

OCDEM, Churchill Hospital, Oxford OX3 7LE
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SOP number: OCDEM I 18

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Supercedes:

Power Failure and Liquid nitrogen within OCDEM: Action to be taken in the event of a power failure.

Within OCDEM there are four Taylor-Wharton K4 Series Liquid nitrogen storage units that are connected to the liquid nitrogen system and are filled daily via an automatic system, all house specimens which need to be kept within a limited temperature range.

Most units will stay below -160°C for a least a week as long as they are not opened; the bench mark for this are the manually filled units that are checked weekly and filled if the liquid level has dropped below a certain depth.

As samples are stored in the vapour phase this level can drop quite low without affecting the integrity of the sample.

There are spare -80°C freezers available in Lab F17; samples can be transferred on dry ice from liquid nitrogen to one of these freezers if required.

Maintained electrical supply

There are several areas within OCDEM that are on the maintained supply (Churchill emergency power supply); all the sockets are red but there are none within the liquid nitrogen room. It would not be feasible to move a liquid nitrogen freezer to an area with a maintained supply.

Unexpected power failure

All expected power interruptions should be notified to OCDEM before they occur. This is not always the case. If a known power cut is to occur the timer on the tanks can be overridden to force a fill before the power cut.

If there is an unexpected power failure within OCDEM the reason and estimated length of the failure needs to be discovered. The Oxford University Hospitals NHS Trust Estates department are most likely to have this information. If the reason for the power failure is 'off site' it might take them a while to discover and disseminate this information. The General Enquiry number for Estates is extension 25431.

DO NOT ENTER THE LIQUID NITROGEN ROOM to store samples, or use the manual fill. Samples can only be retrieved if all the contents of the freezer are being relocated.

The oxygen monitoring is on a battery back –up but the fans are not, so it is not possible to use the casual fill at this time.

In an emergency (i.e. the power outage has lasted several days) it is possible to add liquid nitrogen to an autofill tank by transferring from the manual fill point using a dewar; but this is not recommended practice and extreme care must be taken. The door and window must be propped open and a personal oxygen monitor must be worn. Full protective clothing must be worn as there is a high risk of splashes during this procedure. Permission **MUST** be obtained from the safety officer and Head of Department before undertaking this task.

Duration of power failure

Unless the power is likely to last for more than a few days it is not necessary to move any of the samples as there will be no effect on the samples integrity unless that unit has failed and needs replacing which will take longer than one week. (See separate SOP OCDEM I17 for unit failure).

Weekend and Holiday Failures

All Groups that store Relevant Material as defined by the Human Tissue Act have an alarm system attached to their freezers that will notify users via either an SMS text or via the hospital switchboard.

Emergency telephone numbers should be posted in every laboratory.

It is the individual Group's responsibility to maintain the integrity of their specimens, they must not expect other groups to start relocating all their freezers for them, but it will be expected that help should be extended to others. Each Group is large enough to have at least one or two people available to provide help in an emergency.

Power Failure and Liquid nitrogen within OCDEM – SOP I18:				Update
history				
Version	Date	Reason for update	Updated/reviewed by :	Date next review due
1	Sept 2016	New SOP	Author: Amy Barrett	Sept 2017