

Compost Facility in Western U.S.

Compost

Customer:

This facility is one of the largest permitted composting sites in North America, with a maximum annual capacity of over 750,000 tons of material. They have both covered and uncovered windrows in a hot, dry climate. Their plan was to expand the amount of material they processed, while reducing their processing time and their labor costs.

Project Overview:

- Reotemp's EcoProbes System (wireless temperature monitoring) was selected to monitor interior pile temperatures.
- Initially 20 EcoProbes were purchased (2 EcoProbes per covered windrow, in 10 windrows).
- A few months later 6 additional EcoProbes were added for a grand total of 26 probes (13 windrows).
- Reotemp's Receiver Antenna was located at the Control Center roughly 700ft from the farthest probe.
- Data packets were delivered to Reotemp's Modbus Receiver which feeds raw data (temperatures, location, date, time, & battery life) into a 3rd party PLC.
- The PLC then used the temperature data to control blowers, store data, and display graphics.

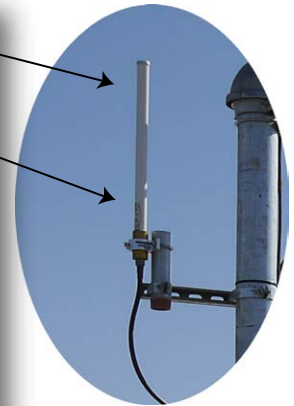
EcoProbes



Control Center



Receiver Antenna



Modbus Receiver

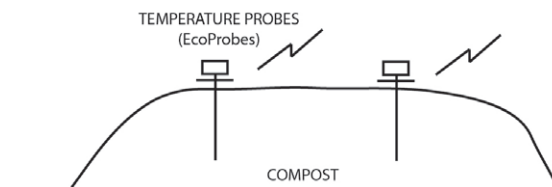


Local Readout

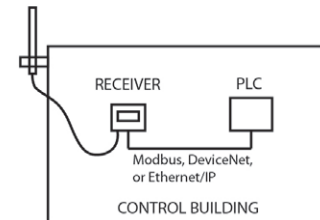
| Probe ID | TEMP (C) TIP | TEMP (C) UPPER | BATT LOW |
|----------|--------------|----------------|----------|
| 9 | 48.6 | 46.0 | ○ |
| 10 | 76.3 | 78.0 | ○ |
| 11 | 33.5 | 34.7 | ○ |
| 12 | 35.7 | 35.1 | ○ |
| 13 | 78.1 | 88.0 | ○ |
| 14 | 77.5 | 79.0 | ○ |
| 15 | 34.2 | 35.0 | ○ |
| 16 | 48.0 | 40.4 | ○ |

MODBUS.RX ○ ○ MODBUS.TX

PLC-Based System



RECEIVER ANTENNA



Results/Benefits of a Wireless Solution:

- Improved process control & management
- Reduced processing time
- Reduced labor costs and human error
- Accurate, timely temperature data
- Low maintenance costs