

HEALTH AND SAFETY GUIDANCE NOTE
**DISPLAY SCREEN
EQUIPMENT**



NFU Mutual
Risk Management Services

INTRODUCTION

Display Screen Equipment (DSE) includes any devices with a graphic display screen (e.g. desktop computer screens, laptops, touch screens etc.). Persons using DSE for a significant part of their normal daily work (i.e. for continuous periods of an hour or more), may experience a range of health issues including fatigue, eye strain, upper limb problems (e.g. aches or strains of arms, wrists, neck, shoulders) and backache.

These issues can be caused or magnified by poor posture, often as a result of poorly designed workstations (e.g. desk, chair, keyboard, screen etc.) or a poor environment (e.g. glare, insufficient lighting, draughts etc.). The causes may not always be obvious and can be due to a combination of factors.

The Health and Safety (Display Screen Equipment) Regulations are the main piece of legislation covering control of the risks to ‘users’ of such equipment. The primary purpose of the Regulations is to ensure that the display screen equipment and workstation enables users to work in adequate comfort and without risks to health.

Under the Regulations, the employer is required to analyse workstations to assess the risks and implement control measures to reduce risks to the user; ensure that the workstations meet specified minimum requirements; plan work activities; and train employees.

DISPLAY SCREEN EQUIPMENT

Display screen equipment means “any alphanumeric or graphic display screen”. This includes conventional computer screens, flat-panel displays, touch screens, laptops, microfiche readers and process control screens.

However, the Regulations do not apply to the following equipment:

- Drivers’ cabs or control cabs for vehicles or machinery;
- Display screen equipment on board a means of transport;
- Display screen equipment mainly intended for public operation;
- Portable systems such as laptops, unless they are in prolonged use in which case the Regulations do apply;
- Calculators, cash registers or any equipment with a small measurement display, unless they are in prolonged use;
- Window typewriters showing no more than a few lines of text.

WORKSTATION

A workstation includes:

- Display screen equipment, keyboard, software and any optional accessories to the display screen equipment;
- Any disk drive, telephone, modem, printer, document holder, chair, desk, work surface or other item peripheral to the display screen equipment;
- The immediate work environment around the display screen, for example, noise, lighting, temperature, space and ventilation.

All of these must be included in the risk assessment and should meet the requirement laid down in the Schedule to the Regulations (see Appendix 1).

USER

Within the Regulations, ‘user’ means an employee who habitually uses display screen equipment as a significant part of his / her normal work. However, the test of who is a ‘user’ does not only include the length of time display screen equipment is used.

Guidance to the Regulations gives the following criteria for a ‘user’:

- The individual depends on the use of display screen equipment to do the job.
- The individual has no choice in the use of the display screen equipment.
- The individual needs significant training and/or skills in the use of display screen equipment.
- The individual normally uses display screen equipment for continuous or near continuous spells of an hour or more at a time.
- The individual uses display screen equipment in this way more or less daily.
- Fast transfer of information between the user and screen is an important requirement of the job.
- The performance requirements of the system demand high levels of attention and concentration by the user.

If all, or most, of these criteria are met, the employee is classified as a DSE ‘user’.

OCCUPATIONAL HEALTH RISKS

The prolonged use of display screen equipment can put people’s health at risk. The effects from such work include:

- **Upper limb disorders** (also called repetitive strain injuries) which can cause pain in hands, wrists, shoulders, neck and back. If untreated, some of these disorders can lead to long term or even permanent disability. These disorders are caused by poor design or wrongly- adjusted equipment; sitting for too long in one position etc.
- **Eye and eyesight** effects including headaches, sore eyes and blurred vision. These effects result in temporary eyestrain but do not permanently damage the eyes. They may be caused by not taking enough breaks away from the screen; badly designed, adjusted or positioned equipment; poor lighting and glare; small text size or flickering image on the screen.
- **Fatigue and Stress**, which is the second most common cause of occupational ill health. Prolonged or particularly intense periods of stress can lead to physical and/or mental illness as well as behavioural changes which can damage health, such as smoking or drinking. Many symptoms described by DSE workers reflect stresses arising from their work. Symptoms may be linked to upper limb or visual problems but there is evidence that stress often contributes as well.

THE DSE ASSESSMENT

The Regulations require all employers to undertake a suitable and sufficient analysis of the workstations of users, for the purpose of assessing the health and safety risks to which those persons are exposed as a consequence of that use.

The assessment is designed to establish whether a user’s workstation fulfils minimum criteria, as specified in the Schedule to the Regulations (see Appendix 1).

Assessment of the Risk - Risk assessment should first identify any hazards and then evaluate risks and their extent. Risks to health may arise from a combination of factors and are particularly likely to occur when the work, workplace and work environment do not take account of workers’ needs.

Therefore, a suitable and sufficient analysis should:

- Be systematic, including investigation of non-obvious causes of problems. For example poor posture may be a response to screen reflections or glare, rather than poor furniture.
- Be appropriate to the likely degree of risk. This will largely depend on the duration, intensity or difficulty of the work undertaken, for example the need for prolonged high concentration because of particular performance requirements.
- Be comprehensive, considering both the results of analysis of the workstation (equipment, furniture, software and environment); and organisational and individual factors, including things like workloads and working patterns, provision of breaks, training and information, and any special needs of individuals (such as people with a disability).
- Incorporate information provided by both employer and worker.
- Include a check for the presence of desirable features as well as making sure that bad points have been eliminated.

Shared workstations – Where one workstation is used by more than one worker, whether simultaneously or in shifts, it should be analysed and assessed in relation to all those covered by the DSE Regulations. For example if a very tall and a very short worker are sharing a workstation, the assessor should check the chair has a wide enough range of adjustment to accommodate both of them, and that a footrest is available when required.

If it is decided that the current workstation where DSE is used is not comfortable or does not have all the facilities necessary for the user to undertake the task safely, then further action is required.

Further Control Measures – Any shortcomings discovered by the assessment should be rectified as soon as is reasonably practicable. This may require replacement of either workstation or ancillary equipment; reorganisation of the current equipment or work area; or training in how to adjust / operate the current equipment correctly.

In addition to any further action that may have been identified by the assessment of the workstation, it is important to consider control measures related to organisational or individual factors that can play a vital role in preventing unnecessary stress and fatigue to the user. These control measures include:

- **Work organisation** – Many of the health and safety problems associated with display screen work can be avoided or reduced by good design of the task. Where possible, jobs should be designed with plenty of variety, appropriate software, a degree of personal control over the pace and nature of the tasks and should avoid prolonged periods at work at the screen where possible. Special care should be taken to avoid periods of high-speed keystroke work. Display screen work should be interspersed with non-screen tasks that have different wrist, arm and shoulder movements.
- **Change of Activity / Rest breaks** – Breaking up long spells of DSE work can help prevent upper limb problems, eyestrain, backache and fatigue. When organising work, changes of activity such as telephone calls, filing, photocopying etc. should be incorporated into the work where possible. Formal rest breaks are not required by the Regulations, and in practice, may be less effective in relieving muscular strain and tension than non-screen activities. However,

where continuous on screen work is likely, users should be instructed to break from screen work for 5-10 minutes every hour. Users should not be allowed to 'bank' breaks from display screen work and take breaks of, for example 15-20 minutes every 2 hours, as this significantly reduces the health benefits of the break. Individual control over work patterns is the ideal as long as users do not work intensely for too long, skip breaks or use them for other computer-based activities.

- **Information / instruction / training** – DSE users need to be adequately trained, informed and supervised in the use of the systems and software provided at their workstations. They need to understand the tasks they have to do, and how to do them properly. Similarly, they need to be shown how to achieve a comfortable working position, and be given information on:

- Risks associated with using display screen equipment.
- The importance of adopting good posture and changing position.
- How to adjust the furniture and workplace to avoid possible risks.
- Importance of adjusting and cleaning the screen, mouse and keyboard.
- Organising the work to include changes of activity or breaks.
- Who to contact to report any problems or symptoms.
- How to complete or contribute to a DSE assessment.

- **Eye tests and provision of corrective appliances** – Users can ask their employer to provide and pay for an eye and eyesight test, although there is no requirement that users must undergo such a test. This is a test by an optometrist or doctor who will assess visual capability at the normal viewing distance for a display screen. These employees are also entitled to further tests at regular intervals - the optometrist doing the first test can recommend when the next should be as frequency will vary according to the individual. If in the meantime an individual has visual problems which may be related to work with DSE, the employer has to provide another test on request.

Any corrective appliances for example glasses prescribed specifically for working at a display screen, must be provided at the employer's expense. This does not mean that all glasses must be supplied free of charge. If the user already wears glasses, and these are adequate for normal work, then there is no duty for the employer to supply additional equipment, nor to pay for that which the employee already has. However, where spectacle wearers may require a different pair of glasses specifically for working with display screen equipment the employer is responsible for their provision.

The employer is only obliged to pay the minimum cost of obtaining suitable lenses and a standard frame. Should the wearer wish for a more expensive model, the additional expense should be borne by the user.

RECORDING THE ASSESSMENT

A checklist can be used as an aid to risk assessment and to help comply with the Schedule to the Regulations (an example DSE assessment form is provided in Appendix 2).

REVIEWING THE ASSESSMENT

The assessment (or relevant parts of it) should be reviewed in the light of new display screen workers, or changes in individual capability and where there has been some significant change to the workstation or work such as:

- a major change to software used.
- a major change to the hardware (screen, keyboard, input devices, etc).
- a major change in workstation furniture.
- a substantial increase in the amount of time required to be spent using display screen equipment.
- a substantial change in other task requirements (e.g. more speed or accuracy).
- if the workstation is relocated.
- new users start work or change workstations.
- if the lighting is significantly modified.

FURTHER GUIDANCE

- INDG36 Working with display screen equipment (DSE) – A brief guide:
www.hse.gov.uk/pubns/priced/indg36pdf
- L26 Work with display screen equipment (HSE) – A brief guide:
www.hse.gov.uk/pubns/priced/l26.pdf

These documents are available to download free of charge from www.hse.gov.uk/pubns/books/

APPENDIX 1 – THE SCHEDULE

Which sets out the Minimum requirements for workstations which are contained in the annex to council directive 90/270/EEC on the minimum safety and health requirements for work with display screen equipment.

1. Extent to which employers must ensure that workstations meet the requirements laid down in this schedule

An employer shall ensure that a workstation meets the requirements laid down in this Schedule to the extent that:

- a) those requirements relate to a component which is present in the workstation concerned;

- b) those requirements have effect with a view to securing the health, safety and welfare of persons at work; and
- c) the inherent characteristics of a given task make compliance with those requirements appropriate as respects the workstation concerned.

2. Equipment

- a) **General comment** – The use as such of the equipment must not be a source of risk for operators or users.
- b) **Display screen** – The characters on the screen shall be well-defined and clearly formed, of adequate size and with adequate spacing between the characters and lines. The image on the screen should be stable, with no flickering or

other forms of instability. The brightness and the contrast between the characters and the background shall be easily adjustable by the operator or user, and also be easily adjustable to ambient conditions. The screen must swivel and tilt easily and freely to suit the needs of the operator or user. It shall be possible to use a separate base for the screen or an adjustable table. The screen shall be free of reflective glare and reflections liable to cause discomfort to the operator or user.

- c) **Keyboard** – The keyboard shall be tiltable and separate from the screen so as to allow the operator or user to find a comfortable working position avoiding fatigue in the arms or hands. The space in front of the keyboard shall be sufficient to provide support for the hands and arms of the operator or user during pauses in keying. The keyboard shall have a matt surface to avoid reflective glare. The arrangement of the keyboard and the characteristics of the keys shall be such as to facilitate the use of the keyboard. The symbols on the keys shall be adequately contrasted and legible from the design working position.
- d) **Work desk or work surface** – The work desk or work surface shall have a sufficiently large, low-reflectance surface and allow a flexible arrangement of the screen, keyboard, documents and related equipment. The document holder shall be stable and adjustable and shall be positioned so as to minimise the need for uncomfortable head and eye movements. There shall be adequate space for operators or users to find a comfortable position.
- e) **Work chair** – The work chair shall be stable and allow the operator or user easy freedom of movement and a comfortable position. The seat shall be adjustable in height. The seat back shall be adjustable in both height and tilt. A footrest shall be made available to any operator or user who wishes one.

3. Environment

- (a) **Space requirements** – The workstation shall be dimensioned and designed so as to provide sufficient space for the operator or user to change position and vary movements.
- (b) **Lighting** – Any room lighting or task lighting provided shall ensure satisfactory lighting conditions and an appropriate contrast between the screen and the background environment, taking into account the type of work and the

vision requirements of the operator or user. Possible disturbing glare and reflections on the screen or other equipment shall be prevented by coordinating workplace and workstation layout with the positioning and technical characteristics of the artificial light sources.

- (c) **Reflections and glare** – Workstations shall be so designed that sources of light, such as windows and other openings, transparent or translucent walls, and brightly coloured fixtures or walls cause no direct glare and no distracting reflections on the screen. Windows shall be fitted with a suitable system of adjustable covering to attenuate the daylight that falls on the workstation.
- (d) **Noise** – Noise emitted by equipment belonging to any workstation shall be taken into account when a workstation is being equipped, with a view in particular to ensuring that attention is not distracted and speech is not disturbed.
- (e) **Heat** – Equipment belonging to any workstation shall not produce excess heat which could cause discomfort to operators or users.
- (f) **Radiation** – All radiation with the exception of the visible part of the electromagnetic spectrum shall be reduced to negligible levels from the point of view of the protection of operators' or users' health and safety.
- (g) **Humidity** – An adequate level of humidity shall be established and maintained.

4. Interface between computer and operator/user

In designing, selecting, commissioning and modifying software, and in designing tasks using display screen equipment, the employer shall take into account the following principles:

- (a) software must be suitable for the task;
- (b) software must be easy to use and, where appropriate, adaptable to the level of knowledge or experience of the operator or user; no quantitative or qualitative checking facility may be used without the knowledge of the operators or users;
- (c) systems must provide feedback to operators or users on the performance of those systems;
- (d) systems must display information in a format and at a pace which are adapted to operators or users;
- (e) the principles of software ergonomics must be applied, in particular to human data processing

APPENDIX 2 – DSE ASSESSMENT FORM

DSE Assessment

Workstation location:

User(s):

Date of assessment:

Assessment carried out by:

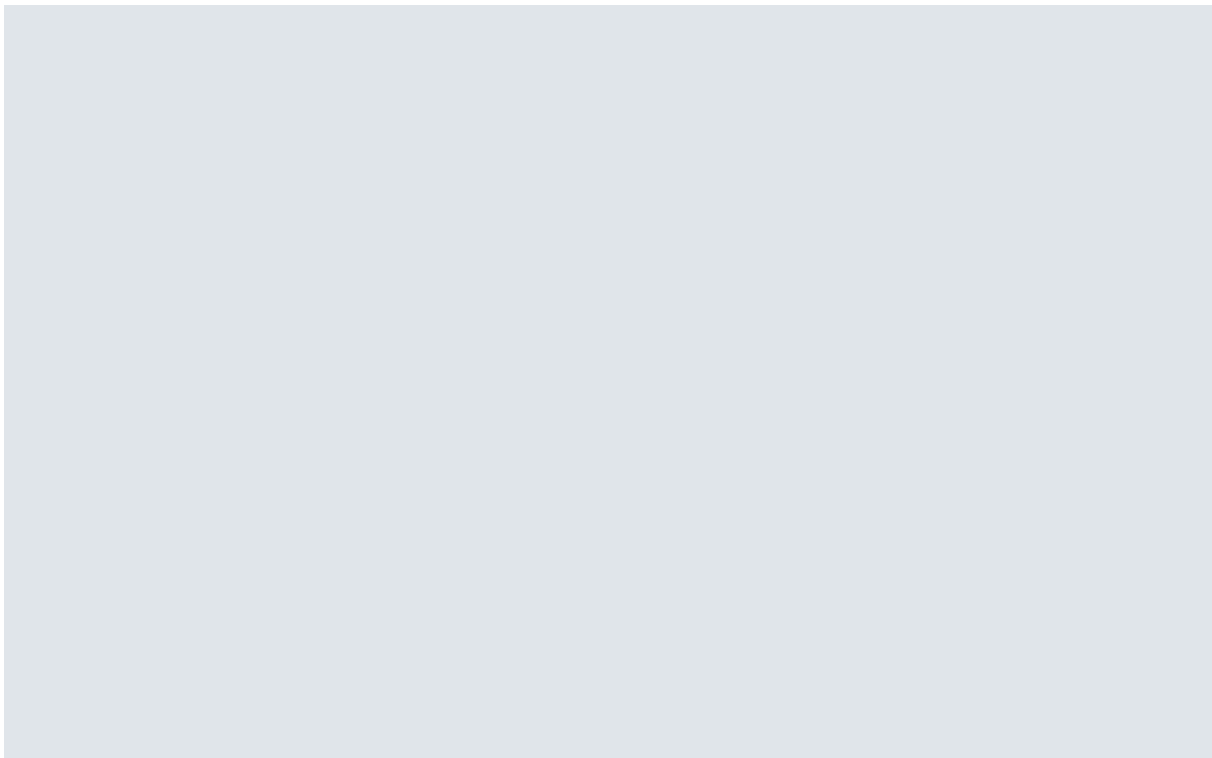
Any further action needed:

	Yes	No
1 DISPLAY SCREEN		
1.1 Is the screen in good condition?	<input type="checkbox"/>	<input type="checkbox"/>
1.2 Is the screen clean?	<input type="checkbox"/>	<input type="checkbox"/>
1.3 Is the information on the screen large enough to see easily?	<input type="checkbox"/>	<input type="checkbox"/>
1.4 Is the information on the screen clearly defined and easy to read?	<input type="checkbox"/>	<input type="checkbox"/>
1.5 Are the brightness and contrast controls adequate and easily adjustable?	<input type="checkbox"/>	<input type="checkbox"/>
1.6 Is the image stable?	<input type="checkbox"/>	<input type="checkbox"/>
1.7 Is the image flicker free?	<input type="checkbox"/>	<input type="checkbox"/>
1.8 Have reflections and/or glare which cause problems been eliminated?	<input type="checkbox"/>	<input type="checkbox"/>
1.9 Is the monitor stable?	<input type="checkbox"/>	<input type="checkbox"/>
1.10 Does the monitor swivel from side to side sufficiently?	<input type="checkbox"/>	<input type="checkbox"/>
1.11 Does the screen tilt upwards and downwards sufficiently?	<input type="checkbox"/>	<input type="checkbox"/>
2 KEYBOARD		
2.1 Is the keyboard in good condition?	<input type="checkbox"/>	<input type="checkbox"/>
2.2 Is the keyboard separate from the screen?	<input type="checkbox"/>	<input type="checkbox"/>
2.3 Can the keyboard be tilted?	<input type="checkbox"/>	<input type="checkbox"/>
2.4 Are the symbols adequately readable?	<input type="checkbox"/>	<input type="checkbox"/>
2.5 Does the user have good keyboard posture and technique?	<input type="checkbox"/>	<input type="checkbox"/>
3 WORK DESK / WORK SURFACE		
3.1 Is there adequate free space on the desktop for your job?	<input type="checkbox"/>	<input type="checkbox"/>
3.2 Is there adequate space on the work surface in front of the desk to support hands and arms if required?	<input type="checkbox"/>	<input type="checkbox"/>
3.3 Is there adequate leg room clearance below the desktop?	<input type="checkbox"/>	<input type="checkbox"/>
3.4 Is there adequate front to back leg room under the desk?	<input type="checkbox"/>	<input type="checkbox"/>
3.5 Is there adequate side to side leg room under the desk?	<input type="checkbox"/>	<input type="checkbox"/>
3.6 Is the surface of the desk a matt finish?	<input type="checkbox"/>	<input type="checkbox"/>
3.7 Is the layout of the desktop equipment (such as telephones) satisfactory?	<input type="checkbox"/>	<input type="checkbox"/>
3.8 If the desk height is adjustable, can you adjust it easily and safely?	<input type="checkbox"/>	<input type="checkbox"/>
4 CHAIR		
4.1 Is the chair comfortable?	<input type="checkbox"/>	<input type="checkbox"/>
4.2 Does the chair provide adequate support for the lower back?	<input type="checkbox"/>	<input type="checkbox"/>
4.3 Is the seat height adjustable?	<input type="checkbox"/>	<input type="checkbox"/>
4.4 Is the backrest height adjustable?	<input type="checkbox"/>	<input type="checkbox"/>
4.5 Is the back rest rake angle adjustable?	<input type="checkbox"/>	<input type="checkbox"/>
4.6 Is the chair provided with castors?	<input type="checkbox"/>	<input type="checkbox"/>
4.7 Does the chair rotate easily?	<input type="checkbox"/>	<input type="checkbox"/>
4.8 Is the chair adjusted correctly?	<input type="checkbox"/>	<input type="checkbox"/>
5 MOUSE / ROLLERBALL		
5.1 Does the mouse function correctly without undue arm or wrist movement?	<input type="checkbox"/>	<input type="checkbox"/>
5.2 Is there sufficient space for the mouse and its friction pad?	<input type="checkbox"/>	<input type="checkbox"/>
5.3 Is the mouse positioned close to the user?	<input type="checkbox"/>	<input type="checkbox"/>
6 ANCILLARY EQUIPMENT		
6.1 Has a stable and adjustable document holder been provided if required?	<input type="checkbox"/>	<input type="checkbox"/>
6.2 Is a footrest provided, if needed?	<input type="checkbox"/>	<input type="checkbox"/>
6.3 Have you been provided with an adequate task light if required?	<input type="checkbox"/>	<input type="checkbox"/>

	Yes	No
7 WORKING SPACE		
7.1 Does the layout of your immediate work area allow you to do your job properly?	<input type="checkbox"/>	<input type="checkbox"/>
7.2 Are you easily able to get to the equipment you need to perform your job?	<input type="checkbox"/>	<input type="checkbox"/>
7.3 Have any obstructions or hazards at or around your work area been eliminated?	<input type="checkbox"/>	<input type="checkbox"/>
8 POSTURE		
8.1 Is there sufficient room for you to adopt a range of different postures whilst working at the keyboard and screen?	<input type="checkbox"/>	<input type="checkbox"/>
8.2 Are you able to adjust your workstation and its equipment to a comfortable posture when keying?	<input type="checkbox"/>	<input type="checkbox"/>
8.3 Can you achieve a comfortable viewing distance from the screen?	<input type="checkbox"/>	<input type="checkbox"/>
8.4 Are forearms horizontal?	<input type="checkbox"/>	<input type="checkbox"/>
8.5 Are eyes approximately level with the top of the screen?	<input type="checkbox"/>	<input type="checkbox"/>
8.6 Are feet flat on the floor or a footrest?	<input type="checkbox"/>	<input type="checkbox"/>
9 LIGHTING		
9.1 Have glare or reflections on the screen been eliminated?	<input type="checkbox"/>	<input type="checkbox"/>
9.2 Does the general office lighting enable you to view the screen clearly?	<input type="checkbox"/>	<input type="checkbox"/>
9.3 Have adequate window blinds been provided where required?	<input type="checkbox"/>	<input type="checkbox"/>
9.4 Is the lighting suitable for other office tasks?	<input type="checkbox"/>	<input type="checkbox"/>
10 NOISE		
10.1 Are you always able to hear normal speech levels when at your workstation?	<input type="checkbox"/>	<input type="checkbox"/>
10.2 Have any particular sources of noise that cause you problems been eliminated?	<input type="checkbox"/>	<input type="checkbox"/>
10.3 Is it quiet enough for you to do your work properly?	<input type="checkbox"/>	<input type="checkbox"/>
11 HEAT / HUMIDITY		
11.1 Is the temperature / humidity level comfortable?	<input type="checkbox"/>	<input type="checkbox"/>
11.2 If the workstation equipment produces excessive heat, does the work area remain comfortable?	<input type="checkbox"/>	<input type="checkbox"/>
11.3 Is the work area free from drafts?	<input type="checkbox"/>	<input type="checkbox"/>
11.4 Is the ventilation adequate to avoid discomfort from dry eyes or nose and throat?	<input type="checkbox"/>	<input type="checkbox"/>
12 WORK ORGANISATION		
12.1 Are you able to organise your work so as to ensure adequate screen breaks?	<input type="checkbox"/>	<input type="checkbox"/>
12.2 Is the software generally suitable for the tasks you carry out?	<input type="checkbox"/>	<input type="checkbox"/>
12.3 Do you change activity / break after 50-60 minutes of continuous work?	<input type="checkbox"/>	<input type="checkbox"/>
13 TRAINING		
13.1 Have you received adequate instructions in how to use your workstation to achieve a good working posture?	<input type="checkbox"/>	<input type="checkbox"/>
13.2 Have you received adequate instructions in how to adjust your chair to achieve a good working posture?	<input type="checkbox"/>	<input type="checkbox"/>
13.3 Have you received adequate training in use of the software?	<input type="checkbox"/>	<input type="checkbox"/>
14 EYE TESTS		
14.1 Do you experience discomfort or pain in the eyes?	<input type="checkbox"/>	<input type="checkbox"/>
14.2 Are you aware of the availability of eye/eyesight tests for DSE Users?	<input type="checkbox"/>	<input type="checkbox"/>
15 SAFETY		
15.1 Is the work area free from any trip hazards, such as cables, wires, etc. or other safety risks?	<input type="checkbox"/>	<input type="checkbox"/>
15.2 Are all electrical appliances tested (preferably annually) in accordance with the Electricity at work Regulations?	<input type="checkbox"/>	<input type="checkbox"/>

	Yes	No
16 UPPER LIMB DISORDERS		
16.1 Do you have any previous history of upper limb disorders?	<input type="checkbox"/>	<input type="checkbox"/>
16.2 Do you suffer aches or discomfort in your upper body (e.g. Hands, arms, neck, back, etc.)?	<input type="checkbox"/>	<input type="checkbox"/>
16.3 Are the aches or discomfort aggravated by prolonged use of the display equipment?	<input type="checkbox"/>	<input type="checkbox"/>
17 SPECIAL NEEDS		
17.1 Are you satisfied that you have no special needs that should be taken into account?	<input type="checkbox"/>	<input type="checkbox"/>
18 HOME USE		
18.1 Do you use keyboards or workstations at home or elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>
18.2 Do you use display screen equipment at home for work purposes?	<input type="checkbox"/>	<input type="checkbox"/>

NOTES:



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