APPENDIX A

THE UNIVERSITY OF HONG KONG

Biosafety Committee

Draft Minutes of the 5th Biosafety Committee Meeting, 23rd November 2009, Library, Safety Office, Cheung Yuet Ming Physics Building. 11.00-13.05.

Apologies were received from Professor Tsao and Ms Cindy Lee. The following members were present.

	Department	Function/Role
Professor F.C.C. Leung	Zoology	Chairman
Professor G. Srivastava	Pathology	Medical Faculty Representative
Dr. B.L. Lim	Zoology	Faculty of Science Representative
Dr. K.S. Lo	LAU	CULATR liaison etc.
Professor John Bacon-Shone	Social Sciences	Independent representative
Dr. Mike Mackett	Safety Office	Secretary (Biological Safety Officer)

1. Minutes of the 4th meeting of the Biosafety Committee (15th January 2009)
The committee confirmed the tabled minutes (Appendix A) of the Biosafety Committee Meeting, held on the 15th January 2009, as a true and accurate record. The summary of the 4th meeting and a consultation carried out by e-mail (prepared by the secretary and sent to the Safety Health and Environment committee) was tabled as Appendix A1 and noted by the meeting. It was seen as good practice for the committee to review any future summaries of minutes before they were sent to SHEC and the secretary agreed to circulate them if and when they were prepared.

2. Matters arising from the minutes of the 4th meeting.
The points for action in the minutes of the last meeting were reviewed.
(i) Under point 3 the Biological Safety Officer was encouraged to investigate the possibility of developing a detailed Biosafety course. He reported that the course is now offered through the graduate school as an optional component of students studies and the first batch of students finished last Monday 16th November. The dialogue that ensued is reported along with subsequent discussion under agenda point 4 (23rd Nov 2009).
(ii) under point 4 of the previous meeting (15th Jan 2009) it was noted that the secretary was to write a letter to the Department of Health (DoH) for clarification of a number of issues about the Quarantine and Prevention of Disease Regulations 2008. He did this, circulated it to members for comment and approval and has not yet heard back from the DoH.
(iii) under point 5 "Implementation of the Cartajena protocol" the secretary informed the meeting he was unaware of any progress in this area but expected the legislation to go to LegCo sometime in 2010.
(iv) under point 7 the brief summaries of the viral vector guidance have not yet been completed as the secretary's time has been taken up with developing the new biosafety course. The full documents will be uploaded to the Safety Office new website when it becomes live, shortly.

3. Discussion on the appropriate containment conditions for work with:-
a) Dengue virus (RG2 - work at BSL2)
b) Burkholderia pseudomallei (RG3 – some work at BSL2+)
c) Candida abicans; Candida spp (RG1- work at BSL1)
d) H1N1 pandemic influenza [RG3 – work at BSL3 (WHO) some work at BSL2 (CDC/NIH)]. This agent was added to this agenda point on the day of the meeting following discussion with Dr Poon from the Department of Microbiology on Friday 13th Nov.

The chairmen noted that he had what might be perceived as a conflict of interest as he had interests in working with Dengue and H1N1 influenza. It was also pointed out that the incidence of laboratory acquired infection with these agents is very low.

(a) It was noted that there was differences between jurisdictions in the categorization of work with Dengue virus. It was also noted that most countries where Dengue was endemic worked with the virus at BSL2 (e.g. Singapore, USA, Australia) whereas European countries worked at BSL3. One reason for this was felt to be the need to protect the environment in non-endemic areas. In Hong Kong Dengue can be caught locally, albeit rarely, and verbal advice from the Centre for Health Protection (CHP) suggested BSL3 might be appropriate. The consensus of the committee was that BSL2 was appropriate but that BSL3 work practices should be adopted. The committee also felt that it would be valuable to know the approach taken by sister institutions in Hong Kong

(b) It was noted that while *Burkholderia pseudomallei* is uniformly viewed as a risk group 3 agent it can be isolated from the environment in Hong Kong and that clinical laboratories (here and in South East Asia in general) are in the habit of handling this bacterium at BSL2. The point was made that growing large quantities in a laboratory is very different from diagnostic work. The consensus of the committee was that a case could be made for routine diagnostic work being carried out at BSL2 with BSL3 practices but that growth of large cultures (> 10ml?) would be more appropriate at BSL3.

(c) The issue of work with *C.albicans* and *Candida spp* was discussed briefly and it was agreed that while there is little real risk from these agents they do have the ability to cause disease particularly in immunocompromised individuals. The Biological Safety Officer said that BSL2 is used to handle a diverse group of agents from ones that cause mild disease e.g. rhinoviruses to agents that can under some circumstances kill e.g. diphtheria and measles. He therefore thought BSL2 was appropriate for Candida which can cause harm.

(d) The current WHO recommendations for work with pandemic H1N1 suggest that BSL3 is appropriate for working with this agent while the more recent guidelines from CDC/NIH indicate that BSL2 is appropriate for some operations. Following discussion the committee consensus was that diagnostic practices such as microneutralisation and small scale culture could be carried out at BSL2. It was also felt that large scale growth of this agent to high titre should still be carried out a BSL3.

For action
(1) The secretary to draft a letter, to sister institutions enquiring of their approach to classification of these agents. (2) Once in receipt of this information the secretary will approach CHP for clarification of their view of the appropriate containment for Dengue.

4. Report from the Biological Safety Officer (BSO) on the new Biosafety and Biosecurity course for graduate students.

The BSO reviewed the course by reference to materials presented in Appendix C which included an outline of the course and contents. A total of 32 students had enrolled and their final session was completed on Monday 16th November. Students were given two assignments. One was to risk assess their laboratory and their own work (in detail) the other was to design a safety poster or safety note to inform the university of a hazard they had identified.

A questionnaire given to the students on the first day revealed that very few of them were told by their supervisor to do the course, they appear to be motivated primarily by a desire to work safely. It was also noted that the students came from a wide spectrum of departments including some who do not handle any biological agents. Few were from the departments one might expect to be represented i.e. Microbiology and the School of Biological Sciences possibly because the course is an optional element and they felt their departments would cover the issues adequately. The initial survey also revealed that only 3 or 4 of the students would be using virus vectors.

It was noted that setting up the course as optional and only available through the Graduate School has some limitations. Firstly it means that students who would benefit from taking the course because they handle biological material may not take it and secondly there are staff members such as research assistants and technical staff who would also benefit but cannot take the course. The committee felt that it was important for all those who handle biological materials to take the course and encouraged the BSO to discuss with the Deans of Medicine and Science the possibility of making the course compulsory. The comment was made that it was wise to do this promptly before the faculties finalized their graduate programmes for the 2010/2011 academic year.

The BSO indicated that he agreed and will pursue this as an option. He also felt that this year has been very valuable as a dry run for a larger group that would result if the course were compulsory. The BSO also indicated that it was likely that a shorter course (3-6 hours) would be offered to relevant staff in the near future and he would also approach the deans to see if this could be done at the faculty level.

For Action.
The secretary to write to the Deans of Medicine and Science indicating that there was now a graduate school course in biological safety and that it was the committee's recommendation that it was made a compulsory component of Postgraduate studies for students who handled biological materials. The BSO will

also investigate the possibility of offering a shorter version of the course at the Faculty level.

5. Risk assessment forms for deliberate work with infectious agents and virus vectors.

A number of comments on the format and content of the risk assessment forms RA1, RA3, RA5 were discussed. Comment was made on the need for co-investigators to sign the assessment so that they were fully aware of the project, its risks and the appropriate control measures. Clarification of who else should sign was suggested and in particular it was felt the departmental safety representative should be aware of the work and hence be one of the signatories.

It was also noted that there are two more forms RA2 (for work with adeno-associated viruses) and RA4 (work with adenovirus) yet to be completed.

6. Accident reports
A verbal report was given by the Biological Safety officer summarizing accidents in Germany where the worker sustained a needlestick injury while working with ebolavirus and in Austria where a company had unwittingly distributed H5N1 in experimental vaccine batches to several laboratories in Europe. Several accidents in HKU with infectious agents, one involving *B. pseudomallei* and the other involving the escape in a Class 3 laboratory of a mouse infected three days previously with H5N1 were also discussed. One further accident in HKU was discussed and involved an exploding cryovial. A proposed circular to remind liquid nitrogen users of the risk was included as Appendix G.

7/8 Developments relating to Biological Safety
Several documents were tabled for information (Appendices H and I). These included i) information on New Canadian biological safety legislation ii) details of a European Committee on Standardization (CEN) workshop convened to define skills and tasks for the Biosafety professional and to develop a training curriculum iii) an open letter from the American Biosafety Association which refers to several high level reports in the USA on Biosafety as well as a summary of potential new legislation on weapons of mass destruction which includes biological agents iv) a paper titled "Synthetic recombinant bat SARS-like coronavirus is infectious in cultured cells and in mice" which is a follow on from an item presented at the last meeting on Synthetic Biology. The paper shows the power of advances in this area and illustrates the difficulties that arise in assessing the risk from particular agents.

9. Any other business
There was no other business and the date of the next meeting was not set.