



Maryland Green Registry MEMBER

The Maryland Green Registry promotes and recognizes sustainable practices at organizations of all types and sizes. Members agree to share at least five environmental practices and one measurable result while striving to continually improve their environmental performance.

Covanta Montgomery, Inc.

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Energy-from-Waste Facility

Member since June 2010

Management and Leadership

Environmental Policy Statement

We have adopted an Environmental Policy that consists of five principals:

1. **Protection** - *We will conduct our business in an environmentally sound manner that is protective of human health and the environment.*
2. **Compliance** - *We will manage our work to ensure compliance with all applicable environmental regulations and requirements.*
3. **Conservation** - *We will minimize impact to the environment by encouraging pollution prevention at the source, waste minimization, facilitating use of recycling opportunities and responsible disposal of any production by-products.*
4. **Qualification** - *We will ensure that all employees have the necessary information, resources, and training to make informed environmental decisions.*
5. **Commitment** - *Covanta is committed to be an industry leader in environmental protection by achieving superior awareness and performance through a process of continuous improvement.*

<http://www.covantaholding.com/site/about/environmental.html>

Environmental Team

The Facility Environmental Team, also know as the Pollution Prevention Committee, consists of the Facility Manager, Chief Engineer, Maintenance Supervisor, and Environmental Specialist. Facility meetings are held three times a week with environmental matters discussed during each meeting. Weekly

environmental site inspections are conducted by the facility Environmental Specialist. Each quarter, the Regional Environmental Manager leads an environmental management review and conducts an environmental site inspection semi-annually. The mission of the quarterly meeting is to review past and current environmental operating procedures and discuss future improvement measures to be implemented.

Annual Environmental Goals

The identification and prioritization of environmental aspects and impacts at Covanta Montgomery is a continual process that involves employees at all levels of responsibility and the community. Covanta Montgomery has incorporated an ISO 14000 EMS approach towards identifying aspects and impacts and defining their significance and priority. The process begins with identification of aspects of operations and their potential impacts whether based on past performance or on future potential outcomes. The inventory of aspects and impacts are evaluated for their significance and likelihood based on the criteria below.

Significance criteria include: public health, environmental, legal, reputation, business interruption, and economic impact.

Likelihood criteria include: frequency (likelihood of occurrence/historical records), and control (assessment of controls in place or needed).

In June 2006, Covanta Montgomery conducted an initial review of aspects and impacts, their significance and prioritization, and prepared an inventory.

Environmental aspects scoring higher than a value of 8 are considered significant aspects. These aspects have the highest potential to interrupt normal operations or cause releases of hazardous substances or air emissions. Interruption of normal operations could impact Covanta Montgomery's energy recovery and landfill avoidance objectives. Unwanted releases could impact Covanta Montgomery's environmental compliance objectives.

The list of identified Significant Environmental Aspects are reviewed by the DAFIG (Dickerson Area Facilities Implementation Group) and facility management and updated on an as-needed basis, but no less than once per year. The environmental aspects list may be reviewed and updated in response to significant facility changes or changes to regulatory requirements.

Covanta Montgomery has developed a set of environmental objectives and targets intended to improve the facility's environmental performance. Each is established by taking into consideration the facility's significant environmental

aspects, regulatory issues, opportunities for cost savings or improved efficiency, Covanta environmental initiatives and community concerns. At least one set of objectives and targets are directly related to a significant environmental aspect.

Environmental objectives and targets are specific and quantified where practical. At least one target is developed for each objective. Targets are directly related to their corresponding objective(s) such that achievement of the target will consequently result in meeting the associated objective. Targets are time-bound and measured via appropriate environmental performance indicators. The selected objectives and targets are outlined in the table below.

Covanta Montgomery has developed a series of Environmental Management Plans (EMP) to formally track progress on identified objectives and targets. The EMP is an action plan comprised of one or more tasks designed to ensure that the corresponding objective and target will be met. Each EMP is comprised of the following elements:

- *One or more discrete action steps, the accomplishment of which will result in the achievement of the objective and target,*
- *For each action task, a performance indicator to be used as the metric for tracking successful completion of the task,*
- *For each action task, the individuals(s) responsible for completing the task, and*
- *For each action task, the target, initiation and completion dates.*



Environmentally Preferable Products and Services

Covanta has been leading the Energy-from-Waste (EfW) industry with more than 25 years of experience in the development of state-of-the-art technology, making it one of the cleanest forms of energy generation. The advanced technology in combusting waste is the air quality (emission) control systems that meets or exceed the strictest federal standards set by the USEPA.

The EfW industry alone is an environmentally preferable service in that it diverts waste from landfills, where impacts to water and air quality are greater. In 2009, the Covanta Montgomery facility kept more than 526,000 tons of municipal solid waste (MSW) out of landfills.

In addition to the many environmental practices we have in place at our facility, we also develop and use new technologies. In 2009, the facility began operating Low NOx or LNTM Technology developed by Covanta. The LN system uses a staged-combustion system to reduce NOx emissions by 40 percent. This is in addition to the 40 percent NOx reduction achieved through Selective Non-

catalytic Reduction (SNCR). The average NOx tons-per-year-per-boiler from 1999 through 2008 were 321. In 2009, 184 tons of NOx were released.



Environmental Restoration or Community Environmental Projects

Covanta Montgomery has integrated into the host community with the following measures:

- *Non-voting member of DAFIG (Dickerson Area Facilities Implementation Group), a local advisory board to the County Council on community and environmental measures.*
- *Routine participation with County's advisory board, SWAC (Solid Waste Advisory Committee).*
- *Open access to the facility through tours and information provided in anticipation or response to questions.*
- *Accepted into two top tier stewardship programs:*
 - *VPP Star – OSHA's voluntary personal protection recognition program.*
 - *NEPT – USEPA National Environmental Performance Track (program eliminated by USEPA in 2009)*
- *Business partners with five schools providing financial support, mentoring, and elbow grease in support of events for the greater good of youth in the community.*
 - *Distinguished Service to Public Education Award to Facility Manager for mentoring.*
- *Sponsored Montgomery County Community Service Day by providing financial support and organizing volunteers in an effort to clean/fix up county facilities.*
- *Co-Chair for WUMCO (Western Upper Montgomery County Help Inc.) Holiday Giving programs serving over 300 families with food baskets and holiday gifts.*
- *Sponsor 4H farm youth program through Montgomery County Agricultural Fair and sponsored Old MacDonald's petting barn.*
- *Provide practical scenarios and offer site access for the local fire department to conduct training exercises.*
- *Celebrate Earth Day by:*
 - *Planting native trees at local elementary schools,*
 - *Working with students of grade levels K–5 in clean up and tree planting,*
 - *Partnered with Habitat for Humanity for Humanity (HfH) of Montgomery County's ReStore to give away tree saplings, and*
 - *Planted trees at the facility in honor of employees.*
- *Sponsor mercury containing thermostat collection with HfH ReStore.*

- *Contribute to Fishing for Energy, a partnership consisting of Covanta Energy, the National Fish and Wildlife Foundation, the National Oceanic and Atmospheric Administration (NOAA) and Schnitzer Steel Industries Inc. which provides a no-cost solution to fisherman to dispose of old, derelict, or unusable fishing gear and works to reduce the amount of derelict fishing gear.*
- *Provided disposal for Anacostia River Clean-up 2009.*
- *Conduct tours of EfW facility and Transfer Station for educational, business, civic organizations.*

We enjoy these various interactions and are proud of our standing in the community.



Independently-Audited Environmental Management System

Avogadro Environmental Corporation conducted a 3rd party EMS audit of the facility as part of USEPA's Performance Track program in 2006. An internal EMS audit is completed on annual basis. The Performance Track program was eliminated by the USEPA in 2009, but the facility is continuing to fully implement the program.

A comprehensive multi-media environmental audit was conducted in 2008, with the next internal audit scheduled for 2012.

Waste



Solid Waste Reduction and Reuse

- *The inert ash byproduct created in the Energy from Waste process is reused in the road-base mixture and daily cover at the Brunswick, Virginia landfill. The ash reused also provides a financial benefit of \$2.50 per ton of ash reused.*



Recycling

- *Ferrous metals are recovered from the process discharge ash and recycled through a third-party scrap-metal company. In the absence of our facility, these valuable metals would otherwise be landfilled.*
 - *In 2009, Covanta Montgomery recycled 241,040 pounds.*
- *All Dry-Cell and lead-acid batteries are recycled at no cost through Call2Recycle.org.*
- *The facility is a member of the Montgomery County business recycling program and recycles paper, cardboard, plastic, and aluminum.*
 - *In 2009, Covanta Montgomery recycled 28,578 pounds of corrugated cardboard and 4,156 pounds of commingled materials.*

Hazardous Waste/Toxic Use Reduction

In December 2009, the facility removed the Anhydrous Ammonia system from the site and eliminated all associated hazards posed by the usage and storage of the 16,000 gallons. Anhydrous ammonia is described on its Material Safety Data Sheet (MSDS) to be corrosive to the skins, eyes, respirator tract, and mucous membranes with the ability to cause frostbite to the eyes, lungs, and skin. The removal of the system also allowed the facility to take the USEPA required Risk Management Plan (RMP) out of service. The removal of this system also met the environmental objectives of the surrounding community.

In the spring of 2009, the facility eliminated the use of its hazardous solvent parts washer and replaced it with an environmental friendly compound called Ozzy Juice. Prior to replacing the solvent, about 120 gallons a year of used solvent was disposed of with a hazardous waste contractor. This non-hazardous Ozzy Juice is composed of a highly specialized blend of cultures specifically selected and adapted to degrade a wide range of organic wastes. There is a filter that requires changes on a monthly basis. The filter is not hazardous and disposed of as non-hazardous waste.

In 2007, the facility replaced the type of antifreeze used in facility vehicles with a more environmentally-friendly, less-toxic alternative which replaces the ethylene-glycol with propylene-glycol. The facility is located in a rural area of the community, surrounded by forest and farm land. Wildlife is observed on and around the facility on a daily basis. When exposed to the air, ethylene-glycol based antifreeze is known to attract wildlife and pets with its sweet smelling odor. The ingestion of a small amount of ethylene-glycol can cause severe illness and even death in animals and humans. The tank used to dispense the ethylene-glycol based antifreeze has been removed from the site and the propylene-glycol based antifreeze is stored in a 325 gallon, double-walled tank located inside the building.

An Activated Carbon injection system has been installed to control mercury and dioxin emissions. We are also phasing out mercury containing light bulbs at our facility and replacing them with bulbs that contain smaller amounts of mercury.

Energy

Renewable Energy

As an Energy from Waste (EfW) facility, Covanta Montgomery is and has been defined by the State of Maryland as a source of renewable energy. One ton

of MSW generates about 750 kilowatt-hours (kWh) of electricity whereas landfill-gas recovery produces a mere 65 kWh. This is in addition to the recovery of about 50 pounds of metal, conservation of ¼ ton of coal and 1 barrel of oil, and the reduction of one ton of CO2 equivalent. The facility also provides the community with green jobs, clean and reliable energy, and environmentally sustainable waste disposal.

Transportation

Fleet Vehicles

The facility has installed Rentar Fuel Catalysts on all facility loaders, donkey trucks, and tractor-trailers in order to reduce fuel consumption. The fuel savings were normalized using municipal solid waste (MSW) processed. Results from 2008 and 2009 implementation showed a 3-5% fuel savings across the various vehicles. The catalysts also reduce the emissions of carbon dioxide, carbon monoxide, nitrous oxides, sulfur dioxide, opacity and particulate matter.

Idle timers have been installed on facility loaders and heavy equipment. The timer works on vehicles designed with electrical shut down. The timer shuts down the equipment after five minutes of idle time order to conserve fuel and reduce emissions.

The installation of large (325 gallon) above-ground, double-walled storage tanks has eliminated the use of numerous 55-gallon drums for petroleum-base product storage and reduced the number of delivery truck trips.

Water

Water Conservation

Water is a major component of operations at the facility. There are two types of water used within the facility, non-potable, service water and potable water. All the non-potable, service water used throughout plant is taken from the discharge channel from the adjacent power plant. Service water is used to cool boilers, quench air emissions, quench the discharged ash, reduce ash dusting, and keeping the facility clean. It is also used to generate steam that drives the turbine to generate electricity. The potable water is used for drinking, showering and in the bathrooms.

The facility is designed to maximize conservation by utilizing it in a continuous loop. Once used in the process, service water flows back to the water treatment plant where it is treated and returned to service. The potable water

however, flows to a package waste-waste treatment plant, located adjacent to the water treatment plant, where it is treated and solids are settled out. The treated water is then sent back into the water treatment plant where it is further treated and returned to use as service water. In 2009, 262,527 gallons of used potable water was conserved by treating it and returning to service throughout the plant.

Cooling Tower blowdown water is the only water that is discharged from the site, after being filtered and treated. This water is used to remove solids and impurities that accumulate in the service water. Solids and impurities are dangerous to the facilities processes and must be eliminated on a continuous basis since the facility operates 24 hours a day. Once treated and filtered, the water is returned to its source, the Potomac River, with a 28% overall reduction in suspended solids.

Stormwater Management and Site Design

Stormwater at the facility is collected from impervious surfaces using standard iron-grate inlets. These inlets then drain to a wet-pond stormwater facility and a vegetated swale. There are two zones on site where stormwater is collected, the Rail Yard and the balance-of-plant. Stormwater in the Rail Yard is directed to an oil-water separator, before discharging to the pond. The remaining stormwater is collected from the employee parking lot and roof drains. The parking lot drains directly to the pond while the roof drains discharge to the vegetated swale.

The two infall pipes at the pond are affixed with floating booms to absorb oils and greases that might runoff to the pond. The pond is inspected weekly and the booms are changed as needed. A grab sample of pond water is analyzed for pollutants on a quarterly basis as requested by the client to demonstrate that degradation of the pond is not occurring. Note that there is no regulatory requirement to conduct sampling- the outfall has been exempted due to consecutive years of non-detectable pollutant limits.



Help build a greener, more sustainable Maryland through voluntary practices that reduce environmental impacts and save money.

Learn more at www.green.maryland.gov/registry

