

Compost Control and Aeration

Automated Control of Aerated Slab/Agitated Pile Composting

CUSTOMER PROFILE

Land Recovery Inc. (LRI) Compost Factory



CLIENT NEEDS

The Compost Factory is an enclosed facility designed to compost up to 250 tons per day of organic waste permitted to include biosolids and post-consumer food waste. The facility's size and odor sensitive location demanded precise automatic controls and monitoring functions, including:

- Control of 17 aeration zones;
- Log processing data and tracking batches when moved from zone to zone; and,
- Providing comprehensive and site specific SCADA functions.

THE SOLUTION

The ECS CompTroller™, Aeration Control and Monitoring System, can manage an unlimited number of composting vessels or zones. It was easily adapted to accommodate LRI's 17-zone facility.

SOFTWARE: The ECS operator interface software for Windows™, running on the operator interface PC, includes a graphical compost batch tracking function. This allows accurate reporting of temperature histories for regulatory compliance as the batches are moved sequentially through the aeration zones, even when they are combined together midway through the process. The operator interface displays and logs process temperature data; and, the status of blowers, dampers, leachate tanks and biofilters to a database. The ECS software and database can be accessed remotely via modem.

HARDWARE: This system features a distributed architecture that minimizes cable runs with strategically located Data Nodes and smart blower-drives that are interconnected on a plant-wide LAN. Five Data Nodes located around the factory control 17 reversing-aeration dampers, monitor pressure across 18 blowers, measure temperature and moisture data from the four biofilters, and provide the I/O for a host of other plant status signals. Robust radio-telemetry temperature probes provide pile temperature measurements in at least two locations and at two depths for each zone. The operator interface PC controls and monitors 21 networked variable speed blower-drives to provide both process and building-wide aeration.