

UNIVERSITY OF ST. ANDREWS

SCHOOL OF CHEMISTRY

Minutes of the School Safety Committee Meeting held on Tuesday 10th December 2019

Present:	Alan Aitken [RAA]	School Safety Coordinator (Chair)
	Magnus Alphey [MSA]	BSRC, X-Ray
	Bela Bode [BEB]	Assistant Safety Coordinator
	Paul Connor [PAC]	Physical
	Scott Filipovic [SF]	Estates
	Petr Kilian [PK]	Assistant Safety Coordinator
	Juan Carlos Penedo [JCP]	Laser Safety Officer
	Terry Smith [TKS]	Biohazards Officer
	Andreas Stasch [AS]	Assistant Safety Coordinator
	Bob Steele [RCJS]	Research Officer (Earth and Environmental Sciences)
	Brian Walker [BW]	Technical
	Carolyn Busby [CMB]	Secretarial

1. **Apologies**

RAA thanked everyone for coming to the meeting and pointed out that it is the first physical meeting of the Committee since August 2018. The meeting in December last year was a “virtual” meeting and as a result of the BMS fire there was not time to arrange a meeting of the Committee over the past 9 months. RAA also made the Committee aware that he is on study leave while dealing with Health and Safety and that he hopes that some of his colleagues will be able to help with various duties in Semester 2.

Apologies received from Tommaso Di Rocco, Iona Hutchison, Iain Smellie and Nick Taylor.

RAA welcomed the new Assistant Safety Coordinators, BEB, PK and AS. Previously there was a Deputy Safety Coordinator who only took on responsibility when RAA was absent. RAA hopes that the new ASCs will help out all the time not just when he is away. As it is less than ideal that all the planning and responsibility for H & S rest with one person, it was decided with REM that it is better to have new Assistants rather than a Deputy so that others get to know the job and at least one of them should be here at any one time.

2. Report on developments since the last meeting

(a) Record keeping

We have finally developed a system to record the health and safety training of each person in the School. There is a current list of personnel with columns to record those who have passed the on-line Safety Test, attended a Safety Talk and a Fire Safety Awareness Talk. We can now manage this and if people did not attend one of the recent Fire Safety Awareness talks we have been able to contact them individually to encourage them to attend the next talk on Thursday 12th December. We were instructed by the University that all staff have to have this training and after this week we will have fulfilled that obligation. It is also possible to chase up those who have not passed the on-line test after a given period. This is quite an achievement in the University context as other Schools are struggling to reach this situation though EHSS have assured them that there will be a central record-keeping system but this is not imminent. PK asked if this was driven by legislation but RAA felt this was just common sense to know who is working within the School and what training they have had. The Fire Safety Awareness Training is a University policy introduced as a direct result of the fire – all staff must undertake this once every 3 years. BEB asked if this could be expanded to keep a record of other training that might be required. RAA confirmed that this was the intention as is possible to add as many columns as required to the records and this is administered by CMB.

(b) The roof access procedure

This has been on-going for some time as workers need access to the roof, mostly Estates personnel but also frequently outside contractors, especially as there is major refurbishment working going on at the moment. In the past there has not been any way of determining whether it was safe for workers to go on the roof or not. This has taken some time but with SF and Fraser Kirk [FK] working on this, there is now a special email account set up – chem-roofaccess. When this is implemented it means that if anyone is carrying out a lab procedure that might create a hazard on the roof, they have to notify us in advance on this email account. Similarly if people want to go up on the roof then it would be entered in the diary on a given date and time. Whoever has the roof key (usually SF, RAA or possibly Linda in the office) just needs to check this email account to see if there is anything dangerous happening before allowing access to the roof. If a request comes in to do something dangerous we can check the diary to see if there are workers booked to go up on the roof at that time and if so then the work would have to be postponed. This would appear to be a watertight system and it is ready to be implemented. PK asked who would have priority and RAA confirmed that whoever had entered the work first in the diary would have priority. RCJS asked a question regarding a specific procedure that might be done in an EES lab (“drying down” HF) and there was some discussion on this with RAA agreeing that this type of procedure was potentially hazardous and notification should be sent to the new email account each time it was taking place. PAC asked how this related to COSSH forms but RAA pointed out that this is a separate system to the COSSH forms. RAA reminded the committee

that every Academic was asked if they ever carry out roof-hazardous processes and he has a list of these, which are remarkably few. RAA mentioned a few procedures (liquid ammonia, ozone, chlorine gas, formaldehyde fumigation) but the major one that causes problems is venting of carbon monoxide. If in any doubt RAA said that the new procedure should be followed. RAA wants to introduce this at the start of the New Year. SF has requests almost daily from contractors who need to go on the roof and at the moment it is a judgement call. SF knows the regular contractors who perhaps only need access for 10 minutes but Estates can turn up unannounced. RAA and SF will take the necessary steps to have this ready to start in January. SF mentioned that 90% of the stacks on the roof are 3 metres high and the design of the roof is safe. There are a few exceptions where the fume cupboard vents are on the roof at foot level. SF has a plan of the roof and can identify which fume cupboards still have the old mushroom vents. RAA will re-approach Academics to remind them of this and concentrate on those who have already declared a roof-hazardous procedure and list which fume cupboard will be used and if it is a high-stack one or not. RAA will handle the administration required to introduce the new system.

PK asked for clarification on who would have access to the new email account and who will be responsible for it. The people administering the system will be able to check the calendar and enter potential roof work and hazardous procedures but only those people who hold the key to the roof can allow people access (at present RAA, SF and Linda). If RAA is away from the department then he would pass his key on to one of the Assistant coordinators and they would be able to operate the system.

[RAA/SF]

(c) **Waste disposal**

RAA informed the committee that since the last meeting we have had the biggest ever disposal of chemical waste. At the time of the fire, room 337 was stacked up with Nolan, Cazin and Kamer's chemicals which had to be disposed of to allow Eli to move in there. It has now been done in a cost-effective way as a very small percentage had to be sent as special waste to Veolia. The majority went out as solvent waste. However there is still continuous waste being produced. Several groups have had a clear-out while updating their inventory (see item below) especially NJW and MLC, along with a large amount from Biology as a result of moving the teaching labs to the Portacabins. Some chemicals have been salvaged for re-use and the rest will be sent to disposal.

Waste Store: This is a University facility overseen by Estates and there have been some problems with this. Estates were asked to clear out the store which has now been done. The new procedure is that Chris Goodsell will visit the Store every Monday morning, check what is there (eg packing material, broken furniture etc) and arrange for it to be picked up if it is not an item that is normally picked up by Fife Council or dealt with by RAA. MSA pointed out that the Store does not appear on the list of buildings on the Estates website but RAA advised just to select Purdie Annexe if you are asking for waste to be collected by Estates. For Chemistry RAA gets people to send him the details of any pick-

ups required and he will request this using the appropriate forms. RAA feels that people still need to be educated on where to put waste/recycling.

(d) **Resources displaced due to the BMS fire**

Since the fire the Ozonolysis machine has been rescued, certified to be in good working order but there is nowhere to put it. Also RAA has the cyanide oxygen resuscitation kit in his office and we need to establish new places for this equipment as well as distilled water and ice machines have been moved. RAA has discussed this with SF and the aim is to have the location of key resources put on the website. RAA and SF should do this before Christmas.

[RAA/SF]

Equipment was also stored under Theatre A after the fire as an emergency measure, but a few weeks ago Estates decided to change the lock so we no longer have access to the storage space. Estates have a wider policy of claiming back the service areas in the building which are not acceptable storage spaces, especially for flammable materials or chemicals. The problem for us is access to the equipment, as until the new wing and BMS refurbishment is complete we have a one-off requirement for equipment storage space. SF and Chris Goodsell have keys if access is required. The equipment includes DOH's ovens, pumps etc which were rescued after the fire. AJBW also has a large amount of equipment that he needs regularly and it is beneficial not to store excess equipment in a working lab. AS commented on the fact that this going to be an issue in the future even when BMS is restored because of new regulations on storage etc and groups will need storage space away from labs. RAA feels the School needs to plan for this and construct designated storage space. RCJS asked if it might be possible to consider a larger area that could be used as storage rather than individual storage spaces. RAA reminded the committee that the metal storage containers which remain in the carpark after being used for storage following the fire, are University property and perhaps we could make a case to use one or two of these for long-term storage but they would need a suitable site. This would not be suitable for electrical equipment or anything that required heating. A lot of previous storage areas in BMS will be lost. RAA suggested this is brought up at the School Council meeting, that storage space is needed for research groups in future building plans and that it requires wider discussion.

[School Council]

3. Role and duties of Assistant Safety Coordinators (BEB, PK, AS)

PK:

- (a) Approval of class 5 forms. He has done this before and PK will now do this from now on until August 2020. There are several forms per week. This is not issuing new hazard codes which RAA will maintain.

- (b) Maintain Chemistry website. WordPress site which needs updated eg new staff, new fire stewards etc.

AS:

- (a) Monthly inspections and corrective measures arising from them. The first one has been done on paper and the second one should be done on paper before the end of the year. As from January it will be on-line and a system has been developed with assistance from Andy Bunting (Physics) on Microsoft forms which can be populated electronically. Management will be able to look at these and EHSS can oversee this. PK felt the first form was not very clear but RAA said the electronic version is an improvement. The university requirement is that this has to be done once a month and the first round of 27 inspections was satisfactorily completed. The quality of the inspections is highly variable but hopefully this will improve.

PK commented on labelling of fume hoods. RAA had argued that self-inspections were pointless and it would have been better if a team of experts had done it to ensure a uniform standard throughout the department. The counter-argument was that this would allow supervisors to abdicate responsibility, but the university has decided that each supervisor has to get to grips with what is required. PK asked if he could have instructions and AS asked about training. BEB also said he was ignorant about fire extinguisher labelling. RAA agreed that training is required. RAA is going to order a supply of the commonest labels required and these will be put in the correct places eg flammable sticker on solvent cupboards. It was mentioned that a contractor came to test fume hoods but if they failed the test there was no system in place to act upon this. SF now gets the report on the fume cupboard testing. BW asked if we get a report on PAT fails. He used to be notified about this but RAA said the report will now go to Bob Watson.

The results of monthly inspections will feed into the annual report in future years.

BEB

- (a) To help RAA with the central inventory and liaise with FK to get an accessible list of all the chemicals in the major groups' labs so they can be made available to the emergency services if required. The expectation is that the list will be updated/refreshed monthly. Most supervisors list the quantity of chemicals. This is a major outcome of the fire – a demand by the fire service to have an inventory of all chemicals in the building. Fortunately, most major research groups do have this information and this needs to be drawn together in a centrally accessible server. This is already in progress with FK. BEB asked if this will be made mandatory but as RAA pointed out we are already about 90% compliant as all the large groups already have an inventory allowing them to manage large amounts of chemicals. The small number of groups who don't have an inventory, typically don't have many hazardous chemicals in any case. The first step is to combine the inventories we have and then decide how to proceed from there

[RAA, FK, BEB]

- (b) Sending chemicals by post/courier – transport of dangerous goods. RAA and Maria Nowosielska [MN] did a full training course in 2016 and then did the refresher course earlier this year. They both have the full UN approved qualification but MN will be on maternity leave shortly. The vast number of items are not dangerous goods but it does require chemical expertise to assess them. RAA set up a system but some mistakes were made and office personnel now insist that everything is personally approved by him. The best system is if a properly qualified academic makes the decision on each shipment. In 90% of cases it is not dangerous goods. RAA proposes teaching BEB how to do this. To send actual dangerous goods you have to have done the course and exam but he only wants BEB to consider the routine cases as RAA deals with several a week. In the longer term RAA would like BEB to do the full training.

RAA would remain in overall control but would be available if any of the Assistants have any problems with the allocated duties.

4. Monthly Safety Inspections and Annual Safety Report

Following the fire, the University court is putting EHSS under more pressure and scrutiny than normal and the annual safety report is due before the end of the calendar year. This is a report for all schools and units and we can usually tick all the boxes. We will need an opt-out on some this time because of the fire. We have not had a fire practice in 2019 (although there were at least two actual call-outs since 10th February) but RAA is planning to have one early in the New Year. Also EHSS has brought in a requirement that each School has to have a 6-monthly fire safety audit. There has been a practice audit and then the first official audit was last month. RAA has not done this yet. MSA explained that it involved checking fire extinguishers are in date, fire doors are functioning properly etc and flag up any issues to Estates. The objective is to get everyone engaged and dispel the idea that safety is someone else's responsibility. RAA or one of the Assistants will need to do this in the New Year. Fire risk assessments are also done by the University, residencies are done annually and other departments less frequently. BW is aware that a contractor checks the fire extinguishers annually and replace anything that is faulty/out of date. RAA complained that we are not given feedback on these inspections. SF confirmed that this goes back to Estates (or EHSS) who organise the visits. RAA brought up the point that it is difficult know whether the number of fire extinguishers and fire blankets is appropriate, particularly as the nature of the work in many rooms has altered over the years, e.g. room 250 has changed from being used by RTB and WZ who had one extinguisher to DOH who needs 2 or 3 plus a fire blanket. It would be timely to have the Fire Officer from EHSS do a complete assessment of how appropriate the fire extinguisher provision is for each room. Mark Crush (Fire Safety Officer from EHSS) did a visual inspection of the Harold Mitchell building with MSA which took around 2 hours. RAA would like this to be arranged in Chemistry for early in the New Year.

[RAA]

Mark Crush also gives the fire extinguisher training which we had in October and more training sessions will be organised to allow people to have hands-on training. A lot of staff see this is very important and we should have this arranged for early next year.

[RAA]

5. Fire alarm system – refuge faults, weekly testing and fire practice

BW explained that the refuge system used to be active only during a fire alarm but there were problems in the past as we did not have the ability to test it. BW noticed that there were fault lamps lit and he requested from the company that we have a switch so that we could test the system ourselves. BW heard the alarm ringing and discovered that the system had been made live permanently. There are some nuisance calls every 2 or 3 weeks. The few times that BW has tested this it hasn't worked, e.g. only one-way communication, a lamp is activated which doesn't correspond to the button pressed. BW reported it faulty a few weeks ago, expected it to be repaired, retested it and it was still faulty. BW had asked CAG to deal with it. The contractor should be doing a full test twice a year. BW reported the recent fault to SF who passed this onto CAG yesterday but neither of them have received a reply as yet. BW would like to test it once a month with FK until they are confident the system is working. There was some discussion about this and RAA was concerned that if there was a real fire and the system was faulty then a person could be waiting to be rescued but the potential rescuers had gone to a different part of the building. BW should prompt CAG. It was noted there are 12 refuge points located in the stairways.

[BW, FK]

There are no issues with the weekly fire alarm testing and a fire practice will be carried out early in the New Year when the students return.

[RAA]

6. Evacuation chair training; Dangerous Goods by air training

We have at least one wheelchair user working in the building, on Level 4 and we did have refresher Evac chair training in the summer. We have 5 people qualified to do this which was planned around the location of the chair which is on level 3 of the NW wing. PL was trained last time as his office is next to this. RAA, David Cordes, Iona and Brian Chalmers are also trained. In the event of a fire alarm you should pass by this area on your way out and not go out by the nearest exit and return to the building to check if the chair is needed. The person would be waiting at the refuge point. The fire service would recommend that they wait there until the fire service rescue them. No-one should re-enter a burning building. RCJS asked if people working in the same lab as the wheelchair user should be trained also but this could be a problem as a certain amount of strength is required to operate the chair and also people could leave regularly from a lab. Long-term staff who are reasonably close to the chair have been chosen for this reason as operators and the training was voluntary. RAA felt it would be useful to add information on the Evac chair to the Safety website.

[RAA/PK]

7. Insurance company inspection - August 2019

Zurich Insurance regularly inspect all parts of the University. The inspection in August was especially important in the aftermath of the fire. We only received the report 3 weeks ago and it is overall very positive. RAA went round the building with Ken

Stewart (University Insurance Officer) and two staff from Zurich. They were very thorough and made a lot of comments on the day. In their reports there were 5 improvement comments and 2 advisory comments. The target implementation date is 10th January 2020.

1. In the course of refurbishing lab 250 the contractor was using floppy plastic sheeting to close off the area which was not fire resistant and they should have used a higher grade of sheeting. The work has been completed long before we received the report.
2. Housekeeping within room 338 has fallen below an acceptable standard. All waste and redundant materials are to be removed and disposed of. Room 338 is a computer cupboard used by Herbert mostly. There is a lot of electrical equipment which could be a high fire risk and a lot of boxes of junk, papers etc and Herbert has been asked to clear this before Christmas.
[HF]
3. Workshop: oxyacetylene welding equipment should be stored externally unless it is being used and this has already been done and it being stored in the gas cylinder cage.
4. Solvent store: it was noted that the solvent store was left unlocked all day. This is unacceptable as it contains thousands of litres of flammable solvent. The store is left open to allow researchers to deposit waste solvents there directly and thus save Artur moving the waste every day. Access control has assessed this and a swipe access door will be fitted starting tomorrow so that only Chemistry researchers can access the store.
5. Teaching Lab – Medical School. The entrance hallway of the teaching lab has to be cleared of all the waste, empty bottles etc. Iain Patterson is working on this to clear a space inside the prep room where the waste can be stored so it is not blocking a major fire exit. This must be done by 10th January but should be completed this week. This was picked up two years ago and had not been acted upon.

[ILJP]

Advisory comments:

1. Level 4 overnight room: Argon fire suppression system. They asked when this had been tested and inspected but there are no records of this. CAG looked into this and the system is needing some maintenance. It has been evaluated and if we want to keep the system it needs to be maintained. RAA feels that we still do need this system as it is the best place to do high-risk experiments. However, MLC has taken it over as an extra lab but PAW uses it as it is the only place his group can do overnight experiments. There used to be 2 overnight rooms in the days when there was no Fire Trace and it was the only way to do an overnight experiment. Fire Trace is now available in the new fume cupboards but PAW still has the old fume cupboards. It is planned to make the level 3 overnight room AJBW's group office. As a result, the CO2 system connected to that was

disconnected but it has not yet been made safe. SF has spoken to Bob Watson about this and a report has come back to CAG last week. RAA will send this to SF. RAA confirmed with CAG yesterday that we do want to keep the Argon room and therefore he needs to go ahead to see what needs to be done. We really need this room now as we have lost the level 3 room permanently. The fume cupboard extract from level 3 was permanently disconnected which is irreversible and there is asbestos present so it could not be restored.

It has also been reported that all the water taps in the level 4 room are faulty Estates plumbers were unwilling to repair these because there is asbestos under the fume cupboard. Surveys have been carried out. To conclude RAA felt we need to have one fully functional overnight room that has Argon protection but there are still some issues to resolve with Estates. PK asked if it would be cheaper to allocation PAW a fume cupboard with Fire Trace for overnight experiments. RAA pointed out that the longer term view would be that the asbestos still needs to be dealt with. PK suggested writing off the whole room as it was more cost-effective as no-one uses the room. RAA said that the Argon system was relatively recent and was installed at great expense. It is a much better system than a dry powder system in a fume cupboard and should we lose the capacity? RAA thinks it may need a discussion among the staff to judge who would use it. PK thinks an overnight room is outdated as we have Fire Trace. TKS asked about the safety of the Argon but RAA confirmed there is an alarm when the Argon is about to be released to allow time to evacuate and there are huge vents to release the excess pressure. The room is also drained to the outside to prevent flooding. RAA feels it is an asset to the building, however, it is difficult for anyone else to use it as MLC has taken it over for his group, although not formally allocated to him. AS thinks it is a useful facility to have and RAA suggested the future of the room needs wider staff discussion as it would cost a lot to maintain.

[School Council]

BW brought up the issue of gas alarms. Every gas alarm should have a standard form beside it giving details of what it is for and the action to take if the alarm goes off. There is a new alarm installed at room 266 with a non-standard sign. Estates was involved with this but RAA was not aware of it. If anyone gets additional gas detector alarms installed then they should notify the Safety Coordinator as it has to be added to the system and the maintenance system. As far as BW is aware all alarm systems are serviced by Estates once a year. PAW confirmed that Estates took over theirs but at the start they paid their own maintenance costs. SF is aware that if an alarm is installed via a grant then you would be responsible for the maintenance for a number of years but he was not aware of any written agreements with Estates. SF will look into this with Estates and RAA will give SF a list of the current alarms. RAA informed the committee about an alarm going off in a Drochaid lab on a Sunday afternoon which turned out to be but a student called 999. RCJS suggested that Drochaid should have a representative on this committee but RAA confirmed that in law they are responsible for their own Health and Safety, inspections etc. Liaison is helpful and for the recent incident they have apologised and now have a sign up with instructions on what to do if the alarm goes off again.

PK mentioned that an alarm goes off when the natural gas switches itself off after 8 hours. It was left on by mistake overnight and PK was called out overnight. RAA felt this was a misuse of an alarm. There followed some discussion on this.

2. The second advisory item was that some drain covers on the roof should be replaced to minimise the chance of down-pipes being blocked by wind-blown debris. This had been done immediately after the inspection.

RAA has to notify Ken Stewart that everything has been completed so he can report back to the insurers.

8. Earth Science health and safety in Purdie Building

RAA mentioned that he had been approached by various members of Earth and Environmental Sciences working in the Purdie Building saying that EES would like to share in some of Chemistry's procedures for Health and Safety. RCJS wants to be compliant with Chemistry. He confirmed that Donald Herd is the overall H & S person for EES based in the Irvine building but he now has formal responsibility for the Purdie building which we should be aware of. RAA feels it is important to liaise and cooperate with the various groups that share the same building, e.g. some EES staff attended our safety talks recently. RAA thought it might be helpful if RCJS participates in the monthly inspections which is a requirement for all Science departments. EES labs could also be included in the annual inspections by RAA. It is fundamentally the responsibility of the Head of School but that shouldn't prevent cooperation and sharing of best practice between Chemistry and EES. RAA confirmed that EES will be included in the electronic monthly inspection form starting in January. RCJS agreed that he would get the head of each group/lab in EES within Purdie to complete the monthly inspection.

[RAA, RCJS]

9. AOB

PAC mentioned that he had recently undergone a CO safety audit. The only item where we were not compliant was that safety shoes were recommended for moving cylinders. Some schools keep 3 pairs of different size boots to be used. RAA explained that gas suppliers have a duty of care to ensure that they are only supplying dangerous gases to competent organisations. They do a periodic telephone audit with customers before they release a gas. PK had a similar call re chlorine gas, Morven had a call re nitric oxide and PAC has now had one for carbon monoxide. RAA understands that if someone has completed that audit then it gives blanket permission to anyone in the School to order that same gas for the following 3 years. PAC was asked if they have alarms and sensors and they do but he doesn't know if anyone else has.

BEB asked about best practice in the use of cryogenic gases. For liquid nitrogen BOC would advise wearing a mask when using it but RAA said there is no law that requires that. However, there is a training course on safe handling of cryogenic materials held

by EHSS from time to time. Perhaps we should consider having this course in Chemistry. BEB also mentioned oxygen displacement in labs and use of liquid helium. MSA felt that people who are handling cryogenics should have been on the safety course. PK pointed out this is covered in the safety handbook. EHSS are not experts in these courses but it costs more to bring in outside experts to give a higher level of expertise. MSA explained that following the fire and to comply with the safety audits, Schools must provide training for staff on safety procedures for whatever work they are carrying out. For example, if there was an accident involving cryogenics the insurance companies will ask if the person has had safety training in this. BEB thought it is better to train people “in house” and keep a record of that. RAA said that there is a centrally imposed regime of training being introduced following the fire.

RAA informed the committee that to prevent a recurrence of what led to the BMS fire it will be a requirement that any base bath be sited in an electrically powered fail-safe fire-proof box. Six of these are being manufactured and the first one should be ready to be deployed later this week and the rest soon after. A few groups will have to buy a new base bath that will fit the new box. The lid is held open by magnets and if a fire is detected it automatically shuts and seals the lid.

RAA showed the committee a glossy leaflet produced by EHSS to promote new nationally accredited health and safety courses that they can deliver. Dr Christine Linton has been trained to be a National Examination Board instructor. RAA thinks the courses are probably aimed at non-scientists who are safety coordinator for their residence or School in order to gain confidence. The courses are also offered externally.

PK brought up state of the fume hood in Theatre A. The water is not working, it's not the original light and there is a lot of material in it that has been there for years and it is not working – there is no airflow. PK wanted to do a demonstration that requires a fume hood in a lecture and he asked for it to be repaired. He was notified that it was repaired and it appeared to be working but when he did the demonstration, it wasn't working again. PK asked about the refurbishment of Theatre A but RAA wondered if this was in fact a health and safety issue or more related to policy regarding teaching facilities. RAA said he was happy to clear out the fume hood and dispose of any rubbish. He thought we should maintain the facility. SF knew that the electricians had reported to CAG that the fan on the roof was likely to fail again. It would need a whole new system, fan etc. SF doesn't know what has been done about this but RAA thinks this should be pursued via the teaching committee as it would need support from DoT and HoS to maintain the facility, given the cost. SF explained that there are plans to refurbish Purdie but Physics may be upgraded first of all. RAA feels Theatre A is a specific project but SF has no information on this. The Committee would support keeping the fume cupboard capability in Theatre A. MSA thought it would be useful to have a camera within the fume cupboard which could be shown on the main screen, however it was explained that it was usually a case of showing the demonstration to the class on the bench but then placing it in the fume cupboard afterwards. If there is going to be a refurbishment of Theatre A then we would need to make sure to request a new fume cupboard as it is unlikely to be replaced automatically.

[RAA]

R Alan Aitken
December 2019