

# UNIVERSITY OF ST. ANDREWS

## SCHOOL OF CHEMISTRY

### *Minutes of the School Safety Committee Meeting held on Monday 5th December at 2.00 pm*

<b>Present:</b>	Alan Aitken [RAA]	School Safety Coordinator (Chair)
	Eli Zysman-Colman [EZC]	Inorganic
	Chris Goodsell [CG]	Estates
	Magnus Alphey [MA]	BSRC, X-Ray
	Paul Connor [PAC]	Physical
	Iain Smellie [IAS]	Teaching
	Brian Walker [BW]	Technical
	Iona Hutchison [ILH]	Disability Officer
	Carolyn Busby [CMB]	Secretarial

It had been almost a year since the last meeting and RAA explained to the Committee that the previous Safety Officer left at fairly short notice and he took up the position at the same time as being the Examination's Officer, doing the two jobs up until the end of August. It was agreed with the Head of School that the usual programme of these meetings (every 3 months just before the School Council meeting) would start again from now.

#### **1. Apologies and welcome to new members**

Paul Wright [PAW]  
Andrea Burke [AB]

RAA welcomed new members to the Committee – Magnus Alphey (representing School of Biology), Chris Goodsell (new Buildings Officer), and Andrea Burke (Geosciences).

CMB is taking notes at the meeting but is also the member of the Secretarial team allocated to the administration of Health and Safety matters. *[Note: ILH is the first point of contact for all First Aid and Evacuation Plan administration.]*

#### **2. Composition of the Committee**

In the past there was a research student representative on this committee. MA pointed out that there was a student rep on the BSRC committee which makes it easier for students to raise matters. RAA thinks they should approach a PG student to be on the Safety Committee. IAS suggested this might be done via the PG Affairs Committee. It was agreed that it would be desirable to have one in post before the next meeting.

**[Action: RAA]**

RAA asked if there was any benefit in having a member of the Janitorial staff (which there had been previously). MA thought it best to ask the Janitorial staff and CG

agreed with this and felt that it would be useful to have a representative. RAA suggested approaching the senior Janitor and it was agreed that ILH would help with this.

**[Action: RAA/ILH]**

RAA also asked if Terry Smith as Biohazards Officer should also be invited to be on the Committee and this was agreed. Dr Carlos Penedo (Physics) is the Laser Safety Officer for Chemistry and it was agreed that he should also be asked to attend the meetings.

**[Action: RAA]**

### **3. Report on developments since the last meeting**

The large number of items reflects the fact that there has not been a meeting in almost a year and also a large number of remedial actions have been required.

#### **(a) *Record keeping, SharePoint.***

The personnel records were not entirely up to date when RAA took over as Safety Officer but by working with CMB this has been remedied. The problem was that Personal Detail Forms had not always been handed in by new research workers and it was difficult to keep track of people and whether they had completed the Health and Safety test etc. There have been detailed discussions with Fraser Kirk (FK) in the use of SharePoint to improve the situation in the future and implement a comprehensive information system so that all the personnel that are here have a record which will include certain fields for Health and Safety matters e.g. start and finish dates, passed Safety Test, contact lens wearer, training record etc. SharePoint is not yet ready for use and we are waiting for the University's central version to be available. It was agreed at a meeting the previous week that RAA would draft a form stating all the information we would need for each person so that FK can make a start once the SharePoint is available. The main point is that the form would be on-line and be completed by new staff upon their arrival and certain fields would be compulsory. This would be a big improvement. PAC asked if there would be any way of linking this with the COSSH forms as at the moment Supervisors don't know if new personnel have passed the Health and Safety test or not. The test results are on Moodle and it is hoped that this will be fed into the new database.

#### **(b) *Safety Handbook, Safety Web Pages and Moodle Site***

The handbook was fully revised in time for September and updated several times since then and RAA has sent an email to notify every one of any significant changes. Safety information for UG students was also revised in time to go in the lab manuals for September. We have a safety web page and also a Moodle site and RAA has reduced some of the duplication and improved the connectivity between the two. It is the Moodle site that has the test. RAA has also had FK delete obsolete information on the web site.

(c) *Safety Test.*

The test has been in place since 2013 and we have a record of who has passed this, including UGs. The test now includes a specific question on needle disposal which was added to make a new test in September 2016 and up to now 295 people have taken this new test, including new Honours project students. It does not yet include everyone else. The records will be easier to keep when we get SharePoint and RAA wants everyone in Chemistry to take the new test. RAA already asked in the newsletter that everyone should sit the new test but not everyone reads the newsletter. RAA will send out an email (this could be mentioned at the School Council) but it is probably better to wait until SharePoint has been introduced. This should be done early in the New Year. PAC suggested perhaps taking the test every 3 years would be advisable. The date will be recorded when the test has been done. ILH asked for confirmation of who has to take the test. It was suggested the University Safety Office might create a test for administration staff but the requirement at the moment will be for those involved in laboratory work. RAA will remind people that have not done the test for several years or ever that they need to take the test. It was agreed that everyone apart from admin staff should take the test but there should be an equivalent test for admin staff. RAA to remind the Safety Office about this.

**[Action: RAA]**

(d) *First Aid Workers and Equipment*

A complete list of first aid workers in this complex of buildings has now been put together by RAA and MA along with the date their qualification expires so they can plan ahead for refresher training or recruitment of new first aid workers. This lists shows there is enough coverage at present. A new poster has been produced showing all first aid workers in all the buildings and the website has been updated. This was shown to the Committee members and it was agreed that these will be put up around the various buildings.

**[Action: RAA]**

BW asked if people who are trained in the defibrillator should be added to the list. ILH pointed out that anyone should be able to use it although some people have taken the training and all first aiders would be aware of its location. It was agreed that information on this should be added to the Safety Handbook. BW had in the past replaced the batteries but it has not been done for quite some time. RAA will ask the Safety Office about this and confirm who is responsible for testing and maintaining the equipment.

**[Action: RAA]**

There is a box on level 3 of the Purdie Building with first aid equipment available for out of hours workers however this has not been re-stocked for some time and all useful items have disappeared in the meantime. The University policy is not to have boxes in labs since a qualified First Aider should be called to each incident and they have their own set of equipment.

However for work out with normal hours a single box like this in a central location is advisable. MA stated in the BMS and Annexe they do have first aid boxes. EZC thought there should be a yearly check on the items in the box and they should be replenished when necessary with no sign-up sheet required. It was decided that supplies should be provided and ILH and RAA will look into restocking the box and RA will check on it regularly in future.

**[Action: RAA/ILH]**

(e) *Waste disposal*

(i) *Legacy Waste*

There was a lot of “legacy waste” including pyrophoric organometallic compounds from David Cole-Hamilton’s labs as well as poisonous gas cylinders dating back to the 60s and 70s. At a huge cost all of this has been disposed of, although there are a very few “mystery” items left. The roof lab has been completely cleared after sitting unused for 20 years. Also Joe Crayston’s chemical samples been disposed of. Following a memo from CG, plant and heating rooms had to be cleared which included Biology and Chemistry waste. The Cazin and Nolan labs will also need to be cleared when their former students finish their PhD work. RAA will continue to deal with this issue. PAC stated that there are still samples left from Peter Bruce and RAA asked PAC to send him a list. He pointed out that it is much more expensive to dispose of unknown substances.

**[Action: PAC/RAA]**

(ii) *Ongoing waste*

There has been some improvement in general behaviour by users of the waste disposal compound. Estates cleared away everything for the Store recently on the assumption that Chemistry would do this properly in future. Electrical items especially have to be disposed of correctly and there will be sanctions for those who don’t adhere to the procedure – they can be identified through the electrical testing numbers. RAA confirmed that the recycling store can be used by Biology for any portable electrical items and Estates pick up from there every Thursday.

*Special chemical disposal* - RAA introduced a new streamlined procedure for this and this was publicised. However while some groups, notably Andy Smith's have been regularly sending lists for disposal, many other groups have not. RAA would like this to be mentioned at School Council – all Supervisors should be regularly sending toxic waste for disposal eg heavy metal compounds. It is picked up once a month. This will be checked up on during lab inspections. RAA also pointed out that 60% of chemistry solvent waste recently has been "halogenated" which is surprising but it appears that people are mixing hal and non-hal with the former being more costly to dispose of. RAA to mention this at School Council.

**[Action: RAA]**

(f) *Fire Alarm*

Fraser Kirk had agreed to replace George Anthony during the weekly tests. RAA has taken over John Smith's role so there are four people involved with this, FK, RAA, BW and Steve Francis. New instructions have been put up. BW and RAA will discuss what access is required for everyone in order to access areas with alarms.

**[Action: RAA/BW]**

RAA has a back record from John Smith for the weekly test. For actual alarms RAA has developed a list of staff to cover all the exits etc. There is a map available and detailed instructions have been issued to all personnel involved. RAA will send MA a copy for information.

**[Action: RAA]**

EZC recommended that there should be some electronic communication system during fire alarms. EZC had deputised as Fire Master with Phil Wormald over the past 3 years and felt he knew how this worked and it made a difference having electronic communication. RAA had taken advice and decided how to proceed. The recent test on 25.11.16 went like clockwork and everyone was clear of the building in just over 3 minutes and the stewards were all confirmed as being at their posts and admission allowed within 12 minutes. EZC felt there are cases when rapid communication is necessary. The example was given of a disabled student last year who went to the refuge point (which is what they are supposed to do) and tried to phone down to the janitor's box. This did not go to plan and EZC expressed concern that there is no contingency for this type of incident. ILH stated that you cannot actually hear the person on the refuge phone as the alarm is sounding at the same time. BW stated that these phones are only active when the alarm is ringing and therefore it cannot be tested. RAA stated that EZC's objections had been noted. CG pointed out that radios are not the best means of communication since staff have to be trained and adopt proper protocol but EZC was advocating the use of mobile phones. RAA said that many of the fire stewards are not willing to give out their mobile phone numbers for this purpose and RAA felt no change was necessary to the current procedure.

The Major Incident Kit is situated in the Janitors' box and was distributed to every University building, including hard hats, torch, rubber gloves, loud hailer etc. RAA will give the Head of School's office a copy of the Fire Evacuation Plan but he would like to see an updated Crisis Management Plan from ILH.

**[Action: RAA/ILH]**

(g) *Personal evacuation plans*

We have a PG and an UG student for at least the next two years and the plans have been agreed with EHSS. We need extra personnel for the evac chair

training due to staff moving on. RAA will write out instructions for the evac chair operators.

**[Action: RAA]**

BW asked about testing the system but the student has already volunteered to sit in the chair and try it out. The refuge point call system is checked once a year but it failed once in the past. BW is not allowed to test the system but CG said that he can find out about whose responsibility this would be.

**[Action: CG]**

(h) *Fire Risk Assessment 24.7.14*

On 27.10.16 RAA received an email from Stephen McKenzie (University Fire Safety Advisor) with an outstanding report from 2014 with actions required by Chemistry but most of the items are Estates matters. RAA wrote back saying that Chemistry would act on what is Chemistry's responsibility and asked for clarification of what was expected of us on the various Estates-centred matters but he has had no reply. The spreadsheet is required to be completed by the end of December. RAA has actioned what he could from the list. A chemical storage unit on level 3 has been removed. Fire extinguishers have been tested. Combustibles stored in plant rooms have been removed but RAA will check these areas again with CG.

**[Action: CG/RAA]**

Storage of dewar in corridor – it is not acceptable to have this stored outside PCJK's office as this interferes with the fire escape route. This has now been moved to the end of the corridor. Corrugated roof sheeting above NMR instruments is flammable and has to be replaced/removed. This is noted as £2000 against Estates. CG asked for this list to be forwarded to him so that he can see what is required by Estates.

**[Action: CG/RAA]**

RAA has reviewed the Fire Marshall and Fire Wardens' roles and evacuation procedures and there are now written instructions and procedures. Personal evacuation plans have been completed. There is a recommendation that there is a method for disabled staff to be rescued without relying on the Scottish Fire and Rescue Service. This has profound implications as it would imply that we need to go back into the building to help people get out. The most we could ask is for someone to make a detour on their way out to go past a refuge point to help with evacuation. RAA does not think the University Fire Safety Advisor has the authority to make this recommendation. The Fire Service would not require you to do this.

(i) *Sending Chemicals by Air – Training Course*

If sending chemicals by courier then the default method is that any package has to be ready to go by air. This has caused problems in the office especially since Morven Duncan's qualification in sending dangerous goods

lapsed. RAA and Maria Nowosielska attended the training course recently with a 3 hour exam. RAA will put a guide on the website to allow people to judge whether they are sending dangerous goods or not. If in doubt they should still ask RAA.

[Action: RAA]

(j) *Poison Cupboards*

We have now reached a satisfactory conclusion as all members of staff have replied to RAA's email and all poisons are now locked up with two exceptions (ERK/DP and FDM) but these are in hand.

#### 4. **Use and disposal of needles**

The first incident took place in May when a member of the cleaning staff was injured by a needle which had not been disposed of properly. The most recent incidents were in November when two needles were found on a lab floor by the same cleaner who had been injured previously. There was a meeting between the HoS and Director of EHSS on 25<sup>th</sup> November and various ways forward were discussed. In the meantime cleaning is suspended on level 4 of BMS. This had been discussed at the Chemical and Biological Hazards Committee annual meeting the previous week and there was unanimous astonishment in this meeting and EHSS now have a mandate to demand strong action. HoS is to give a clear direction but probably this will be that disposable needles have to be disposed of after each use and never under any circumstances left lying around. The sharps bins have to be as close as possible to site of work – none on the floor. This will be monitored during the upcoming inspections. At an earlier stage RAA got no support from Academics for reducing or stopping the use of disposable needles. This is still in progress and the head of EHSS will be in contact with HoS. Chemistry would have to absorb the cost of extra sharps bins but in actual fact the issue is the behaviour of people who are using the needles and not how many bins are provided.

#### 5. **Annual Safety Inspections and Report**

The deadline for submitting the Annual Report is the end of March and we should agree how the inspections should be done and finished by the end of January. It was proposed that the same procedure is followed as last year. RAA asked how this interfaces with Biological safety inspections of relevant areas. MA did go into O'Hagan and Goss labs recently to look at the Biological aspects though he did note other issues. MA did not inspect the Westwood areas as they are not doing biological work in the lab. RAA does not want to tread on people's toes if they are purely Biology labs. It is unclear with some staff who are joint Chemistry and Biology. MA will send RAA a list of items they have found on their inspections and ILH will provide information for RAA on staff who are joint Chemistry/Biology. Eg Christos Pliotas is moving to Biology on 1<sup>st</sup> January 2017. MA will provide RAA with a list of items that were found during the Biology lab inspections. RAA will update the inspection sheet, especially on handling of needles, but if anyone has any other things to add to the sheet, then please let RAA know. It was agreed that it would be done the same way as last year with six people in three teams of two. It was agreed that PCJK could be approached to be the sixth person along with RAA,

IAS, EZC, PAW and PAC. [**note:** subsequent to the meeting PCJK agreed to do this] The inspections should be done by the end of January but would need to await the introduction of new needle use rules before they started so that compliance with this could be monitored.

[**Action: RAA, MA, ILH, IAS, EZC, PAW, PAC, PCJK**]

#### 6. **Display Screen Equipment Regulations (1992)**

It is a legal requirement that anyone who uses a computer for periods of one hour or more on a regular basis is required to take the online training and test. Although this has been mentioned clearly in the Safety Handbook for many years very few people indeed are complying with this requirement. It is an awkward system to monitor and perhaps this could be done via SharePoint. RAA will inform everyone via the Newsletter of this legal requirement. If an item like a desk is unsatisfactory and it is a Health and Safety issue then the School should pay for it. The problem can be that many people use a laptop and the test is designed for a desktop. It was agreed that RAA would start the process of making sure we comply with this legislation.

[**Action: RAA**]

#### 7. **Future Training Course Requirements**

There is a new initiative from EHSS who are now employing a full-time training officer – Dr Christine Linton. RAA was sent an extensive list of potential training courses and EHSS visited to discuss future requirements. MA has not had any response to a recent request for training. Several items on the list are done already in Chemistry. Some courses are annual and others are 3-yearly. RAA mentioned several courses: Training in moving of cylinders, fire safety talk and practical use of extinguishers, general risk assessment, COSSH, use of personal protective equipment etc. (This brought up the issue of lab coats which were only recently made mandatory in research labs though they had been required in UG labs according to a previous safety handbook.) Special pressurised gas cylinders, use of cryogenic material. Radioactivity for users of radioactive material. EZC pointed out that we should be aware of the legal requirement for these types of courses for new people coming into the department. Open-beam lasers and X-ray beams – these are externally provided. Genetic modification, bio-safety course, etc etc. Courses for office workers, first aid training. Some of these courses are more relevant than others. MA feels they should be able to condense the courses to give essential training. RAA thanked the committee for their opinions on the relative value of some of the options and will get back to EHSS on these courses.

[**Action: RAA**]

#### 8. **Out of hours access and records**

There is a new University policy on “Lone Working” which was brought out in October. It is very general to cover all practices in all schools and units. There must be some circumstances under which lone working is not allowed. Each school needs to identify these. RAA was consulted on a draft version and confirmed that Chemistry does sit within the provisions of this policy. RAA rewrote part of the

Safety Handbook regarding out of hours/overnight experiments. People should make contact with someone else who is working in the same or an adjacent room. RAA does not want to prevent anyone doing non-hazardous work on their own. The main point is that you cannot do potentially hazardous work on your own. BW pointed out that in the workshops there is an alarm system for lone workers. We have something in place and we have to report on our annual safety return what this is and have to reconsider this on a regular basis. EZC said that the “hazardous work” is open to interpretation. He felt that if there is no-one else around then you should not do any hazardous work. There was some discussion on this potential “on-site buddy system”. RAA felt what was written in the handbook currently was satisfactory.

It has been reported to RAA that people are not signing the out of hours books. There is a book at each entrance. The swipe cards do not give information on when people leave the building and the record of their use is not available to the Fire Service on their arrival. The system appears to have fallen into disuse and people do not know they are expected to sign the book. It was suggested that an updated swipe card system could be put in place which would record entry and exit from each door but this was unlikely to happen due to cost and Fire Service access would be difficult. BSRC also has a sign-in sheet. Signs need to be put at each entrance to remind people of this requirement.

**[Action: RAA]**

## **9. Report from University Chemical Hazards Adviser**

RAA is also the Chemical Hazards Adviser. The CHARM system introduced in March 2015 has performed well – 10,000 successfully completed risk assessments. The only flaw at the moment is when RAA issues new hazard codes the applicants are not notified automatically of the outcome. This has caused some problems and RAA is trying to sort this out. At the moment he has to manually notify each person by email. On 1<sup>st</sup> December RAA attended the annual meeting of the Chemical and Biological Hazards Management Group at which MA was also present. The Chemical Weapons Act has changed and they have adopted a new policy which is less prescriptive in terms of the actual substances covered. They realised that if a hydrochloride of a nerve gas is toxic then the hydrobromide might also be toxic and it was not previously included. It has been broadened out to no longer rely on CAS numbers prescriptively and includes closely related substances. On the chemicals list in CHARM everything is clearly noted. If someone selects one of the chemicals involved for a procedure it notes that it has to be reported annually and RAA collates that and submits it by the end of January. RAA will remind staff at School Council that the annual request for records in this area is now due.

**[Action: RAA]**

At the CBHMG there was extensive discussion on ethidium bromide which many chemists don't use regularly but those in the more biological area do and there has been some controversy on whether it is carcinogenic. The most up to date evidence indicated that it definitely is not carcinogenic but is strongly mutagenic. It is regularly used in UG labs and although there was talk of banning it, it was agreed that students need to learn how to safely work with mutagenic substances as part of their training. There was also no strong evidence that the supposed “safer”

substitutes were less hazardous and they were more expensive. It was agreed the careful use of that substance could continue. RAA will change the hazard code for this as a result.

**[Action: RAA]**

#### **10. AOB**

BW mentioned that the issue of domestic fridges has cropped up since the last meeting. RAA explained that when you buy a new fridge you have two choices – a domestic one or a scientific one which is for storage of chemicals. RAA's opinion is to buy the domestic one and if necessary modify it to be spark-proof which is always far cheaper. EZC asked if they can be approved to be explosion proof. BW said you can get a domestic one that could pass but it depends on what you are putting in it. The ones from Fisher, VWR etc are certified. The workshops did modify fridges then stopped about 10 years ago when the price of spark-proof ones came down though they are still 3 or 4 times the price of a domestic one. The previous Safety Officer's policy was to make sure everything was to the most stringent standard. BW was told this was the policy then found out that people were buying domestic fridges again. EZC bought lab-grade, spark-proof fridges. BW said in the past the door has been blown off domestic fridges and the workshops were told not to modify the fridges and LEC fridges were obtained at a reasonable price.

RAA felt that there is no requirement for everyone to buy the highest specification fridges. EZC thought that the insurance policy should be consulted and we should be adhering to that policy. BW and RAA stated that these fine details are not mentioned in the insurance policy and there is no specific legislation to cover this. There have been two domestic fridges purchased recently on RAA's advice, one at the Main Store and one by PK. MA stated there are about 80 domestic fridges in the BSRC. No further action was deemed necessary.

#### **11. Date of next meeting**

Wednesday 1<sup>st</sup> March at 2.00 – 3.30 pm.

Dr Alan Aitken  
7<sup>th</sup> December 2016