

The School STEM Technician



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Supporting the professional development of
the school technician community in Scotland



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CEO Introduction

Alastair MacGregor, CEO, SSERC



ACCORDING TO A UNISON STUDY, ALMOST A THIRD OF SECONDARY SCHOOL TECHNICIANS (32%) THINK STAFF CUTS ARE PUTTING PUPIL SAFETY AT RISK. (2019)

The HSE has warned that all schools need to have clear health and safety arrangements in place for their staff and students following an incident in which a chemistry laboratory technician lost parts of three fingers and sustained a serious internal injury while preparing a highly sensitive explosive for use in a 'fireworks' demonstration to a class of children. (2016)

A school or college technician plays a crucial role in ensuring health and safety within an educational environment. Their responsibilities are diverse, encompassing various aspects related to the well-being of learners, staff, and visitors. Here are some specific ways in which a school technician contributes to health and safety in schools:

Equipment Maintenance and Safety: School technicians are responsible for maintaining and repairing technical equipment used in classrooms, laboratories, and other facilities. Ensuring that these devices are in proper working condition minimises the risk of accidents due to malfunctioning equipment.

Safety Inspections: Technicians regularly inspect technical equipment, electrical systems, and other facilities to identify potential hazards. This proactive approach helps in preventing accidents before they occur.

Chemical Safety: In schools with laboratories, technicians play a role in the safe storage, handling, and disposal of chemicals. They ensure that proper safety protocols are followed and that necessary safety equipment like goggles, gloves, and fume hoods are available and functional.

Training and Education: Technicians may assist in training teachers and learners on the safe use of equipment. They provide guidelines and demonstrations to ensure everyone understands and follows safety procedures.

Compliance: Technicians keep up-to-date with regulations and standards related to health and safety in schools. They ensure the school complies with local, regional, and national safety regulations.

Accident Investigation: In the unfortunate event of an

accident, technicians may be involved in investigating the cause. They analyse technical aspects and provide information that can help prevent similar incidents in the future.

Collaboration: Technicians often collaborate with teachers, administrators, and external safety experts to develop comprehensive safety policies and procedures tailored to the school's specific needs.

Environmental Safety: They may also ensure environmental safety, such as proper waste disposal, ventilation systems, and maintaining healthy indoor air quality.

At SSERC, we support the professional development of school and college technicians via our comprehensive professional learning offer, including providing SCQF Credit and Levelled courses. Employers recognise these as 'mandatory' training to comply with health and safety legislation, including:

- BS 4163:2022
- IET 5th edition for PAT.
- Microbiology code of practice.

The following courses fulfil this purpose:

- Safe Use of fixed workshop machinery
- Safe Use of fixed classroom machinery
- Maintenance of fixed workshop machinery
- Electrical safety and PAT
- Safety in microbiology for schools.

It is important to remember these must be refreshed within five years, so it is critical to plan for refresher training well in advance or face the consequence of staff scrambling for refresher training before certification lapses or breaching health and safety guidance and regulations. We recommend refresher training at regular intervals for other technician courses that are not deemed as being 'mandatory' to keep pace with current developments.

Alastair MacGregor
Chief Executive Officer, SSERC



STAC update



The minutes of the last STAC meeting can be found [here](#).

Who is your STAC member?

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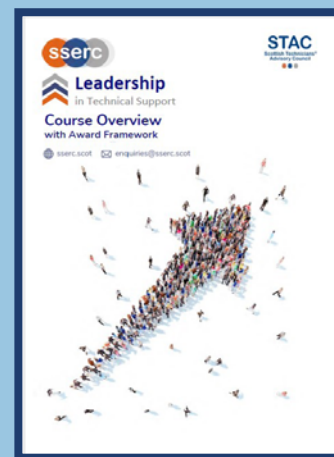
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If your Local Authority does not have a STAC member and you are interested in joining the committee, then send your details to alan.purves@sserc.scot.



Professional Learning

**COMING
SOON**
UNDER CONSTRUCTION



Leadership in Technical Support

Much work has gone into developing the soon-to-be SCQF Credit and Levelled Leadership in Technical Support professional learning course, designed by SSERC and STAC.

The SSERC Leadership in Technical Support programme is a 50-hour professional learning (PL) programme completed over a full academic year.

The programme provides leadership opportunities to support career progression and develop leadership skills that can be used within the centre. Over the course of the programme, participants will receive input across several areas, including leadership theory and practice, equality, diversity and inclusion and health, safety and wellbeing. Participants will also complete an extended project on an area of interest relevant to them and their centre and present their findings at a showcase event at the end of the programme.

The aims of the course are to:

- develop a strategic and forward-thinking approach to facilitate, initiate and lead change for the technical support team within an educational organisation
- develop and apply knowledge and understanding of policies and procedures that can enhance the effectiveness of the technical service.
- extend the use of critical enquiry and reflection skills to evaluate and strengthen the impact of practices on self and others.

- enhance interpersonal and personal skills, confidence and resilience to strategically lead change.
- develop skills that support and empower colleagues for the benefit of all involved.
- develop support networks for own personal and professional development.
- share and exchange information about current trends and changes affecting the technical support service.

The programme has been benchmarked against SCQF characteristics and levels, and we anticipate it will be an SCQF Level 10 programme. Additionally, the programme has been mapped against the RSciTech competencies.

The course comprises of five units:

- Unit 1:** Introduction to Leadership for Technical Support
- Unit 2:** Leadership Skills
- Unit 3:** Leadership in Practice
- Unit 4:** Health and Safety
- Unit 5:** The Extended Project

The Extended Project is the primary assessment component, supported by a learner leadership reflective journal and supporting evidence portfolio.

The course will be advertised via the SSERC Website in due course, and in its inaugural year, it will be fully funded – ie free to the first cohort of delegates.

Technical Champions

Technical Champions is a quality mark which assesses how well schools and colleges support their technical workforce. It has been developed by Preproom.org – a technical support and resources platform and is supported by organisations including the ASE, CLEAPSS, SSERC, Education Support and UNISON.



The application process is very straightforward, and the cost is purposely low to ensure all schools can take part. The assessment covers a variety of areas including how much CPD and training technicians can access, how well the school recognises the importance of technical roles, the accuracy of job descriptions and includes a comprehensive survey of all technicians at the participating school or college.

Schools and colleges based in the UK can apply for the quality mark here: www.technicalchampions.org and two levels of award are achievable – the Standard Award recognises schools and colleges who reach the benchmark criteria and Gold Standard is reserved for those who go above and beyond and offer excellent support across the board.

Schools who don't reach the minimum benchmarks will get guidance and feedback and the chance to reapply within 12 months for no extra fee.

The aim of Technical Champions is to showcase and celebrate those schools who support their technicians to an

excellent level, but more importantly help and support those schools who need assistance, so that they can increase the quality of support they offer their technicians in the future.

Assessment helps give senior leaders the tools they need to ensure their technicians are well-resourced and supported. The assessment feedback includes specific targets, detailed recommendations and offers three years of online support.

The application must be completed by the head/principal or the line manager for ALL technicians within the participating school as it covers the support of all technicians, not just those based in science.

More details about the Technical Champions quality mark can be found here: www.technicalchampions.org

If you have any questions about the scheme or would like to receive a no-obligation application pack, please email admin@technicalchampions.org



Technicians' Corner

NATIONAL STEM LEARNING CENTRE



A Day of Learning and Collaboration at the STEM Learning Centre in York

Margaret and Alan here, and we are excited to share our recent experience running a training session at the STEM Learning Centre in York for the STEM Technician Festival. It was a day filled with excitement, learning, and collaboration that left us both inspired and motivated. Join us on this journey as we relive the highlights of our time at this fantastic location.



Preparations and Anticipation

The preparation began with a sense of excitement and anticipation. We spent some time planning a training session on the topic of photosynthesis, making sure we had all the necessary materials and resources. This meant a trip to the beach at Aberdour to load up on seaweed. It was an arduous task as you can see.

The STEM Learning Centre in York is a state-of-the-art facility, and it was a pleasure to work with such a dedicated team. As technicians ourselves, we understand the importance of hands-on training, so we had organised a practical workshop that ensured the participants could grasp the concepts thoroughly. With boxes of resources and a well-organised presentation, we left SSERC for the road trip to York.

The Training Session

The following day with a full house, our session kicked off with a warm welcome, and began with a presentation that introduced the concepts of photosynthesis from our session. Our workshop contained all the safety protocols and best practices needed to run this experiment in a school science laboratory. The participants were highly engaged, and their enthusiasm was contagious. The hands-on aspect of this session was particularly rewarding, as it allowed the technicians to put theory into practice. By the end of the session everyone was as excited about photosynthesis as we were.

Lunchtime Connections

During lunch, we had the opportunity to network with the participants. It was amazing to hear about their diverse backgrounds and experiences in their respective schools. We shared stories and discussed the challenges and triumphs of being a school technician. This was one of the most enjoyable parts of the day, as it reinforced the sense of community and shared purpose that the STEM field fosters.

As our day ended, we couldn't help but feel a sense of accomplishment. The participants were eager to learn and took away practical knowledge that they could apply in their schools. The STEM Learning Centre had provided us with an ideal setting to facilitate this learning journey, and we were grateful for their support and resources.

The entire experience left us invigorated and inspired. Seeing the enthusiasm and dedication of the school technicians reinforced our belief in the importance of STEM education. It was a reminder that when we come together as a community, we can make a significant impact on the future of our students.

Running a training session at the STEM Learning Centre in York was a rewarding experience that we will cherish for a long time. We left with not only a sense of achievement but also a stronger connection to our fellow technicians and a renewed commitment to making STEM education even more exciting and accessible in our schools.



Technicians Leading Change

How STEM Technicians within the Scottish Borders have used a recent in-service day to start discussing the future possibilities of their service.

The delivery of education to our young people is constantly changing/evolving. This process of evolution is an essential part of any successful endeavour. It is essential that any technician service should be progressive, flexible, outwardly thinking and fit for purpose in order to support these changes within STEM education.

However, often the positive aspects of change are lost, through a lack of communication between the different stakeholders, with people feeling that their opinions have not been considered. When this happens, then change can be met with feelings of fear or negativity. The obvious solution is to allow all parties to feel included, to be part of the change rather than being passive bystanders. Given our key role as subject matter experts (SME's) in the delivery of practical subject knowledge, technicians have a vested interest in the quality of education, and I feel should be involved from the very beginning.

These are challenges that our region of Scotland, is trying to address in a different way than perhaps was done in the past.

The importance of communication within effective teams has long been recognised by Scottish Borders Council (SBC), who have consistently supported an annual in-service and networking event for their STEM Technicians. Historically, our in-service days would have been within our comfort zone, with a practical/skills-based focus. However, this year, embracing the idea of change we took the opportunity to hold a more theory-based session, coming together to review and discuss some of the new concepts, ideas and opportunities that are potentially coming as part of our evolving service.

With our theme for the day firmly established, our meeting launched with

defining the status quo. Often when faced with change, it can feel that we are in it alone, but we are not. There are many institutions and organisations that support school technicians. These organisations work not only to support our profession, acting as



repositories of knowledge and advice, but also to raise awareness of our profession. These groups include organisations such as SSERC, STAC (Scottish Technicians Advisory Council) and the ASE (Association of Science Education). The backup support offered by these institutions can often be overlooked, but by establishing where we are at, and the resources we have, then we can perhaps take a more rational view on the changes that are coming.

So now we could address the key question of our meeting, which was “change and what the future of the school STEM technician service could look like.”

Change, and the process of change of course raises many questions, some of which were not within the scope of our meeting but taking a positive mindset and trying to identify solutions as well as problems, we found that it often became easier to identify more positive than negative aspects to change. A key requirement to having a meaningful discussion around change, is having the confidence that this was happening in a safe space, where all views

could be respectfully listened to.

In our situation, we found it useful to break into smaller groups, intermixing technical, IT and science technicians. In doing so, we hoped that there would be a greater mixing of ideas, and that this would help foster the idea that we were all in this together. Of course, while there was some interesting points and ideas raised, there was also some heated discussions, but most importantly people were allowed the space to voice their opinions, within their groups, and these were collated and presented to the entire team at the end of these breakout sessions. By doing this divide and discuss approach, we potentially gained a more inclusive set of ideas and solutions to some of the problems we face.

A key part of SBC's commitment to delivering the best educational experience has been its Inspire programme. We were fortunate enough to be able to hold our event, at the **Inspire Learning Academy** in Tweedbank, Melrose, SBC's centre for digital learning and excellence.

This gave us a great opportunity to look more closely at the role of STEM technicians within the Inspire programme. Many of our technicians provide key day-to-day support for IT and I-pads within our region's schools. We were supported in this by Paul Graham, Inspire Learning Development Officer, who ran a technician specific session looking at uses for certain applications. This practical real-life session, helped to inspire confidence within the group with its diverse skill set.

One of the most obvious signs of the evolving nature of STEM delivery, is the call to engage with our young people at earlier age levels. SBC is making a major investment

in this, with their newly appointed RAiSE (Raising Aspirations in Science Education), Primary STEM Development Officer (PSDO). This emerging area of education also represents an opportunity for technicians, whose practical skill sets represent one of the most successful ways that we can interact with these younger age groups. This was recognised in our discussions with the PSDO. By engaging early and directly with technicians, a greater understanding of the needs and aims of this endeavour was fostered. Many of our group had valid contributions with some previous experiences of preparing resources for primary schools, supporting teacher led visits and primary P7 STEM transition events.

Initial internal feedback from the event has been extremely positive. Technicians felt included and that their opinions could now be used to develop and drive the service forward in some new and positive directions.

This experience is evidence that technician specific in-service and networking events should always be seen as an essential professional learning activity. This peer-to-peer learning opportunity has many benefits, not least as a team building exercise, which is important given the lone positions that many technicians find themselves in. With the benefits that these events bring we hope that they will continue to be fully supported by line managers, schools and local authorities' nationwide.

We all feel that it is important to continue raising awareness of the school technician profession, in what we do, and the benefits associated with an effective service. Technicians at the same time must also play their part by becoming more involved and increasing their visibility within their departments, schools and regions. Use the Professional Review and Development (PRD) process to focus on your professional learning needs. You are in control of your own profile and have the power to raise and highlight the benefits of your post.

Be proud of being a school STEM technician, we are an integral part of STEM teaching and learning. A mindset we very much like to emphasise and embrace in the Borders!

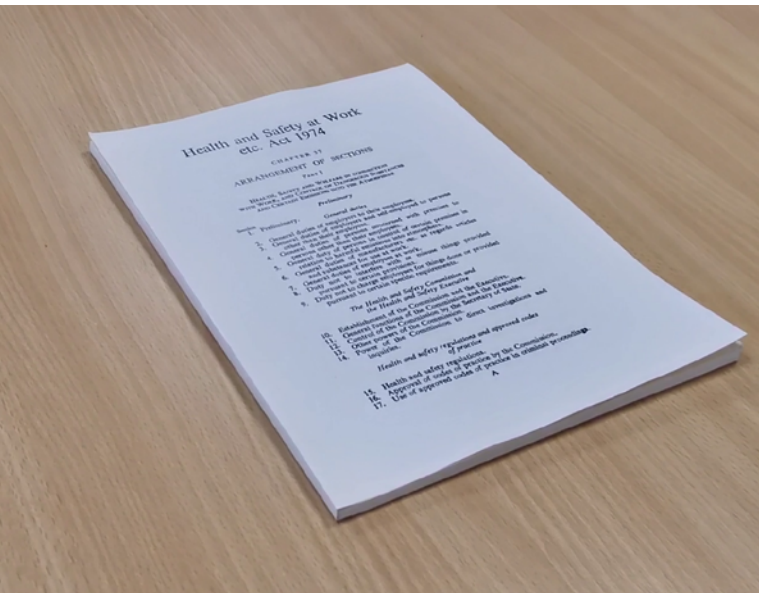
by Caroline Butler, RSciTech, Lead Science Technician, Scottish Borders Council





Health and Safety Update

The Health and Safety at Work etc. Act 1974



Given that the Health and Safety advice from SSERC is underpinned by various pieces of legislation, we thought it might be an idea to let you know a little about the Acts and Regulations that affect schools and colleges.

It is worth saying at the outset that Health and Safety is not a devolved matter: all health and safety laws are set in Westminster.

We'll start at the beginning. There is in fact only one Act directly relating to Health and Safety, The Health and Safety at Work etc. Act 1974 (HSWA). An Act is what is known as primary legislation: a motion is tabled in Parliament, debated and voted on just like most other pieces of legislation we are familiar with.

What is the HSWA?

HSWA is a key piece of legislation covering all aspects of health, safety and welfare in the workplace. It is an 'enabling' act—which means that it allows various H&S regulation (such as COSHH and The Electricity at Work Regulations) to be introduced without any need for the normal parliamentary process—which can be very time-consuming. (Parliament can, though, block any proposed regulations).

At work

This is a key point. There is no need to risk assess your garage before carrying out any work on your car (though strangely HSWA itself does not insist on risk assessment). But similar work in a college workshop would need to be risk assessed. Most of the time it is clear what being 'at work' means but travel can be confusing. If you are travelling for work, on a trip, collecting equipment, moving between premises on a split site, then that is considered as being at work. But travelling to work from your home and back does not.

The key points of the act are:

Duties of Employers

Most duties are placed on employers: Local Authorities for most schools but Boards of Governors in most colleges or independent schools. They must:

- ensure, so far as is reasonably practicable* the health, safety and welfare at work of all his employees (a similar duty applies towards others who are not employees eg learners).
- make sure your workplace and equipment is safe and without risks to the health of workers and anyone else
- produce, and make available, a health and safety policy

- explain how risks will be controlled and tell you who is responsible for this in a way you can understand,
- consult and work with you and your H&S representatives (if there are any) in protecting everyone from harm in the workplace.
- give you the health and safety training you need to do your job free of charge,
- provide any equipment and protective clothing needed for the job and ensure it is properly looked after Free of charge,
- Provide adequate facilities for welfare eg toilets, washing facilities and drinking water.

Duties of Employees

Employees do not get off scot free here. Duties are placed on you as well. You must:

- look after your own health and safety as well as that of others.
- follow the training you have received when using any work items your employer has given you.
- take reasonable care of your own and other people's health and safety.
- co-operate with your employer on health and safety.
- tell someone (your employer, supervisor, or health and safety representative) if you think the work or inadequate precautions are putting anyone's health and safety at serious risk

* So far as is reasonably practicable

This phrase so far as is reasonably practicable (SFAIRP) is widely encountered in health and safety law. It means that the risk in a particular situation can be balanced against the time, trouble, cost and physical difficulty of taking measures to avoid the risk.

This is, in the end, a judgement. Guidance is available from the HSE but ultimately the decision about whether a measure is practicable is for the courts.

Eg providing a rubberized surface over a whole playground at the cost of £1,000,000 to prevent grazed knees is clearly not reasonably practicable.

Providing suitable ear defenders for workers in a noisy workshop, clearly is.

One of the most important aspects of the Act is that it allows all sorts of other health and safety law to be passed in the form of secondary legislation which, to all intents and purposes, bypasses Parliament. We will look at the most important of these regulations in future Bulletins.

Managing Safely

Every manager needs an understanding of their safety and health responsibilities

Working Safely

Everyone at work needs to understand the importance of safety and health

IOSH Working and Managing Safely Courses

As discussed in the earlier Health and Safety at Work Act article, employers have a duty to the health and safety of their employees.

This includes from section 2(c): -

The provision of such information, instruction, training, and supervision as is necessary to ensure, so far as is reasonably practicable, the health and safety at work of his employees.

IOSH Working and Managing Safely training courses is one way to learn the basics of safety and health as it provides participants with valuable knowledge, information and skills related to workplace safety.

There are several important reasons why attending the IOSH Safely training is beneficial to both employers and employees:

- **Legal Compliance:** The UK has strict regulations regarding workplace health and safety. Attending the IOSH Working or Managing Safely helps individuals and organisations understand and comply with these legal requirements. It ensures you know your own responsibilities for safety and health.
- **Safety Awareness:** The courses focus on raising awareness of common workplace hazards and risks. The examples have been modified to be relevant to the technician profession. By attending, participants learn how to define hazards and risks, assess, and take proactive steps to mitigate them. This knowledge can significantly reduce the likelihood of workplace accidents and injuries.
- **Promotes a Safety Culture:** These training courses encourage a positive culture of safety within the workplace. When employees are trained to recognize and address safety issues, they become more responsible for their well-being and that of their colleagues. A safety-

conscious culture leads to a lower accident rate and improved overall workplace safety.

- **Reduces Accidents and Incidents:** The primary goal of the IOSH courses is to prevent accidents and incidents in the workplace. By attending, participants gain the knowledge and skills necessary to create a safer work environment, leading to fewer injuries, less downtime, and lower associated costs. Managing safely will enable you to investigate incidents and measure your own performance with regards to good practice.
- **Enhances Employee Well-Being:** Ensuring the safety and well-being of employees is not only a legal requirement but also a moral responsibility. Attending the course shows a commitment to employee welfare, which, in turn, can boost employee morale and motivation.
- **Protects Organisational Reputation:** Workplace accidents and safety violations can damage a company's reputation. Customers, clients, and investors are more likely to trust and engage with an organization that prioritizes safety. Attending the IOSH Safely courses can help to protect a company's image and credibility.
- **Financial Savings:** By preventing accidents and illnesses, organisations can reduce direct costs related to medical expenses and compensation claims. Moreover, indirect costs, such as lost productivity, retraining, and hiring replacement staff, can be minimized, resulting in substantial financial savings.

IOSH Working Safely is recommended for all technicians who want to learn the basics of safety and health in the workplace.

IOSH Managing Safely is recommended for senior technicians to get up-to-speed on the practical actions they need to take and gain the knowledge and tools to tackle the safety and health issues they're responsible for. There is also a refresher course available.

Quick Disposable Dust Mask Guidance

The purpose of disposable dust masks is to provide a means of controlling airborne contaminants in the air that could be inhaled by an individual. Under COSHH regulations, employers are required to provide employees with suitable personal protective equipment where necessary. This is in addition to other control measures such as dust extraction systems found within the technology department.

Any dust mask or other form of respiratory protection should limit the exposure to contamination (i.e. wood dusts) to a level that is as low as reasonably practicable and below the workplace exposure limit set for the type of substance. For example, the WEL hardwood dust is 3mg/m³ and 5mg/m³ for softwood. Both being based on an 8-hour time-weighted average.

So what types are available and what should be used?

Not suitable for Technology Departments

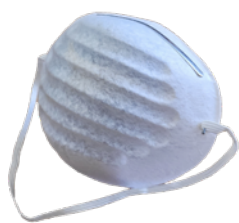


Figure 1 – Nuisance Dust Mask

Nuisance dust masks

A nuisance dust mask, is a type of disposable mask that provides basic protection against larger non-toxic particles in the air. These masks are designed to be lightweight, comfortable, and affordable, making them suitable for tasks where the primary concern is general dust and particulate matter rather than hazardous or toxic substances. Nuisance dust masks are only suitable for environments where the particles present are not toxic or harmful to health.

FFP1 & FFP2

An FFP1 or FFP 2 mask, is a type of disposable face mask that provides minimal protection against non-toxic particles. FFP stands for "Filtering Face piece Particle" and the number preceding it indicates the level of filtration efficiency. FFP1 masks are the lowest level of respiratory protection among the FFP masks.

FFP1 masks are designed to filter out at least 80% of airborne particles with a size of 0.3 microns or larger. They provide basic protection against larger dust particles, pollen, and other non-toxic particulate matter.

FFP2 masks are designed to filter out at least 94% of airborne particles with a size of 0.3 microns or larger. They provide better protection against fine dust particles, aerosols, and certain types of hazardous particles.

While FFP1 & FFP2 masks offer some level of protection, they do not provide a tight facial seal like more advanced respirators. As such, they may not be effective in situations where a secure seal is required to prevent particle leakage around the edges of the mask.

FFP1 & FFP2 masks are typically disposable and designed for single-use applications. They are not meant to be reused and should be discarded after use.



Figure 2 – FFP1 Mask



Figure 3 – FFP2 Mask



Figure 4 – FFP3 Mask

FFP3

FFP3 masks are designed to offer maximum protection against airborne particles, including fine dust, aerosols, and hazardous substances. They are designed to filter out at least 99% of airborne particles with a size of 0.3 microns or larger. They offer excellent protection against fine particles, including those that could be harmful to health. They are suitable for environments where the particles present are highly hazardous and can pose significant health risks.

FFP3 masks provide a better and more secure facial seal compared to lower-level FFP masks. A proper fit and seal are critical to preventing particle leakage around the edges of the mask.

Face fit testing should be performed to ensure that the mask properly fits the wearer's face and minimizes the risk of airborne contaminants leaking in around the edges of the mask and therefore reducing its performance and putting the user at risk.

These masks are typically disposable and intended for single-use applications. They should be discarded after use to ensure consistent protection.

When using FFP3 masks, it's crucial to ensure that they are certified by reputable standards organizations to ensure their effectiveness (such as CE or BSI markings). Proper use, fit, and disposal are essential for maximizing the protection provided by FFP3 masks. Keep in mind that while FFP3 masks offer a high level of protection, they are not a substitute for other safety

Powered Visor Respirator

A powered visor respirator, also known as a powered air purifying respirator (PAPR) with a visor, is designed to provide respiratory and eye protection. It consists of a clear visor or face shield that covers the eyes, nose, and mouth, combined with a powered air purification system that supplies filtered air to the user. The main part of the respirator is reusable and therefore can reduce costs over time as only the filter would need replacing. They are generally more comfortable to wear for extended periods compared to traditional tight-fitting respirators.

These types of respirators are generally more protective than non-powered half mask respirators as a fan pushes clean filtered air down the wearers faces, creating in effect a positive pressure inside the face piece under most work conditions, which reduces inward leakage of potentially contaminated air. It should be noted that the correct type of filter should be selected and fitted to suit the contaminant being filtered.

measures, and other personal protective equipment (PPE) may be necessary depending on the specific hazards present.



Figure 5 – Half-mask and Full-face respirators

Half-mask/Full Face respirator

Both half-mask and full-face respirators are types of respiratory protective equipment designed to provide different levels of coverage and protection for the wearer's face and respiratory system.

A half-mask respirator covers the lower half of the wearer's face, including the nose and mouth. Whereas a full face respirator covers the entire face, including the eyes, nose, and mouth.

They both typically use a filter cartridge or canister to provide protection against specific types of hazards, such as particulates, gases, or vapors. In the case of wood dusts, FFP3 filter cartridge can be fitted.

Half-mask respirators are often lightweight and more comfortable for extended wear compared to the traditional disposable masks.

The choice between a half-mask and a full-face respirator depends on the specific hazards present in the environment, as well as the comfort and protection needs of the wearer. It's important to follow manufacturer guidelines, undergo proper fit testing, and receive training on how to properly use and maintain the chosen respirator.



Figure 6 – Powered visor respirator

HSE Radiation Inspections

In Bulletin 276¹ last summer, we reported that the Health and Safety Executive intended to inspect a sample of schools throughout the UK to check whether their use and storage of radioactive materials complied with the Ionising Radiation Regulations (IRR17). In the period November 2022 to March 2023, 16 Scottish schools were visited. The SSERC team had a number of meetings with HSE personnel before and after the inspections. The following is a summary of what they found out, what is happening now and what happens next.

Findings

Compliance rates – the percentage of schools where no breaches were found - were quite high when compared with other sectors. There were, however, issues in some schools, resulting in employers being both fined and required to produce a plan detailing how they would deal with shortcomings. Schools that were following SSERC guidance were compliant. According to one inspector, the situation in Scotland was “all or nothing”. Schools were either exemplary or were doing virtually none of the tasks – stock checks, leak tests etc that are required by law. Interestingly, all of the non-compliant schools were aware of SSERC advice and knew that they could contact us for help. It appears that the greatest cause of non-compliance was that when a member of staff who had been responsible for supervising work with radioactive materials moved on, nobody else picked up the mantle. Out of date training was also a significant issue. We must say that at no point did we feel that inspectors were failing schools for petty nit-picks. Indeed, any feedback we received about the inspection process was positive. Words like “supportive” and even “kind” were used.

What is happening now

We will be modifying some of our guidance as a result of the inspections.

When carrying out a stock check, please list, on the log of usage, the individual sources that were checked.

HSE expect all those using radioactive materials to be trained every 3 to 5 years. Whilst this could be inhouse, the member of staff responsible for overseeing work with these materials, called the RPS by many schools, should have SSERC training at this frequency too. This could be via one of our online courses, but if the RPS has never had direct training on safe handling using actual sources, they should attend a face-to-face training event. If employers wish to run their own safe handling training this must be sanctioned by SSERC.

Though not a modification to our guidance, we would like to again stress that any risk assessments or contingency plans supplied by SSERC must be modified to suit local circumstances.

SSERC produces guidance and helps school staff implement it via our training and help-lines, but it is the employer's duty to see that our advice is being followed. Several local authority personnel have been in touch with us for advice on making non-compliant schools compliant. We have also had enquiries on how to carry out inhouse inspections and have supplied checklists linked to our own documentation. These employer-

led inspections have highlighted some additional issues.

- The only radioactive materials you should have in school are the ones detailed in Bulletin 256². Some schools are finding uranium and thorium compounds, usually in small amounts. Unfortunately, even small quantities can be tricky to dispose of, but you do not have an option to keep them.
- You are allowed to keep an ionisation chamber smoke alarm to demonstrate that it contains a radioactive source. On no account should the device be dismantled. To do so without a permit from SEPA, the environmental agency, would be a breach of law. If you have a dismantled smoke alarm that you cannot put back together, disposal can be difficult as it is subject not only to radiation laws but to waste electrical equipment legislation. “Difficult” is, fortunately, not the same as “impossible”. Again, keeping a dismantled smoke alarm is not an option.
- Another item you must dispose of is a protactinium generator that is 8 years old or more. Disposal is expensive, but if an aged generator leaks and contaminates the fabric of a school building, failing to dispose will prove to be the falsest of false economies. So far, no employer inspection has discovered any aged protactinium generators, but we believe there are a very small number of them “out there”.

We have every sympathy for staff who discover sources that should not be in schools. In almost every case, it is an inherited problem. If you discover a source that is not on our approved list, please get in touch. Remember that you should not buy or acquire any radioactive materials or artefacts without consulting SSERC.

What happens next?

At SSERC, we will be modifying our guidance, as detailed above.

HSE will continue to inspect schools. They do not drop in unannounced. If you get notification of an inspection, please let us know and we will work with you to help you ensure that everything is in order. Note that, even if you have no sources but have possessed some in the last two years, in theory HSE could still inspect your records which you must retain for that period. HSE have also been asking about radon in schools. Whilst that is not the responsibility of teaching and technician staff, we have some basic guidance available on request. It might be worth highlighting this to your senior management, particularly if you are not in a local authority school.

It is our view that, in Scotland, the inspections have had a largely positive effect, raising awareness of the need to comply with legislation and emphasising SSERC's role in helping you to do so.

¹ <https://www.sserc.org.uk/wp-content/uploads/2022/06/Bulletin-276p18-Radioactivity-inspections.pdf>

² <https://www.sserc.org.uk/wp-content/uploads/2020/08/256-Auditing-Radioactive-Sources.pdf>