



SAAO Daily Rounds Standard Operating Procedure

Title: Daily Rounds Checklist

Document Number:

Personnel authorized to perform procedure: SAAO Technical Operations Staff, SITE staff, In-service students

Date: 11 February 2020

Prepared by: Reginald Klein

Signature:

Checked by:

Signature:

Approved by:

Signature:

VERSION HISTORY

Document Number	Author	Version	Date	Change History

ACRONYMS AND ABBREVIATIONS

NRF	National Research Foundation
SAAO	South African Astronomical Observatory
SOP	Standard Operating Procedure

DEFINITIONS

PPE	Personal Protective Equipment
LN2	Liquid Nitrogen
TECS	Telescope Emergency Communication System

TABLE OF CONTENTS

1. Purpose.....4

2. Constraints and Warnings4

3. Technician Daily checklist5

 3.1 1.9M Telescope (74") 5

 3.2 Meerlich.....8

 3.3 KMT-Net.....8

 3.4 Lesedi.....9

 3.5 1.0M Telescope (40")11

 3.6 MONET.....14

 3.7 OXWAGEN.....14

 3.8 IRSF.....15

 3.9 LCO.....19

 3.10 KELT - South19

 3.11 BISON20

 3.12 ACT.....21

 3.13 Xami di Mura (SuperWasp)21

 3.14 DLR22

 3.15 SOLARIS.....23

 3.16 MASTER.....23

 3.17 GFZ.....24

1. Purpose

The purpose of this document is to provide checklists specific to the Daily Rounds, morning and/or afternoon.

2. Constraints and Warnings

- * These checks should only be undertaken by trained personnel.
- * The right PPE must be used to fill LN2.
- * The limit for STE3, STE4 and SpUpNIC temperature is 240K. If both tank and Cu Block temperature is above 240K, the CCD must be warm up completely and go on the vacuum pump.
- * Report all faults on the fault forum at <https://faultreports.sao.ac.za/index.php>

3. Technician Daily checklist

The following checks must be performed daily on the specific telescopes.

3.1 1.9M Telescope (74")



(In the morning):

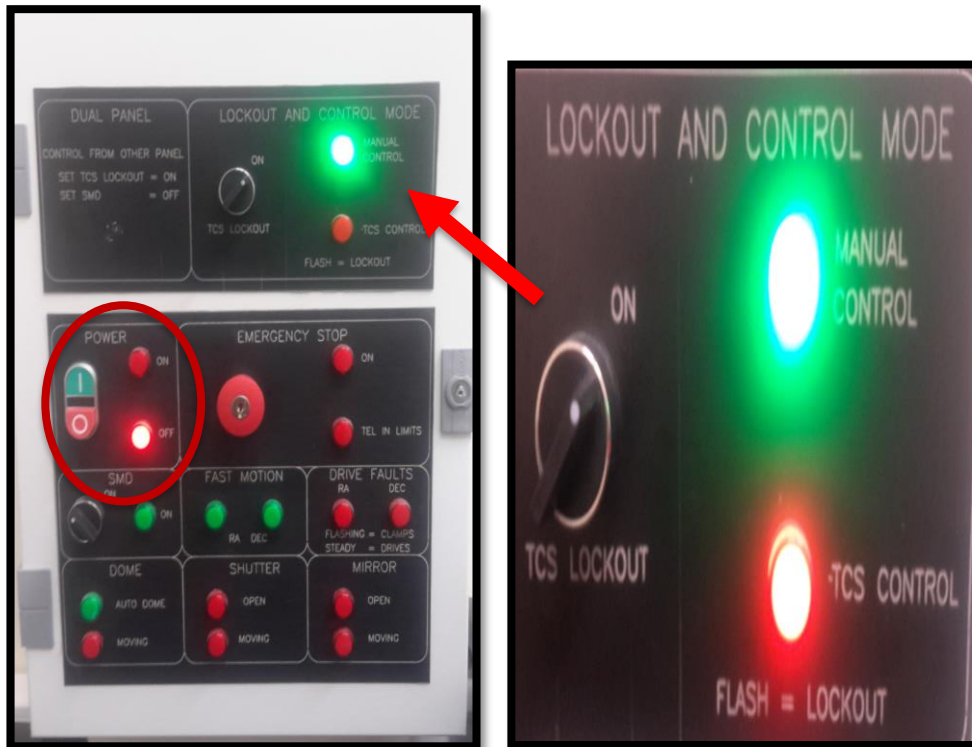
1. Check that the dome is completely **CLOSED**.
2. Ensure the telescope is parked at **Zenith (HA 00 00 00; DEC -32 00 00)**.



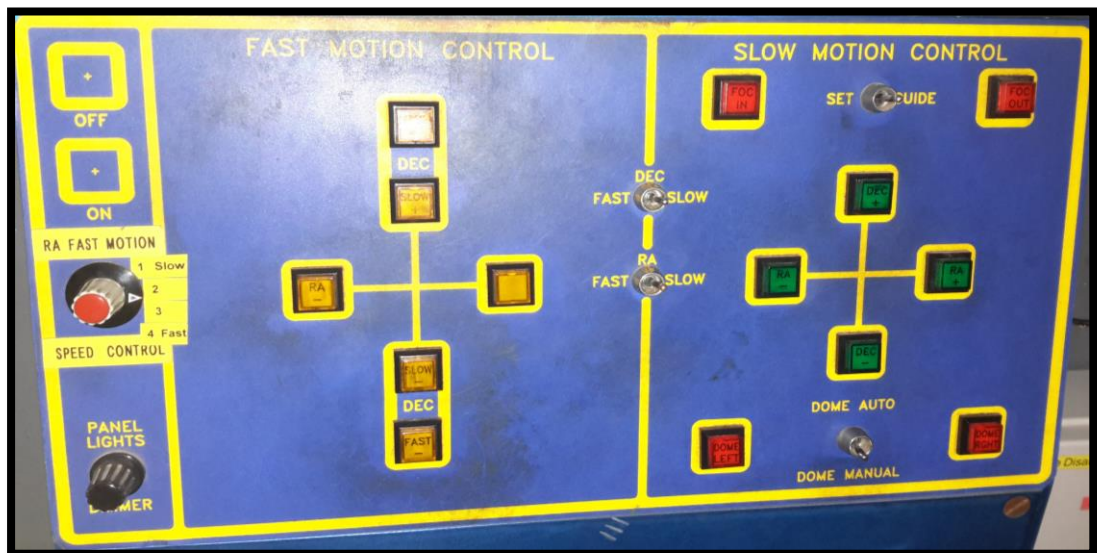
3. If SpUpNIC ON - Check CCD temperature and fill with LN2



- Check telescope is switched **OFF** and the '**Lock-Out**' switch is **ON** (TCS light must be flashing)



– If telescope is **on**, check that telescope is parked in **SLOW** motion and mirror cover is **closed**, and switch OFF



- Check trip switches in DB box has not tripped.

(In the afternoon):

1. If SpUpNIC ON – Check CCD temperature and fill with LN2.
2. Ensure all lights are switched **OFF**.

Special Notes:

- Test the **TECS** system – **every THURSDAY**



- Collect completed observing records from dome every Wednesday, take to Elizabeth at the Hostel, and ensure there are empty Observing Records in the dome. Observing Records can be printed at https://www.saa0.ac.za/wp-content/uploads/2019/09/observing_record.pdf
- Also make sure to complete the electronic checklist for the daily rounds. A QR code is available on the entrance door to the dome, as well as below with the link:

Link: <https://forms.gle/UaiRrTnzLedyCoVD8>



- If remote observations is going to take place, please consult the '**Remote observing SOP**'.

3.2 Meerlich



(In the morning):

1. Check the dome is completely **CLOSED**.

3.3 KMT-Net



(In the morning):

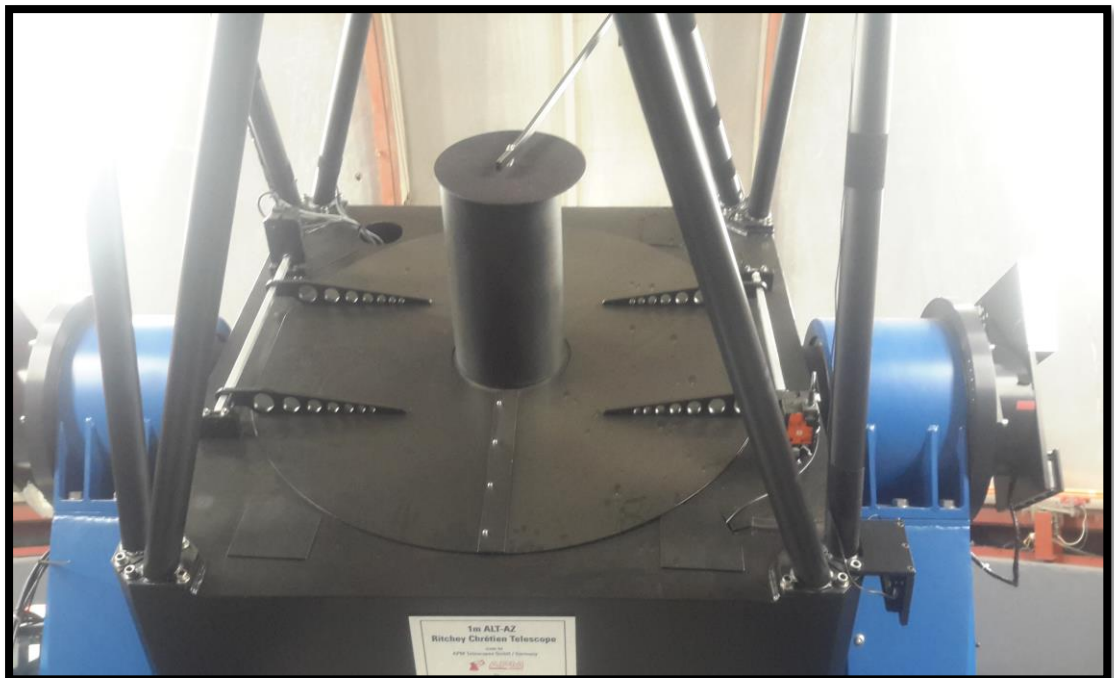
1. Check dome is completely **CLOSED**.
2. Test TECS system – **every THURSDAY**.

3.4 Lesedi



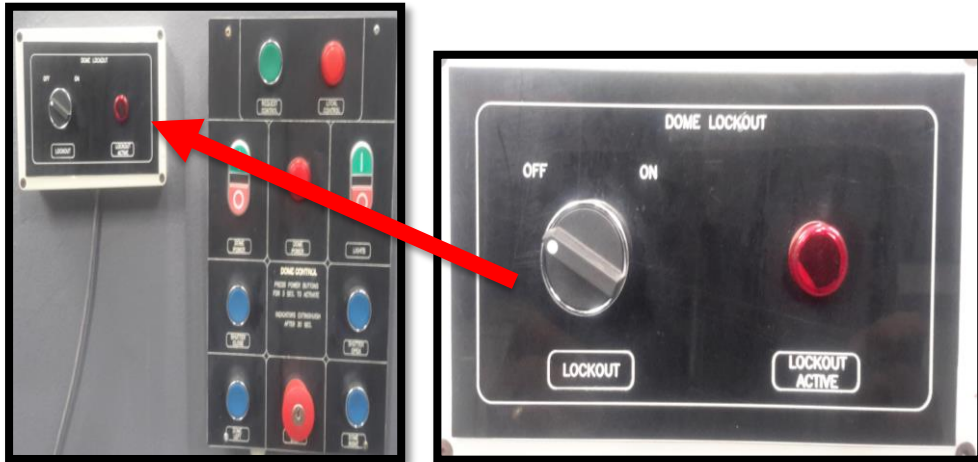
(In the morning):

1. Check the dome is completely **CLOSED**.
2. Check dome is parked, facing **WEST**.
3. Check mirror & baffle covers is closed



4. Check telescope parked facing **East**, tube 50 degrees above horizon.
5. Check for nothing unexpected (e.g. parts fallen from telescope or dome).
6. Check cables under telescope not twisted.

7. Ensure dome 'Lock-out' off



8. Ensure Fluorescent lights and slew lights switched **OFF**.

9. Ensure main lighting circuit isolator off (**by front door**).

(In the afternoon):

1. Check mirror & baffle covers closed
2. Ensure dome 'Lock-out' **OFF**
3. Ensure observing floor clear of ladders etc.
4. Ensure nothing unexpected (e.g. parts fallen from telescope or dome).
5. Ensure main lighting circuit isolator off (**by front door**).

Special Notes:

- Test the **TECS** system – **every THURSDAY**
- Only switch ON the dome Lock-out when work needs to be done on the dome.
- Also make sure to complete the electronic checklist for the daily rounds. A QR code is available on the entrance door to the dome, as well as below with the link:

Link: <https://forms.gle/PiAJ8Kkzuz1vJffm8>



3.5 1.0M Telescope (40")



(In the morning):

1. Check dome is completely **CLOSED**.
2. Check telescope is parked at **DEC 00:00:00 & HA -01:00:00**.

RA	9 14 18		
TARGET	-32 00 00		
Dec	-00 16 02		
EQUINOX	2000.00	FOCUS	1057
SAST	15 29 25	SIDT	8 15 01
HA	-00 59 17	SEC Z	1.2225
DOMES	359.6	REQD	41.6

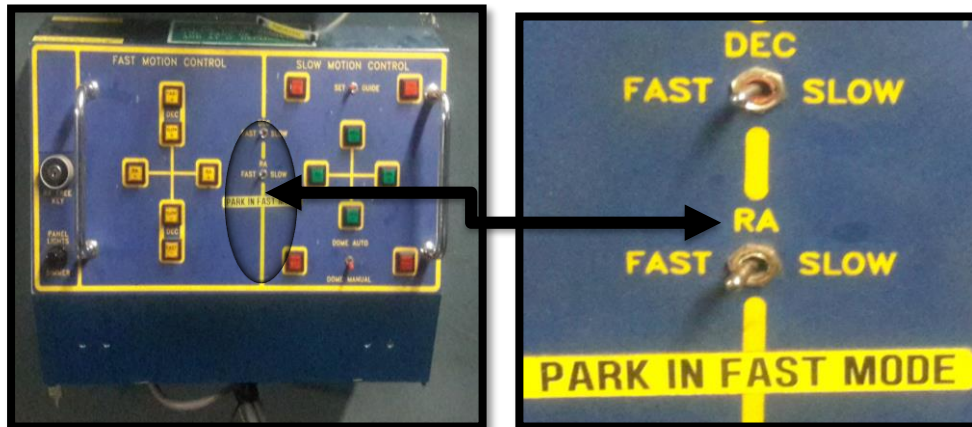
3. If STE3 or STE4 **ON** – Check CCD temperature and fill with LN2



4. Check telescope is switched **OFF** and the '**Lock-Out**' switch is **ON** (TCS light must be flashing)



– If telescope is **on**, check that telescope is parked in **FAST** motion and mirror cover is **closed**, and switch OFF



(In the afternoon):

1. If STE3 or STE4 ON – Check CCD temperature and fill with LN2.
2. Ensure all lights are switched OFF.

Special Notes:

- Drain compressor (located under the stairs) **every Monday, Wednesday and Friday.**
- Test TECS system – **every THURSDAY.**
- Collect completed observing records from dome, take to Elizabeth at Hostel and ensure there is empty observing records in dome.
- Observing records can be printed at https://www.saa.ac.za/wp-content/uploads/2019/09/observing_record.pdf
- Also make sure to complete the electronic checklist for the daily rounds. A QR code is available on the entrance door to the dome, as well as below with the link...

Link: <https://forms.gle/jsiMbvE8yddLqyE8A>



- If remote observations is going to take place, please consult the '**Remote observing SOP**'

3.6 MONET



(In the morning):

1. Check dome is completely **CLOSED**.

3.7 OXWAGEN



(In the morning):

1. Ensure dome is completely **CLOSED**.

3.8 IRSF



Technician performing rounds (In the morning):

1. Check that the dome is completely **CLOSED**
2. Check Chiller temperature (**13°C**) and water level



3. Check Helium compressor is running and at about **20MPa**



4. Check that the telescope is switched **OFF** – If not, follow shutdown procedure below:

- **Shutdown** Telescope Controller Computer 'MS-DOS';



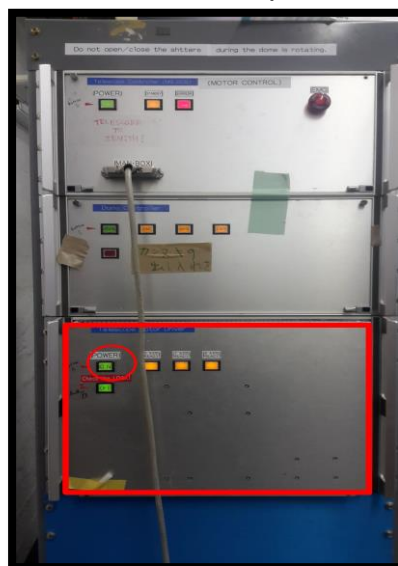
- Switch Dome Controller **OFF**.



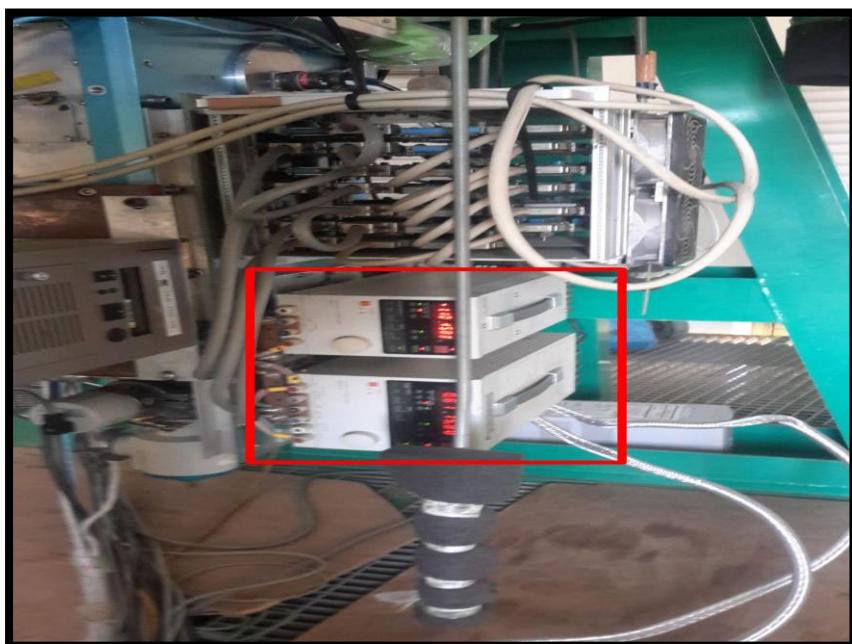
- Engage the **altitude lock** of the Telescope.



- Switch the Telescope Motor **OFF**.



5. Check the instrument and the two detector power supplies on the instrument are ON.



Special Notes:

- Test the **TECS** system – **every THURSDAY**.
- Also make sure to complete the electronic checklist for the daily rounds. A QR code is available on the entrance door to the dome, as well as below with the link...

Link: <https://forms.gle/iy9F46LN5B7QZq5j6>



- If remote observations is going to take place, please consult the '**Remote observing SOP**
- When you need to do any work on the dome or telescope, please make sure that the telescope is **OFF**

3.9 LCO



Technician performing rounds (in the morning):

1. Check domes are completely **CLOSED**.
2. Clean filters – **every MONTH**.

3.10 KELT – South



Technician performing rounds (in the morning):

1. Check the dome is completely **CLOSED**.

3.11 BISON



Technician performing rounds (in the morning):

1. Check the water pump is running



2. Check dome is **open in good weather** and **closed for bad weather**.
3. Check telescope and dome facing the sun.

3.12 ACT



Technician performing rounds (in the morning):

1. Check the dome is completely **CLOSED**.

3.13 Xami di Mura (SuperWasp)



Technician performing rounds (in the morning):

1. Check roof is completely **CLOSED**.

2. Check the Air Conditioner is running



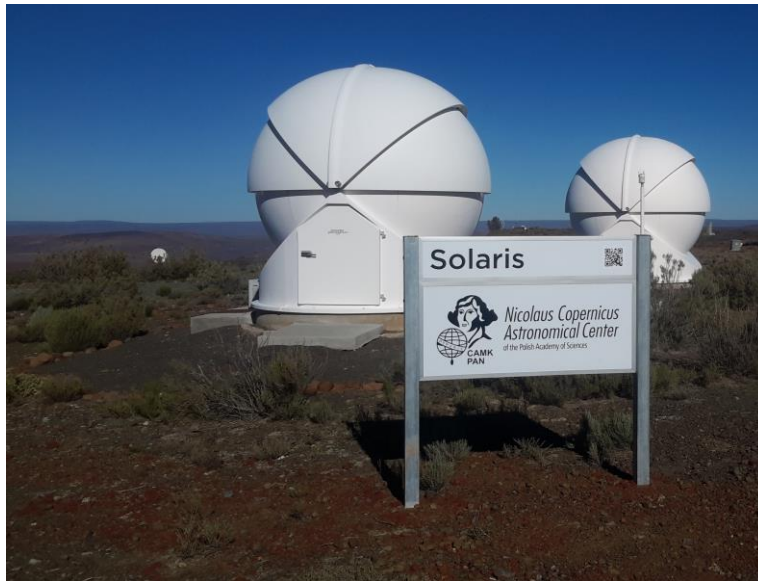
3.14 DLR



Technician performing rounds (in the morning):

1. Check dome is completely **CLOSED**.

3.15 SOLARIS



In the morning:

1. Check the domes are completely **CLOSED**.

3.16 MASTER



In the morning:

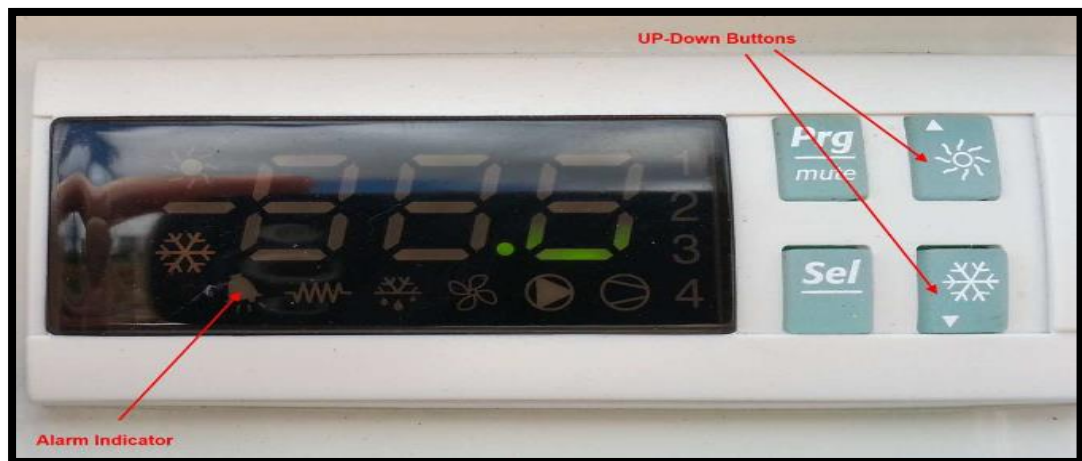
1. Check the dome is completely **CLOSED**.

3.17 GFZ



In the morning:

1. Check Chillers are working (see chiller notes - https://electronics.saao.ac.za/GFZ/GFZ_Chiller_Units_Changeover.pdf)
2. If York operational, check for alarms



3. If York operational, check flow sensor is on



4. Check temperature on the thermometer is **below 13C**



5. Check Helium compressor is operating and pressure is around **2MPa**



6. Check building temperatures on wall panel, **none above 25C** typical 22C



7. Check ventilation fans working.

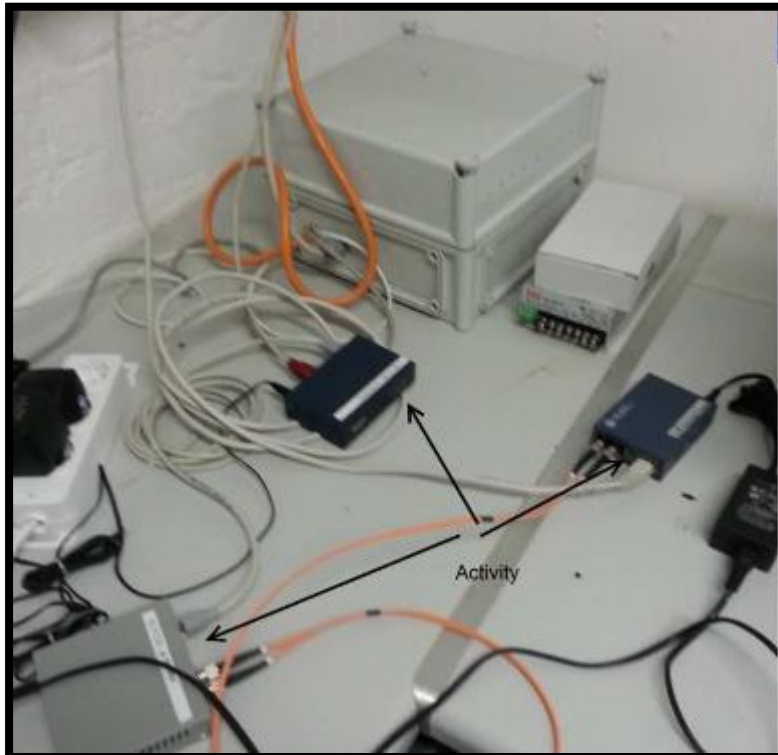


8. Check computers in cabinets are on



9. Check all systems in RHS room are on

10. Check for network activity at Hydrology experiment



11. Check all circuit breakers in DB-box are on, except for the spares.

Special Notes:

- Check water level in tank on top of GFZ – **every FRIDAY.**



- Clean filter – **every MONTH.**