Minutes of the 15th meeting of the Biosafety Committee of the University of Hong Kong. (A sub-committee of the Safety, Health and Environment Committee).

Held on Thursday, October 8th 2015, 11.00 a.m., Room 412 at Professorial Block, Queen Mary Hospital.

The following members were present:-

	Affiliation	Function/Role
Professor K.S-L.Lam	Medicine	Chairman
Dr E.K.M. Hau	Safety Office	Safety Office Rep
Dr. K.S. Lo	LAU	CULATR liaison etc.
Dr VCH Lui	Surgery	Medical Faculty Rep
Dr. Mike Mackett	Safety Office	Secretary (BSO)
Professor F. K.S. Leung	Education	Independent advisor
Professor G.S.W. Tsao	Anatomy	Medical faculty Rep
Ms Cindy Lee	School of Public Health	Technical Staff Rep

Apologies were received from. Dr C.F. Zhang (Dental Faculty Rep) and from Dr Hani El-Nezami (Science Faculty Rep).

These minutes follow the numbered points detailed in the meeting agenda.

1. Minutes of the 13th meeting of the Biosafety Committee (October 9th 2014)
The secretary reminded members that the minutes of the previous physical meeting were circulated in March 2015 and members approved them by e-mail. For completeness they were attached to the agenda as Appendix 1.

The chairman noted that the agenda did not mention the "14th meeting" which was conducted by e-mail. This note is to formally acknowledge that a series of items were circulated to committee members for information in March 2015 along with the minutes of the 13th meeting and that there was no further discussion of these items. The secretary said he had arranged for the agenda for the 14th meeting to be uploaded to the Safety Office website.

2. Matters arising from the minutes of the 13th meeting (action points etc.)
The secretary arranged for the minutes to be uploaded to the safety office website and circulated the guidance on Biosafety Level 2 to relevant departments.

3. Introductory course in biosafety
The secretary informed the meeting that the next introductory course in biological safety was to be held on the 13th of October 2015 and that around 20 students and staff had registered by the 25th of September. He also noted that the slides used in a previous session were uploaded to the Safety Office website and links to the courses four files could be found at: - http://www.safety.hku.hk/homepage/bio.html. The secretary

indicated he would update these files after the course and replace them with the ones used in the next course.

The secretary indicated that he was keen to improve training and awareness of biological safety in the University and solicited the committee's views. There was an extended discussion by members of various aspects of improved training and awareness. Committee member's acknowledged the trend towards training and assessment of the training being given on line. This improved accessibility and convenience for trainees and definitely gave more opportunities for improved awareness for various staff groups and students. The question of how to achieve this was also discussed and it was noted that the eLearning Pedagogical Support Unit (EPSU, located within the Centre for the Enhancement of Teaching and Learning of our University) is helping the LAU to develop an electronic interactive quiz for animal user training. It was also noted that the Safety Office does already have available on its website some on-line, stand alone, training topics intended for the use of Departmental Safety Representatives.

Some consideration was given to whether making the course compulsory for certain groups would be desirable (or even practical). A number of mechanisms for ensuring appropriate staff undertook the course was discussed including adding the course as a requirement for graduate students and checking whether they had taken it at progress report time. Ultimately the consensus appeared to be that who was required to take the course, when would best be discussed when a course was available. The committee encouraged the secretary to organize course materials and investigate the avenues for delivery of the training. The secretary agreed to start the process and report back to the committee.

4. Good Microbiological Practice

In an attempt to highlight one of the more important aspects of biological safety the committee considered a document entitled Good Microbiological Practice (GMP), which was a summary of the basics of GMP. It was hoped that having the document as stand alone information, separate from what is already in the biological safety policy, might be more useful for training and improving awareness of the importance of good techniques.

The committee endorsed the contents of the document while suggesting the second paragraph was deleted because all the information in it was in other parts of the document.
Mention was made of reference in the document to the use of Virkon because it may corrode metals and damage rubber. The secretary indicated he would look at the committee document on decontamination to see if it needed updating to include mention of this issue.

5. FACS sorting of unfixed cells

The secretary reminded the committee that at its 6th meeting in May 2010 we adopted the International Society for Analytical Cytology (ISAC) document [Schmidt et al (2007), Cytometry (A) 71(6):414-37] as University guidance on the fluorescent activated cell sorting (FACS) of unfixed materials. The secretary informed the committee that ISAC

had revised and updated the Standard. (Holmes et al (2014) Cytometry A. 85(5): 434–453. The update provides guidance on: (1) laboratory design for cell sorter laboratories; (2) the creation of laboratory or instrument specific Standard Operating Procedures (SOP); and (3) procedures for the safe operation of cell sorters, including personal protective equipment (PPE) and validation of aerosol containment. The secretary also noted that
the new guidance has arisen in part because of a more thorough characterization of aerosols capable of being produced by cell sorters (Holmes KL. (2011) Characterization of aerosols produced by cell sorters and evaluation of containment. J Int Soc Anal Cytol; 79A:1000–1008 – see Appendix 4).

The committee approved this new standard as the University guidance on FACS of unfixed cells. The secretary agreed to replace the original standard with the new one on the Safety Office website and to include with the standard the paper on characterization of the aerosols generated by FACS.

6. Use of Formaldehyde

The secretary informed the committee that the European Union had recently classified formaldehyde as a Category 1b carcinogen and that it appears its use for decontamination may well be phased out within 3-5 years if suitable alternatives are found. The secretary suggested that it was unlikely that Hong Kong will ban the use of formaldehyde it might be worthwhile investigating alternatives. A paper that is one of the few sources of direct comparisons of room decontamination methodologies was attached to the agenda (Comparison of multiple systems for laboratory whole room fumigation – Beswick et al (2011) Applied Biosafety: Journal of the American Biological Safety Association Volume 16, Number 3; 139-15).

The committee agreed to keep a watching brief on the issue and monitor whether best international practice moves away from using formaldehyde.

7. Dual Use Research of Concern

In the papers presented to the committee the secretary reminded committee members of the basic debate in the dual use context. This subject has been considered by the committee at a previous meeting but recently the US government has introduced a detailed and rigorous system of regulation for experiments considered to be dual use research of concern (DURC). Currently the requirements of the policy focuses on a subset of life sciences research that involves 15 agents and toxins and seven categories of experiments. Interestingly SARS and MERS are not on the list of agents but are covered by the White House announced moratorium on gain of function experiments (dealt with in the next item).

The secretary indicated that regulations require organisations to develop policies, practices, and procedures to ensure DURC is identified and risk mitigation measures are put in place - where applicable.

When last discussed the general consensus of the committee was that it was not so much a safety issue more an ethical one and this remained the committees view.

8. Update on the Gain of Function moratorium (For Information)
The secretary gave the committee an update on the now year long moratorium on specified gain-of-function (GOF) experiments. According to NIH the US government embarked on a deliberative process to re-evaluate the potential risks and benefits associated with gain-of-function (GOF) research involving pathogens with pandemic potential because of biosafety incidents and renewed concerns regarding laboratory safety. They stated that new government funding would not be released for GOF research projects that may be reasonably anticipated to confer attributes to influenza, MERS, or SARS viruses such that the virus would have enhanced pathogenicity and/or transmissibility in mammals via the respiratory route.

The National Science Advisory Board for Biosecurity (NSABB) who oversee the GOF work released a document in May 2015 entitled "Framework for conducting risk and benefit assessments of gain-of-function research" which was included in the meetings papers. This together with the findings of risk benefit analysis by an independent contractor (Gryphon Scientific) will form the basis of their advice to the US government. The secretary informed the committee of the expected timetable for the process and suggested the moratorium looks like remaining in place for at least another six months.

The secretary also indicated that alongside these US government plans there continues to be debate about the appropriateness of the moratorium with the publication of another paper from the Kawaoka laboratory (Ping et al (2015) "Development of high-yield influenza A virus vaccine viruses", Nature Communications 10.1038/ncomms 9148). Here he identifies 7 mutations in a vaccine strain (PR8), which allow higher yields of vaccine recombinants cultured in eggs (an exemption could probably have been obtained for this work).

The secretary agreed to monitor the situation and inform the committee of any developments.

9. Critical Infrastructure (For Information)
The committee was reminded that the BSL3 facility in the Faculty of Medicine building was visited in October 2013, during a planned service, by the police unit that has been set up to monitor the security of infrastructure in Hong Kong and that they consider this BSL3 to be “Critical Infrastructure” for Hong Kong. The committee was informed that Dr Poon notified the secretary of a visit by several police officers on Friday the 5th of June 2015 who carried out what they termed a 'Walkthrough Physical Security Assessment (WPSA)'. They indicated that after completing the WPSA, a security survey report with proposed security device/options/suggestions would be provided for consideration. They also said that the report would not be sent by e-mail but in the form of a letter. As of Friday 25th September the report has not been received. Committee members noted this inspection and asked whether the new Microbiology BSL3 facility at

QMH would also be considered critical? The secretary indicated he was unaware of the criteria the police applied but it may well also be inspected at some time in the future.

10. Dates of next meetings.

The next two Biosafety Committee meetings were tentatively scheduled for 10th March 2016 and the 6th October 2016. These dates will be confirmed nearer the time with committee members by e-mail.