DSE Guidance for Project Managers and Facilitators

Document Control	
Recent Author: Fay McNicol	Original Date of Document 01/10/12
Policy Owner: Gill McInnes	Other Key Stakeholders: Chief Executive, Director of Workforce
This document replaces: H&S 007a – Guidance for Project Managers and Facilitators V1	Consultation & Approval: Area Health and Safety Committee
Notification of Policy Release: Intranet	
Date of Issue: February 2019	Date of next review: February 2022
Version: V2	

This document supports NHS 24 DSE Policy

The introduction of new office areas is usually governed by the need to fit as many people as possible into a certain space – and provide them with the required IT equipment and telephony.

There is both legislation and guidance which must be adhered to if the resultant work area is to comply with health & safety legislation. There are also best practice guidelines produced by professional bodies such as CIBSE (Chartered Institute of Building Services) which must be referenced. There is a list of recommended further reading at the end of this guidance.

It is incumbent on the organisation to ensure any project is signed off as Health & Safety compliant. If for some reason it cannot fully comply, this too must be fully documented – with an explanation of the reasons why, and what control measures will be put in place.

The Workplace (Health, Safety and Welfare) Regulations 1992 (regulations and guidance) and the Display Screen equipment Regulations 1992 (as amended) inform us:

Temperature and Ventilation

- shall be reasonable in indoor workplaces
- a sufficient number of thermometers shall be provided to allow determination of temperature in workplace
- heating or cooling appliances shall not give off injurious or offensive fumes. They must be effective and suitable to ensure a sufficient quantity of fresh and purified air
- any plant provided to ensure sufficient ventilation shall include an effective device to give a visible or audible warning of failure where necessary for reasons of health and safety.

Additional NHS 24 guidance - Problems concerning the heating and ventilation in offices are one of the most frequent topics of complaint. Achieving a working temperature equally acceptable to a large group of people is virtually impossible; the best that can be hoped for is to please 85% or so. Of the rest, it is usually the case that some will find it too warm and others too cold.

There are 6 factors that have a direct influence on thermal comfort: air temperature, relative humidity, air movement, radiant heat gain or loss, work rate, and the clothing worn.

It is generally recommended that workrooms should be maintained at a temperature of 19 to 23°C - the theory being that higher temperatures promote tiredness and fatigue, and lower temperatures become uncomfortable due to the relatively sedentary nature of the work.

If the temperature is set at the lower range, a flexible dress code allowing staff to wear light sweaters/ cardigans will often give the best overall satisfaction rating.

A significant problem can be caused by temperature variations over the day, where the influence of the sun through windows, machines within the office, and the office occupants themselves conspire to increase the temperature to unacceptable levels. Many heating systems do not cope well with this problem. There are also seasonal variations - people like to feel warm when it is cold outside and cool when it is warm outside. Similarly, air movements can be seen as refreshing ventilation in summer, but annoying draughts in winter.

Local measures, therefore, may be the only way of dealing with particular difficulties and may need to be considered almost on a room-by-room basis. The DSE Regulations call for

consideration of user concerns when dealing with the issue. Any solution, therefore, will tend to be a trade-off between the different interests concerned.

People are often unhappy about the 'quality' of the air without being able to pinpoint exactly what factors are bothering them. Factors affecting air quality include smoke, dust levels, odours, chemicals (e.g. from photocopiers and printers).

Good housekeeping is required to control dust levels, and the effects of chemicals and odours can be readily controlled by the careful positioning of printers, fax machines, etc.

Humidity can be controlled by main or local air conditioning systems, and should be in the region of 40-70% - preferably toward the lower end of this range - with little fluctuation over the working day. Humidity varies markedly from season to season and tends to be much lower in winter.

Dry environments cause eyestrain in visually demanding tasks such as word processing. Humidity levels of below 30% can cause respiratory and other ailments such as occasional itching or reddened skin on the face and/or neck. More humid environments promote a 'sticky' environment that is unpleasant, particularly in association with higher temperatures.

People can relieve the effects of a warm, dry environment by taking plenty of drinks during the day; these should be water or caffeine-free soft drinks as tea and coffee are known to contribute to dehydration.

Air movements can be very irritating if they produce localised chilling as they disturb the thermal equilibrium and may cause stiffness in joints, drying of eyes and dust disturbance. Air movements should not normally exceed 0.25m/s; air flow speeds greater than this would be considered draughty.

Principle causes of draughts are badly sealed or open windows and doors seals should be efficient, and temperatures within the room should be such that doors and windows need not be opened. Additional screening for particularly 'exposed' workstations can be an acceptable solution, but should be considered only as a last resort.

Lighting

- every workplace shall have suitable and sufficient lighting
- where reasonably practicable the lighting shall be by natural light

Additional NHS 24 Guidance - The aim should be to produce a glare and reflection-free environment that lays an even spread of light over the entire work surface of between 300 lux and 500 lux. This will give a balanced light level throughout the workroom that visually compares comfortably with the light output from the display screen. The eyes do not have to keep adjusting when looking from the screen to other areas of the desk and/or room, and thus the effect is less tiring.

Type and positioning of lighting - Wherever the location, the lighting must provide light on the work surface at the correct level. Achieving this may require replacing the tubes with others having a higher or lower light output, changing the diffuser in the light fitting or, in extreme cases, changing the position of the light fitting. However, repositioning the workstation to suit the position of the lights may be a more convenient and cost-effective option.

For day to day problems, it is important that failed tubes are replaced immediately, rather than waiting for a number of tubes to be replaced on one job. This is because fluorescent tubes take a week or so of use to bed in , and will be a little brighter when brand new. Leaving tube replacement until several have failed gradually reduces the overall lighting of the work room and then suddenly raises it to a level that is, for a short period, too high.

Lighting during Night Shifts. NHS 24 staff generally work 'out of hours', and by definition during the hours of darkness. There is often staff preference for softer ambient lighting. The overall drop in ambient lighting should be complemented by issuing (on request) desk lamps. This will allow individuals to better regulate the light levels for their specific workstation.

Natural lighting- The contribution of natural light to the illumination of many offices can be considerable. In such situations problems with glare, reflections and heat from the windows may occur.

Vertical Louvre drapes are preferable to horizontal louvres since vertical reflections on screen have been shown to cause fewer problems for users than horizontal ones. Louvres have the advantage over solid roll blinds in that they may be part-opened to allow some daylight to enter the room through them. If no DSE is positioned to one side of the window, then the louvres can be opened in that direction to allow a view out of the office; the DSE and its users are still screened from the bright daylight by the angle of the louvres.

Louvres should be made of a material with a minimum reflectance of about 0.5 (i.e. they should reflect back at least 50% of incident light) and a transmittance of less than 0.15 (i.e. they should not allow more than 15% of incident light to pass through).

Position of Monitor - Correct set up of the screen on the desk will also reduce problems of glare and reflections from both artificial lighting and light from windows. Screens that are tilted back will inevitably tend to reflect light from the ceiling back into the face of the DSE user.

DSE should not be placed in front of windows as this increases the likelihood of the users experiencing visual discomfort. By repositioning the DSE such that the screen surface is more at right angles to the windows, screen reflections and loss of contrast can often be significantly reduced.

Glare from the screen is often not recognised as a contributor to perceived problems with lighting. Correct adjustment of the brightness and controls, to suit the user, is essential.

DSE users have different visual tasks to those working with paper. These may vary not only in complexity, but also in the proportion of time spent viewing a DSE screen.

One noticeable feature is the variety of viewing distances that users adopt to read from a screen when provided with an adequate and flexible workstation. The British Standard recommends a viewing distance of 450mm - 750mm (18 30): a good rule of thumb for many people is to position the screen at approximately arm's length to the top of the screen at eye level. The final choice of viewing distance will depend upon a number of factors, most significantly the eyesight of the DSE user.

Users are sometimes forced to adopt a shorter viewing distance than they would like due to the inadequacy of the workstation. Alternatively, they may achieve their desired viewing distance, with an inadequate workstation, by adopting an awkward or constrained working posture. Thus, visual requirements can influence the posture adopted by the user. The visual tasks can be a contributory factor not only to visual fatigue but also to musculo-skeletal

discomfort. Therefore, it is important that DSE users not only have adequate or appropriately corrected eyesight, but also adequately designed workstations.

Reflections and glare on the screen are another cause of discomfort and irritation that can lead to visual fatigue. Hence, it is important to remove the sources of glare and reflection as far as possible, often by repositioning the DSE on the workstation or by repositioning the workstation.

Anti-Glare screens are of little practical value and it should not be necessary to use one if the VDU / workstation is set up correctly. They should be considered only as an absolute last resort.

Room Dimensions and space

- every room where persons work shall have sufficient floor area, height and unoccupied spaces for purposes of health, safety and welfare. The minimum space requirement is **11m3** per person (minimum floor space **3.7m2**)

NHS 24 Guidance - The workplace regulations require the provision of accommodation for the storage of clothes not worn whilst at work (i.e. coats, hats, etc.). NHS 24 recognises its duty to provide this accommodation and locker rooms or other facilities are normally available. People should be encouraged to use these for their outdoor clothing and any other personal belongings they have with them.

People should not keep anything under their desks where they will cause congestion and thus a hazard, nor should they hang coats, etc. over the backs of chairs as these may catch in the casters when the chair is moved.

Cleanliness and Waste Materials

- every workplace and the furniture, furnishings and fittings shall be kept sufficiently clean
- surfaces of the floor, wall, ceiling of all workplaces inside buildings shall be capable of being kept sufficiently clean
- waste materials shall not be allowed to accumulate in a workplace except in suitable receptacles

Floors and Traffic Routes

- every floor and traffic route in a workplace shall be of a construction which is suitable for the purpose for which it is used
- safe passage of pedestrians and vehicles must be wide enough and marked where necessary.

The Display Screen Equipment

General comment - The use as such of the equipment must not be a source of risk for workers.

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/or the contrast between the characters and the background shall be easily adjustable by the operator, and also be easily adjustable to ambient conditions. The screen shall be free of reflective glare and reflections liable to cause discomfort to the user.

The screen should be positioned so that the user can adopt a posture in which he or she is looking straight ahead and slightly down, as this will minimise neck and shoulder problems. Accordingly, the monitor should be able to tilt and swivel so that it can be positioned to suit the user.

The screen height should be adjusted, by use of a suitable plinth where necessary, so that the users eyes are level with the top of the viewable area of the screen. Screens should be at a suitable viewing distance from the user: the British Standard recommends between 450mm and 750mm.

Keyboard - the keyboard shall

- Have tilt option and separate from the screen so as to allow the worker to find a comfortable working position avoiding fatigue in the arms or hands.
- Have space in front of the keyboard shall be sufficient to provide support for the hands and arms of the operator (at least 100mm).
- Have a keyboard with a matt surface to avoid reflective glare.
- Have symbols on the keys adequately contrasted and legible from the users' working position.

The keyboard should be able to be repositioned on the desk easily, and so should be connected to the processor/screen only by its cable (with sufficient slack).

Mouse/ Pointing Device - By far the most common and versatile input device is the mouse. The mouse should be comfortable to hold and operable without undue force on either the movement of the mouse or the clicking of the buttons. The motion sensor ie. the ball on the underside of the mouse, should be located under the fingers rather than under the palm of the hand.

The buttons should be arranged so that the fingers can operate them without the need to deviate from the neutral posture, and without reducing control of the movement of the mouse.

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.

There shall be adequate space for workers to find a comfortable position. Depth should be at least 800mm front to back. There must be sufficient leg room beneath the desk to allow variation of leg and foot position. It is recommended that desks of less than 1200mm width should not be used for any task involving hard copy, reference material, or use of a mouse.

Work chair - A well-designed chair, maintained in good condition, is essential for the wellbeing of the user. It affects seated posture, the amount of effort required to maintain a position, the freedom with which positions may be changed, blood circulation, and the degree to which the spine is adequately supported.

The factors to be considered are:

- stability: all chairs must possess at least a 5-star base of sufficient size to ensure stability

- freedom of movement: chairs must swivel and be provided with castors/glides to ensure ease of movement

- adjustment: 3 ranges of adjustment are necessary to ensure that the correct working posture can be maintained:

    - Height - the user should be able to sit comfortably at the desk with elbows level with the desk surface

    - seat-back height - the seat back should be adjusted so that the support is securely in the lumber region

    - seat-back tilt - should be adjusted to support the body in an upright position

Chairs should be easy to adjust, preferably from the seated position. If the adjustment of the chair is awkward and/or time-consuming, the adjustments are unlikely to be used.

The people who may possibly require alternative seating are:

- those with ongoing back or leg pain following guidance from Occupational Health

- anyone who weighs more than 121kg (19st),

Taller users often require a higher back to the chair to provide support for the upper back. If this is not provided, there is often a tendency for the user to adjust their backrest up to a 'compromise' position that, in fact, provides inadequate support for both the lumbar region and the rest of the back.

Armrests, where fitted, should be removable to suit the personal preference of the user.

Footrest - A footrest should be provided for those of shorter stature to achieve a comfortable position once the chair has been adjusted relative to the work surface. It should be possible to position the footrest on the floor where required; it should not move unintentionally while in use, yet be easy to move out of the way when not required.

Footrests must be of a height suited to the user (which may necessitate a level of adjustability) and set up so that the weight of the legs is supported on the feet rather than the backs of the thighs, which is known to cause circulatory problems.

The provision of footrests to those who do not need them should be discouraged; inappropriate use of a footrest will tend to cause the postural problems it was intended to resolve.

Document holders - Document holders, of an appropriate type, should be provided when DSE users are regularly working from hard copy. Use of a document holder can help reduce awkward neck movement and hence reduce muscular fatigue in the neck and upper back. The holder should be easily adjustable so that it is at the same height, slope and

viewing distance as the screen, and should be located as close to the side of the screen as possible

Ancillary equipment

Any other equipment in use as part of the work, e.g. telephone, note-pad, etc., must be located in a convenient, comfortable position so as to avoid the need to stretch to reach it.

Many people regard wrist rests as something on which to support the wrists while typing, but this is not the case, and as such are not a essential. They should however be provided on request.

.
Operator/Computer Interface

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, where appropriate, adaptable to the operators level of knowledge, no qualitative or quantitative checking facility input to be used without the workers knowledge.

(c) The principles of software ergonomics must be applied.

Note: Only NHS 24 officially approved and authorised software can be installed

Recommended further reading

General Workplace & Topic Specific: http://www.hse.gov.uk/pubns/priced/l24.pdf
https://www.cibseknowledgeportal.co.uk/   (CIBSE reference Portal)

Topic Specific:

Lighting : http://www.hse.gov.uk/humanfactors/topics/lighting.htm#lighting

        http://www.hse.gov.uk/pubns/priced/hsg38.pdf

Temperature in the workplace: http://www.hse.gov.uk/temperature/index.htm (links to regulations, advice and checklists)

Display Screen Equipment
HSE: Working With VDUs.   http://www.hse.gov.uk/pubns/indg36.pdf
HSE Guidance Display Screen equipment Regulations (L26)
            http://www.hse.gov.uk/pubns/priced/l26.pdf

Revision History

Version	Date	Status	Author	Remarks
1	01/10/12	Initial	G Forman	Policy Introduced
2	Oct 2015	Reviewed	F McNicol	Updated to new style with revision history added
2	Feb 19	Reviewed	T.Wigram	Reviewed – No changes