

NAWTEC Speaker Abstract

Odor Monitoring and Mitigation at the Hennepin County Waste to Energy Facility

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Hennepin Energy Recovery Center (HERC) is a waste to energy facility owned by Hennepin County and operated by Covanta Energy. HERC has been in operation since 1989. The facility burns 365,000 tons of residential and commercial solid waste per year and generates about 34 mega-watts of electricity that is sold to Xcel Energy. HERC is located on the north side of downtown Minneapolis in the Historic Warehouse District, a neighborhood that is changing from industrial to a more commercial/residential mix with loft conversions and construction of new condominiums. The Minnesota Twins baseball team is also siting a new stadium in the parking lot immediately southeast of the facility. The potential for odors from the tipping floor of the facility affecting the neighborhood has become more of a concern due to the changes in the neighborhood. In March 2004 the County began an odor study. This included developing baseline information on odors from HERC and from the surrounding community by conducting daily odor monitoring at select points on the facility property and throughout the community:

- Determining how far odors from HERC migrate into the community
- Quantifying detected odors using a Nasal Ranger.
- Determining the factors that contribute to these odors
- Developing a method of controlling these odors
- Continued monitoring to determine the impact of mitigation methods.

Odors detected were characterized as garbage odors, garbage-related odors, and neighborhood odors. Baseline data showed that while garbage odors from HERC were mostly undetectable beyond the perimeter of the property, there was room for improvement in decreasing the presence and intensity of these odors. The tipping hall was designed to operate under negative pressure to control odors, however the entrance and exit doors were always open and a negative pressure could not be maintained.

In 2005 new high-speed doors were installed on the entrances and exits to the tipping hall to help maintain a negative pressure. The new doors are motion activated and are closed except when trucks enter and exit. New waste management practices were also initiated to control waste deliveries and pit volumes, and odor control blankets were installed across one set of ventilation louvers in the tipping hall. These odor control measures have resulted in a decrease in the number of times odors from HERC are detected on and around the perimeter of the property and in the surrounding neighborhood. They also resulted in a decrease in the intensity of the odors that were detected. We are continuing to do daily odor monitoring and are now investigating the relocation of the over-fire air intakes to the roof of the tipping hall to further increase negative pressure in the tipping hall.