



USE OF DISPLAY SCREEN EQUIPMENT

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INTRODUCTION

The majority of NERC staff use display screen equipment (DSE), usually referred to as a visual display unit (VDU). Users of DSE may experience fatigue, muscular aches and strains or eyestrain. These symptoms, which are usually short-lived, can develop into more serious and long-lasting effects in some cases. This procedure aims to avoid these effects by providing appropriate equipment, training and guidance, and identifying problems at an early stage when treatment is more effective.

Assessment and management of DSE usage is covered in the **Health & Safety (Display Screen Equipment) Regulations (1992) as amended by the Health and Safety (Miscellaneous Amendments) Regulations 2002.**

Employers are required to:

- Assess each user's workstation.
- Review the assessment whenever necessary.
- Minimise the risks as far as practicable.
- Manage the work routine to allow users to have periodic breaks or changes of activity.
- Arrange for users to have an appropriate eye test on request, supply glasses if necessary and arrange further tests at regular intervals.
- Train users in the use of the workstation, and re-train them when workstations are substantially modified.
- Keep users informed about health and safety aspects of their workstations and the measures taken to comply with the regulations.

All signs and symptoms of musculo-skeletal effects must be entered in the local Accident Reporting System as soon as they are noticed. Document further developments and actions taken.

Display Screen Equipment (DSE) includes:

- All computer display screens (VDUs)
- Other visual displays such as those on machines, control panels etc.

Within NERC all staff are regarded as DSE 'Users' as defined by the Regulations.



CONTENTS:

- Significant changes since last version
- Operational procedure
- Roles and responsibilities
- System flow diagram
- What might go wrong? – probable sources of system and individual failure
- Management, monitoring and auditing
- Appendices:
- Appendix I: Summary of Health & Safety (Display Screen Equipment) Regulations (1992)
- Appendix II: Working in comfort with your VDU
- Appendix III: Common problems - Upper Limb Disorder, eyestrain & headaches
- Appendix IV: Training and further information
- Appendix V: Self-assessment form
- Appendix VI: Laptops and Personal Digital Assistants (PDA's)
- Appendix VII: Sources of further information

NOTE:

Portable or laptop computers are not suitable for prolonged work unless they are used in a docking station with a full-sized keyboard, mouse and, preferably, a monitor. If these requirements cannot be met, laptops may be used for short periods not exceeding 2 hours per day. This also applies to all portable digital assistants (PDA's) See Appendix VI for further information.



SIGNIFICANT CHANGES SINCE LAST VERSION

Update of checklist consistent with the latest HSE guidance. Clarification of management of Upper Limb Disorder (ULD) related to use of Display Screen Equipment (DSE). Introduction of guidance on documentation on audit endpoints. Inclusion of PDA's in Appendix VI

OPERATIONAL PROCEDURE

This is a particularly difficult area to manage. Problems range from staff being unhappy with furniture to major, serious, irreversible injury. Upper Limb Disorder (previously known as Repetitive Strain Injury) is not a single medical condition but a range of them grouped together only because of similarity of effects, not a similarity of cause. The condition is characterised by symptoms (reported effects describable by people) with few, if any, signs (measurable changes in anatomy or physiology) particularly at the early stages. Indications are that reported ULD symptoms are on the increase (though not universally in NERC). The disorder can, and often does, have a rapid onset. Moving from first symptoms to serious injury can also be very rapid. Research by HSE indicates that almost all users of keyboards / mouse have some measurable changes compared to controls; these are only measurable using specialist sensitive equipment. All of us are, therefore, potential sufferers.

Management must, therefore, be a continuous process rather than an occasional one.

Assessment of DSE Workstations should include these steps:

- Establishment of any pre-existing conditions through pre-employment health checks
- Completion of regular (annual) self assessments by users (a new assessment form has been produced recently by HSE and NERC has generated its own version of this which is available on the website – <http://www.nerc.ac.uk/healthsafety/docs/safetyforms/vduchecklist> and copied in Appendix V)
- Eye tests must be available to staff at NERC expense. If staff need spectacles specifically for DSE use, their optician must conform this in writing and NERC should pay for the spectacles – see Staff Notice 2/98 for further details.
- Completion of new self assessments if circumstances change (new equipment, new position of workstation, significant new software or job specification).
- Completion of new self assessments immediately if symptoms develop.
- Help with or follow up of this self assessment by competent people.
- The competent people can, in the first instance, be NERC staff trained in the basics of assessment. One per Section or Group will be able to keep a regular eye open for problems even if they are not reported by users.
- External assessors may be used but should be brought in only after an internal assessment has been made and, ideally, following an initial diagnosis of the problem (see below) to focus actions.

If any of these steps further identifies problems, there **must** be follow up:

- The nature of the problem must be identified because management varies according to the particular type of symptom / injury.
- During this initial establishment of cause, the workstation, work patterns, software etc. should be changed along general lines. Do not wait for final diagnosis. Help with this general management can be obtained from the Safety Advisers.
- General Practitioners may produce sick-notes identifying specific disorders; these can be misleading because proper diagnosis is not easy in general practise.
- Staff must be referred on to a specialist.
- This would normally be the Occupational Health provider for the site in the first instance
- If more specialist expertise is required for a full diagnosis, the OHS would arrange for a consultation.
- Along with the diagnosis, the specialist / consultant medical staff will give guidance on how the problem should be managed (if they don't, ask for it).
- Some problems can be managed by surgery, however, further disorders can develop as indirect results. All staff who have received surgery must be observed and supported closely afterwards for these indirect effects.
- Other problems will not require direct medical intervention but might be manageable by changes in working practise; specialist companies are available who will assess the needs and suggest equipment to manage the problem.

All of the above steps must be recorded carefully and a specific individual Safe System of Work generated for (and with) the individual involved.

Responsibility for managing ULD falls with normal line management structures. Within NERC the primary management would be by Section Heads with the assistance of Safety Advisers. Higher management should be informed of the problem and how it is being managed.

ULD is reportable under the RIDDOR regulations. The time to report is when a full medical diagnosis is available. All RIDDOR reports should go through the manager responsible on each site – normally the Site Manager; they will know that copies must be sent to Swindon Office. HSE will normally follow up such reports with either a visit or a questionnaire on how we manage this area of H&S.

NOTE: Home working on computers should also be considered in assessments. Other activities can also cause comparable symptoms of ULD; the employer is clearly not responsible for that. Laptops are a particular problem – see guidance in Appendix IV.

Organisation of management of Upper Limb Disorder should be at site level to ensure consistency and continuity of approach.

OPERATIONAL PROCEDURE Continued

Safe systems of work: a safe system of work is a way of working agreed between manager and staff to avoid personal injury. For people with severe or recurring musculo-skeletal problems linked with the use of computer equipment, the system must cover how tasks should be done, variation in work patterns, reporting of symptoms and progress, supervision etc. together with any equipment identified as contributing to the management of the problem.

Information: Managers must inform staff about the regulations, and about local procedures for implementing them, see Appendix IV.

Encourage and monitor feedback: Managers should encourage staff to report any problems. Details of strains, fatigue or injuries should be entered in the local Accident Reporting System and action to deal with them should be recorded.

DOCUMENTATION

Self Assessment forms must be completed annually by all staff, including students and casual staff (the last should complete an assessment at the start of employment). All self assessment forms should be retained until at least 7 years post-employment.

If problems are identified, records should be kept of actions taken such as:

- Further local assessments, equipment changes and advice given
- Referrals to the Occupational Health provider or specialist consultant
- Advice given by the above
- Safe Systems of Work developed between management and individuals on how the problem should be managed.
- Management of the SSW including tracking progress of ULD
- Any medical interventions such as operations or physiotherapy
- Disciplinary actions if the individual fails to follow the SSW.

Records of the management of individuals reporting problems should be retained until at least 7 years post-employment. Medical records are not, and must not, be made available to management.

AUDIT END POINTS

- Completion of self assessments by all staff annually
- Local follow-up of problems identified – no open loops
- Training of local DSE Assessors
- Referral to the Occupational Health provider (full documentation).
- Development of Safe Systems of Work (full coverage)
- Management of SSWs – documentation
- Staff and management understanding of the processes and aims of the 'Use of Display Screen Equipment' Procedure (assessed by interview).
- Success of the management of ULD (assessed by targeted interview with selected sufferers).

ROLES AND RESPONSIBILITIES

Research Centre Director: responsible for:

- supporting positive action by all management levels.
- delegating responsibility to the appropriate person.
- requesting audits.

Site Director/ Head of Administration: responsible for:

- appointment and training of competent persons (local DSE Assessors and Occupational Health provider)
- providing resources to correct problems identified in assessments.
- setting policy for record keeping .
- monitoring the effectiveness of the system.
- cooperation with audits.
- informing Research Centre Director of problems and progress.
- acting on cases of upper limb disorder, monitoring effectiveness of action.
- setting up safe systems of work where required in cooperation with the individual affected

Division/ Section/ Group/ Unit heads: responsible for:

- nomination of local DSE Assessors
- acting on recommendations of workstation assessments.
- Ensuring that Safe Systems of Work are complied with.
- record keeping and monitoring the effectiveness of safety systems.
- organising inspection of workstations of staff they manage.
- informing Site Director of problems and progress.
- ensuring consistency of approach with other checkers.

People trained to check assessments: responsible for:

- helping staff to complete assessments
- highlighting actions required to put right workstation problems.
- Informing Site Director / Head of Administration that individuals require referral to the Occupational Health provider for diagnosis.

Staff: responsible for:

- **reading guidance in Appendices II and III**
- **conducting self assessment of their workstations (Appendix V)**
- **informing manager as soon as problems are noticed**
- following management instructions.
- minimising risk to themselves and others.
- complying with the requirements of Safe Systems of Work
- reporting any adverse effects in the Accident Reporting System as early as possible.
- keeping managers informed of developments/progress.

Use of Display Screen Equipment (DSE) – SYSTEM DIAGRAM

Site Administration

Keep records of equipment, software and users

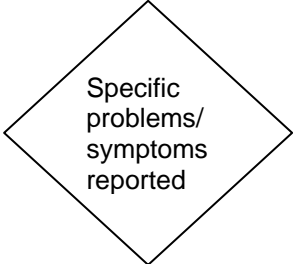
Site Administration

Arrange for pre-employment health check and then organise workstation assessments

- When staff are first employed
- When equipment is introduced
- When significant changes in equipment occur
- When new staff are appointed
- When staff change jobs, tasks or software significantly
- When symptoms are reported
- Annually where none of the above change
- When staff move to new location

self assessments for each staff member/workstation

Checked by qualified assessor



NO

Revise assessment after agreed time period

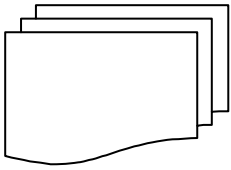
YES

Investigate and take action. This could include:

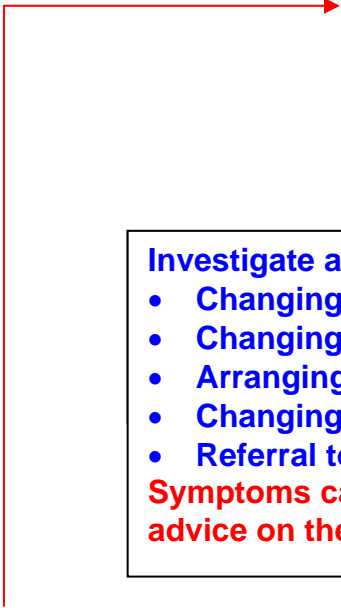
- Changing equipment, software or providing working aids
- Changing the furniture, room or environment
- Arranging for eye tests/spectacles
- Changing the pattern of work
- Referral to medical authorities

Symptoms can become severe and long-term. Always take advice on the appropriate action.

Monitor the effectiveness of the actions taken. Write a Safe System of Work and agree with the staff member if symptoms persist.



Record all decisions, actions and monitoring. Ensure that a full medical assessment is carried out in recurring or severe cases.



WHAT MIGHT GO WRONG? – probable sources of system and individual failure

Management:

Lack of Management Commitment: No safety culture due to lack of ownership. Managers unaware of conflicts between safety and other factors. Safety responsibilities delegated by management. Unclear responsibilities under Matrix Management system. **Remedy-** Management commitment at all levels and leadership by example. Managers to be aware of any inconsistencies and rapid and clear countering taken over negative messages. Managers to be aware of their levels of liability and to manage health & safety in line with their legal responsibilities. Establishment of clear lines of responsibility.

Pressure from supervisors: Most likely to affect more junior staff and, particularly, students and casual workers. **Remedy** – senior management support for susceptible staff. Make it clear to supervisors that such pressure is unacceptable. A culture of no blame and acting on information given.

Inadequate/unsuitable training: Personnel delegated to monitor self-assessment checklist and provide advice lack formal training. **Remedy** – Delegated personnel to attend accredited DSE Assessors training course prior to taking up responsibilities.

Sub-standard workstations: Staff employed at substandard workstations due to lack of resources or management commitment to new resources. Lack of facilities when working for extended periods in the field. **Remedy** – Management to make funds available for improvements required to comply with the legislation. Fieldwork risk assessed and best practice followed.

MAKE SURE THE MESSAGE IS CONVINCING, CONSISTENT AND ENFORCED – MANAGERS MUST MANAGE.

Staff:

Over-commitment to the job: Common in self-motivated scientists. **Remedy** – The message is that “short-term savings in time can lead to long-term adverse consequences for the individual and the organisation”.

Home working: Damage done on poorly set up systems at home will be worsened by use of work computer systems, however well designed. **Remedy** – Computer systems used at home for NERC business, whether provided by NERC or bought by staff, should be assessed in the same way as those at work. Conduct “Self Assessment” of your home system and ask for advice from competent people at work. **NOTE: “Home Workers”, that is people working at home as part of a formal agreement, will have formal assessment done of their home systems and the organisation will provide equipment and furniture as appropriate.**

Leisure activities: Many leisure activities can cause injuries or adverse musculo-skeletal effects similar to those caused by the use of computers. **Remedy** – if you have been advised to rest from computer work to allow recovery, you must also avoid other activities which exacerbate the problems.

Upper Limb Disorders (ULDs) not reported: Staff failure to report suspected cases of ULD due to lack of knowledge of symptoms or corporate ‘blame culture’. **Remedy** – Managers to ensure staff are adequately informed/instructed/trained. Clear message delivered of ‘no blame’ reporting practices.

MANAGEMENT, MONITORING AND AUDITING

Management:

The management of the use of DSE requires:

- Clear lines of responsibility
- The setting of priorities and goals
- Commitment to provide facilities and equipment required for safety
- Provision of accredited training where a need is identified
- Documentary evidence that tasks have been identified and assessed for risk
- Records of the assessments and agreed dates of revision
- Follow-up of actions taken as a result of reported symptoms
- Agreed monitoring and auditing systems
- Provision for staff feedback.

Monitoring:

The monitoring of the use of DSE requires:

- Documentation of the management system
- Written records of the process of assessment
- Documentation of management follow-up after introduction of such systems
- The recording of accidents, incidents, injuries, illness and fatigue associated with computer use
- Documentation of actions taken as a result of follow-up and accident reporting
- Assessment of safety attitudes amongst staff
- Documentation of training undertaken
- Maintenance of equipment.

Auditing:

The auditing of the use of DSE requires:

- Checking that the above documentation is in place
- Certifying that training is adequate and accredited
- Assessing management and staff attitudes by interview
- Assessing the effectiveness of Safe Systems of Work

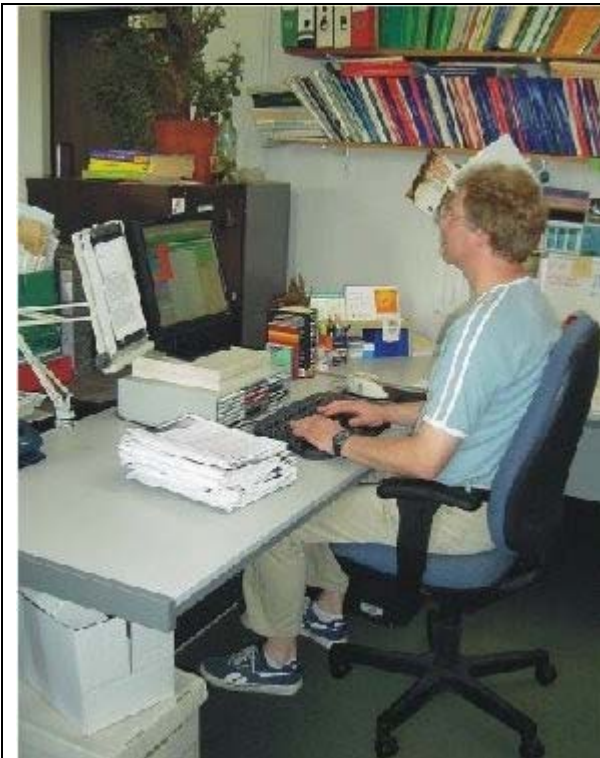
APPENDIX I: HEALTH AND SAFETY (DISPLAY SCREEN EQUIPMENT) REGULATIONS (1992) – Summary

- Employers to assess risks to users and operators of using work stations.
- Assessments should cover:
 - i. adequate lighting, heating and ventilation
 - ii. adequate contrast (no glare or distracting reflections)
 - iii. minimising distracting noise from the equipment
 - iv. leg room and clearance to allow postural changes
 - v. window covering (eg. blinds, curtains etc) to reduce glare
 - vi. software appropriate for the tasks performed
 - vii. screen: stable image, adjustable, readable, glare/reflection free
 - viii. keyboard: usable, adjustable, detachable, legible
 - ix. work surface: allow flexible arrangements, spacious, glare free
 - x. work chair: adjustable
 - xi. footrest if the user cannot put their feet firmly on the ground without one.
- Assessment to be reviewed whenever necessary.
- Employer to reduce risks identified to the lowest extent reasonably practicable.
- Employer to plan activities of users to allow periodic breaks/changes of activity.
- Employer must ensure that users are entitled to an appropriate eye test on request. Further tests to be carried out at regular intervals. Tests to be carried out if user has visual difficulties in using display screen. Employer to supply glasses if necessary for DSE work.
- Employer to ensure that users and forthcoming users are trained in use of workstation and to ensure that users are re-trained when workstations are substantially modified.
- Employer to provide adequate information to users on all aspects of health and safety related to their workstations and measures taken to comply with regulation.

APPENDIX II: FOR STAFF; HOW TO WORK IN COMFORT WITH YOUR VDU

The following points may help in setting up your workstation:

- Adjust your chair and VDU to find the most comfortable position for your work. As a broad guide, your upper arms should be vertical, your forearms approximately horizontal and your eyes at the same height as the top of the VDU casing.
- Position screen about 600mm from your eyes.
- Make sure there is enough space underneath your desk to move your legs freely. Move any obstacles such as boxes or equipment.
- Avoid excess pressure on the backs of your legs and knees. A footrest, particularly for smaller users, may be helpful.
- Don't sit in the same position for long periods. Make sure you change your posture as often as practicable. Some movement is desirable, but avoid repeat stretching movements.
- Adjust your keyboard and screen to get a good keying and viewing position. A space in front of the keyboard is sometimes helpful for resting the hands and wrists while not keying.
- Don't bend your hands up at the wrist when keying. Try to keep a soft touch on the keys and don't overstretch your fingers. Good keyboard technique is important.
- Remember that use of pointing devices are a source of possible problems. Use a mouse mat and ensure that the cable allows free use. If problems are encountered, consider the use of a graphics tablet as an alternative.
- Try different layouts of keyboard, screen and document holder to find the best arrangement for you.
- Make sure you have enough work space to take whatever documents you need. A document holder may help you to avoid awkward neck movements.
- Arrange your desk and screen so that bright lights are not reflected in the screen. You shouldn't be directly facing windows or bright lights. Adjust curtains or blinds to cut out unwanted light.
- Make sure the characters on your screen are sharply focused and can be read easily. They shouldn't flicker or move.
- Make sure there are no layers of dirt, grime or finger marks on the screen.
- Use the brightness control on the screen to suit the lighting conditions in the room.
- Plan work so there are breaks or changes of activity. The length or number of these is not specified precisely in the Regulations, as the need for breaks depends how intensely and for how long the employee has been using the VDU. But short, frequent breaks are better than longer, less frequent ones, and ideally the individual should have some discretion over when they are taken.
- Are aches and pains caused by using a VDU? Some VDU users may experience aches and pains in their hands, wrists, arms, neck, shoulders or back (that is to their musculoskeletal system), especially after long periods of uninterrupted VDU work. If this happens you should alert your supervisor or line manager. Usually these aches and pains do not last, but in a few cases they may become more persistent or even disabling. Most problems of this nature can be prevented by good workplace design and good working practices.



Recommended set-up for DSE workstations

- Balanced head position (chin upright)
- Shoulders relaxed
- Forearms horizontal
- Adequate light
- No glare or reflection from screen
- Balanced wrist position
- Screen that can tilt and swivel
- Keyboard - detached flat
- Chair with adjustable backrest (height, angle) and height (gas lift) and stable base Feet flat on floor or footrest



Recommended set –up for Touch Typists

- Touch Typist is likely to want less wrist support



Extensive mouse work requires good forearm support and plenty of free space on the desk

For more information on guidance for correct DSE posture visit www.ergoergo.info/ . Please note that the "workstation" set-up on this website is slightly incorrect. This is where it suggests having the mouse close in to the keyboard. This is fine for minimal mouse use but the "wrong" position on this diagram is more suitable for concentrated mouse use which is very common in NERC with Geographical Information Systems etc.

APPENDIX III: COMMON PROBLEMS - UPPER LIMB DISORDER (ULD), EYESTRAIN AND HEADACHES

Upper limb disorder

The adverse musculo-skeletal effects of using DSE are known as "upper limb disorder". Injury, in the sense of observable physical change or damage to tissues, is not always evident. Some people experience swelling of joint capsules or the surrounding tissue which is clear to see and may persist for long periods. Others suffer pain and restricted movement without measurable inflammation. Diagnosis can be difficult and normally involves consulting a specialist. Managers should aim to prevent such disorders because a cure may be difficult or impossible, and is always a slow process.

Factors that contribute to the development of ULD

- a) Factors that contribute to the development of ULD symptoms in keyboard workers are:
 - i. Pounding the keyboard
 - ii. High speed typing
 - iii. Bad posture while doing keyboard work
 - iv. Staying in one position for a long time (static muscle load)
 - v. Working at a keyboard for more than one hour in an office where the temperature is less than 16° C.
- b) Extended periods of non-work related activities may also cause ULD symptoms such as driving for long hours, driving awkward vehicles (Land Rovers, some four wheel drive vehicles) tennis, squash, badminton, golf, cricket, woodwork, needlework, knitting, home use of computers, playing a stringed instrument, writing etc....
- c) Most cases of ULD are the result of a combination of work and home activities.
- d) ULD symptoms should not be assumed to be solely work-related until the sufferer has had this confirmed by a specialist (not just a GP's opinion).

The main stages of ULD

- a) Aching and tiredness - a condition like writer's cramp, which eases overnight. Symptoms, may include a tingling or numbness in fingers or arms, or frequent 'pins and needles' in wrist, particularly when gripping objects. A temporary phenomenon which can be seen as a warning
- b) More persistent pain - symptoms begin earlier in the day, discomfort persists overnight; a more serious warning
- c) Permanent disability - continuous pain, inability to carry out simple tasks such as gripping or lifting anything. Unlikely to be curable by surgery, which may simply increase internal scarring and decrease flexibility. The injury may become permanent and irreversible
- d) ULD injuries may develop into conditions such as carpal tunnel syndrome and tendonitis if preventative action is not taken
- e) The onset of upper limb disorder may be rapid. It is important to take action quickly if you experience symptoms like those described above.

Recovery from ULD injuries

- a) Muscles, tendons and other soft tissues may be injured if you fail to follow the advice in this notice. The body's usual response to such injury is inflammation and internal scarring, which weakens the tissues during the healing process.
- b) Healing of damaged muscles does not begin until 48 hours after an injury, and may take weeks to complete.

Eyestrain and headaches

- check when your eyes were last tested
- make sure window blinds are properly adjusted to minimise glare
- adjust lighting levels to minimise glare
- check that the characters on your screen are sharp, easy to read and do not flicker

- adjust the contrast and brightness controls on your screen till it is comfortable to read
- make sure you take regular breaks and give your eyes a chance to focus at other distances

APPENDIX IV: TRAINING AND INFORMATION

Training:

A wide range of training is available for specific software packages and your Local Training Officer will be aware of what is available locally. Where staff have experienced symptoms of ULD, the local Occupational Health service will advise on experts who will give advice and training on the best arrangements for specific workstations. Training videos on the Regulations and DSE Assessments are available from the NERC Safety Adviser.

NERC DSE Assessors should be trained to a level at or equivalent to the IOSH course. Alternative suppliers of training include Ability Net.

External assessment should be conducted by competent Occupational Health providers or competent specialist consultants.

Information:

The Health & Safety (Display Screen Equipment) Regulations 1992 require the employer to provide adequate information on:

- All aspects of health and safety relating to the use of workstations
- Measures taken by management in compliance with their duties

This requirement to provide information covers users on site but employed by another employer, and to self-employed people.

Such information should be provided to personnel prior to them commencing work with Display Screen Equipment and should form part of the induction for new staff.

You can see the full text of the *Health & Safety (Display Screen Equipment) Regulations (1992)*, SI 1992 no 2792 on the Stationery Office website at <http://www.legislation.hmso.gov.uk/stat.htm#1992> .

The HSE free leaflet "Working with VDUs" is available from <http://www.hse.gov.uk/pubns/indg36.pdf>

Guidance on the regulations is available in a priced booklet *L26, Work with display screen equipment: guidance on regulations*, 2nd edition, published by HSE Books in 2003, ISBN 0 7176 2582 6, price £8.95.

APPENDIX V: SELF-ASSESSMENT FORM

The NERC VDU workstation checklist can be found at
<http://www.nerc.ac.uk/about/work/policy/safety/procedures.asp>

APPENDIX VI: LAPTOPS AND PERSONAL DIGITAL ASSISTANTS (PDA'S)

Laptop computers are subject to the DSE Regulations 2002 if they are in prolonged use. HSE guidance defines 'prolonged use' as referring to "equipment that is habitually in use by a DSE user for a significant part of his or her normal work." NERC still recommends that even for any use of a laptop which is not a significant part of normal work, the risks are assessed and preventive or protective measures under the Management of Health and Safety at Work Regulations are implemented.

Whilst the Guidance on Regulations does not specifically cover the requirements for the use of laptops, it does set out in the accompanying Schedule, the broad requirements for the equipment, software, workstations and training for designated 'users' of all forms of DSE.

Work hazards associated with laptop computers, like other hazards in the workplace, need to be properly assessed and controlled so as to minimise the risks to the health of the 'user', so far as is reasonably practicable. The 'user' has a responsibility to co-operate in assessing those risks and in complying with any control measures implemented for reasons of health or safety.

Where the assessment indicates that DSE provision will be subject to prolonged use - **the principal DSE provision** for employees must comply with the requirements of Schedule 2(c) of the DSE Regulations. This requires the keyboard and display screen to be separate and independently adjustable. Laptops do not normally meet this requirement unless 'docking stations' are provided; neither do they provide the conditions required by the Schedule in terms of the ergonomics of the workstation.

It is therefore normally inappropriate to use laptops routinely, unless adequate provision is made to comply with Schedule 2(c).

It is only appropriate to use a laptop computer where the assessment clearly indicates, that their use for directed work is occasional and for short periods of activity, or for use as an additional or temporary IT resource. Use of computers on NERC or other ships and planes is often only practicable by using laptops; the bullets below **must be followed** for such use.

When a laptop computer is to be used as DSE provision whilst at work, the 'user' should ensure in consultation with their line manager that: -

- a workstation assessment is undertaken and provision made accordingly
- adequate health and safety information, instruction and training is provided on the hazards and risks associated with the task, the equipment, the control measures and the correct arrangement for any workstation upon which the 'user' may be required to work
- they are aware, of what they as an individual can do to improve their own ergonomic environment and organisation of tasks, to minimise the risks associated with such work, whether they be at work, at home or travelling.
- they can recognise the early signs and symptoms of health problems associated with DSE work and take appropriate steps to adjust work patterns or workstation ergonomics or seek advice from their DSE assessor, the H&S advisers or the Occupational Health Service.
- they report symptoms of discomfort that may be caused by the use of portable computers as soon as they arise
- they manage their use of portable computers, so as to avoid extensive periods of use and change work activities more frequently

It is important to note that the employers duties in respect of the DSE Regulations, extends only to laptops (and similar equipment), which are provided for the purpose of work. It does not extend to personal equipment, which the 'user' elects to use at home for reasons of efficiency or convenience, but does apply when the user is an authorised home worker. NERC defines home-working as '**working at home** for either part or all of an employee's contracted working hours as opposed to working in an office or other workplace'. All 'working at home' would be formally agreed between employee and line management.

However, although strongly discouraged, it is recognised that some employees use their own personal laptop computer for work, (for reasons of convenience or efficiency), with their line-managers actual or implied consent. This places liability on the employer for any consequences arising out of its use.

This means that managers must manage the situation and employees must co-operate with management.

Responsibility and liability not only applies with the DSE Regulations, but also to the electrical integrity of the equipment. The user must co-operate fully with the employer in meeting their legal obligations, by permitting such equipment to be subjected to electrical inspection and testing by a competent person if required, as appropriate to NERC practice.

Failure to co-operate must result in line – managers withdrawing permission for individuals to use such equipment for work.

There is a range of health and safety hazards associated with the use of laptops. Due to the requirement for laptop computers to be compact and light, good ergonomic design is not possible which makes it more difficult to maintain a good posture whilst working. Other hazards associated with the use of laptop computers are manual handling and the increased risk of violent attack and theft. Further information is detailed below.

Ergonomic issues

Staff may use an inappropriate workstation for their laptop due to it being portable, i.e. on the train; this will increase the risk of problems caused by poor posture.

The principal hazards from the use of laptops are musculo-skeletal disorders such as back pain, neck pain and work-related upper limb disorders (WRULDs). Other hazards are visual fatigue, sore eyes and headaches, stress and physical fatigue.

Manual Handling

When choosing a laptop for use when travelling its design and weight should be taken into consideration to minimise the risk of an musculo-skeletal and back injury. Staff should:

- Try and reduce the total load that they have to carry to meetings.
- Use carry aids such as trolleys or bags that can be carried on the back rather than one shoulder.
- Try and reduce the distance that loads have to be carried.
- Receive training in safe lifting and handling techniques.

Assaults and theft

Staff should be cautious when travelling as laptop computers are a prime target for theft, and if you are travelling alone this will make you more vulnerable.

Checklist for Laptop users

If you use a laptop, use this checklist to help you minimise the risks to your health & safety.

- Discuss laptop use and agree with your manager.
- Try and avoid laptop use, if not possible avoid prolonged laptop work.
- Remember to take regular breaks.
- Make sure this work has been assessed for health and safety risks, including manual handling and violence.
- Make sure you have received information and training about what the risks are and how you can minimise them.
- Make sure that you have received training in good posture and its importance.
- Make sure that you are provided with a proper eyesight test and appropriate glasses if you need them for screen work.
- Try to do as much of the inputting as possible at a PC in the office, and particularly if large amounts of data input are required.
- Try and use a laptop docking station whenever possible.
- Use the breaks to change activity, to move around and flex and stretch your muscles.
- Do simple exercises, especially stretching, at regular intervals.
- Use the laptop on a firm surface at the right height for keying.
- Get into a comfortable position that suits you.
- Sit square on to the keyboard and screen and angle the screen to minimise reflections and glare and to avoid the need to bend your neck excessively.
- Make sure your wrists are not bent upwards or sideways when keying.
- Use a separate keyboard if this helps posture problems but don't overload yourself with equipment.
- Learn to be aware of your body so that you can recognise unnecessary muscle tension and release it.
- Check your posture at regular intervals – you may start in a good position but it's easy to change once you become engrossed in the work.
- Don't use the laptop on your lap, in the car, or at a low coffee table.
- Avoid carrying excessive loads in addition to the laptop (such as a printer, paper, files etc.).
- Ask for a carrying aid (such as a backpack) if you need one.
- Make sure you have been shown safe lifting and handling techniques.
- Make sure you know what to do in the event of threats or a violent attack.
- Don't try to resist or pursue a thief – your safety is more important than the laptop.
- Check laptop leads and plugs visually before you connect it and don't use them if they look worn or damaged.
- Let your local safety adviser and manager know about any problems.
- Report any ill-health symptoms (aches and pains, tingling, numbness etc.).
- Report any accident, injury or ill health to the local accident reporting system as soon as possible, however minor it appears.
- Report any incident of violence.

Use of Personal Digital Assistants and 'Smartphones'

Increasingly employees are using hand held devices such as Blackberrys and Palm Tops (Personal Digital Assistants [PDAs] or 'smartphones') to enter data and write documents / e-mails, often for extended periods . There is debate over whether extended use of PDAs can cause repetitive strain injury but the thumb, which is often used to enter data on such devices, is undoubtedly less flexible than the fingers so its continued use for long periods of time can in theory present a risk. This equipment is covered by the DSE regulations if they are used regularly and for long periods. If this equipment is being used for short periods of time there are still some sensible steps that can be taken in order to minimise any adverse impacts that their use may have. Health problems are possible due to the small size of the keyboard and screen together with the environment where the equipment will be typically used such as restaurants, trains, hotels etc. which may not provide appropriately supportive seating or adjustment.

A PDA allows employees to stay in touch with work when out of the normal office environment and whilst it is useful as a temporary means of communication it should **not** be used as your main work equipment for IT purposes.

It is important that the PDA is suitable for the work required, for example, a monochrome screen is easier to read in sunlight than a colour one should you be using the device outdoors most of the time. A jog wheel (like a web wheel on a mouse) will help you read long documents. It is also important the device is a suitable size and weight in order to be truly portable.

It is also useful to make sensible use of the shortcuts that are available such as configuring the whole screen to accept stylus input rather than just the small area at the bottom of the screen, this can be useful as bigger hand motions reduce the physical stress on the hand. You should also minimise the amount of data entry you do on your PDA, wherever possible enter data via your P.C. and then synchronise this with your PDA. Keep your screen clean, this will reduce visual fatigue. Always try and remember the basic principles of good working posture even though you are not using your regular chair. It is also sensible to take longer and more frequent breaks than you would do so normally.

As with laptops, portable technology can be a prime target for theft, therefore, it is best to avoid carrying or using equipment where theft is more likely, avoid leaving equipment visible and accessible.

APPENDIX VII: SOUCES OF FURTHER INFORMATION

HSE – Work with Display Screen Equipment – free download from

<http://www.hse.gov.uk/mds/dse/guidance.htm>

Unison – Are you sitting comfortably? – available from

[http:// www.unison.org.uk/file/4095.pdf](http://www.unison.org.uk/file/4095.pdf)