PSP/PIR Desiccant Change Procedure for AMF

I. Purpose:

This document describes the methods used to replace desiccant in the PSP, PIR, and B/W radiometers when the desiccant is ineffective (i.e., dry).

II. Cautions and Hazards:

- Exercise caution; ventilators are powered by 120 AC.
- It is easy to drop screws on the ground; be careful and use a drop cloth under the stand.
- As soon as the desiccant chamber is open, quickly complete the entire procedure; the unsealed chamber allows moisture to enter the radiometer.

III. Requirements:

- Small funnel.
- Adjustable pliers (locking type) or Robo grips.
- Small tray or cup to hold screws.
- Putty-for cable.
- Desiccant.
- Spare o-rings.
- Clean tarp or drop cloth.

IV. Procedure:

A. Steps:

1. Check desiccant window to see if desiccant needs changing. If not, end replacement process. (**Note:** The desiccant appears brown when dry and blue/green when saturated.)
2. Spread a clean tarp or large cloth under the PSP/PIR.
3. Remove the 25-cm diameter shield. There are three screws to remove. Use the small tray to hold the screws. This applies to the SKYRAD PIR, PSP, and B/W only; not the GNDRAD PSP and PIR.
4. Turn the desiccant cap (located on the PSP, PIR, and B/W) counter-clockwise and remove the cap and 4 cm long tube. Use the locking pliers or Robo grips to loosen desiccant cap. (**Note:** The desiccant cap is fragile, do not excessively tighten the cap, squeeze it too tightly with the locking pliers, or grind loose desiccant into the grooves in desiccant chamber.)
5. Pull the 4-cm-long desiccant tube off of the desiccant cap.

6. Remove the blue/green (saturated) desiccant from inside the tube and place it in a storage container. With the small funnel, add the new, dry desiccant (ornage/brown) to the desiccant tube.
7. Check the o-ring on the desiccant cap. Does the o-ring look worn? Replace if necessary; apply sealing grease to o-ring if necessary.
8. Attach desiccant tube to desiccant cap.
9. With a small flat head screw driver, remove any loose pieces of desiccant from desiccant chamber of instrument.
10. Re-attach the desiccant container to the radiometer. Desiccant cap should turn several times before becoming tight. If it only turns a partial turn, it may be cross-threaded.
11. If desiccant requires changing within a couple of days, recheck the seal of desiccant cap on the PSP, PIR, and B/W. It's possible that the cap was not sealed correctly or that the o-ring on the cap needs replacing.
12. On the checklist, record that change was completed.
13. Enter the date, start-time and end-time of procedure and any comments of the desiccant change in the Site Data Log (SDL).

V. References:

None.

VI. Attachments:

None.