Maastricht University

Management procedure for -80°C and -20°C freezers

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This procedure applies to freezer appliances connected to Maastricht University's building management system.

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1. Safety of freezers

All freezers covered by the procedure are connected to Maastricht University's building management system (GBS). The status of the freezers is monitored via the GBS. A malfunction is triggered when a threshold value is exceeded. The threshold temperature of the freezer must be set at 5°C or more above the set temperature (low alarm) and 10°C or more below the set temperature (high alarm) of the set value, for example: set value -80°C, low alarm -85°C, high alarm -70°C.

When a threshold value is exceeded, an alert is sent to the GBS after a built-in one hour delay.

Sections 3 and 4 explain how follow-up is conducted after a malfunction.

2. Responsibilities

- The manager of the freezer is responsible for the contents of the freezer.
- Facility Services (FS) is responsible for coordinating and performing follow-up for malfunctions occurring outside of office hours (see 3.2 for more information on follow-up action).
- Instrument Services-IDEE (IS-IDEE) is responsible for follow-up of malfunctions during working hours (08:00 until 16:30) in addition to repair work and coordination of technical and preventive/corrective maintenance on the freezers. IS-IDEE can be contacted during office hours on 043-3881295 or 043-3883456.

2.1 Responsibilities of manager of -80°C/-20°C freezer

a) At all times, the manager of the freezer is responsible for the materials present in the freezer. Consequently, it is their duty to transfer the contents of the malfunctioning freezer to the back-up freezer. If the manager requires a higher level of security of the relevant research materials, it is advisable to consider storing the research materials in a freezer at the Central Biobank. To this end, the manager must contact the Biobank.
b) The manager of the freezer is advised to spread valuable research materials across multiple freezers.
c) The manager of the freezer must exercise extreme care when opening and closing the freezer. The door must always be closed carefully.
d) The manager of the freezer must ensure that a calling list is attached to every freezer. The manager is also responsible for keeping this calling list up to date and ensuring the contactability of at least one person on this list.
e) In the event of malfunction notifications outside of office hours, the contacted person must be decide for themselves at what time they will be present at the freezer. Note that a -80°C freezer warms up by about 5°C per hour.
f) For access to the building, the contact person must contact MUMC+ Security Control Room at 043-3875566. Staff members are not permitted to enter the building alone.

g) The manager of the freezer must regularly check whether the alarm of the freezer is in working order. To do this, press the alarm test / mute button, after which the acoustic alarm will sound.
h) The manager must regularly check whether the set temperature threshold value is correct.
i) The manager of the freezer must regularly check for icing below the air vent hose. If any icing is discovered, it is recommended to remove it at once.
j) The manager of the freezer must regularly check the door of the freezer or the lid of the chest for icing. If any icing is discovered, it is recommended to remove it at once.
k) The manager must regularly clean the filter of the condenser.
l) The manager of the freezer is responsible for cleaning (and if necessary disinfecting) both the malfunctioning and the back-up freezer prior to delivering them to IS-IDEE. The manager must then sign this off on the disinfection card.

Please note!
Only IS-IDEE employees or the relevant on-call employees have permission to disconnect/connect the 'manager's freezers' and the 'back-up freezer' from/to the mains and the GBS.

2.2 Responsibilities of Facility Services

a) Regarding malfunctions of freezers, FS has a duty to perform to the best of its ability, which means that insofar as this is adequate, FS will do its utmost to help the manager resolve the malfunction / remedy the problem.
b) If, when a malfunction occurs, nobody on the calling list can be contacted (see flow chart), FS's responsibility for any further follow-up of the malfunction protocol thereby ceases. The manager of the relevant freezer is responsible for any further risk and consequential damage.
c) Once a year, FS checks whether the GBS connection to a freezer is in good working order, i.e. an end-to-end test is conducted to ensure that the alert is registered by the GBS with the correct code. FS registers this test in a log.

2.3 Responsibilities of Instrument Services-IDEE

a) IS-IDEE is required to perform yearly maintenance on all freezers connected to the GBS. This maintenance includes a check of the alarm functions. Reports of every service are digitally registered at IS-IDEE.
b) IS-IDEE manages a list of the rooms containing freezers connected to the GBS.
c) IS-IDEE is responsible for both management and lending of back-up freezers. In this context, IS-IDEE is responsible for keeping an updated list of back-up freezers (including registration of the room numbers and whether the freezers are in use). Current lists are posted at FS Chalet/Keet and IS-IDEE on or near the door of rooms G0.225/G0.219 UNS50.
d) IS-IDEE will ensure that a limited number of back-up freezers are available.
e) A back-up freezer *(in case of maintenance work)* may be held in the ward for no longer than 24 hours. If the manager wishes to use the back-up freezer for a longer period than the stipulated 24 hours or to use it until the next working day, he must liaise with IS-IDEE the next working day (i.e. counting from the moment when the back-up freezer arrives in the ward). IS-IDEE reserves the right to charge the manager a particular amount for every 24-hour period beyond the aforementioned 24-hour period during which the back-up freezer is in the ward.

Please note!
The back-up freezers have particular storage capacities and arrangements. In view of the great diversity in freezers present it cannot be guaranteed that the full contents (volume and storage systems) will fit in the available back-up freezer. The biggest models of -80°C freezers are a 725-litre upright type and a 760-litre chest type.
For the -20°C freezers, only one back-up freezer is available, which must be returned to IS-IDEE within 12 hours or on the next working day.

3. Follow-up of malfunctions

In the case of a malfunction in -80°C and -20°C freezers connected to the GBS, the type of follow-up required depends on the day and the time of the malfunction.

1. Malfunction on a working day during office hours (between 08:00 and 16:30).
2. Malfunction outside office hours, at weekends or on public holidays.

3.1 Malfunctions during office hours

If a freezer malfunctions during office hours, it will be detected either by the GBS or by the user. The GBS/user will then notify IS-IDEE.
IS-IDEE analyses the malfunction and goes to the relevant room to check the situation. If the IS-IDEE employee deems it necessary, a back-up freezer will be placed in the relevant room the same morning/afternoon. IS-IDEE will then connect the freezer to the mains and the GBS.
The manager is responsible for the contents of the freezer and consequently is solely and exclusively responsible for transferring the contents of the freezer to the back-up freezer.
IS-IDEE will then take care of the transport and repair of the malfunctioning freezer.

3.2 Malfunctions outside office hours, at weekends or on public holidays.

FS will be notified of the malfunction via an alert to the GBS, or in the event that it is detected by a user/security officer, this person will notify the MUMC+ Security Control Centre (043-38 75566). When doing so, it is vital that the following data is provided accurately:

1. Building
2. Room number
3. Which freezer is malfunctioning
4. Name of reporting person

The MUMC+ control room communicates the malfunction to the FS on-call contractor. The FS on-call service always attends together with a security officer to gain access to the building and the affected area.

The on-call technician of the external FS supplier analyses the malfunction and proceeds to the relevant area, assesses the room classification, and, if necessary, initiates further actions to inspect the situation on site.

If the on-call technician deems it necessary, the freezer manager is contacted (based on the call list present on the freezer) and a backup freezer is placed in the relevant area. The on-call technician subsequently connects the backup freezer to both the mains power supply and the BMS.

If the manager is contacted, they can register for building access via the MUMC+ control room at 043-3875566 and enter the building together with the security officer.

If no one listed on the call list responds and the on-call technician has made multiple attempts to reach the listed contact persons, the service provision will be discontinued.

The manager is responsible for the contents of the freezer and is therefore solely responsible for transferring the contents from the defective freezer to the backup freezer. FS provides feedback on the malfunction to IS-IDEE, which will arrange transport and repair of the defective freezer on the next working day.