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**DNA BANK BEST PRACTICE MANUALS**

**FREEZER ALARM ROUTINES**

**PREAMBLE**

Most of the freezers, and cold and freezer rooms, in floors K1 and K2 of the Zoological Museum (ZM) at NHM are connected to the central alarm system (SD) at UiO. The current Best Practice Manual describes:

- General routines for the freezer alarm system at NHM
- Routines for handling of real alarms
- Special routines during holidays etc.
- Contact info for local contact persons

An updated list of connected units and contact persons can be found in the same location as the current BPM: [Y:\DNA Bank Open\Freezer alarms\Freezer alarms Zoological Museum NHM.xlsx](#).

The BPM and list is maintained by the Head of freezer alarms but available to all NHM personnel.

**GENERAL ROUTINES FOR THE FREEZER ALARM SYSTEM AT NHM**

All ultra freezers (-80°C), most regular freezers (-20°C) in floors K1 and K2 and the cold and freezer rooms in floor K2 of the ZM (see [Appendix 1](#) for complete list) are connected to the central alarm system (SD) at UiO. In the case of an alarm, this will be responded upon by the UiO Security Operation Center (SECURITY) and the Person in charge (PIC) (see [Appendix 2](#)) will be contacted:

- During normal working hours, SECURITY will contact the Estate Department (EA) locally at the ZM and they will then try to locate the PIC or other contacts listed
- Outside normal working hours SECURITY will contact the PIC or other contacts listed directly

SMS messages will also be sent out by the SD system to the persons listed as receivers of such messages (see below and [Appendix 3](#)).

**ACCESS TO THE SD SYSTEM**

In addition to personnel at SECURITY and local representatives of EA, the following local personnel have access to the SD system (see [Appendix 2](#) for contact details):

- Lars Erik Johannessen – Head of freezer alarms; DNA Bank technical curator
- Jarl Andreas Anmarkrud – Head of DNA Lab

This access includes the possibility to;

- Monitor and change alarm status (ON/OFF) for all units
- View current temperature for all regular freezers (-20°C) and one of the cold rooms (ZM0013)
- View current room temperature for the rooms containing most of the freezers (ZM0002, ZM011A, Room 103 in the backyard) and room ZM005 (DNA sequencing lab)
- Plot recorded temperature over time for a selection of the units

## WHEN AN ALARM IS TRIGGERED

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Once an alarm is triggered, it will appear in the SD system, SMS messages will be sent out, and SECURITY will respond to the alarm as described above. **The alerted local personnel should then inspect the unit in question to determine whether the alarm is real or false** (i.e. because someone have kept the lid open too long or similar);

- If the alarm is real, the procedure outlined below should be followed
- If the alarm is false, the local personnel should see to that the alarm gets acknowledged in the SD system (by contacting someone with access to the system)

## SMS WARNINGS

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When an alarm is set off, SMS messages will automatically be sent out to the persons registered in the SD system as receivers of SMS warnings for the unit in question (see [Appendix 3](#)). Also, when the alarm is acknowledged (i.e. cleared out) in the SD system, a new message will be sent.

The messages contain only the technical ID of the unit and a short message. Alarms for the Bank01 freezer will thus look like this:

**Alarm set off:** +TO05=359.01-GF801 Alarm Fryser

**Alarm acknowledged:** +TO05=359.01-GF801 ->Normal

It is important that receivers of SMS warnings at any time are able to translate the technical codes into meaningful unit names to enable proper responses to be made. This may e.g. be achieved by always keeping a copy of [Appendix 3](#) available.

## ROUTINES FOR HANDLING OF REAL ALARMS

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If an alarm is found to be real, i.e. the temperature is above the set maximum temperature (see [Appendix 1](#)), the following procedure should be followed:

1. Establish what the normal temperature of the failed freezer should be (-20°C or -80°C; see info sign at the lid/door or control box of the unit or [Appendix 1](#)) and locate other units at the same temperature with vacant space, to which the content of the failed unit can be moved ) [Appendix 1](#)). Head of freezer alarms can provide advice on this issue.
2. Move all content of the failed unit to the vacant space located. If possible, try to transfer any racks and other units intact as they are to the new freezer, to avoid creating unnecessary caos.
3. **If the failed unit is a -80°C freezer and it contains any material of Priority 1 (labelled with red tape on top of the rack), this material should be prioritized and moved as quickly as possible to another -80°C unit!** If necessary, other non-prioritized material may have to be moved from another -80°C unit to give space for the Priority 1 material.
4. For material from -20°C units, and for material from -80°C units other than Priority 1, the freezer room (ZM0004, -20°C) may also be an alternative location. If this is used, make sure that the material is kept together as far as possible and clearly labelled!
5. If the PIC for the failed unit has not taken part in the above procedure, he/she should be informed about what actions have been taken, including where the content has been moved to.

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## **SPECIAL ROUTINES DURING HOLIDAYS ETC.**

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If a PIC plan to be away and unable to respond to alarms for a few days, one of the other PICs should be informed about the situation so that they can respond accordingly in case of an alarm.

If a PIC plan to be away and unable to respond to alarms for more than a week, a Deputy PIC should be appointed for the units in question. This person must have access to all rooms containing affected freezer units. The PIC is responsible for that the Head of freezer alarms is informed about the duration of the absence and name and contact details of the Deputy, so that the SD system can be updated accordingly.

The Head of freezer alarms is responsible for that the following steps are accomplished:

1. Update the SD system
2. Update the Excel file <Y:\DNA Bank Open\Freezer alarms\Freezer alarms Zoological Museum NHM.xlsx>
3. Inform current Persons in charge, local leaders and the local EA about the situation
4. Ensure that the Deputy PIC is familiar with the procedures for handling of freezer alarms (the current BPM)

## APPENDIX 1: FREEZER UNITS ETC. CONNECTED TO CENTRAL SD ALARM SYSTEM

Details					Freezer alarms - Zoological Museum, NHM (TØ05)						
Unit technical name	Floor	Room code	Room name	Unit name	Normal temp.	Max. temp.	SMS warning	Person in charge	Contact 2	Contact 3	Contact 4
TØ05=563.04-RT601	K1	ZM005	DNA sequencing lab	Room temp. ZM005				Jarl Andreas Anmarkrud	LEJ	AJ	LGK
TØ05=359.02-GF201	K1	ZM011A	Machine room	Lab01	-20	-15	X	Jarl Andreas Anmarkrud	LEJ	AJ	LGK
TØ05=359.02-GF202	K1	ZM011A	Machine room	Lab02	-20	-15	X	Jarl Andreas Anmarkrud	LEJ	AJ	LGK
TØ05=359.02-GF203	K1	ZM011A	Machine room	Lab03	-20	-15	X	Jarl Andreas Anmarkrud	LEJ	AJ	LGK
TØ05=359.02-GF801	K1	ZM011A	Machine room	Lab04	-80		X	Jarl Andreas Anmarkrud	LEJ	AJ	LGK
TØ05=563.02-RT601	K1	ZM011A	Machine room	Room temp. ZM011A				Jarl Andreas Anmarkrud	LEJ	AJ	LGK
TØ05=563.02-RY601	K1	ZM011A	Machine room	CO2 alarm				Jarl Andreas Anmarkrud	LEJ	AJ	LGK
TØ05=359.04-GF201	K1	ZM013	Bjørn Aksels office	Tax01	-20	-15	X	Lars Erik Johannessen	JAA	AJ	LGK
TØ05=359.04-GF202	K1	ZM017	Taxidermy workshop	Tax02	-20	-15	X	Lars Erik Johannessen	JAA	AJ	LGK
TØ05=359.04-GF203	K1	ZM025	Kokerrommet	Tax03	-20	-10	X	Lars Erik Johannessen	JAA	AJ	LGK
TØ05=359.03-GF201	K1 Backyard	Room 103	Backyard, Room 103	Ute01	-20	-15	X	Lars Erik Johannessen	JAA	AJ	LGK
TØ05=359.03-GF202	K1 Backyard	Room 103	Backyard, Room 103	Ute02	-20	-15	X	Lars Erik Johannessen	JAA	AJ	LGK
TØ05=359.03-GF203	K1 Backyard	Room 103	Backyard, Room 103	Ute03	-20	-15	X	Lars Erik Johannessen	JAA	AJ	LGK
TØ05=563.03-RT601	K1 Backyard	Room 103	Backyard, Room 103	Room temp. Rom 103				Lars Erik Johannessen	JAA	AJ	LGK
TØ05=359.01-GF201	K2	ZM0002	Dyrestallen	Bank05	-20	-15	X	Lars Erik Johannessen	JAA	AJ	LGK
TØ05=359.01-GF202	K2	ZM0002	Dyrestallen	Bank06	-20	-15	X	Lars Erik Johannessen	JAA	AJ	LGK
TØ05=359.01-GF801	K2	ZM0002	Dyrestallen	Bank01	-85	-75	X	Lars Erik Johannessen	JAA	AJ	LGK
TØ05=359.01-GF802	K2	ZM0002	Dyrestallen	Bank02	-85	-75	X	Lars Erik Johannessen	JAA	AJ	LGK
TØ05=359.01-GF803	K2	ZM0002	Dyrestallen	Bank03	-82	-72	X	Lars Erik Johannessen	JAA	AJ	LGK
TØ05=359.01-GF804	K2	ZM0002	Dyrestallen	Bank04	-85	-75	X	Lars Erik Johannessen	JAA	AJ	LGK
TØ05=359.01-GF805	K2	ZM0002	Dyrestallen	Bank07	-85	-75	X	Lars Erik Johannessen	JAA	AJ	LGK
TØ05=359.01-GF806	K2	ZM0002	Dyrestallen	Bank08	-85	-75	X	Lars Erik Johannessen	JAA	AJ	LGK
TØ05=563.01-RT601	K2	ZM0002	Dyrestallen	Room temp. ZM0002				Lars Erik Johannessen	JAA	AJ	LGK
TØ05=353.01-OU001	K2	ZM0004	Freezer room	ZM0004	-22	-12	X	Bjørn Aksel Bjerke	LEJ	LGK	AJ
TØ05=352.01-OU001	K2	ZM0005	Cold room 1	ZM0005	4	14	X	Bjørn Aksel Bjerke	LEJ	LGK	AJ
TØ05=352.01-OU002	K2	ZM0010	Cold room 2	ZM0010	4	14	X	Bjørn Aksel Bjerke	LEJ	LGK	AJ
TØ05=352.01-RT601	K2	ZM0013	Cold room 3 (LFI)	ZM0013	4	15	X	Bjørn Aksel Bjerke	LEJ	LGK	AJ

**APPENDIX 2: PERSONS IN CHARGE, OTHER CONTACT PERSONS AND CONTACT INFO**

Contact persons					Freezer alarms - Zoological Museum, NHM (TØ05)				
Group	Technical room code	Room name	Room codes	Function	Initials	Name	Office phone	Cell phone	E-mail
1	359.01	Dyrestall K2	ZM0002	Person in charge	LEJ	Lars Erik Johannessen	22851801	97786872	<a href="mailto:l.e.johannessen@nhm.uio.no">l.e.johannessen@nhm.uio.no</a>
	359.03	Back yard	Room 103	Contact 1	JAA	Jarl Andreas Anmarkrud	22851866	90120834	<a href="mailto:j.a.anmarkrud@nhm.uio.no">j.a.anmarkrud@nhm.uio.no</a>
	359.04	Taxidermy rooms	ZM013, ZM017, ZM025	Contact 3	AJ	Arild Johnsen	22851860	45295663	<a href="mailto:arild.johnsen@nhm.uio.no">arild.johnsen@nhm.uio.no</a>
				Contact 4	LGK	Liv Guro Kvernstuen	22851683	95126261	<a href="mailto:l.g.kvernstuen@nhm.uio.no">l.g.kvernstuen@nhm.uio.no</a>
2	359.02	Machine room	ZM011A	Person in charge	JAA	Jarl Andreas Anmarkrud	22851866	90120834	<a href="mailto:j.a.anmarkrud@nhm.uio.no">j.a.anmarkrud@nhm.uio.no</a>
				Contact 1	LEJ	Lars Erik Johannessen	22851801	97786872	<a href="mailto:l.e.johannessen@nhm.uio.no">l.e.johannessen@nhm.uio.no</a>
				Contact 3	AJ	Arild Johnsen	22851860	45295663	<a href="mailto:arild.johnsen@nhm.uio.no">arild.johnsen@nhm.uio.no</a>
				Contact 4	LGK	Liv Guro Kvernstuen	22851683	95126261	<a href="mailto:l.g.kvernstuen@nhm.uio.no">l.g.kvernstuen@nhm.uio.no</a>
3	352.01	Cold rooms	ZM0005, ZM0010, ZM0013	Person in charge	BAB	Bjørn Aksel Bjerke	22851837	95204891	<a href="mailto:b.a.bjerke@nhm.uio.no">b.a.bjerke@nhm.uio.no</a>
	353.01	Freezer room	ZM0004	Contact 1	LEJ	Lars Erik Johannessen	22851801	97786872	<a href="mailto:l.e.johannessen@nhm.uio.no">l.e.johannessen@nhm.uio.no</a>
				Contact 3	LGK	Liv Guro Kvernstuen	22851683	95126261	<a href="mailto:l.g.kvernstuen@nhm.uio.no">l.g.kvernstuen@nhm.uio.no</a>
				Contact 4	AJ	Arild Johnsen	22851860	45295663	<a href="mailto:arild.johnsen@nhm.uio.no">arild.johnsen@nhm.uio.no</a>
<b>Contact details</b>									
Initials	Name	Office phone	Cell phone	Cell phone 2	E-mail				
LEJ	Lars Erik Johannessen	22851801	97786872		<a href="mailto:l.e.johannessen@nhm.uio.no">l.e.johannessen@nhm.uio.no</a>				
JAA	Jarl Andreas Anmarkrud	22851866	90120834	93299849	<a href="mailto:j.a.anmarkrud@nhm.uio.no">j.a.anmarkrud@nhm.uio.no</a>				
BAB	Bjørn Aksel Bjerke	22851837	95204891		<a href="mailto:b.a.bjerke@nhm.uio.no">b.a.bjerke@nhm.uio.no</a>				
AJ	Arild Johnsen	22851860	45295663		<a href="mailto:arild.johnsen@nhm.uio.no">arild.johnsen@nhm.uio.no</a>				
LGK	Liv Guro Kvernstuen	22851683	95126261		<a href="mailto:l.g.kvernstuen@nhm.uio.no">l.g.kvernstuen@nhm.uio.no</a>				

## APPENDIX 3: SMS WARNINGS

SMS warning		Freezer alarms - Zoological Museum, NHM (TØ05)						
Units with SMS warning					SMS sent to			
Technical ID (used in SMS)	Floor	Room name	Room code	Person in charge	LEJ	JAA	BAB	Unit name
TØ05=359.02-GF201	K1	Machine room	ZM011A	Jarl Andreas Anmarkrud	X	X		Lab01
TØ05=359.02-GF202	K1	Machine room	ZM011A	Jarl Andreas Anmarkrud	X	X		Lab02
TØ05=359.02-GF203	K1	Machine room	ZM011A	Jarl Andreas Anmarkrud	X	X		Lab03
TØ05=359.02-GF801	K1	Machine room	ZM011A	Jarl Andreas Anmarkrud	X	X		Lab04
TØ05=359.04-GF201	K1	Bjørn Aksels office	ZM013	Lars Erik Johannessen	X		X	Tax01
TØ05=359.04-GF202	K1	Taxidermy workshop	ZM017	Lars Erik Johannessen	X		X	Tax02
TØ05=359.04-GF203	K1	Kokerommet	ZM025	Lars Erik Johannessen	X		X	Tax03
TØ05=359.03-GF201	K1 Backyard	Backyard, Room 103	Room 103	Lars Erik Johannessen	X	X		Ute01
TØ05=359.03-GF202	K1 Backyard	Backyard, Room 103	Room 103	Lars Erik Johannessen	X	X		Ute02
TØ05=359.03-GF203	K1 Backyard	Backyard, Room 103	Room 103	Lars Erik Johannessen	X	X		Ute03
TØ05=359.01-GF201	K2	Dyrestallen	ZM0002	Lars Erik Johannessen	X	X		Bank05
TØ05=359.01-GF202	K2	Dyrestallen	ZM0002	Lars Erik Johannessen	X	X		Bank06
TØ05=359.01-GF801	K2	Dyrestallen	ZM0002	Lars Erik Johannessen	X	X		Bank01
TØ05=359.01-GF802	K2	Dyrestallen	ZM0002	Lars Erik Johannessen	X	X		Bank02
TØ05=359.01-GF803	K2	Dyrestallen	ZM0002	Lars Erik Johannessen	X	X		Bank03
TØ05=359.01-GF804	K2	Dyrestallen	ZM0002	Lars Erik Johannessen	X	X		Bank04
TØ05=359.01-GF805	K2	Dyrestallen	ZM0002	Lars Erik Johannessen	X	X		Bank07
TØ05=359.01-GF806	K2	Dyrestallen	ZM0002	Lars Erik Johannessen	X	X		Bank08
TØ05=353.01-OU001	K2	Freezer room	ZM0004	Bjørn Aksel Bjerke	X		X	ZM0004
TØ05=352.01-OU001	K2	Cold room 1	ZM0005	Bjørn Aksel Bjerke	X		X	ZM0005
TØ05=352.01-OU002	K2	Cold room 2	ZM0010	Bjørn Aksel Bjerke	X		X	ZM0010
TØ05=352.01-RT601	K2	Cold room 3 (LFI)	ZM0013	Bjørn Aksel Bjerke	X		X	ZM0013
<b>Contact info</b>								
Name	Office phone	Cell phone	E-mail					
Lars Erik Johannessen	22851801	97786872	l.e.johannessen@nhm.uio.no					
Jarl Andreas Anmarkrud	22851866	90120834	j.a.anmarkrud@nhm.uio.no					
Bjørn Aksel Bjerke	22851837	95204891	b.a.bjerke@nhm.uio.no					