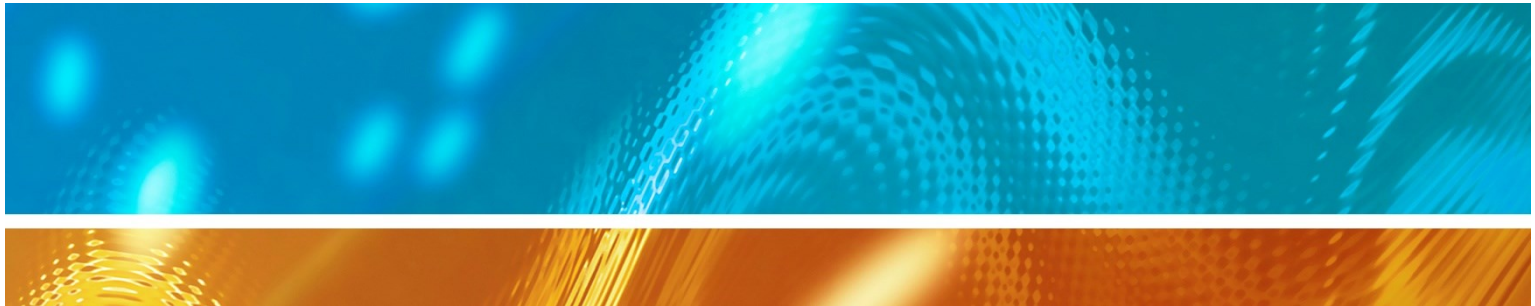


***VAISALA WEATHER RADAR  
WRM200  
MAINTENANCE PLAN***

September 2016



# Table of Contents

CHAPTER 1

**PREVENTIVE MAINTENANCE TASKS .....4**

**Tasks to be done before a site visit.....4**

**Scheduled Maintenance.....5**

        On-site maintenance at one-year interval .....5

        On-site maintenance at 3-year intervals.....6

        On-site maintenance at 5-year intervals.....6

        Maintenance of the peripheral equipment.....6

**Maintenance reports .....6**



## CHAPTER 1

# PREVENTIVE MAINTENANCE TASKS

Regular preventive maintenance tasks of Vaisala WRM200 Weather Radar are described in this chapter. Preventive maintenance of Vaisala WRM200 should be performed by trained Vaisala-certified radar engineers.

Detailed maintenance tasks in annual intervals are listed and described in the Radar Maintenance Manual. Preventive Maintenance of Vaisala Weather Radar consists of the following tasks:

- Scheduled preventive maintenance tasks (intervals of one, two, three, and five years depending on the task)
- Replacing components due to normal wear and tear
- System calibration

In addition to the preventive maintenance listed above, corrective maintenance tasks may be needed, e.g. replacing of malfunctioning components and recalibration. The troubleshooting instructions are included in the Radar User's Guide, too.

## Tasks to be done before a site visit

When preparing for the Preventive Maintenance visit, retrieving the equipment status information and other important data (calibration history data, software version etc.) remotely with the built-in test equipment, BITE<sub>X</sub>, is essential.

By using Weather Radar remote connection Vaisala radar expert will:

- Check the software version of the radar control Workstation RCW

- Check BITE parameters according to instructions given in the WRM200 User's Guide for detecting possible alarms and notifications taken place after the last preventive maintenance visit
- Check from BITE the operating time of waveguide pressurization air pump
  - In BITE, check that the operating time of the waveguide pressurization air pump has not been exceeded.

## Scheduled Maintenance

The scheduled maintenance of Vaisala Weather Radar consists of preventive maintenance tasks that are carried out regularly as described here:

### On-site maintenance at one-year interval

#### **Radome, Pedestal and antenna** 4 hours

- Test the emergency stop button
- Visually check the radome condition
- Check the radome grounding wires
- Check the waveguide path Antenna and pedestal
- Check the leveling of the Pedestal
- Visually check the paint work
- Check the counterweight mounting
- Check the feed strut mounting
- Check the feed protective film
- Test the azimuth belts (2 pcs)
- Test the azimuth belt sensors
- Test the elevation belt
- Test the elevation limit switch operation
- Measure the antenna zero angle

#### **Radar cabinet** 4 hours

- Check the condenser profile
- Check and clean cabinet cooler filter
- Check the RCW power units
- Check internal cables
- Test the waveguide switch operation
- Clean the RCW air filter
- Clean the transmitter cooler fans (4 pcs)
- Perform system calibration
- Measure the transmitter output power

- Measure the waveguide impedance matching

### **On-site maintenance at 3-year intervals**

- Clean and oil the slip rings 12 hours

### **On-site maintenance at 5-year intervals**

- Change main distribution unit battery 2 hours
- Change UPS battery

### **Maintenance of the peripheral equipment**

All of the peripheral equipment such as back-up diesel generators, fire alarm system, air conditioning, UPSs, Radar tower, etc. and similar items will be regularly checked and maintained according to the manufacturers' specifications.

## **Maintenance reports**

After the completion of the maintenance works (preventive or corrective) the official maintenance report showing the date and content of the maintenance work should be prepared and stored to be available according customers quality system. A check list is provided in Radar User's Guide.