CONTROLLED COPY Centre for Biological Engineering

Standard Operating Procedure

SOP199

Title: Procedure in event of air handler failure/malfunction.

Location: CBE Laboratories

1. PURPOSE

The intent of this SOP is to give a set of procedures to follow in the event of air handler units in the CBE failing or malfunctioning.

2. SCOPE

The air handler units (AHU's) that feed the CBE are used to maintain a positive pressure in the labs. This is something which prevents contaminants from entering the lab. The air changes in the lab also effectively increase ventilation in the lab and this helps to mitigate against hazardous work which is carried out in the lab.

These instructions are to give guidance to lab personnel and lab management. Ideally measures would be carried out by a senior/experienced member of staff in the event of AHU failure/malfunctioning but if required more junior staff should be able to carry out instructions outlined in this SOP.

3. RESPONSIBILITES

CBE Laboratory Users

Lab users should pay attention to any noticeable changes in the functioning of the AHU's in the CBE and notify lab management of this. Particular attention should be given to notifications of work or malfunctioning of AHU's.

Responsible Person (RP)/Laboratory Manager (LM)

Shall be aware of any maintenance work being carried out by FM which will affect the AHU functioning. The lab manager must inform lab personnel of problems with the AHU's so that they can adjust their work accordingly.

4. EQUIPMENT AND MATERIALS

Magnahelix gauges outside CBE lab entrance. AHU alert panel outside CTMF lab entrance.

5. PROCEDURE

- Lab management and lab personnel need to be aware when air pressures in the lab change. If it
 is noticed that the AHU's are not functioning correctly please notify the lab manager.
 Signs of this are listed below :-
 - the magnahelix gauges near the entrance of the CBE main labs vary greatly from the photograph of normal pressures expected, see Image 1 below. Near the handwash basin

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in the main office (H07) there is an alert panel for the CTMF AHU with lights for air supply and extraction. Green lights are good and red indicated there is no flow, see Image 2 below.



Image 1.

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Image 2.

- Doors of lab entrance doors staying open.
- Hearing the whistling of air flowing in or out of the labs.
- If a problem is reported Lab management should contact FM helpdesk (222121) or Carl Strong (FM engineer) (07895331889).
- If there is a power outage the AHU's will need to be manually switched back on, may need to phone the help desk to check this is being carried out.
- There may be occasions when the AHU's are off to carry out maintenance. This may sometimes happen at short notice. When the AHU's are off there are certain higher risk tasks which should not be carried out, and others where extra care must be taken. Please discuss any work with lab management.

The following precautions should be taken:

- Work with hazardous chemicals to stop as any spillage will cause more problems due to no air changes/lack of ventilation. This includes using hazardous chemicals in chemical fume cupboards.
- Work in externally ventilated Biological Safety Cabinets should be avoided if at all possible
 please discuss this with lab managers. In cases there are no recirculatory BSC's available extra care observing the correct functioning (flow rates etc.) must be performed.
- Work with class 2 biohazards and GMO's should be postponed until the AHU's are functioning again. If this is not possible discuss this with lab management or departmental safety officer.
- During the COVID-19 pandemic there are limits on lab users per lab. If the AHU's are off lab usage should be limited more as there will be much less ventilation – use of face masks may be used to mitigate against this.

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SOP Version History

Version Reviewed	Date Revised/ Reviewed	Revision Summary	New Version Number
		[Insert specific changes from previous SOP] < e.g. changes in accountabilities, process steps, deviation actions, or records>.	

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