 A user who fails to comply with the relevant provision of the Regulation commits an offence and is liable to a maximum fine of \$10,000.

Health Aspects of Using Display Screen Equipment

Prolonged use of display screen equipment may cause short-term health problems like upper limb pains and discomfort, eyestrain, bodily fatigue and stress.

Upper limb pains and discomfort

The problems of discomfort at hands, arms, shoulders and the neck are common among DSE users. These may range from temporary fatigue or soreness to chronic soft tissue disorders.

Prolonged static posture of the neck, awkward positioning of the hands and wrists, heavy DSE workload combined with tight deadlines are some of the possible causes. These problems are largely preventable by the application of ergonomic principles to the design of workstations and to the organization of work.

Eyestrain

It refers to complaints of eye fatigue and headache. Causes may include poor visual display quality of the screen, poor lighting conditions and heavy workload. However, it is unlikely that DSE work would cause any permanent effect to the eyes or eyesight.

Fatigue and stress

Fatigue and stress can be more common among DSE users as the organization of certain types of DSE work may lead to a higher prevalence of common stress-related factors such as lack of sufficient control of the work by the user, high-speed repetitive work and reduced variety of postures.

Computer Workstation Risk Assessment Checklist

Department of the organization : _____

Workstation number / location : _____

Description of computer tasks : _____

Part A : Assessment*

Display screen equipment and peripherals **Yes** **No**

- 1. Is the work surface large enough for placing the screen at a comfortable viewing distance from the user?
- 2. Can the input devices (e.g. keyboard and mouse) be placed on the same work surface for use conveniently?

Work desk and chair

- 3. Is the work desk providing adequate leg clearance and the chair adjustable to allow proper work postures?

Environment

- 4. Are glare and reflections being avoided?
- 5. Is the lighting level adequate?

Other workstation problems that may need attention :

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Part B : Conclusions and Follow-up

(a “No” answer for any of the above questions or the reporting of workstation problems may indicate the presence of safety and health risks requiring follow up actions)

Assessor : _____

_____ Date: _____

~~*Note: Please refer to Part III of this Guide for features of an ergonomically designed workstation.~~