Micro-Pulse LIDAR (MPL) Cold Start & Shutdown

I. Purpose:

This procedure details the startup procedures used when the Micro Pulse Lidar is out of operation for three days or more.

II. Cautions and Hazards:

The laser exiting the transceiver telescope of the MPLHR is classified as a Class 1 Eye-Safe laser. Although not actually harmful, some discomfort may be experienced from direct eye exposure. It is good practice to limit direct eye exposure to laser radiation. When working with the MPLHR, avoid looking directly down the beam into the telescope.

III. Requirements:

None.

IV. Procedure:

A. MPLHR Cold Start:

1. Turn ON surge protector.
2. Turn ON the SESI Lidar Control by turning the rocker switch to ON.
3. Wait until all three lights on the Lidar Control are lit (about 5 sec.).
4. Turn ON the Spectra Physics Laser Diode Supply in manual mode:
   - Set the switch on the side of the Spectra Physics remote handset to "M" or "Manual."
   - Turn the key switch on the Spectra Physics Laser Diode Supply to the ON position.
   - Press "✳" button until watts are shown (if not zero, move to zero with down arrow).
   - Press the "Emission" button (above "DIODE POWER").
   - Wait three seconds until the word "emission" appears in red letters on the handset.
5. Slowly scale the laser power:
   - Press the "✳" button (above **CONTROL**) until **WATTS** is shown.
   - Press the up arrow until the laser power reads 0.50 watts.
   - Hold a piece of paper over the transceiver telescope; a circular green speckle pattern with a dark center is visible.

- Verify that the pattern is a circle of roughly uniform intensity, brighter in the center, but symmetric in shape.
- **If the beam is badly misshapen or very uneven, DO NOT CONTINUE with the procedure; reduce laser power to zero, contact the TWPPO, and have them inform the instrument mentor.**
- If not misshapen or uneven, press the up arrow **0.10** watts at a time, continually verifying the shape and quality of the laser beam; as long as the laser beam shape and quality are okay, continue raising the power up to **1.00** Watts total.
- Scale power down to zero.
- Set handset back to "**A**" (Automatic). **Note: This is important because if power goes off in I-Van, laser will not come back on when power comes back.**
- Scale power back to 1.0.

6. Turn ON the Micro Pulse Lidar instrument PC.

B. MPL Shutdown

1. Shutdown the MPL computer from the start button in the lower left corner of the display.
2. Scale the power down to zero on the hand controller, and then set the handset to M or Manual.
3. Turn the key switch to the OFF position.
4. Turn off the SESI Lidar Control by turning the rocker switch to OFF.
5. Turn off the surge protector.
6. Turn off the power to the compressors.

V. References:

None.

VI. Attachments:

None.