SKYRAD

- **Clean the PSP, PIR, NIP, and IRT every day. Note the time of cleaning in SDL.**

SKYRAD – PSP (unshaded)

See Procedure PRO(PSP)-003

#	Question	Yes	No
1.	Was the dome clean of debris, water, or water spots prior to daily cleaning?		
2.	Is the dome free of internal condensation?		
3.	Is the ventilator fan running?		
4.	Is the dome free of scratches or pits?		
5.	Is the dome free of cracks?		
6.	Are all the cables and cable connectors securely attached and free of damage?		
7.	Is the desiccant dry/blue? If NO, see Procedure PRO(PSP)-002		

SKYRAD – MFRSR

See Procedure PRO(RSR)-001

#	Question	Yes	No
1.	Are all cables and cable connectors securely attached and free of damage?		
2.	Is the sensor free of dirt and debris? If NO, see Procedure PRO(RSR)-001		
3.	Is the MFRSR shadowband rotating 3 times per minute?		
4.	Did the band stop 3 times during rotation?		
5.	During the second stop, did band shade the detector?		

SKYRAD – IRT (up-looking)

See Procedure PRO(IRT)-001

#	Question	Yes	No
1.	Is lens clean and dry? If NO, see Procedure PRO(IRT)-001		
2.	Is the lens free of any internal condensation?		
3.	Are all cables and cable connectors securely attached and free of damage?		

SKYRAD – PIR (shaded #1)
See Procedure PRO(PIR)-003

#	Question	Yes	No
1.	Was the dome clean of debris, water, or water spots prior to daily cleaning?		
2.	Is ventilator fan running?		
3.	Is the dome free of scratches or pits?		
4.	Is the dome free of cracks?		
5.	Are all cables and cable connectors securely attached and free of damage?		
6.	Is desiccant dry/blue? If NO, see Procedure PRO(PIR)-002.		
7.	Is shading mechanism blocking dome from direct sunlight?		

SKYRAD – PIR (shaded #2)
See Procedure PRO(PIR)-003

#	Question	Yes	No
1.	Was the dome clean of debris, water, or water spots prior to daily cleaning?		
2.	Is ventilator fan running?		
3.	Is the dome free of scratches or pits?		
4.	Is the dome free of cracks?		
5.	Are all cables and cable connectors securely attached and free of damage?		
6.	Is desiccant dry/blue? If NO, see Procedure PRO(PIR)-002.		
7.	Is shading mechanism blocking dome from direct sunlight?		

SKYRAD – PSP (B/W) (shaded)
See Procedure PRO(PSP)-003

#	Question	Yes	No
1.	Was the dome clean of debris, water, or water spots prior to daily cleaning?		
2.	Is the dome free of internal condensation?		
3.	Is the ventilator fan running?		
4.	Is the dome free of scratches or pits?		
5.	Is the dome free of cracks?		
6.	Are all cables and cable connectors securely attached and free of damage?		
7.	Is desiccant dry/blue? If NO, see Procedure PRO(PSP)-002		
8.	Is the shading mechanism blocking the dome from direct sunlight?		

SKYRAD – NIP (on tracker)

See Procedure PRO(NIP)-001

#	Question	Yes	No
1.	Was the window clean of debris, water, or water spots prior to daily cleaning?		
2.	Is window free of scratches or pits?		
3.	Is the window free of cracks?		
4.	Is the inside of the window free of condensation?		
5.	Are all cables and cable connectors securely attached and free of damage?		
6.	Check the NIP alignment using the solar bull's eye. Is the sun dot at least halfway in the white ring?		

SOLAR TRACKER

#	Question	Yes	No
1.	Is the Tracker following the sun angle?		
2.	Are all cables and cable connectors securely attached and free of damage?		

GNDRAD – PIR (down-looking)

See Procedure PRO(PIR)-003

#	Question	Yes	No
1.	Was the dome clean of debris, water, or water spots prior to daily cleaning?		
2.	Is the dome free of scratches or pits?		
3.	Is the dome free of cracks?		
4.	Are all cables and cable connectors securely attached and free of damage?		
5.	Is desiccant dry/blue? If NO, see Procedure PRO(PIR)-002		

GNDRAD – PSP (down-looking)

See Procedure PRO(PSP)-003

#	Question	Yes	No
1.	Was the dome clean of debris, water, or water spots prior to daily cleaning?		
2.	Is the dome free of internal condensation?		
3.	Is the dome free of scratches or pits?		
4.	Is the dome free of cracks?		
5.	Are all cables and cable connectors securely attached and free of damage?		
6.	Is desiccant dry/blue? If NO, see Procedure PRO(PSP)-002		

GNDRAD – IRT (down-looking)

See Procedure PRO(IRT)-001

#	Question	Yes	No
1.	Is lens clean and dry? If NO, see Procedure PRO(IRT)-001		
2.	Is the lens free of any internal condensation?		
3.	Are all cables and cable connectors securely attached and free of damage?		

SMET INSTRUMENT ASSEMBLY – Optical Rain Gauge

See Procedure PRO(SMET)-001

#	Question	Yes	No
1.	Is lens clean? ** You should only clean the surface monthly by using the optics brush, or as needed.		
2.	Is the sensor arm free of debris (nests, webs, etc.)?		

SMET INSTRUMENT ASSEMBLY – Wind Speed and Direction

See Procedure PRO(SMET)-001

#	Question	Yes	No
1.	Are both sensors pointing same direction?		
2.	Are the propellers rotating when there is wind?		

SMET INSTRUMENT ASSEMBLY – T/RH Sensor

See Procedure PRO(SMET)-001

#	Question	Yes	No
1.	Is the aspirator operating?		
2.	Is the probe filter free of salt or dirt? If NO, see Procedure PRO(SMET)-001		

STAND-ALONE INSTRUMENT (outside) – CEILOMETER

See Procedure PRO(CEI)-004.

#	Question	Yes	No
1.	Is window clean? If NO, see Procedure PRO(CEI)-004		

STAND-ALONE INSTRUMENT (outside) – Microwave Water Radiometer (MWR)

See Procedure PRO(MWR)-001

#	Question	Yes	No
1.	Is the white Teflon window undamaged?		
2.	Is the white Teflon window clean? If NO, see Procedure PRO(MWR)-001		
3.	Can you hear or feel the blower operating?		
4.	Lightly touch the dew sensor on top of the microwave radiometer. Did a RED light turn on? (Clean sensor window every day)		
5.	Clean the rain sensor with distilled water and clean cloth. Was this completed successfully?		
6.	Placing your ear against the unit, did you hear six turns per minute when checking the functioning of the elevation mirror?		

INSTRUMENT VAN (I-Van) – Environment

See Procedure PRO(ARCS)-007

#	Question	Yes	No
1.	Is van free of standing water inside?		
2.	Are air conditioners functioning?		
3.	Is van cool and dry?		
4.	Are lights functioning?		
5.	Are doors and latches sealed?		
6.	Are power boxes closed?		

STAND-ALONE INSTRUMENT (inside I-Van) – Micropulse Lidar (MPL)
See Procedure PRO(MPL)-002

#	Question	Yes	No
1.	Are all cables and cable connectors securely attached and free of damage?		
2.	Are all indicator lights on the MPL computer, computer monitor, Photonics Laser Controller, Lidar Data System, and (if installed) shutter control box illuminated?		
3.	Go to Meadowlark Optics box. Is “Power” light on? If “Status” light does not blink briefly every 3 seconds, power cycle Meadowlark Optics box and check that the status light blinks every 3 seconds.		
4.	Check monitor. Is MPL updating the display every 3 seconds?		
5.	Go to MPL Data Graph on monitor. Are the DAY and TIME readings correct?		
6.	Is detector temperature between 20° C and 30° C?		
7.	Is telescope temperature between 20° C and 30° C?		
8.	Is laser temperature between 20° C and 30° C?		
9.	Is Energy Cal EM between 5 and 8 microjoules?		
10.	Does PolarVolt0 alternate between two values every 3 seconds?		
11.	Check laser supply. Is Ia set between 0.80 and 1.2?		
12.	Check laser supply. Is R-Rate 2500?		
13.	Go to MPL Sigma Display and check the following boxes: Collect Data, Detector Power Channel 1, and Save Data. Is each of the boxes selected?		
14.	Is Bin Resolution 30 m?		
15.	Is Averaging Time 3 seconds?		
16.	Is MPL Sigma Display scroll buffer free of any error messages? If NO, report any error messages on SDL.		
17.	Hold a piece of white paper over lidar telescope. Does a uniform, green circle appear? If any deformity or unevenness exists, report on SDL.		
18.	Check the telescope exit glass. Is it free or any dust or debris? If NO, use air duster to remove any debris. If any further contamination of telescope exists, contact BOM technicians.		
19.	Use ladder to climb on to the I-Van roof. Check MPL Ceiling Port Window and Sun Position Sensor Tube Window (if unit is equipped with shutter). Is it free of dust or debris? If NO, clean the windows with distilled water or mild detergent solution (e.g., Windex) and wipe dry with paper towels.		

STAND-ALONE INSTRUMENT (inside I-Van) – CEILOMETER Computer

See Procedure PRO(CEI)-004

#	Question	Yes	No
1.	Is the window screen free of warnings or alarms, and is the clock updating? If NO, press the “RESET” button.		

STAND-ALONE INSTRUMENT (inside I-Van) – MWR

#	Question	Yes	No
1.	Is the data scrolling up the screen?		

STAND-ALONE INSTRUMENT (inside I-Van) – Millimeter Cloud Radar (MMCR)

The MMCR equipment on the hanging rack is a follows, from top to bottom: TWT Amp, Pulse Controller, Coherent Up & Down Converter, Oscilloscope, MUX, ADC, Receiver/ Modulator, Interface, Radar Computer, DMS Computer. The MMCR monitor is off to one side. The ABC switch “Black Box” is also off to one side.

Outside:

#	Question	Yes	No
1.	On the top of the I-Van (view from ground), is the Radome Cover undamaged? (Look for rips and tears)		

Inside:

2.	Examine the ceiling penetration from inside the van. Is the penetration free of leakage?		
3.	On the TWT Amplifier is the “Power On” LED lit?		
4.	On the TWT Amplifier is the “Remote” LED lit?		
5.	On the TWT Amplifier is the “Operate” LED lit?		
6.	On the TWT Amplifier is the “Fault” light off?		
7.	On the MUX, is the “Power” LED lit?		
8.	On the MUX, is the “Active” LED lit?		
9.	On the MUX, is the “Talk” LED and the “Listen” LED flashing?		
10.	On the ADC, is the “Power” LED lit?		
11.	On the ADC, is the “Talk” LED and the “Listen” LED flashing?		
12.	Is the Receiver Modulator display cycling between 50 and 90 meters? (Observe for at least 30 seconds).		
13.	On the Radar Computer, are all four LEDs lit?		
14.	On the DMS Computer, are all four LEDs lit?		
15.	On black box, switch to “RADAR” and press red button. On the monitor is the date and time (GMT) correct?		
16.	On the MMCR monitor, click on “POP4_CR.BAT” window to highlight it; then press F8 on the keyboard. Is there data on the screen?		
17.	If there is data on the screen, is it believable (look at clouds outdoors to compare)?		
18.	On the DMS computer, open the small door. Is the data tape visible in the tape drive to the right?		
19.	On the TWT Amplifier, open the small access door at the top left. Are all error lights off?		
20.	On the coherent Up and Down Converter, are the “alarm” (200Ghz. and 16.40 Ghz.) lights off?		

DATA VAN – SDS

On the work surface closest to the Van entrance and to the left of the SDS rack you will find: R1 Monitor

On the work surface at the rear of the Van and to the right of the SDS rack you will find the **SAM Laptop.**

#	Question	Yes	No
1.	Did you login to R1 successfully? Go to the R1 Monitor, at the HandS page login as (oper) and enter the password (ru4reel), and press the Enter key.		
2.	Under the Data Processing heading are all collections active? If not view details page and list instruments that are not collecting and notify on call SSU Tech at 8947-3815.		
3.	Under the Data Processing heading are all ingests active? If not view details page and list instruments that are not ingesting and notify on call SSU Tech at 8947-3815.		
4.	Under the Disk heading are all disks under limit? If not notify on call SSU Tech at 8947-3815.		
5.	Under the Daemon heading are all active? If not notify on call SSU Tech at 8947-3815.		
6.	Under the Network heading are all active? If not notify on call SSU Tech at 8947-3815.		
7.	Go to the rear of the SDS rack and make a visual check. Are all fans operating correctly?		

DATA VAN (D-Van) – SAM

#	Question	Yes	No
1.	Are all the dots GREEN or YELLOW? (If red, press and communicate reason displayed, and call BOM at 618-8984-4515 or TWPO at 1-505-667-1186.)		

STAND-ALONE INSTRUMENT (inside E-Van) – BBSS
See Procedure PRO(BBSS)-002

- **The BBSS equipment includes the Digicora and the BBSS computer.**
- **Generate H_2 gas every day. (Item 9 on Fax Sheet)**

#	Question	Yes	No
1.	Was the balloon/sonde successfully launched on the first try last night at 11:30GMT?		
2.	Was the pilot message for the 11:30GMT launch printed?		
3.	If 11:30 launch was unsuccessful, was the 2nd launch successful?		
4.	Was the balloon/sonde successfully launched on the first try today at 23:30GMT?		
5.	Was the pilot message for the 23:30GMT launch printed?		
6.	If 23:30 launch was unsuccessful, was the 2nd launch successful?		

UTILITY VAN (U-Van) – Environment
See Procedure PRO(ARCS)-007

#	Question	Yes	No
1.	Is the van floor free of standing water, diesel, oil, or fluids inside?		
2.	Are the air conditioners functioning?		
3.	Is the van cool and dry?		
4.	Are the lights functioning?		
5.	Are the doors and latches sealed?		
6.	Are the power boxes closed?		

UTILITY VAN – Generator
See Procedure PRO(GEN)-004

NOTE: IF GRID POWER HAS BEEN DOWN 2 DAYS OR MORE THIS WEEK, NOTE THIS IN THE SITE DAILY LOG, DAILY ROUNDS COMMENTS SECTION.

#	Question	Yes	No
1.	Are all vents in the OPEN position, secured, and rotating freely (oil if required)?		
2.	Are all fuel line fittings associated within U-VAN GENSET area and the fuel filter connections dry and free of leakage?		
3.	At the Electronic Control Module, is the battery voltage level 24V or greater?		
4.	Check oil fluid level. Is the level between the marks on the dipstick? (This level can be checked while the generator is running or at rest. The dipstick is located on front right engine area.) Add oil if necessary. Record level on daily fax sheet.		
5.	Check the diesel fuel level on the external fuel tank. Does the reading indicate tank is more than 1/4 full? Record level on Daily Fax Sheet.		
6.	Check the diesel fuel level at the Day Tank (a full reading should be indicated by the red float-type gauge). Is fuel level on gauge above half? Record level on Daily Fax Sheet.		
7.	Are the dipstick and fuel openings secured and returned to normal configuration?		
View the display on the Electronic Console Module. Record the number of hours run and enter into the Site Date Log daily rounds GENSET Run time hours field			

DATA VAN (D-Van) – Environment
See Procedure PRO(ARCS)-007

#	Question	Yes	No
1.	Is the van free of standing water inside?		
2.	Are the air conditioners functioning?		
3.	Is the van cool and dry?		
4.	Are the lights functioning?		
5.	Are the doors and latches sealed?		
6.	Are the power boxes closed?		

EXPANSION VAN (E-Van) – Environment

See Procedure PRO(ARCS)-007

#	Question	Yes	No
1.	Is the van free of standing water inside?		
2.	Are the air conditioners functioning?		
3.	Is the van cool and dry?		
4.	Are the lights functioning?		
5.	Are the doors and latches sealed?		
6.	Are the power boxes closed?		

SDL COMMENTS SECTION NOTES: These should be very brief, as in the following examples:

For SMET INSTRUMENT ASSEMBLY - WIND SPEED AND DIRECTION
Question #1: lower wind sensor broken; propeller not turning; points N constantly.

For UTILITY VAN - GENERATOR Question #3: battery voltage 15V.

Removable HD removed, replaced and sent via DHL to U.S.A.