

ABERDEEN CITY COUNCIL

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COMMITTEE	Audit, Risk and Scrutiny Committee
DATE	26 September 2017
REPORT TITLE	Internal Audit Report AC1803 – Health & Safety - SSERC
REPORT NUMBER	IA/AC1803
LEAD OFFICER	David Hughes
AUTHOR	David Hughes

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**1. PURPOSE OF REPORT**

- 1.1 The purpose of this report is to present the planned Internal Audit report on Health and Safety – SSERC.

**2. RECOMMENDATION**

- 2.1 It is recommended that the Committee review, discuss and comment on the issues raised within this report and the attached appendix.

**3. BACKGROUND / MAIN ISSUES**

- 3.1 Internal Audit has completed the attached report which relates to an audit of Health and Safety – SSERC.

**4. FINANCIAL IMPLICATIONS**

- 4.1 There are no direct financial implications arising from the recommendations of this report.

**5. LEGAL IMPLICATIONS**

- 5.1 There are no direct legal implications arising from the recommendations of this report.

**6. MANAGEMENT OF RISK**

- 6.1 The Internal Audit process considers risks involved in the areas subject to review. Any risk implications identified through the Internal Audit process are as detailed in the attached appendix.

## **7. IMPACT SECTION**

7.1 **Economy** – The proposals in this report have no direct impact on the local economy.

7.2 **People** – There will be no differential impact, as a result of the proposals in this report, on people with protected characteristics. An equality impact assessment is not required because the reason for this report is for Committee to review, discuss and comment on the outcome of an internal audit. The proposals in this report will have no impact on improving the staff experience.

7.3 **Place** – The proposals in this report have no direct impact on the environment or how people friendly the place is.

7.4 **Technology** – The proposals in this report do not further advance technology for the improvement of public services and / or the City as a whole.

## **8. APPENDICES**

8.1 Internal Audit report AC1803 – Health and Safety – SSERC.

## **9. REPORT AUTHOR DETAILS**

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# ABERDEEN

## CITY COUNCIL

### **Internal Audit Report**

### **Education & Children's Services**

### **Health & Safety - SSERC**

**Issued to:**

Gayle Gorman, Director of Education and Children's Services  
Fraser Bell, Head of Legal and Democratic Services  
Euan Couperwhite, Head of Policy, Performance & Resources  
Steven Whyte, Head of Finance  
Morven Spalding, Interim Head of HR  
Mary Agnew, Health, Safety & Wellbeing Manager  
External Audit

## **EXECUTIVE SUMMARY**

The Scottish Schools Education Research Centre (SSERC) is a Local Authority shared service providing support to the 32 Scottish Local Authorities. SSERC provide Health & Safety advice, Codes of Practice, guidelines and training aimed at school science departments and faculties.

The objective of this audit was to consider whether arrangements in place within the Council adequately manage risk responsibility in relation to hazard information, handling and disposal of chemicals, safety in microbiology, material of living origin and routine fume cupboard testing.

The audit has identified that the Service has not detailed the training that is required for staff dealing with issues covered by SSERC guidance and the type of training undertaken / completed across the Service is inconsistent. The management of hazardous substances varies between locations whilst not all sampled schools provided the requested information.

Recommendations have been agreed regarding: training to ensure compliance with SSERC; undertaking of risk assessments; records maintained and disposal of chemicals; use of recirculatory fume cupboards; portable electrical appliance visual inspection and testing records; and, the Service providing assurance where schools have not provided the requested information.

# 1. INTRODUCTION

- 1.1 The Scottish Schools Education Research Centre (SSERC) is a Local Authority shared service providing support to the 32 Scottish Local Authorities. SSERC provide Health & Safety advice, Codes of Practice, guidelines and training aimed at school science departments and faculties. SSERC's services are available to Elected Members and Officers of Local Authorities, Teachers, and Technicians.
- 1.2 The objective of this audit was to consider whether arrangements in place within the Council adequately manage risk responsibility in relation to hazard information, handling and disposal of chemicals, safety in microbiology, material of living origin and routine fume cupboard testing.
- 1.3 The primary legislation covering occupational health and safety is the Health and Safety at Work etc Act 1974 (the Act). It sets out the general duties which employers have towards employees and members of the public, and which employees have to themselves and each other.
- 1.4 The Management of Health & Safety at Work Regulations 1999 make more explicit what employers are required to do to manage health and safety under the Act, particularly in relation to risk assessments, while the Control of Substances Hazardous to Health (COSHH) Regulations 2002 sets out employer statutory duties in relation to substances hazardous to health, including fumes, chemicals, and biological agents. SSERC Codes of Practice and guidelines have been developed in accordance with these regulations.
- 1.5 Procedures, risk assessments, training records and other relevant documentation, relating to a sample of secondary schools, were reviewed to determine adequacy.
- 1.6 The factual accuracy of this report and action to be taken with regard to the recommendations made has been agreed with Euan Couperwhite, Head of Policy, Performance and Resources.

## **2. FINDINGS AND RECOMMENDATIONS**

### **2.1 Written Procedures**

2.1.1 Comprehensive written procedures and their effective communication are an essential element in any system of control. They are beneficial for the training of current and new employees and provide management with assurance of correct and consistent practices being followed, especially in the event of an experienced employee being absent or leaving.

2.2 SSERC has published Codes of Practice on Safety in Microbiology and Material of Living Origin. SSERC has also issued 'Secure Your Chemicals' guidance, prepared in collaboration with the Health and Safety Executive, covering purchase, storage, use and disposal of chemicals, and Routine Fume Cupboard Testing guidance.

2.3 The SSERC website is a source of additional health and safety guidance. The 'Uses & Control Measures' page of the website contains experimental procedures for a range of chemicals used in the school curriculum, outlining control measures to minimise risks to health. The Hazardous Chemicals section of the website provides data on potentially hazardous chemicals, covering associated hazard information, incompatibility, handling, storage, spillage, disposal and remedial measures. SSERC also produce additional guidance, as required, in regular bulletins and newsletters.

2.3.1 Ten schools were asked to provide copies of policies and procedures covering hazard information, handling and disposal of chemicals, safety in microbiology, material of living origin and fume cupboard testing. Five schools have still to respond. Four of the five schools that responded advised that copies of the relevant SSERC Codes of Practice/Guidance are held electronically in a shared drive and in some instances also as hard copies in the Technician Base. They are updated when new versions are released by SSERC and staff are advised of such updates through bulletins and department meetings.

### **2.4 Training**

2.4.1 Health & Safety training is provided by SSERC. The SSERC training planner for April 2017 – March 2018 on the SSERC website includes health and safety courses aimed at Teachers and Technicians including: Microbiology in Schools, covering safety in microbiology at a basic level; Health and Safety Risk Assessment and Health & Safety Update also covering risk assessments.

2.4.2 A series of more advanced SQA accredited SSERC courses is also available, mainly aimed at Technicians. These include the Chemical Handling course covering safe handling and disposal of chemicals used in schools and Level 3 Safety in Microbiology for Schools, required to prepare materials for level 2 and level 3 work with micro-organisms, with levels relating to the educational stage of learners and risks associated with the work. There are no SSERC training courses available specifically for Materials of Living Origin, Hazard Information or Routine Fume Cupboard Testing.

2.4.3 The Council does not centrally record or monitor completion by school staff of SSERC training because, although recommended, the SSERC training is not mandatory. It is up to each school whether and how, completion of SSERC training is recorded and monitored. Ten Secondary Schools were asked how training completion by Science Teachers and Technicians is ensured and monitored. Five schools have still to respond. However, this has not limited the scope of this audit as the findings from those schools that did respond were sufficient on which to draw conclusions.

- 2.4.4 Based on the responses received it was concluded that:
- There is no Council standard detailing the expected training requirements for staff regarding the areas under review.
  - Training requirements / needs are not being recorded or monitored centrally within schools.
  - Course completion certificates are being retained by individual staff members rather than being held centrally in schools.
  - Courses are not being routinely completed by all relevant staff.
  - Staff need to be released from school to undertake SSERC training which can cause issues within the school.
- 2.4.5 In addition to the SSERC training, Council training courses are available covering Control of Substances Hazardous to Health (COSHH) and Risk Assessment. When school staff are required to complete COSHH Assessments, they should complete the COSHH training, although it is not mandatory. Risk Assessment training is also not mandatory.
- 2.4.6 The Risk Assessment course is aimed at all employees with supervisory responsibilities who are nominated to undertake risk assessments. This course provides a basic grounding in risk assessment and will assist employees in carrying out a "suitable and sufficient" risk assessment according to the course descriptor on the Zone intranet General Health, Safety and Wellbeing Workshops web page. The COSHH course is aimed at employees nominated for undertaking COSHH assessments within their Service and likely to come in contact with hazardous or potentially hazardous substances. Despite not being mandatory these courses are desirable since the content is relevant to all Science Teachers and Technicians.
- 2.4.7 A sample 13 science technicians across 11 Academies and 37 Biology and Chemistry teaching staff (including 10 principal teachers) across 12 Academies was selected to establish attendance at the COSHH and Risk Assessment training courses. A teacher, two principal teachers and 3 technicians at 5 Academies attended the COSHH training course, with 2 attending in March 2016 and the rest attending in February 2011 or earlier. Two teaching staff (including a principal teacher) and 5 technicians at 6 Academies attended the Risk Assessment course, with the most recent attendance in November 2015. The remaining teachers and technicians had not attended the courses.

**Recommendation**

The Service should determine the training that is considered necessary for all appropriate staff in relation to the areas under review, and put a timetable in place to ensure that the required training is completed.

SSERC, COSHH and Risk Assessment training for Science Teachers and Technicians, should be recorded centrally including renewal dates for monitoring purposes.

**Service Response / Action**

Part 1: Agreed. A Skills and Training Matrix covering these areas will be developed.

Part 2: Agreed.

**Implementation Date**

Part 1: October 2017  
Part 2: November 2017

**Responsible Officer**

Education Support Officer  
(Senior Phase)

**Grading**

Significant within audited area.

## 2.5 Risk Management

2.5.1 The Management of Health & Safety at Work Regulations 1999 (regulation 3) requires assessments of risk, that affect employees and non-employees as a result of the organisation's activities. A risk assessment must be suitable and any significant findings should be recorded in writing.

2.5.2 Lists of Risk Assessments covering Hazard Information, Safety in Microbiology, Handling & Disposal of Chemicals, Material of Living Origin and Routine Fume Cupboard Testing were requested from ten schools. Five schools have responded to date and 3 lists of Risk Assessments have been provided. Copies of specific Risk Assessments were then requested for the 3 Academies that provided lists. Two Academies provided the detailed risk assessments whilst one has yet to provide these. Of the two which didn't provide lists, one Academy confirmed that it does not have risk assessments in place for the areas under review, whilst a list of risk assessments is outstanding from the remaining Academy. Again, the failure of some schools to respond has not limited the scope of this audit as the findings from those schools that did respond were sufficient on which to draw conclusions.

2.5.3 Based on the responses received it was concluded that:

- SSERC Codes of Practice on Safety in Microbiology and Material of Living Origin are used as risk assessments by schools. However, the availability of SSERC Codes of Practice in schools, does not demonstrate risks associated with practical activities have been adequately considered and mitigated.
- Routine Fume Cupboard testing is not risk assessed as testing is carried out by an external contractor.
- Risk assessments were seen to be in place for the Handling and Disposal of Hazardous Chemicals at two Academies and were detailed on a list of risk assessments for a third Academy, but have yet to be provided
- Some Risk Assessments were last reviewed over twelve months ago, with the majority of risk assessments at one Academy last reviewed in 2013.

### **Recommendation**

Risk Assessments should be reviewed every 12 months or sooner if no longer valid and review dates should be recorded centrally on a register of risk assessments.

Hazard information should be recorded on the central list of school risk assessments.

Risk Assessments / COSHH Assessments should be prepared for all Biology and Chemistry practical activities, covering Hazard Information, Safety in Microbiology, Handling & Disposal of Chemicals and Material of Living Origin as appropriate.

### **Service Response / Action**

Agreed.

#### **Implementation Date**

December 2017

#### **Responsible Officer**

Service Manager, Assets  
& Finance

#### **Grading**

Significant within audited  
area.

2.5.4 SSERC has produced specific guidance on the storage of the chemical 2,4 dinitrophenylhydrazine due to the risk of explosion under specific circumstances. It was established that one Academy has this chemical in stock. The school has received the SSERC guidance and verified that the chemical has been stored correctly. The condition of the chemical was assessed on 4 April 2017 and is awaiting uplift, as indicated on the chemical record form maintained. Two other Academies also had 2,4 dinitrophenylhydrazine in stock according to their chemical inventories. It was not possible



to determine if the chemicals held were stored correctly based on the inventories provided. Chemical inventories are outstanding from six Academies.

2.5.5 The Assets and Estates Manager advised that an annual chemical collection from schools has been undertaken since 2015, with the Assets and Estates Manager requesting details of chemicals that schools wish to dispose of and making arrangements with a suitable company for collection and disposal. The next annual collection is being arranged for August 2017.

2.5.6 Further SSERC Guidance has been issued covering the use of organic waste bottles, recommending that schools do not top up organic waste bottles piecemeal, mixing chemicals, as this can cause a chemical reaction resulting in the bottle heating up and shattering. One Academy advised that while organic waste bottles are kept and topped up as required, halogenic chemicals are kept separate. However SSERC bulletin 254 states there is always the possibility something inappropriate will be poured into an organic waste bottle.

**Recommendation**

The school should consider alternative means of disposing of organic waste in line with recommendations in SSERC Bulletin 254.

All schools should be reminded of the correct means of disposing of organic waste in line with SSERC Bulletin 254.

**Service Response / Action**

Part 1: Substances requiring disposal by uplift will be collected in a bottle (no more than 250ml) which is held in the flammable store. None of these substances react with each other to cause pressure build up, however a risk assessment will be carried out. All halogenated solvents/compounds will still be collected and stored for uplift as per SSERC guidance. Risk assessments will be reviewed and, where necessary, updated to include these new guidelines. 'Disposal' help cards will be included in relevant kit trays and these will be brought to the class teacher's attention.

Part 2: Agreed.

**Implementation Date**

Part 1: September 2017

Part 2: October 2017

**Responsible Officer**

Supervisory Technician

Education Support Officer  
(Senior Phase)

**Grading**

Significant within audited area.

**2.6 Measurement & Reporting**

2.6.1 Ten schools were asked how compliance with the SSERC Codes of Practice/Guidance is measured and reported. Five schools have replied to date. While the schools appear to be aware of and understand SSERC requirements, the schools do not generally measure or report compliance.

2.6.2 In accordance with SSERC guidance Secure Your Chemicals, a record of chemicals in stock is maintained and updated as and when chemicals are used up, disposed of or received. Technicians also complete an annual stock take of chemicals in storage. Stock takes have been provided by 4 schools to date, all undertaken within the last year.

2.6.3 The format and data recorded on Academies' chemical inventories varied with some only recording the name and location of chemicals, whereas others included more detail in a clearer format, including quantities of chemicals in stock and hazard information symbols

as well as the location of chemicals. The latter provides a clearer understanding of the amount and nature of chemicals being stored. Since chemical inventories are maintained by schools in varying formats, this reduces the understanding of the nature and quantity of chemicals being stored.

- 2.6.4 One Academy provided chemical record forms indicating if chemicals had passed a review of condition and storage. The chemical inventories reviewed did not include this information.

<b><u>Recommendation</u></b>		
A standardised chemical stock list including chemical location, quantity, hazards, immersion test results, condition test results, date of last tests, date tests are due, and disposal dates should be maintained centrally.		
Academies should be advised of the requirement to review their chemical stock and update the central list.		
<b><u>Service Response / Action</u></b>		
Agreed. A shared database will be maintained for Academies to update.		
Agreed.		
<b><u>Implementation Date</u></b>	<b><u>Responsible Officer</u></b>	<b><u>Grading</u></b>
November 2017	Assets & Estates Manager	Significant within audited area.

- 2.6.5 According to paragraph 4.2.5 of the SSERC Safety in Microbiology Code of Practice, microbiology culture records should be prepared and maintained. Confirmation that the SSERC Code of Practice was being followed and if so how this was being monitored and evidenced, was requested from ten Academies. The records for one Academy were provided to Internal Audit, having been prepared by one of the Science Technicians. The records had not been checked by a Supervisor. One school which stated they log cultures and sub-cultures as required. Two confirmed they do not monitor or evidence compliance with the Code. A final Academy confirmed risk assessments were carried out for each advanced higher project and these were monitored / checked by a teacher trained in Microbiology level 3, however no reference was made to culture records being maintained. Five Academies have yet to respond.

<b><u>Recommendation</u></b>		
The Service should ensure that schools comply with the SSERC Safety in Microbiology Code of Practice.		
<b><u>Service Response / Action</u></b>		
Agreed.		
<b><u>Implementation Date</u></b>	<b><u>Responsible Officer</u></b>	<b><u>Grading</u></b>
September 2017	Assets & Estates Manager	Significant within audited area.

## 2.7 Routine Fume Cupboard Testing

- 2.7.1 Under section 2 of the Health and Safety at Work Act there is a legal requirement for the employer to provide and maintain safe equipment and safe systems of work. Section 9(2)(a) of the COSHH Regulations 2002 requires local exhaust plant, of which ducted fume cupboards are a subset, be tested at least once every 14 months.

2.7.2 Routine fume cupboard testing is carried out by external contractors. School staff are not trained in fume cupboard testing. The schools do not receive copies of the external contractor testing results unless they specifically request them. Daily visual checks should still be carried out in-house by school staff. This includes checking there is no damage to the glazing, sash and structure, there is an inward air flow as indicated by small streamers fastened on the bottom of the sash and no damage to the electrical and gas services. The Assets and Estates Manager advised that repairs to fume cupboards are the responsibility of Academies, paid from Academy devolved budgets.

2.7.3 Science Technicians at two Academies advised that weekly visual checks are carried out and the fume cupboards would not be used if they did not look to be in safe, working order. No record is kept of the visual checks. One Academy takes airflow measurements once per month.

**Recommendation**

Training should be provided to school staff required to undertake daily visual checks of fume cupboards and regular airflow measurements to ensure these are undertaken in line with SSERC Routine Fume Cupboard Testing guidance.

**Service Response / Action**

Agreed. SSERC will be asked to deliver this training.

**Implementation Date**

March 2018

**Responsible Officer**

Assets & Estates  
Manager

**Grading**

Significant within audited  
area.

2.7.4 SSERC guidance on Routine Fume Cupboard Testing states ducted fume cupboards are inherently much safer than recirculatory fume cupboards and should always be used in preference to the latter. Clarification was sought from all schools selected as to whether or not any recirculatory fume cupboards are in use. Two Academies confirmed that recirculatory fume cupboards are in use. Both schools also have ducted fume cupboards and all fume cupboards are tested by the contractors responsible for routine fume cupboard testing. The Assets and Estates Manager for Education and Children's Services has advised there is no programme for replacement of recirculatory fume cupboards.

2.7.5 Testing was undertaken by the above contractors of recirculatory fume cupboards in place at four Academies in July and August 2017. The reports state that the examination and tests were undertaken by a competent person and meet the requirements of COSHH Regulation 9(2). The condition of one of the two fume cupboards held at one Academy was deemed unsatisfactory.

2.7.6 The report for one Academy showed airflow measurements which exceeded the SSERC Routine Fume Cupboard testing recommended range of 0.3 to 0.5 metres per second (i.e. 0.55 metres per second). In addition, a smoke test to test containment did not appear to have been carried out for any of the recirculatory fume cupboards, and in cases where fume cupboards were not mounted to worktops, cupboard restraining wires were absent. It is therefore unclear if the recirculatory fume cupboards in use are fit for purpose.

**Recommendation**

The Service should establish if recirculatory fume cupboards are fit for purpose and consider decommissioning and replacing them as required with ducted fume cupboards.

**Service Response / Action**

Agreed.

<b><u>Implementation Date</u></b> December 2017	<b><u>Responsible Officer</u></b> Assets and Estates Manager	<b><u>Grading</u></b> Significant within audited area.
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## 2.8 Portable Appliance Testing (PAT)

- 2.8.1 Portable appliance testing (PAT) is the term used to describe the examination of electrical appliances and equipment to ensure they are safe to use. Most electrical safety defects can be found by visual examination but some types of defect can only be found by testing. The Electricity at Work Regulations 1989 require that any electrical equipment that has the potential to cause injury is maintained in a safe condition. However, the Regulations do not specify what needs to be done, by whom or how frequently.
- 2.8.2 The Health and Safety Executive advises visual inspections are an essential part of the process, with a relatively brief user check based on simple training and a brief checklist forming a useful part of an electrical maintenance regime. The Council offers a 1 day workshop on Portable Appliance Testing for employees who are required to use electrical appliances and are nominated by their Service to be responsible for PAT in their area of work. The course covers visual inspection and testing. Visual inspection checklists are not maintained by Science Teachers and Technicians.
- 2.8.3 A sample of 13 Science Technicians across 11 Academies and 37 Biology and Chemistry teaching staff (including 10 principal teachers) across 12 Academies was selected to establish attendance at the PAT course. Four Technicians attended the course, the most recent in November 2015 and no Science Teachers have attended the course.

### **Recommendation**

Consideration should be given to introducing checklist based visual inspections by Science Teachers and Technicians, of portable electrical appliances, prior to use by pupils.

Faults and required action identified on visual inspections should be recorded on the school's PAT schedule and on the affected equipment, identifying required repairs or the need for disposal.

Training should be provided to all staff required to undertake testing or visual inspections of portable electrical appliances.

### **Service Response / Action**

Agreed.

<b><u>Implementation Date</u></b> November 2017	<b><u>Responsible Officer</u></b> Service Manager, Assets & Finance	<b><u>Grading</u></b> Significant within audited area.
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- 2.8.4 PAT testing at Academies of portable electrical appliances is carried out by the Academy's Science Technician. PAT testing spreadsheets were provided by two Academies and appliances had been tested within the last year. A response is outstanding from the other Academies, so no assurance can be provided regarding these.
- 2.8.5 Whilst the PAT testing spreadsheets provided were updated to reflect the most recent testing that had taken place, spreadsheets used differed between schools. One Academy's spreadsheet recorded test dates and retest dates at an appliance level whereas the other recorded passes at an appliance level for the date the testing took place with no future retest date. Including the retest date and whether a pass was obtained for

testing undertaken is preferable as this helps to ensure future PAT testing takes place as required and avoids the use of unsafe electrical equipment.

**Recommendation**

The Service should provide assurance regarding schools' PAT testing regimes.

PAT testing spreadsheets should be reviewed and standardised, including retest dates and results of testing at an appliance level.

**Service Response / Action**

Part 1: Agreed.

Part 2: Agreed.

**Implementation Date**

Part 1: September 2017

Part 2: September 2017

**Responsible Officer**

Service Manager, Assets  
& Finance

**Grading**

Significant within audited  
area.

**AUDITORS:** D Hughes  
A Johnston  
A Mitchell

## Appendix 1 – Grading of Recommendations

GRADE	DEFINITION
<b>Major at a Corporate Level</b>	The absence of, or failure to comply with, an appropriate internal control which could result in, for example, a material financial loss, or loss of reputation, to the Council.
<b>Major at a Service Level</b>	<p>The absence of, or failure to comply with, an appropriate internal control which could result in, for example, a material financial loss to the Service/area audited.</p> <p>Financial Regulations have been consistently breached.</p>
<b>Significant within audited area</b>	<p>Addressing this issue will enhance internal controls.</p> <p>An element of control is missing or only partial in nature.</p> <p>The existence of the weakness identified has an impact on a system's adequacy and effectiveness.</p> <p>Financial Regulations have been breached.</p>
<b>Important within audited area</b>	Although the element of internal control is satisfactory, a control weakness was identified, the existence of the weakness, taken independently or with other findings does not impair the overall system of internal control.