ACTRIS
CCRES

To-Do list for National Facilities
Summary of expected actions from National Facilities (based on SOPs)

Version	Date
1	*16.10.2025*
2	*25.02.2026*

List of recommendations to guide the labelling process. CCRES encourages everyone to follow them as closely as possible, while allowing more flexibility for NFs that are located remotely.

Please refer to the document "labelling process" in the [CCRES guidelines](#) for the procedure to be validated for CCRES labelling step 1b.

To report all of these actions, please use the **CCRES/CLU logbook** (currently in development).

I. Doppler Cloud Radar

1. Daily
- Check quicklooks - are the data delivered to CLU?
- Check for critical error messages on Grafana

2. Monthly
a. *All radars :*
- Check radar stability via radar vs disdrometer comparisons in stratiform rain events ([CCRES website](#))
b. *Metek MIRA*
- Clean antenna drain

c. *BASTA :*
  - Check radome condition - Are the coatings on the radomes still in good condition? If not, change the radomes.
d. *RPG radar*
  - Check radome condition - Are the coatings on the radomes still in good condition? If not, change the radomes.
  - Check whether blower and heater (if any) are working properly
  - Check transmitter, receiver and radar PC temperatures (RPG radars)

3. Every 6 months

a. *RPG radars :*
  - Change radomes
  - Calibrate the radar receiver with LN2 or clear sky technique
b. *Scanning Radar:*
  - Pointing calibration using the Sun (if possible)

4. Annually

a. *All radars :*
  - Check amplifiers do not degrade through transmitted power on Grafana (if monitored)
b. *BASTA :*
  - Perform noise measurements

II. Microwave radiometer

1. Daily
- Check quicklooks - are the data delivered to CLU?
- Check for critical error messages on Grafana

2. Monthly
- Check the radome condition and touch the rain sensor. We suggest taking a picture every time to monitor the radome quality.
- Check whether blower and heater are working properly
- Check temperature stability plots (CCRES website)

3. Every 6 months
- Change of the radome (if necessary)

- LN2 calibration. For details concerning the calibration please refer to *[ACTRIS microwave radiometer calibration document](#)* available on CCRES website. After performing a LN2 calibration, please send the calibration LOG files (ABSCAL*.LOG and CovMatrix*.LOG) to CCRES. The first time, please send all previous ABSCAL*.LOG and CovMatrix*.LOG files that can be found on your Radiometer PC in the folders LOG/covariance and LOG/ABSCAL per e-mail to CCRES-DE (actris-ccres-mwr@uni-koeln.de). This helps to analyze the instrument history.
- If operating in a rather cold environment, the blower openings on the side of the radiometer have to be covered with foam inlets in winter (for operations around or below 0°C), These inlets need to be removed in summer to ensure sufficient airflow (for operations above ~25°C).

III. ALC

1. Daily
- Check whether data are delivered to CLU
- Check for critical error messages in Grafana
- In winter: remove snow

2. Weekly
a. All :
- Visit instrument on site and check for
  - Unusual noises (blower),
  - Dirt (leaves, bird droppings, spider's web) on window,
  - Condensation on the inside of window
- Check the quality index "laser" on Grafana. If < 70% → detailed performance check of the instrument. If necessary, contact manufacturer for laser replacement
- Check quality index "optical" / window transmission in Grafana. If permanently <70% (also in case of no precipitation) → clean window

b. CL61
- Check relative humidity. If permanently > 50%, act accordingly

3. Monthly
- Clean environment (remove everything that hinders air flow of blowers, cut grass in summer, remove leafs in autumn)

- Check whether NTP status is ok. If NTP status is not reported, check and correct internal time of device

4. Every 3 months
- For new instruments (first year of operation in NF): dark measurements

5. Annually
a. All :
- If dark measurements in first year of operation show no variability: dark measurement once per year is sufficient

b. CHM :
- Renew drying agent

c. CL51 :
- In case of CL51: dark measurement over 24h at a very hot day in summer

IV. Doppler Lidar

1. Daily
- Check quicklooks - are the data delivered to CLU?
- Check for critical error messages on Grafana

2. Monthly
- Check scanner is actually scanning
- Check internal humidity (and window fogging)
- Check levelling

3. Every 6 months
- Replace desiccant (Vaisala systems)
- Check azimuth pointing angle manually if no pointing scan is included in scan schedule

V. Disdrometer

1. Weekly
- Clean the windows and laser heads
- Remove insects, grass, spider's web, …

2. Monthly
- Check the laser status on Grafana

4. Every 6 months
- Check the horizontality and orientation of the laser beam

VI.   Weather station

1. Every 6 months
- Clean the wind-speed sensor twice a year to ensure a good measurement of the flow.

2. Annually
- Compact weather stations such as Vaisala WXT have to follow the manufacturer recommendations, i.e one check up every year.

VII.   Raingauge

1. Weekly
- Clean the precipitation collection cone
- Clean the bucket of the tipping bucket rain gauge or the weighing precipitation gauge

2. Every 6 months
- Calibrate the rain gauge sensor
- Check the horizontality