SKYRAD

- **Clean the PSP, PIR, NIP, and IRT every day. Note the time of cleaning on the fax sheet. (Item 4 on Fax Sheet)**

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 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.		

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.	Was the gold mirror clean of debris, water, or water spots prior to daily cleaning?		
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 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 shading mechanism blocking 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 (on MET tower) – PSP (down-looking)

#	Question	Yes	No
1.	Looking up at the tower, make a visual inspection. Is the instrument free of obstruction?		

GNDRAD (on MET tower) – PIR (down-looking)

#	Question	Yes	No
1.	Looking up at the tower, make a visual inspection. Is the instrument free of obstruction?		

GNDRAD (on MET tower) – IRT (down-looking)

#	Question	Yes	No
1.	Looking up at the tower, make a visual inspection. Is the instrument free of obstruction?		

SMET INSTRUMENT ASSEMBLY – Optical Rain Gauge
See Procedure PRO(SMET)-001

#	Question	Yes	No
1.	Is lens clean? You should only clean 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 the 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 dirt? If NO, see Procedure PRO(SMET)-001		

STAND-ALONE INSTRUMENT (outside) – CEILOMETER

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

STAND-ALONE INSTRUMENT – 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.	Wet finger and lightly touch the rain sensor on top of the microwave radiometer. Did the heater enable light turn red?		
5.	Is the rain sensor clean? Wipe clean with cloth and water.		
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 A-Van) – Atmospheric Emitted Radiance Interferometer (AERI)

Outside:

#	Question	Yes	No
1.	Climb on roof and inspect the roof opening and hatch assembly. Is it free of debris or damage?		
2.	Inspect the air intake on the side of the van. Is it free of debris or damage?		

Inside:

#	Question	Yes	No
3.	Are circuit breakers at the back wall in the "ON" position?		
4.	Is the Van temperature in the 65 to 75 degrees range?		
5.	Inspect blue insulation panels surrounding the ventilation closet. Are the panels securely in place?		
6.	Go to the ventilation closet (open door inside) and observe the roof opening. Is the hatch open when it is not raining or closed when raining?		
7.	Go to the Hatch Controller. Is the switch in the "ON" position?		
8.	Go to the Hatch Controller. Are the indicator lights OFF?		
9.	Go to the FEP Monitor. Is the date and time (GMT) display correct?		
10.	Go to the FEP Monitor. Do the two (2) graphs display the full range?		
11.	Go to the FEP Monitor. Are the status indicators all GREEN? (If not, indicate which are RED and which are YELLOW.)		
12.	Go to the AERI FEP Monitor. Is the "DAT ARCHIVE" alarm **not** displayed with "Label and Install New Data Tape"? (If it is displayed, push small button on PSS drive and eject tape; label it; put it in AERI FEP "mail" tape box; and label and insert new tape into PSS Drive; click OK on dialog box on computer screen.)		
13.	Go to the Signal Conditioning Electronics unit. Is the switch ON?		
14.	Go to the Blackbody Temperature Controller unit. Is the AMBIENT switch OFF?		
15.	Go to the Blackbody Temperature Controller unit. Is the HOT switch ON?		
16.	Go to the Sterling Cooler Electronics unit. Is the switch ON?		
17.	Is the air conditioner working? (Is it cooling the AERI shelter?)		
18.	Clean the AERI internal sensor. Was this completed successfully?		

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, ADC, MUX, Receiver/ Modulator, Interface, Radar Computer, DMS Computer. The MMCR monitor is 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:

#	Question	Yes	No
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 ADC, is the "Power" LED lit?		
8.	On the ADC, is the "Talk" LED and the "Listen" LED flashing?		
9.	On the MUX, is the "Power" LED lit?		
10.	On the MUX, is the "Active" LED lit?		
11.	On the MUX, 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 upper rack mount Radar Computer, is the PWR light lit, and is the HD light blinking?		
14.	On the lower rack mount DMS Computer, is the PWR light lit, and is the HD light blinking?		
15.	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?		
16.	If there is data on the screen, is it believable (look at clouds outdoors to compare)?		
17.	On the TWT Amplifier, open the small access door at the top left. Are all error lights off?		
18.	On the coherent Up and Down Converter, are the "alarm" (200Ghz. And 16.40 Ghz.) lights off?		

DATA VAN (D-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?		

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, notify on-call SSU Tech at 8947-3815 or call TWPO at 1-505-667-1186.)		

EXPANSION VAN (E-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?		

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

#	Question	Yes	No
1.	Is van floor free of standing water, diesel, oil, or fluids 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?		

RECORD GENSET RUNTIME HOURS: _____ (will be entered on electronic SDL.)

RAD DOMES CLEANED AT _____ GMT. (will be entered on electronic SDL.)

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."

"All site systems are up and running correctly."