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Personal Protective Equipment Procedure

Introduction and Aim

The Estates, Safety and Facilities Team has developed an overarching Health and Safety Policy which sets out the organisations commitment and responsibility to health and safety.

This procedural document forms part of the suite of health and safety documents to achieve this through advising on the requirements to applying the Personal Protective Equipment Regulations 1992 (PPER 1992) and The Personal Protective Equipment at Work (Amendment) Regulations 2022 (PPER 2022).

Through the development and implementation of this procedure in conjunction with other health and safety procedures, the Chief Executive and the Board can be assured that the organisation is adhering to the Health and Safety Policy and the organisations commitment to Health and Safety.

Supporting Procedures and Written Control Documents

All corporate policies and procedures are available on the Public Health Wales website

Health and Safety Policy, Control of Substances Hazardous to Health Procedure, Ionising Radiation Safety Policy, Control of Contractors Procedure, Risk Management Policy, Statutory and Mandatory Training Policy

Scope

This procedure and any arrangements made under it applies to:

- All persons employed or engaged by Public Health Wales, including part time workers, temporary and agency workers, those holding

honorary contracts and those engaged by the NHS Wales Health Collaborative and Finance Delivery Unit • All contractors, service users, visitors and volunteers	
Equality, Health Impact Assessment	An Equality, Welsh Language and Health Impact Assessment has been completed and can be viewed on the policy webpages.
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Disclaimer

If the review date of this document has passed, please ensure that the version you are using is the most up to date either by contacting the document author or the Board Business Unit

Summary of reviews/amendments				
Version number	**Date of Review**	**Date of Approval**	**Date published**	Summary of Amendments
2	19/01/2023	27/06/23	11/10/23	• Amalgamated Procedure and Guidance Document • Added to and updated Roles & Responsibilities section • Included implementation

				section added Risk assessment and hierarchy of control section • Scope section updated to include limb (B) workers as per PPER 2022 • Included hazard specific PPE section • Updated references and appendices • Expanded on fit testing methods under RPE
1		20/01/19	11/02/19	• New Procedure

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1. Introduction

This Procedure aims to give clear guidance to all staff on the application of the Personal Protective Equipment at Work Regulations 1992 (as amended). The main requirement of the Regulations is that personal protective equipment (PPE) should be supplied and used at work wherever there are risks to health and safety that cannot be adequately controlled in other ways. All reasonable steps will be taken by the organisation to secure the health and safety of employees who work with PPE.

It is the intention of the organisation to ensure, through the proper use of PPE, that all risks are reduced to a minimum. The implementation of this procedure requires the total co-operation of all management and employees.

2. Scope

All persons employed or engaged by Public Health Wales, including part time workers, temporary and agency workers, those holding honorary contracts, those engaged by the NHS Wales Health Collaborative as well as service users, visitors and volunteers.

This procedure applies to the use of all external contractors employed to provide specific services or undertake specific projects on premises occupied by the organisation that require the use of PPE.

Under PPER 2022, employers' and employees' duties and responsibilities under PPER 1992 are unchanged but will extend to limb (b) workers, as defined in PPER 2022.

If PPE is required, employers must ensure their workers (including limb (b) workers) have sufficient information, instruction and training on the use of PPE.

A limb (b) worker will have the duty to use the PPE in accordance with their training and instruction, and ensure it is returned to the storage area provided by their employer. The employer will be responsible for the maintenance, storage and replacement of any PPE they provide.

In the UK, section 230(3) of the Employment Rights Act 1996's definition of a worker has 2 limbs:

Limb (a) describes those with a contract of employment. This group are employees under the Health and Safety at Work etc Act 1974 and are already in scope of PPER 1992

Limb (b) describes workers who generally have a more casual employment relationship and work under a contract for service – they do not currently come under the scope of PPER 1992

3. What is Personal Protective Equipment

PPE is defined in the PPER 1992 as 'all equipment (including clothing affording protection against the weather) which is intended to be worn or held by a person at work and which protects the person against one or more risks to that person's health or safety, and any addition or accessory designed to meet that objective'.

PPE will only be used where it is not reasonably practicable to modify the activity, the process, or the method of work to prevent risk. This is because it protects only the wearer, so others who may enter the zone of hazard without PPE will be at risk. PPE can also be worn to protect employees against risks to their health and safety, but not otherwise.

4. Roles and responsibilities

All staff within Public Health Wales have a legal duty to comply with both Welsh and UK Government legislation, which this procedural document sets out.

4.1 Chief Executive

The Chief Executive has specific accountability to ensure that responsibilities for Health and Safety, including the provision of suitable PPE are effectively assigned, accepted and managed at all levels in the organisation, consistent with good practice. This duty is delegated to others within the organisation.

4.2 Deputy Chief Executive/Director of Operations and Finance

The Board Level Director accountable to the CEO who has delegated responsibility for all operational and estates governance issues, including the management of Health and Safety. This includes ensuring that there are suitable and sufficient arrangements and resources for PPE and to ensure this policy is implemented throughout the organisation. This is further delegated to Directorate Directors and Managers.

4.3 Directorate Directors/Heads of Service

- Must implement this procedure and any associated guidance on PPE within their areas of responsibility
- Must ensure arrangements are in place for the monitoring of (and compliance with) this procedure
- This includes identifying who is responsible for doing what, together with identifying the name, number and location of people delegated to undertake PPE risk assessments within the Directorate and Enabling Functions

- Must ensure there are suitable resources available for the implementation of this procedure

4.4 Managers

In areas of their control managers will ensure that:

- Specific risk assessments are carried out to comply with the requirements of the PPE Regulations
- Safe systems of work will be established following the risk assessment process
- Copies of risk assessments and safe systems of work are communicated to relevant staff
- Risk Assessments of the work must be reviewed as necessary in line with the level of risk, if there is significant change in work practice or following an incident or complaint
- All PPE required by risk assessment for the activity is provided without charge, as required by law and replacement PPE is always readily available
- The use of PPE does not increase the overall risk, i.e., PPE must not be worn if the risk caused by wearing it is greater than the risk which it is meant to protect
- PPE is selected which does not interfere with other items of equipment
- All activities requiring the use of PPE will be monitored and any item found unsuitable or damaged will be replaced as necessary
- PPE is being used, and if not, the reasons why must be identified
- All incidents where PPE should have been worn but was not, must be investigated
- PPE will be maintained and replaced as necessary to ensure its effectiveness, including cleaning, disinfecting, testing and repair
- Where appropriate safety signs are displayed as a reminder that PPE must be worn, and staff know where to obtain PPE for themselves or others including visitors
- Only PPE that complies with the relevant British or European Standard should be purchased, where appropriate only CE/UKCA marked, and replacement components of PPE should be purchased.

The organisation will take reasonable steps to ensure that all employees as appropriate use any equipment provided in a safe and proper manner.

4.5 Employees (both Limb (A) and (B) workers)

All employees of the organisation, including contractors and self-employed persons, must:

- use PPE provided, in accordance with training and instruction given by their respective employers

- Participate in training and correctly use and care for any equipment, in accordance with their training
- fully comply with all safety procedures, safe systems of work and approved codes of practice in relation to their work activities
- make full and proper use of the PPE specified in risk assessments, safe systems of work or COSHH assessments relevant to the job they are undertaking
- not deviate from the risk assessment and safe system of work without prior consent of a manager and the adoption of agreed alternative safe method of working following a risk assessment
- take reasonable care of the PPE provided, carry out user checks of the equipment within their control and immediately report any loss or obvious defects to their supervisor or manager
- take all reasonable steps to ensure that their protective equipment is returned to the storage area provided in working condition after use

It is the responsibility of the employee to bring to the attention of their Line Manager:

- if they do not understand the requirements for using PPE
- if they do not understand how to use the equipment correctly
- if they see another member of staff not using or misusing any PPE
- any health problems that they believe may be caused by using PPE
- any apparent non-compliance with the Procedure

Employees must not:

- use any PPE before training and instruction has been provided
- deliberately endanger themselves or others through not using or misusing PPE
- knowingly use damaged PPE.

The duty on employees does not reduce the duties on the organisation to carry out inspections and assessments. Employees who either fail to wear the designated protection or use PPE that has obvious defects and fail to report to their manager as soon as is reasonably practicable and safe to do so, may be subject to disciplinary action in line with organisations policy.

4.6 Procurement

All PPE products and equipment must be sourced and purchased via the organisations procurement team who will ensure that relevant NHS Frameworks and / or approved suppliers are utilised. They will also ensure that all products meet relevant legislation, CE/UKCA marks and hold a Declaration of Conformity. Businesses can use the CE marking and reversed epsilon marking on the GB market until 31 December 2024.

5. Implementation

5.1 Risk Assessment and Hierarchy of Control

Where a hazard or risk cannot be eliminated or reduced to an acceptable level, it is necessary to introduce controls to ensure the safety of all employees. If employee safety still cannot be sufficiently ensured having done all that, only then should it be necessary to introduce PPE. Before selecting PPE, a risk assessment of the workplace must be carried out to identify the hazards and assess the risk, to identify opportunities to eliminate or reduce the risk.

Where Public Health Wales deems PPE to be necessary, after a risk assessment using the hierarchy of controls explained below, the organisation has a duty to provide it free of charge. Although a risk assessment may identify PPE as being necessary, other means of control should be given preference, and wherever possible, PPE must not be relied upon as the sole means of protection.

- Elimination – Physically remove the hazard
- Substitution – Replace the hazard
- Engineering Controls – Isolate staff from the hazard
- Administrative Controls – Change the way staff work
- PPE – protect the worker with Personal Protective Equipment

5.2 Why and when to use PPE

Even where engineering controls and safe systems of work have been applied, some hazards might remain. There is a risk that this could result in injuries to the:

- lungs from breathing in contaminated air
- head and feet from falling materials
- eyes from flying particles or splashes (blood borne viruses) or corrosive liquids
- skin from contact with corrosive materials
- body from extremes of heat or cold
- Ears from excessive noise

Where risks cannot be adequately controlled by other means, employers must assess:

- who is exposed and to what
- Whether specific vulnerable groups are at risk
- how long they are exposed for
- how much are they exposed to
- availability of PPE

- what type of PPE would provide suitable protection against those risks (appendix 4)
- Whether health surveillance is required

This must be done before choosing any PPE and must be reviewed if:

- there is reason to suspect it is no longer valid, for example, complaints from users, reports of accidents or ill health, new information about the PPE, no longer available from the supplier
- there have been significant changes for example, of users, or risks or in working conditions

PPE should always be considered as a last resort and used only where other precautions cannot adequately reduce the risk of injury. It is not to be used as a quick or a more economical method of controlling risks. Wearing PPE does not eliminate the hazard and will present the wearer with the maximum health risk if the equipment fails. PPE must be used properly, and it should be recognised that PPE:

- only protects the person wearing the equipment
- relies on people wearing it correctly, as per instruction, at all times its stated as being required
- must be replaced or upgraded when it no longer offers the correct level of protection

There are several types of PPE, such as footwear, hearing protectors and hard hats, which are not primarily concerned with protection from hazardous substances. Those which are and should be worn at all times when the job dictates, include the following:

- respiratory protection (RPE) e.g. half and full-face masks (see Appendix 3)
- hand and skin protection e.g. gloves
- eye protection e.g. goggles or visors
- head protection e.g. bump caps
- protective clothing e.g. aprons or gowns

All risk assessments should be recorded in accordance with the organisations Risk Management Policy and Procedure and uploaded onto Datix. Involvement of wearers should be considered in the assessment and selection of PPE. It is important that PPE should also be available to visitors or members of the public when visiting areas where PPE is used.

5.3 Provision of PPE

Whenever health and safety risks cannot be adequately controlled by other means the organisation must provide employees with suitable PPE. All PPE

must be tested and approved to appropriate CE/UKCA and marked as such. Following a risk assessment, the correct method of employee protection must be implemented. Any PPE provided must be suitable and the following factors need to be considered when assessing the sustainability of PPE.
PPE must:

- be fit for purpose
- be appropriate for the risks involved and the conditions at the place where exposure to the risk may occur
- protect employees whilst allowing them to carry out the work required in their workplace.

The ergonomic requirements must be considered when:

- the effects of PPE on the wearer and on the work must be considered when selecting PPE
- PPE must be adjusted to fit the wearer correctly
- badly fitting or uncomfortable PPE may put strain on wearers and make the work unnecessary difficult, it may even result in the PPE not being used
- The organisation will ensure that it offers a range of types and sizes of PPE, users should be involved in selection and fitting of PPE

PPE must not endanger the health of the users:

- employees who suffer from pre-existing health issues, e.g., heart or lung problems may not be able to use breathing apparatus as a normal part of their work
- Nitrile gloves in a selection of sizes must be made readily available to prevent latex allergies - Latex gloves are prohibited for use within the organisation

The needs of the specific tasks required of the individual should be taken into consideration and the specific demands that these place on the wearer This includes:

- length of time the PPE needs to be worn
- physical effort needed to do the job
- need for visibility and communication

It is essential that risk assessments must consider the effectiveness and comfort of the combination of items of PPE that is identified for use, and not just individual items of PPE:

- where more than one type of PPE is being worn, they must be compatible

- this may mean selecting specifically designed equipment such as safety helmets designed to be worn with visors or ear defenders

At all times, all risks should be adequately controlled, without the unintended consequence of a control action creating new risks. Poorly chosen PPE can result in adverse outcomes such as:

- causing a tripping hazard
- getting caught in mechanical equipment
- causing a slowing of an individual's movement
- obscuring vision

Dirty PPE can cause skin problems and wearing ear defenders can make it difficult to hear warning sirens and colleagues. This must all be considered when assessing the management of any identified health and safety risks.

It should be noted that exemptions from wearing PPE should never be allowed on the basis that a task or activity "only take a few minutes".

PPE provided for use to manage spillages or other emergencies should, wherever reasonably practicable, be stored outside the area of intended use. The spillage or emergency kit must be stored in a suitable cupboard close to the main access and egress. Where this is not possible, face masks, filters etc., must be stored in sealed containers where they cannot become contaminated. After the spillage has been cleared all PPE must be placed into the appropriate waste bag, sealed, and disposed of in a manner as required by that specific waste type.

5.4 Hazard Specific PPE

With some hazards, other regulations make more detailed/specific requirements as to the PPE that must be provided and worn. In these cases, only the 'compatibility' rule (PPER 1992 Regulation 5) applies, which states if risks require more than one item of PPE to be worn at once, ensure they are compatible (don't interfere with each other). The most important examples are:

Under these Regulations:	**You Must Provide:**	**To Protect Your Employees From:**
Control of Substances Hazardous to Health (COSHH) Regulations 2002	PPE *'where adequate control of exposure cannot be achieved by other means'* – or as additional protection should any of those measures fail. Examples: chemical-resistant gloves, dust masks, eye protection.	Damage to their health from harmful substances, including

		infectious microorganisms.
Noise at Work Regulations 2005	PPE where daily or weekly personal noise exposure is at or above the first action level (80dB). Its use is mandatory at and above the second action level (85dB). Examples: earmuffs, caps and plugs.	Hearing loss caused by noise at work.
Control of Asbestos Regulations 2012	Protective clothing for any employee who is exposed or is liable to be exposed to asbestos. Likely to be head-to-toe PPE including a respirator with an Assigned Protection Factor of at least 20.	Inhaling asbestos dust and the possibly fatal illnesses that could result.
Control of Lead at Work Regulations 2002	PPE *'where adequate control cannot be achieved solely by application of operational or engineering measures'* – or as additional protection should any of those measures fail. Example: respirator suitable for use with lead.	Damage to their health from inhaling, absorbing or ingesting lead.
Ionising Radiations Regulations 2017	PPE where it will further restrict employees' exposure (consider engineering controls, design features and safe systems of work first though). Examples: gloves, aprons and respiratory protection.	Exposure to ionising radiation (alpha particles, beta particles, X rays and gamma radiation).

In addition, the Confined Spaces Regulations 1997, Regs. 4 and 5, make it illegal to enter a confined space without a 'safe system'. This is likely to require PPE either for safe working, safe rescue, or both.

5.5 Maintenance and Storage of PPE

It is important to make sure equipment is kept clean, in good repair and good working order, that manufacturer's instructions for the safe operation is known and adhered to and including recommended replacement periods and shelf life. There should be systems in place to examine, test, repair and replace PPE as appropriate, with agreed arrangements for cleaning and disinfecting the PPE so there are no health risks associated with further use by another employee. All systems to test, repair and replace PPE as well as the cleaning and disinfecting of PPE should be recorded and monitored.

PPE must be well looked after and properly stored when it is not being used. This should protect PPE from contamination, dirt ingress, loss or damage.

Depending on the type of PPE and the workplace, the storage may be lockers, pegs, boxes etc.

Special arrangements are needed for the storage, cleaning or disposal of infected or contaminated PPE. Stocks of disposable PPE and replacement parts, which must be suitably CE/UKCA Marked, must be available as and when required.

Simple maintenance can be carried out by the trained wearer, but more technical repairs should only be done by specialists.

Ordinary clothing, such as employees own coats worn to work, should be kept separate from PPE. Adequate PPE storage must be provided on vehicles when used by mobile workers who may also need to carry separate containers for contaminated or used disposable PPE.

6. Training and/or Communication with Staff

The Management of Health and Safety at Work Regulations 1999 require employers to provide adequate health and safety training when employees are recruited, when there have been significant changes, and at appropriate intervals (refresher training). Training will be determined upon the level of risk that has been identified by the risk assessment. Training plans will be developed in line with annual training plans / training needs analysis in collaboration with Divisional Training departments and monitored via the normal performance management arrangements.

Public Health Wales through the relevant line manager must provide employees with adequate and appropriate information, instruction and training. This must be understood by the employee before they use any PPE. Information, instruction and training in the use of PPE should include the following points:

- why the PPE is needed and when to access it
- information on how to access and understand risk assessments and select the correct PPE
- an explanation of the risks identified by the risk assessment which the PPE will negate or reduce
- special procedures such as permits to work
- practice and instruction in inspection and testing of PPE before use
- practice in putting on and removing items of PPE
- the importance of using the PPE provided correctly and the possible consequences of PPE failure and not wearing PPE

- limitations and factors affecting performance of PPE such as other PPE, poor fit, working conditions, defective equipment, wear and tear contamination
- practice and information in any maintenance or actions to be done by the wearer to maintain the PPE in clean and efficient repair, the user must know when to change the PPE such as a glove or air filter
- instruction in safe storage of PPE, the importance of keeping it in the storage facilities provided and where the storage is located
- how to recognise defects in PPE
- details of their individual legal duty under the Regulations to report any loss of PPE, defects or other problems they may find, including PPE used away from Public Health Wales premises

Training must take place during working hours, so special arrangements may need to be made for part-time and mobile workers. It is important that Line Managers also receive training, so they can ensure that their staff are using it correctly.

7. Monitoring and auditing

Adherence to this procedure will be monitored locally. Significant non-compliance will be reported to the Health and Safety Group as part of exception reporting. In particular, actions taken or planned to mitigate identified risks, serious health and safety incidents including lessons learnt and actions taken will be recorded and monitored.

8. Retention and Archiving

In cases of complaints, claims and other legal processes it is often necessary to demonstrate the policy/procedure in place at the time of the investigation of incident. Copies of records and procedures are archived and stored in line with the Corporate Records Management Policy and are made available for reference purposes should the situation arise.

9. Failure to comply with terms of the Personal Protective Equipment Procedure

Disciplinary action under the terms of Public Health Wales disciplinary policy will be taken against any member of staff, regardless of position, who shows wilful disregard with the terms of this procedure. Where a total disregard affects the health or safety of themselves or that of any other employees, the employee may be dismissed, following an investigation and disciplinary hearing, in line with the disciplinary policy.

10. References and Associated Documentation

- The Health and Safety at Work etc Act 1974
- Management of Health and Safety at Work Regulations 1999
- Personal Protective Equipment at Work Regulations 1992
- Personal Protective Equipment at Work (Amendment) Regulations 2022
- Control of Lead at Work Regulations 2002
- Ionising Radiation Regulations 2017
- Control of Asbestos at Work Regulations 2012
- Control of Substances Hazardous to Health 2002 (as amended)
- Noise at Work Regulations 2005
- Equality Act 2010
- Confined Spaces Regulations 1997
- The Reporting of Injuries Diseases and Dangerous Occurrences Regulations 2013
- L25 - Personal protective equipment at work: The Personal Protective Equipment at Work Regulations 1992 (as amended). Guidance on regulations
- HSG 262 (Second Edition) - Managing risks from skin exposure at work
- INDG 330 - Selecting protective gloves for work with chemicals
- INDG 479 - Guidance on respiratory protective equipment (RPE) fit testing
- HSG53 (Fourth edition) - Respiratory protective equipment at work
- SIM 07/2011/06 - Natural rubber latex sensitisation in health and social care
- The Health and Safety (Safety Signs and Signals) Regulations 1996
- NHS National Services Scotland NIPCM: National Infection Prevention and Control Manual (Last updated October 2021) and associated embedded literature reviews. Available from: NIPCM - Public Health Wales (nhs.wales)

Appendix 1

Types of Personal Protective Equipment

There are many types of personal protective equipment. Detailed below is a selection, which is by no means exhaustive. Prior to selecting PPE, a risk assessment of the work must be undertaken. This risk assessment will then determine the exact type of PPE which is to be used. There are various standards for the provision of PPE i.e. gloves to EN388 or EN374 depending on the hazard identified. The PPE user should be aware of the hazard classification standard that the PPE must be suitable for task/activity.

	Hazards	**PPE**
Eyes	Dust, chemical, biological or metal splash, gas and vapour, radiation, projectiles	Safety glasses, goggles, face screens, face shields, visors
Head and neck	Impact from falling or flying objects, risk of bumping, hair entanglement, preventing hair from falling into e.g. chemical drips or splash, climate or temperature	Helmets, bump caps, hats, sou'westers, skullcaps, hairnets, neck protection
Ears	Noise.	Ear defenders
Lungs	Dust, vapour, gas, oxygen deficient areas, airborne or droplet spread of microorganisms	Disposable filter masks or respirators, half or full-face respirators, air fed helmets, breathing apparatus Respiratory protective equipment
Body	Temperature extremes, adverse weather, chemical, biological or metal splash/transfer, spray from pressure leaks or spray guns, impact or penetration, contaminated dust, excessive wear or entanglement of own clothing	Conventional or disposable overalls, boiler suits, donkey jackets, specialist protective clothing such as chain mail aprons, high visibility clothing, aprons to protect against splashing, safety harness, life jackets

	Hazards	**PPE**
Hands and arms	Abrasion, temperature extremes, cuts and punctures, impact, chemicals, electric shock, radiation, skin infection, disease or contamination, vibration, biological agents, prolonged immersion in liquid, body fluid exposure	Gloves, gauntlets, mitts, wrist cuffs, armlets
Feet and legs	Wet, hot and cold conditions, electrostatic build up, slipping, cuts and punctures, falling objects, metal, chemical or biological splash, abrasion	Safety boots and shoes, including steel toe caps and penetration resistant soles, gaiters, leggings, wellington boots

Further information on PPE requirements for healthcare staff can be found in the National Infection Prevention & Control Manual (NIPCM - Public Health Wales)

Appendix 2

Personal Protective Equipment Signage

The symbols shown below are the more common type to be found and used for general health and safety purposes as well as specific COSHH requirements. A symbol which is blue and round means a mandatory safety symbol which is recognised nationwide. The symbol means that this piece of personal protective equipment must be used before starting work in a specific area or with a specific substance.

 **Eye Protection Must be Worn**	 **Respiratory Equipment must be worn**
 **Safety Gloves Must be Worn**	 **Face Protection Must be Worn**
 **Safety Boots Must be Worn**	 **Safety Helmet Must be Worn**

Appendix 3

Respiratory Protective Equipment

Some work activities may result in harmful substances contaminating the air in the form of dust, mist, gas or fume, or workers may also need to work in areas where oxygen levels are low. Respiratory Protection Equipment (RPE) is designed to protect the wearer from these hazards.

Any required RPE will need to be adequate and suitable to ensure the wearer is protected. This means:

- Adequate – It is right for the hazard and reduces exposure to the level required to protect the wearer's health.
- Suitable – It is right for the wearer, task and environment, such that the wearer can work freely and without additional risks due to the RPE.

The selection of appropriate RPE and correct filters for hazardous substances must be done by a competent person. A competent person is someone who has sufficient training and experience or knowledge and other qualities that allow them to assist you properly in the selection of the RPE. When selecting RPE, the following information must be taken into consideration:

- details of the hazardous substance especially if it is a gas, vapour, dust, or combination of all three
- presence of a beard or other facial hair which may prevent a leak-free fit - Face fit testing is required on tight face fitting respirators (see below)
- the size and shape of the face of the wearer and physical fitness
- compatibility with other PPE such as ear defenders
- the nature of the work, agility and mobility required

To ensure the wearer has the correct device, the initial selection of RPE should include fit testing. RPE should have a tight-fitting facepiece (filtering facepieces are usually known as disposable masks, half and full-face masks). There are two forms of fit-testing – qualitative and quantitative:

Qualitative fit testing (QLFT) is a pass/fail test based on the wearer’s subjective assessment of any leakage through the face seal region by detecting the introduction of bitter- or sweet-tasting aerosol as a test agent. QLFT methods are suitable for disposable and reusable half masks; they are not suitable for full-face masks. Although this type of test is based

on subjective detection and response by the wearer of the RPE, it is important that it is administered by a fit tester competent in using this method.

Quantitative fit testing (QNFT) provides a numerical measure of how well a facepiece seals against a wearer's face; this is called a fit factor. These tests give an objective measure of face fit. QNFT methods are suitable for disposable and reusable half masks and full-face masks. Examples of QNFT methods are:

- ambient particle counting
- controlled negative pressure (CNP).

Fit Tests need to be reviewed every two years, for all mask types, to ensure they continue to fit correctly and should be repeated whenever there is a change to the RPE type, size, model or material or whenever there is a change to the circumstances of the wearer that could alter the fit of the RPE, for example:

- weight loss or gain
- substantial dental work
- any facial changes (scars, moles, effects of ageing etc) around the face seal area
- facial piercings
- introduction or change in other head-worn personal protective equipment (PPE).

The type of fit test method used depends on the type of RPE to be fit tested. The below table shows which fit test methods are applicable:

Fit Test Method				
RPE (type and mask)		Quantitative (QNFT)		Qualitative (QLFT)
		Ambient particle counting	Controlled negative pressure (a)	Taste
Disposable Respirator (b)	Half Mask	Yes	No	Yes
Reusable Respirator	Half Mask	Yes	Yes	Yes
	Full-face Mask	Yes	Yes	No
Powered Respirator	Half Mask	Yes	Yes	Yes
	Full-face Mask	Yes	Yes	No
	Half Mask	Yes	Yes	Yes

Constant Flow Airline BA	Full-face Mask	Yes	Yes	No
Fresh air hose BA	Half mask	Yes	Yes	Yes
	Full-face mask	Yes	Yes	No
Demand valve BA	Half mask	Yes	Yes	Yes
	Full-face mask	Yes	Yes	No
Escape BA	Full-face mask	Yes	Yes	No

a - Any leakage through the exhalation valve has to be eliminated.
b - The ambient particle counting instrument may require additional functionality, such as the TSI N95 technology, to eliminate penetration of ambient particles through the filter material for masks with assigned protection factors (APFs)* of 4 (FFP1) and 10 (FFP2).
* APF is the workplace level of respiratory protection the facepiece is expected to provide and is used when selecting adequate RPE.

Respiratory protective equipment can be sub-divided into two categories, respirators which filter and clean the air and breathing apparatus which supplies breathable air.

Respirators should not be worn in air which is dangerous to health, including oxygen deficient atmospheres. Respirators come in several forms including:

- filtering half-mask often known as a disposable made of filtering material. This covers the nose and mouth and removes respirable size dust particles. It is normally replaced after a specific time of use depending upon what it is being used for and in accordance with the manufacturer's guidelines
- half-mask respirator which is usually made of rubber or plastic and covers the nose and mouth. These can be used for vapours, gases or dusts but it is extremely important that the correct filter is used for the job
- full face mask respirator is similar to the half mask but covers the eyes with the visor
- powered respirator has a battery-operated fan which delivers air through a filter to the face mask, hood, helmet or visor

Breathing apparatus comes in three types:

- self-contained breathing apparatus where air is supplied from compressed air in a cylinder and forms a completely sealed system
- fresh air hose apparatus where fresh air is delivered through a hose to a sealed face mask from an uncontaminated source - the air can be delivered by the wearer, by natural breathing or be fan assisted
- compressed air line apparatus has air delivered through a hose from a compressed air line either continuously or on demand. The air must be properly filtered, and the air pressure must be reduced.

Maintenance of RPE should be carried out by properly trained personnel. A thorough maintenance checks and an examination of the RPE should be carried out at least once a month. However, if the RPE is used only occasionally, an examination and test should be carried out before use and in any event the interval should not exceed three months. A record of the inspection must be kept for at least five years. There should be a routine cleaning system in place and proper storage facilities.

Appendix 4

Assessing required PPE

PPE: Assessment and Analysis		Job Task:		Job Role:
Assessed By:		Signed:		Date:
Part of Body	**Required Y/N**	**Hazard**	**PPE Required**	**Notes**
Hand		See Notes section	Gloves to EN 420	Basic Standard for all protective gloves
		Penetration – Medical	Gloves to EN 455	Specific to Medical single use gloves
		Penetration – sharp objects	Gloves to EN 388	Specific to mechanical risks
		Penetration - rough objects	Gloves to EN 388	Specific to mechanical risks
		Chemicals and Micro-organisms : (specify)	Gloves to EN ISO 374	
		Extremes of Cold	Gloves to EN 511	
		Extremes of Heat	Gloves to EN 407	
		Electrical Shock	Gloves to EN 60903	Class to be determined by minimum AC voltage: e.g. Class 00 <500v
Eyes and Face		Impact – flying objects	Safety Glasses/visors to EN 166	Construction material to be determined by task: e.g. Acetate - good chemical resistance, used in medical, welding and food industries.
		Welding	Safety Glasses to EN 169 and 379	
		UV Light	Safety Glasses to EN 170	
		Chemicals – splashes and droplets	Safety Glasses/visors to EN 166	
		Glare/high intensity lights	Safety Glasses to EN 172	
Ears		Exposure to noise levels >80dBa 8-hour TWA.	Hearing protection to EN 352	Ear plugs and muffs conform to the same EN standard
Respiratory System		Respiratory	EN 149	All RPE issue must be subject to completion of an assessment as detailed in HSG53. Standard covers filtering facepieces provided with filters are rated as

				FFP1, 2 or 3; Masks will be marked with an expiry date and with an R if reusable or NR if not (the latter are ‘single-shift’ masks)
		Respiratory	EN 36	covers full face masks (visors are covered under EN166)
		Respiratory	EN 140	covers quarter or half-masks
		Respiratory	EN 143	All FFP rated filters for full face, half and quarter masks must adhere to this standard. They will be marked with a FFP rating (1, 2 or 3) and also R or NR
Feet		Impact – heavy objects	Safety Shoes to EN ISO 20345	
		Penetration – sharp objects	Safety Shoes to EN ISO 20345	Shoes to have steel mid-soles
		Exposure to extreme cold	Safety Shoes to EN ISO 20345	Shoes to be insulated
Head		Struck by falling object	Hard Hat to EN 397	
		Striking fixed objects	Bump Cap to EN 812	
Body		Mechanical/Penetration by liquid/Microbiological	Aprons & Gowns to EN 13795	General Standard specific to Aprons and Gowns
		wet bacterial penetration	Aprons & Gowns to EN ISO 22610	
		dry microbial penetration	Aprons & Gowns to EN ISO 22612	
		Tearing	Aprons & Gowns to EN 6383-2	
		Impact	Aprons & Gowns to EN 7765-1	
		Moving vehicle	High Visibility clothing to EN 471	Class to be determined by required level of conspicuity