

## **Health, Safety & Wellbeing 2018 Annual Report**

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## 1. Executive Summary

A new colleague, Consultant Occupational Health Physician (OHP) Dr Jonathan Reid, joined us this year, working with Dr Mary Blatchford to deliver our contracted OHP services. Jonny provides a half-day a fortnight of regular clinics for us, as well as providing cover during Mary's holiday periods. We were sad to say goodbye to Morag Marshall, who retired for the OH Admin team, and Moira Bryden who retired from RPS after 6 and more than 20 years' service respectively. The Business Continuity Officer, Colin, also departed, with the end of his fixed term contract, after a very productive 18-months with us.

Systems developments included the new on-line incident reporting/ recording system going live in January, providing us with user-friendly formats for users, and successful extraction of all the necessary monitoring/ reporting data. A new SEPS newsletter saw its inaugural publication, targeted at the local safety coordinating staff across the Institution.

Numbers of employees undertaking training delivered or facilitated through HSW continue to rise from just under 4,000 in 2017 to 4,312 in 2018, across 97 courses as well as on-line induction and fire safety awareness.

This year, training figures included those for Mental Health First Aid, rolled out this year as part of the Mental Health Action Plan to provide initial support and sign-posting for staff and students. 11 2-day courses were delivered to 161 attendees, including 15 delegates from student representative bodies.

Specialist operational support activities were once again numerous and varied. Biological Safety Adviser (BSA) support included implementing a Containment Level 3 laboratory inspection programme, supporting CL3 facilities involved in an HSE review of Specified Animal Pathogens Order licence activities and establishing contact with key UoG staff working in NHS laboratories. Chemical Safety Adviser (CSA) support included monitoring and investigating, as appropriate, more than 80 incidents involving hazardous chemicals, advising on chemical storage and management systems for the Research Hub plans, implementing an inspection regime for cryogenic liquid storage and decanting and updating the chemical safety pages of the website. The Biological and Chemical Safety Advisers worked together on delivering training for the revised health surveillance risk assessment, and with the Environmental Adviser on a number of building clearances involving chemical and biological materials to ensure compliance with safety and environmental legislation.

The Environmental Adviser supported E&CS again this year, with the EU Emission Trading Scheme submissions, also working with the Energy Manager to prepare them for making future submissions. The EA also launched a new suite of waste management training courses on a range of specialist waste.

In recent years, the specialist posts in SEPS have been developed to include aspects of wider general safety advice. To this end, the BSA and CSA have been developed to take part in the in-house safety management audit programme, and the EA has started attending a programme of Food Hygiene training. These measures improve the versatility and resilience of SEPS, as well as offering interesting development opportunities for the advisers.

On the Fire Safety Front, work continues to reduce unwanted fire alarm signals, and the long-term trend (over 5 years) continues to see total unwanted activations reduce. Scottish Fire & Rescue attended after several minor fire incidents, two of which involved plant rooms at the Garscube Campus, all requiring follow up activity by the Fire Officers. A growing area of work for these officers is support and advice to the Soft Landings aspect of the Campus Development Programme. Input is considerable but is a very valuable opportunity to ensure safe design and prevent the need for costly corrective work at a later stage.

Radiation Protection Services carried out a number of decommissioning activities involving the Wolfson Wohl and McGregor Buildings. An important piece of work was the tendering exercise for the provision of radiation badge dosimetry services and we are very grateful to our colleagues in Procurement for their help with this.

Occupational Health delivered some extremely large clinics for Hepatitis B vaccination this year, as a result of the lack of vaccine availability in 2017. Whilst challenging, it also provided an opportunity to review protocols and, as a result, processes for many international students have now been simplified, with time and cost savings for the Schools involved. The 5-yearly resubmission for SEQOHS (Safe Effective Occupational Health Services) accreditation was very time consuming for the OHU staff, but successful. Health Surveillance work saw the highest compliance ever, with 92% of employees identified as requiring HS attending clinics, thanks to revised systems, on-line appointment booking and nomination by MVLS of a single point of contact coordinator.

Before his departure, the BCO planned and delivered an extremely successful Emergency Planning Exercise in March, which was attended by over 100 employees and emergency services personnel. Progress with BC activity in the Schools, Institutes and Services was pursued and BC documentation was revised in line with feedback from the management units, leaving the Director of HSW in a far better position to pick up the reins to maintain the University's vastly improved BC Management status.

My thanks go out to all the staff within HSW, as well as all our colleagues and collaborators, including E&CS, IT, local safety coordinators, Procurement, and all those other colleagues who have made our role easier (or even possible) and/ or more pleasant this year!

## **2. Key developments and achievements**

### **Administrative changes.**

For the first time in several years, there were no changes to staffing within SEPS, allowing the newer members of the team to expand their knowledge and understanding of the complexities of the University. We were sad to say farewell to both Morag Marshall, who retired from the OH administrative team, after 6 years, and Moira Bryden who also retired, from RPS, after more than twenty years.

Our online incident reporting and recording system, developed in-house in conjunction with IT Services, went fully live from 1<sup>st</sup> January 2018. All incidents were recorded on this system during the year and we were able to successfully extract statistical data from the system on monthly, quarterly and annual bases. We are reassured that we have proven the system to work well during the full-year cycle, particularly in relation to generation of the data needed for the various incident returns that we are required to prepare.

The SEPS administrator undertook the administrative delivery of a series of 2-day mental health first aider courses for the Director of HS&W. We delivered approximately one course per month and all were very well received by delegates.

SEPS launched a short newsletter late in 2018, which we hope will continue to be published on an occasional basis (2 – 3 times per year) during 2019. The aim of this is to communicate issues of safety interest and help maintain engagement with key safety staff across the institution.

## **Biological**

A key focus for the Biological Safety Adviser this year was to embed the Containment Level 3 (CL3) inspection programme across all of the relevant laboratories at Gilmorehill and Garscube campuses with 7 inspections undertaken and actions issued and tracked accordingly. This is now an established annual rolling programme in a key area of risk and we are in a position to demonstrate an effective corporate oversight of these activities

An HSE inspection from the Microbiology and Biotechnology Unit was triggered this year by a request for an addition to the University Specified Animal Pathogens Order (SAPO) licence. The HSE Specialist Inspector wished to make best use of time on site and added an inspection of CL3 facilities at Gilmorehill and inspection of large genetically modified organisms work (primarily animals and plants) in addition to discussing SAPO arrangements at Garscube. This 3-day inspection (15-17<sup>th</sup> May) involved staff and working facilities from the Institute of Infection Immunity and Inflammation, Institute of Biodiversity Animal Health and Comparative Medicine, Biological Services and the Institute of Molecular Cell and Systems Biology, as well as members of Genetic Modification Safety Committee (GMSC).

The Biological Safety Adviser played a pivotal role both prior/during the inspection and in preparing the collective response from the University to the points raised by the HSE inspector.

To improve communications and exchanges between CL3 areas and organisational oversight of the control of SAPO agents specifically, the Biological Safety Adviser formed a CL3/SAPO agents group comprised of the Biological Safety Adviser, CL3 laboratory managers and academics working with SAPO agents at both Gilmorehill and Garscube. The group have met and agreed initially to participate in planned inspections to assess existing arrangements for the receipt, transport, storage and inventory of SAPO agents.

In addition to the higher risk area focus, the Biological Safety Adviser has been successful in promoting good working practices across many areas of the University. This has been achieved by engaging with key staff, such as safety coordinators and area managers, to identify gaps in practices and training needs across the units, whilst also acting as auditor as part of the SEPS led-programme. The Biological Safety Adviser has also worked closely with all four of the CMVLS GM committees to ensure appropriate consent is in place for the diverse range of work with genetically modified organisms, animals and plants.

Firm contact was established with key personnel across the NHS sites where University work is undertaken. This was primarily at the Dental Hospital, the QEUH, Gartnavel General Hospital and the New Lister Building at Glasgow Royal Infirmary with visits to the laboratory areas to inform the scope of work undertaken there and identify associated risks.

Specialist biosafety training was delivered which encompassed, eight Biological and Genetic Modification safety training sessions for staff and postgraduate students across the Units. In addition, a specific information session on non-inactivated specimen use for the Genomics Facility at Garscube; biosafety considerations session on the Health Safety and Security Personal Licence course; tailored training sessions to 2nd year PhD students at the Institute of Cancer Sciences at Garscube and staff within the Institute of Molecular Cell and Systems Biology. The feedback from training has been extremely positive.

During the year the Biological Safety Adviser was invited to be a representative on the Biosafety Steering Group at the Institute of Safety in Technology and Research. Their aim is to enhance the knowledge, competence and professional development of its members through networking, accreditation, knowledge exchange, workshops and symposia.

The Biological Safety Adviser was involved in the revision and roll-out of the health surveillance risk assessment guidance and in conjunction with the Chemical Safety Adviser delivered several training sessions to key groups of staff. As part of an initiative to highlight occupational dermatitis risks, face-to-face training was delivered to those involved in wet work activities across washroom areas, in particular, promoting skin inspection regimes. The feedback from this has been excellent.

Both the Biological Safety Adviser and Chemical Safety Adviser have supported a number of Units and Estates Project Managers by facilitating laboratory clearances prior to commencement of refurbishment/demolition works at the Gilmorehill Campus. The Biological Safety Adviser has had significant repeated input on the residual biological risk associated with abandoned materials, particularly within the McGregor building. Additionally, input was required on specific biological safety requirements for the new Research Hub design.

The Biological Safety Adviser accompanied Police Scotland Counter Terrorist Security Advisers (CTSA) at both Gilmorehill and Garscube for our annual security inspections in the associated key areas for Home Office regulated materials. An additional meeting was organised with the Scottish Ambulance Service/Resilience Advisor through our CTSA contact and the Biological Safety Adviser, Chemical Safety Adviser and Head of Security and Operational Support attended. This initial emergency response meeting was to discuss procedure requirements for higher risk areas and to help inform future planning strategies with the Special Operations Response Team.

## **Chemical**

During 2018 over 80 incidents involving hazardous chemicals were reported, while most of these were minor spills and leaks some more serious accidents including direct chemical exposures of staff and students, uncontrolled reactions and one minor explosion occurred. In each case these incidents were investigated and where possible improvements suggested to prevent reoccurrence.

Training courses were delivered to academic staff, support staff and students on a variety of subjects relevant to chemical safety. Eight chemical safety (CoSHH) courses were delivered with five of these open to all staff, two delivered to ICAMS and the eight delivered to MSc students in Textile Preservation. Chemical safety training was also provided to the latest intake of PhD students in the School of Chemistry as part of their safety induction. Two half-day sessions on compressed gas safety and two on the safe handling of cryogenic liquids were delivered by an external provider with cryogenic safety refresher training subsequently provided by the Chemical Safety Adviser. A series of targeted sessions on skin health surveillance were delivered in a roadshow format to key users including washroom and aquarium staff.

The Chemical Safety Adviser has been heavily involved in helping to ensure the new Research Hub Building is designed with safety in mind. He has attended a number of design meetings and reviews looking closely at the chemical storage areas, cylinder store and cryogenic tanks along with other relevant areas. In support of this, he has joined the Laboratory Logistics Working Group to ensure that laboratory safety is embedded in the ethos of the building.

The process of removing redundant hazardous chemicals has continued with the Chemical Safety Adviser providing practical support in making explosive and toxic chemicals safe for disposal. Explosive materials such as picric acid and tetranitromethane have been removed from the University along with highly toxic legacy chemicals such as osmium tetroxide.

The Chemical Safety Adviser has been heavily involved in carrying out safety inspections principally in the School of Chemistry supporting staff in their annual programme of laboratory inspections. A number of potential improvements have been implemented as a result of this.

Further inspections of specific laboratories in Human Nutrition and ICAMS were also carried out.

Following a number of issues identified in liquid nitrogen storage facilities a programme of inspection of cryogenic liquid storage and decanting facilities was implemented across the University with a view to identifying and sharing good practice and advising on potential improvements where required. In some cases, serious deficiencies were identified which could have led to serious injury. Where these have been identified immediate action was taken to reduce the risk to staff.

Ongoing monitoring of the Anatomy Facility in the Thompson Building was carried out. This involves measuring the air for formaldehyde and phenol and is required due to the use of embalming fluid in both the teaching laboratories and embalming areas. For the most part the levels monitored were within acceptable limits although some improvements were suggested to the procedures used for embalming of cadavers in the Jeffray Laboratory. Further advice was also given relating to the disposal of waste embalming fluid.

Several requests were received to assist E&CS in identifying and removing hazardous chemicals left behind by former occupants of buildings scheduled for refurbishment or demolition as part of campus improvement works (in particular within the Joseph Black, McGregor and Pontecorvo Buildings). Assistance was provided including liaison with waste contractors to ensure the offending materials were safely removed from site before works began and new procedures developed to improve the decanting and decontamination procedures used when users move from one area to another.

The usual process of reviewing explosives licensing requirements and CWC agents and precursors has been undertaken to ensure we comply with our legal requirements as a responsible organisation.

The chemical safety section of the SEPS website was updated to make it easier to navigate and to improve the information available to users. In addition to making the site easier to navigate, new guidance notes were prepared on a variety of subjects and updated forms and templates produced and made available for download.

As part of the ongoing relocation of the Hunterian Archive from Thurso Street to Kelvin Hall procedures were developed for safe the transport of geological samples containing natural asbestos with assistance from the University Asbestos Manager. Further to this, proposals for a spirit store containing biological samples preserved in flammable solvents were reviewed and advice on safe storage provided to the responsible person.

Concerns were raised over the position of the quench pipe at the MRI facility on the Garscube Campus which had the potential to vent helium gas into a publicly accessible area. Discussions with operators of the facility and colleagues in E&CS identified the need to take an adjacent bike rack out of use and prevent access to the hazard zone using suitable fencing and signage. This has since been put in place.

## **Environmental**

Once again, a significant proportion of time was spent supporting colleagues in Estates & Commercial Services (E&CS) in 2018. This work involved collating data for, and completing, the second EU-Emission Trading Scheme (EU-ETS) external audit for the University's carbon emissions during 2017. After the audit, E&CS were able to acquire the correct number of carbon credits and trade these within the scheme within the legally required time limits. SEPS also successfully registered a revised permit variation with SEPA to reflect changes in gas meters across Gilmorehill during 2017. In the second half of 2018, responsibility for completing the EU-ETS returns passed to the E&CS Energy Manager and SEPS provided support to ensure a seamless transition.

Also involving colleagues in E&CS, were a number of substantial building clearances ahead of planned redevelopments or demolition. This involved identification and classification of complex specialist wastes along with support in ensuring these were disposed of safely and through our nominated contractors.

Contract management with our specialist waste disposal businesses mainly involved routine progress checking against agreed KPIs for CCL North (WEEE waste) and Veolia (chemical waste). Our clinical waste contractor (SRCL) underwent both a name change to Stericycle and a split in their business that led to sale of their chemical disposal arm to a competitor organisation. This change in business services offered by Stericycle caused a number of short-term challenges to the University particularly where mixed specialist wastes were concerned.

To improve waste compliance on specialist streams a new suite of waste management training courses was launched late in 2018. These courses are designed to be delivered in departments over a lunchtime and to focus on one area of specialist waste management. Initial indications are that take-up will be good in 2019.

A further new area of expertise developed in 2018 was that of environmental health and food hygiene. In order to support colleagues within the University Hospitality Services unit, the Environmental Adviser has begun an intensive course of food hygiene training, beginning with a Level 2 Food Hygiene certificate gained late in 2018.

Reactive work has been as unpredictable and diverse as ever. 2018 saw involvement with many departments including assisting with waste classification issues; E&CS regarding dog faeces collections at Garscube; various soft landings meetings for design input with architects; drainage of mortuary tables to name a few. External support was provided to SAC on setting up waste tenders for their multiple sites. Senior Management input was provided through the Sustainability working group who meet quarterly to discuss sustainability and environmental developments across campus. One of the stranger pieces of reactive work was acting as a traffic warden in University Place to ensure our clinical waste collections were made after a couple of failed attempts due to badly parked cars in the street.

It is, as is customary, very pleasing to report that the University was not subject to enforcement action in 2018 by any environmental regulators.

## **Fire safety**

Routine contact with the Scottish Fire and Rescue Service (SFRS) continued throughout the year in relation to specific alarm incidents, unwanted fire alarms, HMO licensing inspections and occasional post-fire audits. Some key elements of this in 2018 are summarised below.

During 2018, the procedure for dealing with unwanted fire alarm signals was monitored routinely to assess the effectiveness of these arrangements. On activation of a fire alarm signal, Security and Operational Support continue to support all building occupiers and Area Fire Officers to identify, address and mitigate the effects of such activations as quickly as possible and to avoid the unnecessary call-out of emergency services. This procedure has led to SFRS call-outs being reduced by two thirds compared to previous years and allows the University to demonstrate an ability to manage our buildings and to avoid drawing on the limited resources of SFRS unnecessarily.

As all users should evacuate the building on alarm activation, the change in policy away from an automatic SFRS call out for every fire alarm activation is not considered to create additional life safety risk and is supported by SFRS. Automatic call out continues to operate at night and

for residential premises, and some outlying areas where Security and Operational Support are not present to provide the necessary back up.

Although SFRS call out is substantially reduced, the number of unwanted activations increased from 122 in 2017 to 144 in 2018. There appears to be no single reason for this. (See Table 5 for a breakdown of causes.) September was the month with the highest number of unwanted activations. However, these activations did not appear related to the start of the new semester. The long-term trend (over 5 years) continues to see the total number of fire alarm activations reduce.

The tragic events of the Grenfell Tower fire continue to impact on fire safety arrangements nationally. However, these recommendations are mainly restricted to high-rise blocks of residential flats (over 18m) and do not impact directly on the University, as we have no residential premises of this type. As a precautionary measure, in 2017, Estates and Commercial Services engaged a consultant to survey and carry out cladding assessments on all the University's buildings. This report, in early 2018, has confirmed that none of our buildings has the type of cladding installed at Grenfell. Cladding work planned for the Boyd Orr and Library Extension will use appropriate materials.

A fire occurred during the daytime within a residential caravan sited at Cochno. SFRS attributed this to cooking. Although the direct fire damage was minor, there was significant smoke damage and physical damage resulting from SFRS intervention and, as the caravan was already in an extremely poor condition, it was taken out of use.

Several minor fire incidents led to post-fire audit visits by the Scottish Fire and Rescue Service (SFRS). These included two plant room fires at Garscube, one involving a fan belt and the other storage of contractor's items. Fortunately, neither caused extensive damage and SFRS offered minor advice only in both cases. Other minor incidents occurred involving lab experiments with flammable materials and overheating of electrical equipment.

Extensive building work across the campus has created an increased demand for professional input from the SEPS fire safety team, particularly on some of the more complex new buildings, and on refurbishment projects within existing buildings.

This is particularly so where these have been designed using fire-engineered solutions and the fire team has been involved in a significant number of "soft-landings" meetings to support and agree the designs developed for new buildings on the existing campus and on the Western Infirmary site. This professional input is crucially important to ensure that these designs are suitable and that any change, or the conduct of building operations, does not compromise fire safety.

Support to works within existing buildings included window renewals within the Joseph Black building and a major project for the School of Engineering within the James Watt North Building. Extensive refurbishment work of the Queen Margaret Union has also been ongoing through 2018. Phase 1 is now complete and included installation of a new fire alarm system together with an upgrade to the emergency lighting system. Phase 2 is due to be progressed in 2019.

Although an important element of the fire safety advisers' work, professional support of new build and refurbishment work can affect delivery of other proactive fire safety activities, including fire risk assessment.

SEPS reviewed occupancy capacities for Events and Conferencing for all venues to ensure that we comply with current guidance. This included a particular focus on use of Bute Hall for graduations, where occupancy level is at its maximum, and for other events in the hall where occupancy may be lower but layout and use may demand reduced capacity.

The fire safety team continues to provide support to all building users regardless of location and this has recently included visits to our sites at Dumfries and Rowardennan. Further afield, we provided fire safety advice to the School of Engineering regarding their partnership teaching in China.

The breakdown of the fire risk assessments carried out in 2018 is shown below:

<b>Premise Type</b>	<b>Number</b>
Cat 1 - High Risk	13 (approx.. 500 bed spaces)
Cat 2 - Med Risk	47
Cat 3 - Low Risk	50
<b>Total assessments</b>	<b>110</b>

### **3. Monitoring and Auditing**

#### **Internal auditing**

The internal safety management auditing process delivered six audits during the 2018 calendar year. Despite the loss of a staff post in 2017, we have been able to maintain this level of audit during both 2017 and 2018 and are aiming for a similar target in 2019. Following a period of introduction to the process, SEPS specialist Chemical and Biological Advisers began undertaking audits and preparation of reports independently, once again allowing distribution of the workload over the wider safety team. These are audits of safety management systems, rather than area-by-area physical inspections.

A report on each audit (typically about 18-20 pages) is provided to each Head of Unit. This includes a set of actions agreed during the audit and draft report consultation process. To ensure that the recommendations are realistically achievable and manageable for each unit we normally seek to limit the actions to a "top ten" (or thereabouts) in accordance with previous insurer/broken led audit practice.

The Head of SEPS, supported by the specialist advisers, carries out audit follow up enquiries and visits with reports on progress submitted to each quarterly HSWC meeting. There is now an understanding across the University of this process and an acceptance that actions must be discharged within a reasonable timeframe. SEPS aim is for units to have closed all actions within 12 months, at the latest. Many actions are completed long before this. However, this target limit avoids actions accumulating from year to year.

It is important to note that actions typically concern improvement or development of safety management systems and do not represent situations of imminent risk; if such situations are identified, they are dealt with by more immediate means.

One of the key requirements from several recent audit reports has been to define not only delegated responsibility for safety, but to set out clearly the tasks and duties that are required of staff to meet those responsibilities. This has provoked some worthwhile discussion of these duties within several academic unit and requests for briefing sessions by SEPS staff. We feel that has been beneficial of raising awareness of their safety roles amongst academic staff.

#### **Inspections**

SEPS safety team continue to undertake periodic inspection of work area. The focus of this is primarily on labs and workshop areas but may include other work environments. Within the biological labs, this process is formalised and structured and sits as part of a tiered audit

process of our higher-level biological containment facilities. Other areas are inspected via a more reactive regime, subject to staff resources being available. Walk-round inspections of this type tend to identify primarily deficiencies in the lab environment rather than within individual activities but with this limitation, are still a useful activity on their own or as adjunct to safety auditing processes.

## **External audits**

SEPS are not aware of any formal external safety audits having been carried out during 2018. However, we have received notification from our Employers' Liability insurer of their intention to undertake a one-day audit in March 2019.

As indicated within the fire section post-fire audits were carried out by the Scottish Fire and Rescue Service with only minor recommendations arising from these.

**Radiation Protection** (See also Appendix 1 for detailed Radiation Protection Service Report)

## **Ionising Radiation monitoring**

### Contamination Surveys

There were 32 contamination surveys carried out during 2018 and there were two contamination failures, Davidson Building and GBRC. There was one incident involving ionising radiations which required investigation by the RPS, this was radioactive waste found in a normal waste bin.

### Source Audits

There were 40 departmental source audits conducted during 2018. These assist the RPS to identify problem areas and are crucial for compliance with current legislation.

### Decommissioning Surveys

There were two areas decommissioned during 2018. Reports were sent to SEPA. These included:

McGregor Building, Western Infirmary site – all areas utilising radioactive materials within the McGregor building were decommissioned. There are no more areas using RM left within the Western Site.

Wolfson Wohl, room 337 decommissioned prior to refurbishment.

### Dosimetry Badge Service Contract

The contract for the service which provides the dosimetry badges for the University's employees working in "Controlled" areas (classified workers) and certain other activities involving ionising radiation (non-classified workers) went out to tender, and one submission was received. There followed protracted negotiations over terms and conditions, but we believe we are now, after significant input from the Procurement Service, close to signing off the contract. This statutory dose monitoring service includes badge provision, reading, and record keeping of employee doses.

## **Non-Ionising Radiation monitoring**

Laser surveys were carried out for Physics, Chemistry and Electrical Engineering as they are the main users of class 4 laser systems. Additionally, surveys of areas using ultra-violet radiation or microwave radiation were carried out on a by-request basis.

## **Occupational Health/ Wellbeing**

### **Health Surveillance**

Within the Occupational Health Unit, a more robust revised procedure and supporting guidance for identifying staff requiring health surveillance (HS) was developed in conjunction with MVLS management and IT colleagues. This has proved to be successful and has significantly decreased the amount of chasing of non- attenders. The best level of compliance ever was achieved during 2018 with 92% attendance of those identified as requiring HS. IT developed a self-booking system for these appointments which undoubtedly helped to increase attendance. One single point of contact within MVLS has been identified to coordinate HS risk assessments and lists of names. This should help to streamline the process further and ensure compliance with COSHH legislation

There has also been collaborative working with colleagues from SEPS in areas as diverse as the aquarium and SUERC covering skin and noise problems.

### **Student Health**

Due to the UK wide shortage of Hepatitis B vaccine it was impossible to vaccinate the incoming cohort of 2017 medical dental and nursing students as would normally be the case. Contacts were made with local public health and pressure was put on the manufacturers to release some vaccine in order that the dental students could commence their vaccination course prior to clinical work. More vaccine became available and catch up clinics were organised to start the course of vaccination for the nursing and medical students. Logistically this was complex and led to merging some groups with the incoming cohort of 2018 students with some clinics having attendances of over 600 students, the biggest clinics ever run here.

Because of the scarcity of Hepatitis B vaccine, we have trialled a new schedule for international students who were vaccinated a birth. Over past years when their titre level was checked at matriculation it usually measured very low then necessitating a further full course of Hepatitis B vaccine (3 vaccines). This year however the decision was taken not to undertake titre level checks, but instead to provide 1 booster vaccination and then check the titre level 2 months later. This has proved remarkably successful in obtaining good levels with only 1 vaccination instead of a full course of 3. This has saved money, and has also been well received by the international students, as it requires only 1 vaccination instead of 3

Managing unexpected events like these vaccine shortages, are key to ensuring continuing compliance with NHS health-screening guidelines, essential for practice-based learning for vocational students.

### **Audit in Occupational Health**

External accreditation by SEQOHS (Safe Effective Quality Occupational Health Services) involves a process of initial audit followed by annual reaccreditation and subsequent five yearly

reapplication. 2018 saw the first year, since original accreditation, that the OHU had to undergo full inspection and audit of the service. Accreditation was granted again following this visit, however the service had to revise the process for internal audit on record keeping especially on clinical content and report writing, in order to meet tighter SEQOHS standards. Along with this, the clinical staff had to undergo immunisation training and to provide competency audits of health surveillance and immunisation activities. The reaccreditation turned out to be a substantial piece of work for the unit however it demonstrates that quality and safe practice is being delivered by the staff at the OHU.

### **Client Feedback**

As part of ongoing SEQOHS accreditation, the Occupational Health Unit is required to undertake client feedback analysis. This is done anonymously via Survey Monkey where a questionnaire is sent to all students and staff who have attended the Occupational Health Unit for any reason in a selected period (usually two months). A separate questionnaire is sent to line managers of staff who have attended in order that feedback can be obtained from them. This was carried out in July and December 2018. An average of 48 patient feedback responses were collated for each survey and an average of 15 manager feedback questionnaires were returned providing a response rate of 24% for patients and 33% for managers. Within the patient response group, the July feedback analysis showed 95% overwhelmingly positive feedback and the December survey showed 99%. Analysis of manager feedback from both July and December 2018 showed that in July 93% of managers were either fairly or completely satisfied with the reports received, and in December this figure was 94%. 2 managers indicated slight dissatisfaction with the report received and 1 manager was slightly dissatisfied with the lack of opportunity to have a follow up discussion. The survey showed 94% satisfaction rate. All team members then contribute to a review of the results and comments to establish what went well and what could be improved. The feedback, as well as being an important tool to monitor service quality and inform improvement, has the added benefit of showing team members that their work is much appreciated.

### **Occupational Health Records and Reporting**

Report sharing via the file transfer system has worked well over the past year, ensuring that reports to managers and HR are delivered much more speedily than relying on internal mail. However, in the light of GDPR, mechanisms to achieve further security of the file transfer system are currently being explored. IT are currently working with OHU to explore possible alternatives to combine accessibility by the correct people with continuing and enhanced security of patient information

### **Wellbeing**

Scotland's Mental Health First Aid training was introduced in the University. It is one of a number of strands within the University's Mental Health Action plan aimed at supporting the mental health of both employees and students. NHS Scotland describes Scotland's Mental Health First Aid (SMHFA) as being "like any other type of first aid, the help given to a person before appropriate professional help or treatment can be obtained. The main difference is that it is the initial support for someone who needs support for a mental health issue rather than a physical one" <http://www.smhfa.com/>

161 employees attended one of 11 2-day courses. Those who completed the courses, along with anyone else in the University who had also attended this training through locally-run or

external course, were invited to join the Mental Health First Aider (MHFA) Network. To date, the Network has met on 3 occasions, with presentations on Postgraduate Support and the Counselling and Psychological Services, and discussions around a range of aspects of the MHFA programme.

A range of support materials have been developed to support the MHFAs, including information on mental health support services available within the University or local community, interaction recording forms, with associated GDPR documentation and MHFA posters.

Those who agreed to it were included on a list of available MHFAs, published on the HSW website, which enables those requiring support and signposting to contact a MHFA of their choice.

Thanks go to Margaret-Anne McMillan for her enormously popular delivery of the courses, and generous use of her time advising on some of the MHFA materials; Jo McNally in SEPS for stepping in to provide administration of courses; Mark Temple in IT for developing an on-line portal for easier recording of interactions; All those who gave their time to attend training, network meetings, and complete records of interactions.

## **Business Continuity**

During his final three months in post, the Business Continuity Officer (BCO) continued efforts to support management units to complete their initial Business Impact Analyses and local BC Plans. He went on to review the BC documentation in line with feedback received, to increase its flexibility and user friendliness. He also prepared a proposal for exercising of these plans, once complete.

The culmination of the BCO's time in post was the planning, development, design and delivery of a large scale desk-top emergency response testing exercise. This was a piece of work that he volunteered for, in support of the Head of Security & Operational Services, recognising the inter-related nature of BC and EP, and the exercise day was extremely well-delivered and received by the 100 or so colleague and emergency services attendees.

There were three meetings of the BC Governance Board (BCGB) which served to monitor progress in implementation of remaining recommendations from the 2016 Internal Audit of BC management in the Institution.

Following the end of the fixed term BCO post, the Director of HSW was passed responsibility for maintaining momentum of the BC programme, working with BCGB members to continue progress with developing, reviewing and testing of their BIAs and plans.

## **4. Collaboration and co-operation with external bodies**

Examples of the main organisations with whom HS&W interact are shown below.

- Advanced Procurement for Universities and Colleges Ltd.
- Association of University Radiation Protection Officers (AURPO)
- Chartered Institute of Waste Management (CIWM)
- Department of Energy and Climate Change – Chemical Weapons Convention licences. – annual return submitted based on information supplied by Schools/RI's in response to SEPS request.
- Department for Transport – enforcing authority for some aspects of transport of dangerous goods.
- Environmental Association for Universities and Colleges (EAUC)
- European Biosafety Association

- Glasgow City Council / Glasgow Life (HMO Licensing)
- Health and Safety Executive – incident investigations, notifications, biological
- HEBCoN – Higher Education Business Continuity Network.
- HEOPS – Higher Education Occupational Physicians/ Practitioners
- Historic Scotland
- Home Office – Controlled Drugs/Drug Precursor licences
- Institution of Occupational Safety and Health – IOSH-accredited training courses
- Institute of Safety in Technology and Research (ISTR)
- National Counter Terrorism Security office (NaCTSO) – Biosecurity
- NHS Scotland – consultation re joint occupation of premises
- Northern Biological Safety Advisers Group – sector meetings
- Police Scotland – (Counter-terrorism security controls and explosives.)
- Royal Sun Alliance – Consultation on insurance liability issues and external audit.
- Scottish Ambulance Service (CTSA - Counter terrorism liaison)
- Scottish Environmental Protection Agency (SEPA)
- Scottish Fire and Rescue Service
- Scottish Government
- Society for Radiological Protection
- Scottish Universities Safety Advisers Groups (general, fire and chemical)
- University Chemical Safety Forum (UCSF)
- Universities Safety & Health Association (USHA)
- USHA Environmental sub-group
- USHA Fire sub-group
- Zero Waste Scotland
- Zurich Municipal – external training provider

## 5. Training and competence

First aid and manual handling courses continue to be a major, although routine element of our training programme. These courses, along with other specialist training requires the services of external trainers. As SEPS have no specific budget for such training, we run these courses on a cost recovery basis. This is a well-established system but does require some local administrative work to ensure correct recovery of funds and manage the constantly fluctuating budget. The advantage of such a system is that we can run any number of courses based on the customer demand.

The SEPS delivery of IOSH accredited courses continued strongly in 2018. The Environmental Adviser led all of these courses. These were very well received with 88% of delegates saying they would “definitely” recommend the Managing Safely 4-day course to others. In order to spread the training delivery workload both the Biological Safety Adviser and the Chemical Safety Adviser are now approved trainers and have shadowed both of the IOSH courses ahead of their first courses as trainers in 2019.

Our specialist advisers, biological, chemical, environmental and fire, continue to deliver technical safety courses, as indicated in the table below, to general and specific groups. We have no external costs for this and this training is provided free of charge. We find this an excellent way to meet key staff involved in such work and to develop working relationships with them. These relationships assist in other aspects of SEPS role, both and as advisers and in ensuring legal compliance.

The online computer equipment safety training and assessment module has continued to gain users, and currently has 1425 registered users. That said, the extent of use varies with some looking only at the training elements; as shown below, a much smaller number have completed the training in full. We have sought to encourage greater use of this system through newsletter articles and discussion within Schools. Local encouragement and monitoring of staff

participation at School level would assist in increasing use. Our capacity for this is limited, particularly when set against more urgent priorities.

Similar comments regarding use apply also to the online fire-safety training module. We do regard this as mandatory for staff. However, participation remains patchy. SEPS Fire Safety Advisers have targeted several individual units during the year and have had success in increasing completion of training in these targeted areas.

This year, SEPS administered a series of 2-day, centrally funded Mental Health First Aider courses provided as part of the University wellbeing agenda. These were very well received by delegates.

The table below shows the completion figures for 2018 for our various types of training.

### Courses and training delivered 2018

Subject	No. Courses	Attendees
<b>Induction</b>		
"e-Induction" on line training for new staff	n/a	1337
<b>IOSH Accredited courses</b>		
IOSH Working Safely Course (1 day)	3	32
IOSH Managing Safely Course (4 day)	3	27
<b>General and specialist safety courses</b>		
Biological Safety and GM course (1/2 day)	8	78
Biological CoSHH Risk Assessment Workshop (2 hour.)	1	15
Control of Substances Hazardous to Health (various)	8	88
Chemical Safety for Postgraduates (1 hour)	1	30 (approx.)
Compressed Gas Safety Course (1/2 day – external trainer)	2	42
Cryogenic Course (1/2 day – external trainer)	2	42
Cryogenic Refresher Course (2 hours)	3	23
Display Screen Equipment (online) (training only)	n/a	189
Display Screen Equipment (online) (training & assessment)	n/a	101
Health Surveillance "Wetworker" Roadshow (1 hour)	5	30 (approx.)
Manual Handling (1/2 day – external trainer)	6	61
Pressure Systems Safety (1 day – by "Zurich" ext. trainer)	1	14
Risk Assessment (1 day - by "Zurich" external trainer)	2	20
Working at Height (1 hour)	1	7
<b>First Aid Courses</b>		
First aid 3-day certificated course	8	85
First aid external 3-day certificated course	12	15
First-aid 2-day refresher course	12	118
Mental Health First-aid 2-day course	11	161
<b>Fire Safety Courses</b>		
Area Fire Officer Course (1/2 day)	8	90
Fire Warden Course (2 hours)	7	84
Other face-to-face fire safety courses	8	120
Staff fire safety awareness training (online)	n/a	1397*
<b>Radiological Safety Courses</b>		
Radiation Protection (Attended)	3	58
Radiation Protection (Passed Examination)	n/a	58
X-Ray Safety Course	2	46
Radiation Protection Supervisors	1	2
<b>Totals</b>	<b>97</b>	<b>4,312</b>

\* CoreHR system currently reports that 1438 staff trained on this module in 2017. (This data was not available at time of the 2017 Annual Report and we estimated approx. 1500 participants in that report.)

## Development of staff within Health, Safety & Wellbeing

Subject	No. staff attending
Asbestos awareness training-UKATA refresher (online)	2
Aurora - Developing women leaders in HE (5 days)	1
Celebrating Responsible Business (environmental ½ day))	1
'Circular Economy' Environmental Event (1 day)	1
Compressed gases course (½ day)	3
Cryogenic safety (½ day)	2
Discipline and grievance – Conducting an Investigation	1
Environmental Authorisations (Scotland) Regs 2018	2
Equality Impact Assessments course	2
Fire online training (Moodle hosted module)	2
Fire Safety Scotland training event (1 day)	2
Food Hygiene Level 2 (1 day)	1
HEBCoN Group Meeting	5
IOSH CPD programme (rolling professional programme)	4
ISTR UK Autumn Symposium (1 day)	1
ISTR UK Biosafety Steering Group meeting (1 day)	1
Mental health first aid (2 day)	4
Northern Biological Safety Advisers Group meetings (1 day)	1
Radiation Protection General Course	1
Recruitment and selection - update	3
Risk assessing the risk assessor (fire)	2
Scottish Universities Fire Advisers' Group (quarterly)	2
Scottish Universities Safety Advisers' Group (biannual)	4
SRP Conference	2
Sway Introduction	1
T4 website design training	1
University emergency planning event (½ day)	5
USHA annual health and safety conference (2 day)	2
USHA annual fire safety conference (2 day)	2
USHA Autumn Seminar on Overseas Travel	1
<i>WorkRite</i> - computer workstation assessment – online	1

## 6. Other Operational Activities

Activity	Description	Activity Total (2017 in brackets)
<b>Occupational Health</b>		
Activities for external clients	Beatson, Biopta and BioOutsource	(250) 10
Bloods	All bloods in OHU diary plus additional numbers from September screening and May titre clinic	(682) 706
Non-attendance (DNA) Management Referrals	Staff/students who didn't attend first management referral appointment	(14) 24
DNA All other OH appointments	Staff/students who didn't attend vaccine, blood, review, health surveillance or student referral appointments	(124) 76
Management Referral	New referrals	(273) 296
Management Referral - Returned	Returned to the referring manager due to insufficient/incomplete info on referral paperwork.	(22) 8
Management Referral - Not Actioned	Referral arrived at the OHU, further discussion with referring manager indicated referral not appropriate.	(3) 6
Review Appts	Management referral review appointments	(256) 189
Health Surveillance	All health surveillance appointments at Occupational Health and paper screening. This figure also includes medicals for CERN, ionising radiation medicals and any HAVS appointments for the Occupational Health Physician.	(564) 366
Elective Work for students	Comprising: Elective consultations, elective paperwork completion and pre-employment FY1 paperwork completion	(100) 92
Fitness to Practise for students	Undergraduate students from MVLS referred to OH.	(39) 28
MVLS Student Screening at Wolfson Medical School	New undergraduate Students attending for their health screening at Wolfson Medical School (start of term)	(544) 438
Research Passports	Research passport paperwork processed at OHU	(62) 41
<b>Radiation Protection</b>		
Ionising Radiation	Registration of new workers	(108) 57
	Registration of classified radiation workers	(48) 3
	Issue of Personnel dosimeters	(515) 505 pcm
	Radiation Monitors testing (22 required extensive repairs, 160 batteries replaced)	(190) 187
	Swab tests of sealed sources	(170) 170
Radioactive Substances	Contamination Surveys	(17) 32
	Source Audits	(34) 40
	De-commissions	(4) 2
	Isotope Order Management	(172) 146
	Contractor Disposals of solid waste	(1) 1
	Liquid Waste Disposal - Gilmorehill	(2538) 3885 MBq
	Liquid Waste Disposal - Garscube	(331) 125.5 MBq
Non-Ionising Radiation	Laser Surveys	(3) 3 Schools

## 7. Performance Indicators

### Summary of incidents reported in 2018.

2018	Animals	Electricity	Explosion	Fall/Level	Fall/Stair	Fall/Height	Fire*	Handling	Glass/Sharps	Hand Tools	Hot/Cold	Machinery	Poison/Infect.	Spill/Release	Sport	Strike Against	Struck by	Traffic	Other (inc medical)	Occ. Disease	Violence	Totals
<b>Minor and over 3-day</b>																						
Staff	14	3		30	7			12	23		6	1		17		11	16	1			2	143
UG Students	13				3				53		3			12		1	1			4		90
PG Students	6			1	1				11					5		2				1		27
Visitors				2	2				4					1		2	1					12
<b>Total minor and over 3-day</b>	<b>33</b>	<b>3</b>		<b>33</b>	<b>13</b>			<b>12</b>	<b>91</b>		<b>9</b>	<b>1</b>		<b>35</b>		<b>16</b>	<b>18</b>	<b>1</b>		<b>5</b>	<b>2</b>	<b>272</b>
<b>RIDDOR reportable incidents</b>	<b>1</b>			<b>4</b>	<b>3</b>				<b>1</b>						<b>1</b>	<b>1</b>	<b>1</b>		<b>1</b>	<b>1</b>		<b>14</b>
<b>TOTAL work related injuries</b>	<b>34</b>	<b>3</b>		<b>37</b>	<b>16</b>			<b>12</b>	<b>92</b>		<b>9</b>	<b>1</b>		<b>35</b>	<b>1</b>	<b>17</b>	<b>19</b>	<b>1</b>	<b>1</b>	<b>6</b>	<b>2</b>	<b>286</b>

<b>Other incidents</b>																						
DO / Near Miss				2	1		-		21				2	19	1	1	11	1	4		4	67
Not work-related				4	5						1				46	1	1	2	28			88
Contractors				1	1				2							1	2					7

Total incident reports																						451
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### Work related injuries by year

<b>2017</b>	30	2		34	18	1	1	10	79		9	1		40		21	27	1	4	2	1	<b>281</b>
<b>2016</b>	32	2		20	10		1	16	88		3	5		34		22	24		3	5		<b>265</b>
<b>2015</b>	27	4		45	9	3	1	11	69	1	9	5		36		13	18	2	11			<b>264</b>
<b>2014</b>	36	7		41	10	5	1	21	62	2	12	2		31		18	24		8	7	1	<b>288</b>
<b>2013</b>	32	6		23	15	1	8	22	52	1	11			33		12	24		12	4	1	<b>257</b>

\*Fire category covers incidents involving injury from fire only. Earlier years include some 'near miss' fire incidents.

## RIDDOR incidents reported to enforcing authority in 2018 by reporting criteria

Description of incident	Category	Totals
<b>Fatality</b>		
A student member of UoG Sport drowned while swimming in the pool. <i>(This incident is currently under HSE investigation and so remains a potentially work-related incident. University investigation suggests no work-related cause which, if HSE agree, may allow a reclassification as not work-related.)</i>	Sport	1
<b>“Major” Injuries (as defined by RIDDOR)</b>		
Slipped and fell on snow in grounds. (Fractured leg)	Fall on level	4
Slipped on water on floor and fell down one step (Fractured ankle)	Fall on stair	
Tripped and fell over trailing mains cable (Fractured arm)	Fall on level	
Suffered ankle fracture while stepping into vehicle (contributory medical factors)	Fall on level	
<b>Over 7-day incidents</b>		
Fell on stairs during cleaning work.	Fall on level	5
Fell on external stairs during delivery work.	Fall on stairs	
Struck against work surface during the course of work.	Struck against object	
Sustained dog bite during work.	Animals	
Injury to eyes and face by leaf blower.	Struck by object	
<b>Student/public to hospital for treatment</b>		
Sustained wrist injury during class environmental field trip	Fall on level	3
Suffered facial injuries due to falling over an object dropped by contractor moving furniture.	Fall on level	
Hand injured as a result of breakage of glass stopcock on lab apparatus	Glass/sharps	
<b>Reportable dangerous occurrence</b>		
Nil		0
<b>Reportable occupational disease</b>		
Developed occupational dermatitis through wet work. (HSE investigated this incident)	Occ. disease	1
<b>TOTAL RIDDOR REPORTABLE INCIDENTS</b>		<b>14</b>

## Fire incidents 2018

Building	Probable Cause
<b>Major fires</b> (damage beyond part of building immediately affected)	<ul style="list-style-type: none"> <li>No incidents</li> </ul>
<b>Intermediate fires</b> (room-scale fire, involving significant part of a room)	<ul style="list-style-type: none"> <li>Fire within residential caravan, attributed to cooking. Damage to kitchen area.</li> <li>Fire occurred within a contractor's tool bag left overnight within a plant room – some smoke spread through ventilation system.</li> </ul>
<b>Small fires</b> (localised fire or minor incident only)	<ul style="list-style-type: none"> <li>Fan belt overheated within air handling unit.</li> <li>Thermite chemical reaction caused small bench fire.</li> <li>Small bench fire in microbiology lab area, ignited by Bunsen.</li> <li>Air compressor in lab overheated.</li> <li>Minor beaker fire occurred during sterilisation of a spreader using ethanol and a flame</li> <li>Vacuum cleaner being used to clear up rock dust overheated and began smoking</li> </ul>

## Fire alarm activations 2014 – 2018

	2014	2015	2016	2017	2018
<b>Genuine incidents</b>					
Major fire	1	1	0	0	0
Intermediate fire (cat. introduced late 2015)	-	-	0	4	5
Small fire	4	8	6	5	4
External fire (category not used 2013-2014)	-	1	3	2	1
Near miss	0	2	0		1
<b>TOTAL GENUINE</b>	<b>5</b>	<b>12</b>	<b>9</b>	<b>11</b>	<b>11</b>
<b>Unwanted activations</b>					
Accidental activation (good intent)	2	1	3	4	6
Alarm faults	29	19	21	6	13
Contractor activity/building work	44	57	18	22	20
Cooking	46	28	16	24	26
Deliberate/malicious	2	0	6	1	3
Occupant activity (other than cooking)	35	33	25	15	29
Other causes (e.g. steam)	41	6	19	4	6
Unknown cause (unable to be determined)	55	53	45	33	32
Water ingress/damp	5	1	7	10	4
Dust	-	-	14	3	5
<b>TOTAL UNWANTED</b>	<b>259</b>	<b>198</b>	<b>174</b>	<b>122</b>	<b>144</b>
<b>TOTAL ALL ACTIVATIONS</b>	<b>264</b>	<b>223</b>	<b>185</b>	<b>134</b>	<b>155</b>
Of which activations in residential properties:-	71	47	36	23	28

## **8. Enforcing authority contact visits and interventions.**

### **Health and Safety Executive**

Routine health surveillance carried out by the Occupational Health team identified a member of staff who was suffering from severe occupational dermatitis. As legally required, the incident was reported under the RIDDOR regulations triggering an investigation from the Health and Safety Executive. The SEPS and OH teams worked with the users to ensure their procedures were improved and that their documentation was all in order prior to the investigation, identifying new procedures to prevent reoccurrence. SEPS facilitated the inspection process working with the HSE inspector to ensure she received all of the information she required, providing our paperwork and procedures and answering questions during the investigation. A small number of improvements were required by HSE. SEPS had already identified these improvements in our own investigation and implementation was straightforward.

In June 2018, an incident occurred within the Stevenson Building swimming pool, which resulted in the death of a student user. The Head of SEPS (David McLean) led an internal investigation supported by the E&CS safety manager (David Harty) and a trade union safety representative (Chris Kennedy). This included interviews with relevant witnesses and production of a full report. It did not appear from the internal investigation that there had been any suspicious circumstances nor any work-related cause of this death. Although the evidence was that he was rescued promptly and was initially conscious, he was unable to be saved. The Health and Safety Executive initially did not require a report of this incident but subsequently did request a RIDDOR report (July 2018). At the time of writing (Feb 2019), we await the outcome of their investigation.

As indicated within the biological safety section, a specialist HSE microbiology and biotechnology inspection took place. This 3-day inspection (15-17<sup>th</sup> May) examined Specified Animal Pathogen Order (SAPO) related work, some Containment Level 3 (CL3) work at Gilmorehill and genetic modification work, also at Gilmorehill. The inspection involved staff from the Institute of Infection Immunity and Inflammation, Institute of Biodiversity Animal Health and Comparative Medicine, Biological Services and the Institute of Molecular Cell and Systems Biology, as well as members of Genetic Modification Safety Committee (GMSC) 37. Following the inspections, HSE gave a number of verbal instructions and issued a letter identifying matters requiring a written response. The units involved dealt with the actions required and the University reported our response back to HSE, as requested who have indicated that all matters are now closed. This specialist biological work is not chargeable and so no "Fee for Intervention" applies to this activity.

### **Scottish Fire and Rescue Service (SFRS)**

Routine contact has continued over 2018. No formal enforcement action occurred although a number of post fire audit visits occurred following minor fire incidents and SFRS call-out. (See Table 3 Fire Incidents 2018). The Fire Safety Advisers have also liaised with SFRS on operational (fire incident) visits, building warrant applications and unwanted fire alarm activations.

### **Police Scotland Counter Terrorism Security Adviser (CTSA)**

Over the course of the year, we received routine visits by our local Counter Terrorism Security Advisers (CTSA) who have continued to work with the University to ensure that certain key risks are managed effectively and securely. This year, through the CTSA, we also arranged a visit by the Resilience Adviser of the Scottish Ambulance Service. This initial emergency response meeting was to discuss procedure requirements for higher risk areas and to help inform future planning strategies with the Special Operations Response Team.

## **SEPA**

There have been no site visits by SEPA in 2018. However, extensive discussions have taken place via email and telephone over the level of permit required for Gilmorehill campus under Pollution Prevention and Control Regulations. This is in relation to emissions from all campus heating systems, including the district heating combined heat and power plant. The scale of campus heating systems is such that a higher-level Part A permit might be required, particularly if standby plant is included. At present there is still no agreement on what level of permit will be required. E&CS are part of the discussion process and will take a lead role in this during 2019.

During 2018, SEPS arranged renewal of two permits required by the University, one for registration as a waste carrier and the other to licence composting operations at Garscube, carried out by the Grounds team.

## **9. Future objectives – 2019**

### **SEPS**

- Deliver internal audit programme and support Colleges in completion of follow-up actions.
- Develop and promulgate guidance to departments on lab decant procedures and work in conjunction with E&CS to ensure better decant arrangements.
- Support units to undertake inspection of biological Containment Level 2 (CL2) laboratories, supplementing the existing CL3 (higher risk) audit procedures.
- Revise existing arrangements for the transport, storage and management of high-risk pathogens and SAPO agents.
- Commence a rolling inspection programme at University NHS-based laboratory units.
- Commence delivery of structured programme of environmental and waste training courses.
- Carry out duty of care visits to specialist waste management contractor disposal and transfer sites.
- Continue inspection programme of cryogenic facilities across the University and develop improved written standards and practices for these areas.
- Resurvey and update University Hazardous Areas Register.
- Prepare and disseminate guidance on purchase, storage, use and disposal of controlled drugs.
- Restructure and update the chemical and environmental safety sections of SEPS website.
- Review fire safety policy.
- Undertake fire risk assessments within majority of terraced house type properties current due for review.

### **Occupational Health**

- Develop and implement regular audit schedule running more frequent audits on clinical practice and report analysis.
- Develop online training resources for health surveillance and roll out across areas where wet work takes place
- Examine aspiring leadership programme as part of succession planning. Assess whether “Managing Safely” training would be appropriate for other team members

- Fulfil role as member of the Higher Education Occupational Practitioners (HEOPS) Executive Committee:
- Fulfil role as member of Faculty of Occupational Health Nursing consulting group
- Records Management - In light of GDPR requirements review, with HR and IT, options for continuous improvement, including exploring CORE AVIVO or other options for improving current file transfer arrangements to improve security of data transferred.

### **Radiation Protection**

- In accordance with new GDPR regs, RPS plans to review all paper and electronic records (> 7000) and remove those not required under IRR 17.
- Archiving those paper/electronic records needed to be kept under IRR 17.
- New approved waste disposal contractor sourcing exercise.
- Preparation for moving RPS to new accommodation.
- Recruitment of office administrator.

## RADIATION PROTECTION SERVICE ANNUAL REPORT 2018

### **Policy Statement**

*"To provide the advice, training and support service necessary to ensure the health and safety of all members of the University community using ionising, laser, ultraviolet and microwave radiations.*

*The Radiation Protection Service ensures that the University meets its obligations under the Ionising Radiation Regulations (2017), the Environmental Authorisations (Scotland) Regulations (2018), the Health & Safety at Work Act etc 1974 and any other relevant legislation, code of practice and British Standard applicable.*

*In fulfilling its mission, the Service will at all times take prompt and efficient action and endeavour to conduct all exchanges with schools/colleges and individuals in a courteous, supportive and diplomatic manner. It will also act in view of recommendations made by enforcement agencies (SEPA and the Health & Safety Executive) to ensure that the University remains in compliance with its requirements under relevant legislation."*

### **The Ionising Radiations Regulations 2017 (IRR17)**

These regulations are primarily concerned with the protection of personnel from the adverse effects of ionising radiation. They introduce concepts such as Controlled and Supervised radiation areas and lay down conditions which must be met in each. Only "classified" radiation workers are permitted free access to the controlled areas; other personnel must comply with the conditions laid down in a system of work prepared by the Radiation Protection Service (RPS). Classified workers require an initial medical examination and a periodic 'health review'.

The IRR17 requires each local radiation protection supervisor to produce "Local Rules" for the use of ionising radiation and the RPS approves these before issue and ensures that all aspects of the regulations are covered. Risk assessments must be made before all new work involving ionising radiation commences.

Those radiation workers exposed to penetrating radiation are provided with a Luxel optically stimulated luminescence dosimeter to record any received radiation dose. A dose record is maintained for each person by Landauer, our national authorised dose record keeping service. The RPS transmits personal details for each new worker to Landauer and transfer dose records are obtained for workers leaving University service. Over 500 badges are issued from the RPS office every two months.

The provision of training is an important part of the IRR17 and in this respect the RPS runs courses in May and October for new post-graduate, technical and academic staff. For those staff/students who cannot attend this course, another is arranged for late Spring.

In addition to the general radiation safety course, the RPS has developed courses for X-ray operators and vehicle drivers who deliver radioactive isotopes. Equipment emitting ionising radiation such as X-ray crystallography apparatus and diagnostic X-ray machines are required

by the IRR99 to meet certain protection standards. It is the responsibility of the Head of School to ensure that all the safety devices, such as interlock systems, are fully operational.

All radiation monitors must be inspected and their calibration checked annually. Throughout the year, the RPS calls in approximately 200 monitors on issue to departments and carries out this procedure; outside agencies normally charge over £100/unit for this service. An official record is legally required for each monitor.

It is also a legal requirement to leak test sealed sources. These tests are carried out by the RPS and results are recorded. Any sealed source failing to meet the test criteria are removed and placed in our high-level radiation store.

The RPS also acts as Radiation Protection Adviser to the SUERC based at East Kilbride.

### ***IRR 17 Administration***

The RPS acts as the intermediary between the various Schools' administrators and the approved dosimetry service Landauer.

Copies of all "classified" dosimetry reports are sent every two months to the local radiation protection supervisor unit on receipt from the dosimetry provider. Unclassified reports are sent twice annually. From August 2013, hard copies have been replaced by e-mailed documents.

Arrangement of periodic medicals for classified workers is the responsibility of the local administration unit. This arrangement replaces the previous system whereby the responsibility for arranging medicals lay with the Occupational Health Unit and the Radiation Protection Service.

Contractors working in Controlled Radiation Areas are issued with a 'Hand Over' certificate giving them control of the area until the works are complete. Under this arrangement, University personnel are excluded from the area until the contractor formally "hands" the area back. This replaces the previous 'Permit to Work' system. All safety checks continue as before and the 'Permit to Work' system continues for Supervised Radiation Areas and for University Estates personnel requiring entry to Controlled Areas.

### ***The Environmental Authorisations (Scotland) Regulations (2018) and HASS 2005***

The law with regard to the holding and disposal of radioactive materials is particularly strict and is governed by the EASR 2018. All schools/colleges holding sealed or unsealed radioactive sources are required to hold a Registration Certificate that states which radioisotopes may be held and the maximum quantity allowed on the premises at any one time. Similarly, an Authorisation Certificate lays down the permitted disposal routes and limits the discharge to drain per calendar month.

The University operates with two separate Registrations and Authorisations: one for the Gilmorehill Campus and one for the Garscube Campus. The RPS administers sub-limits to each area using radioactive isotopes which allows us to react quickly to requests for temporary increases in allowance.

A new Registration certificate was issued in 2011 for the Garscube Campus which followed a request from Radiation Oncology to be allowed to use new isotopes which were not on the current licence.

Since 2013, with the disposal of the Cobalt 60, 225 TBq source, the University does not have any HASS sources.

### **Staffing Levels**

The RPS has a complement of four staff, comprising RPA/Head of Unit (FT), RPO (0.8), Technician (FT), Administrative Support (0.64). As of end December 2018 our present Admin staff has retired, we are expecting the post to be retained.

#### Staff Training

- SRP conference, May 2018 – RPA/RPO
- Environmental Authorisations (Scotland) Regulations 2018, August 2018 – RPA/RPO
- Introduction to Sway, Nov 2018 – RPO
- Radiation Protection General Course, Jan 2018 – Radiation Technician

### **Ionising Radiations Regulations 2017 (IRR 17)**

New registered workers: 57 new registrations during 2018

Classified workers: 3 classified radiation workers

505 radiation dosimeters are issued every two months.

Radiation monitors - it is required under the legislation to conduct an annual test and maintenance for each radiation monitor. During 2018, 187 monitors were tested; 22 required extensive repairs and 160 batteries were replaced.

Sealed sources - collectively, the Schools of Physics and Chemistry have 170 sealed sources of various types and sizes and each sealed source swab tested in 2018, there were no failures.

### **Courses run by the RPS during 2018**

#### **Safety Course**

*5<sup>th</sup> April* Radiation Protection Course (Spring). 8 attended, 8 sat exam; 8 passed. Certificate issued to successful candidates

*7<sup>th</sup> June* Radiation Protection Course (Autumn). 21 attended, 21 sat exam; 21 passed. Certificate issued to successful candidates

*6<sup>th</sup> Dec* Radiation Protection Course (Winter). 29 attended, 29 sat exam; 29 passed. Certificate issued to successful candidates

#### **X-ray Course**

*21<sup>st</sup> March* X-ray course 21 attended; Certificate issued to attendees

*25<sup>th</sup> Oct* X-ray course 25 attended; Certificate issued to attendees

#### **RP Supervisors**

*21<sup>st</sup> March* 2 attended

## ***The Environmental Authorisations (Scotland) Regulations (2018)***

*Contamination Surveys:* there were 32 contamination surveys carried out during 2018 and There were two contamination failures, Davidson Building and GBRC. There was one incident involving ionising radiations which required investigation by the RPS, this was radioactive waste found in a normal waste bin.

*Source Audits:* there were 40 departmental source audits conducted during 2018. These assist the RPS to identify problem areas and are crucial for compliance with current legislation.  
*SEPA Inspections:* There was no SEPA inspections during 2018, apparently due to staff shortages at SEPA.

*Decommissioning Surveys:* there were two areas decommissioned during 2018. Reports were sent to SEPA. These included:

McGregor Building, Western Infirmary site – all areas utilising radioactive materials within the McGregor building were decommissioned. There are no more areas using RM left within the Western Site.

Wolfson Wohl, room 337 decommissioned prior to refurbishment.

*Isotopes Orders:* 146 isotopes were delivered during 2018 with a total activity of 6049 MBq for the Gilmorehill campus and 131670 MBq for the Garscube campus. Of these, 133150 MBq was ordered through the Western Infirmary Dispensary (see Appendix).

*Dustbin Disposals:* we are allowed under our licence to dispose of very low-level radioactive waste together with 'normal' waste via our local authority which is a very cost effective method for disposal but is only suitable for short half-life radioisotopes. We did not make any disposals via this route in 2018 due to changes in the way that waste is separated and recycled.

*Contractor Disposals:* there was one contractor solid waste disposal during 2018 (see Appendix). Healthcare Environmental has since ceased trading and a new approved contractor will need to be sought, this will have an affect on our waste disposal budget.

*Liquid Waste Disposals:* the majority of isotopes are disposed through this route and this has to be heavily policed as the limits are very stringent. In the Gilmorehill campus, 3885 MBq were disposed through this method and 125.5 MBq in the Garscube campus (see Appendix)

### ***Non-Ionising Radiation***

Laser surveys were carried out for Physics, Chemistry and Electrical Engineering as they are the main users of class 4 laser systems. Additionally, surveys of areas using ultra-violet radiation or microwave radiation are carried out on a request basis.

## **RPS Budget**

### *RPS Expenditure - Financial Year 2018*

	Financial Year
	2018
Dosimeters	9764
Radioactive Waste Disposal	10584
Small Lab Equip	1942
Office: Equip/Costs	1600
Conferences/Hotel/Travel	3905
Mobile Phone + Telephone Charges	538
Printing	312
Memberships	470
Van Hire	940
Total	30055

### *RPS Income - Financial Year 2018*

	Financial Year
	2018
Dosimeters	5421
Total	5421

### **Changes/improvements planned for 2019**

- In accordance with new GDPR regs, RPS plans to review all paper and electronic records (> 7000) and remove those not required under IRR 17.
- Archiving those paper/electronic records needed to be kept under IRR 17.
- New approved waste disposal contractor will need to be sourced.
- Preparation for moving RPS to new accommodation.
- Staff replacement for office administrator.

**Radioisotope Totals 2018**

**Gilmorehill**

**Total Activity - MBq**

Building/Dept	32P	35S	3H	14C	18F	33P	123I	125I	131I	99mTc	86Rb	Total
<u>Bower</u>	370											370
<u>Boyd Orr</u>												0
<u>Dav/Wolf/Wmed</u>	906.3	2368	139								74	3487.3
<u>Env&amp;Evo Biology</u>	111											111
<u>GBRC</u>	37		527									564
<u>Robertson Building</u>		37										37
<u>RPS</u>								1480				1480
<b>Total</b>	<b>1424</b>	<b>2405</b>	<b>666</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1480</b>	<b>0</b>	<b>0</b>	<b>74</b>	<b>6049.3</b>

**Garscube**

**Total Activity - MBq**

Building/Dept	32P	35S	3H	14C	18F	33P	123I	125I	131I	99mTc	177Lu	Total
<u>Beatson Institute</u>	111	518		21								650
<u>Med/Rad Oncology</u>											110	110
<u>Vet Clinical Studies</u>									5450	130420		135870
<u>Vet Medicine</u>												0
<u>Well.Surgical.Inst.</u>												0
<b>Total</b>	<b>111</b>	<b>518</b>	<b>0</b>	<b>21</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5450</b>	<b>125460</b>	<b>110</b>	<b>131670</b>

**Number of Isotopes Delivered – 146**

Gilmorehill 6049 MBq  
 Garscube 131,670 MBq  
 Via Western Dispensary 133,150 MBq

**Laser Moodle Course 2018**

28 Participants

**Annual Monitor Testing**

187 Monitors were tested in 2018 22 required repairs – 160 batteries were replaced

**Source Audits**

40 source audits were carried out in 2018

**Solid waste via contractor 2018**

There was one contract waste disposal made via Healthcare Environmental.

Friday 10<sup>th</sup> August 2018 - consignment 7001, total waste disposed 224 MBq.

***Glasgow University***                      ***Solid Waste to approved contractor Aug 2018***                      ***HCE 7001***

<b><i>Disposal Date</i></b>	<b><i>Cart No.</i></b>	<b><i>3H</i></b>	<b><i>14C</i></b>	<b><i>32P</i></b>	<b><i>35S</i></b>	<b><i>55Fe</i></b>	<b><i>125I</i></b>	<b><i>Others</i></b>	<b><i>Total MBq</i></b>
<b><i>10-Aug-18</i></b>	<b><i>109214</i></b>	<b><i>8.37</i></b>			<b><i>0.04</i></b>				<b><i>8.41</i></b>
<b><i>10-Aug-18</i></b>	<b><i>101256</i></b>	<b><i>38.40</i></b>	<b><i>7.22</i></b>	<b><i>0.05</i></b>		<b><i>18.19</i></b>			<b><i>63.86</i></b>
<b><i>10-Aug-18</i></b>	<b><i>101267</i></b>	<b><i>0.93</i></b>	<b><i>0.04</i></b>		<b><i>0.01</i></b>				<b><i>0.98</i></b>
<b><i>10-Aug-18</i></b>	<b><i>101303</i></b>	<b><i>54.73</i></b>		<b><i>0.05</i></b>	<b><i>0.43</i></b>				<b><i>55.21</i></b>
<b><i>10-Aug-18</i></b>	<b><i>105120</i></b>	<b><i>24.84</i></b>		<b><i>0.05</i></b>	<b><i>0.68</i></b>		<b><i>1.78</i></b>		<b><i>27.35</i></b>
<b><i>10-Aug-18</i></b>	<b><i>24471</i></b>	<b><i>38.63</i></b>	<b><i>0.60</i></b>	<b><i>0.05</i></b>	<b><i>3.91</i></b>				<b><i>43.19</i></b>
<b><i>10-Aug-18</i></b>	<b><i>109271</i></b>	<b><i>1.53</i></b>	<b><i>0.65</i></b>	<b><i>0.05</i></b>	<b><i>7.71</i></b>	<b><i>7.40</i></b>	<b><i>7.58</i></b>		<b><i>24.92</i></b>
									<b><i>0.00</i></b>
	<b><i>Totals</i></b>	<b><i>167.43</i></b>	<b><i>8.47</i></b>	<b><i>0.25</i></b>	<b><i>12.78</i></b>	<b><i>25.59</i></b>	<b><i>9.36</i></b>		<b><i>223.88</i></b>

Jim Gray  
 Radiation Protection Advisor  
 February 2019