The Delaware Department of Natural Resources and Environmental Control (DNREC) will own and operate a Vasiala LAP 3000 wind profiler system for air pollution studies. The wind profiler will part of DNREC's air quality and meteorological monitoring network which is used to determine the ambient levels of the pollutants for which NAAQS have been established.

The Vasiala LAP 3000 system is a 915 MHz Radio Acoustic Sounding System (RASS) wind/temperature profiler which will be used to obtain wind and temperature measurements at heights ranging from the surface to 6,000 meters (20,000 feet). It consists of a large, square, vertically pointing radio antenna, surrounded by four smaller sound transmitters. For measuring winds, its principle of operation is similar to that of the acoustic sounder except that it transmits radio signals rather than acoustic signals. Rather than having three separate antennas pointing in different directions, the one antenna is steered electronically to point vertically and at small angles away from the vertical, toward the northeast and the northwest.

For the first ten minutes of each hour, the four sound transmitters emit a warbling high-pitch whistle that mechanically vibrates the column of air above the antenna. These vibrations affect the radio signals, and the speed at which the vibrations travel can therefore be measured. Since the speed at which sound vibrations travel through the atmosphere depends on the air temperature, the measurements can be processed to yield information about temperatures at heights ranging from 100 to 1,300 meters (330 to 4,300 feet).

The LAP 3000 will be located at the Summit Airport located in Middletown, DE.