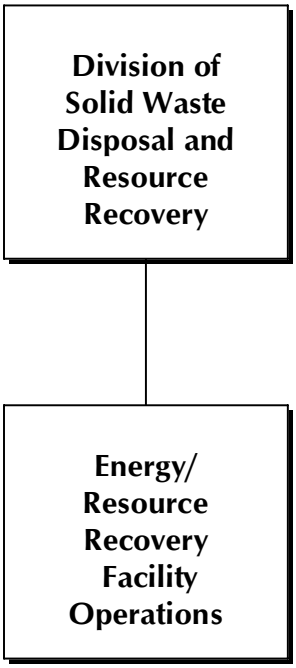
Fund 112
Energy Resource Recovery Facility



Mission

To serve Fairfax County citizens by providing effective and environmentally-sound solid waste disposal by converting waste-to-energy; by reducing the need for landfill space through volume reduction of solid waste; and by managing the operational contract in the best interests of the citizens

Focus

Fund 112 manages the contract for the I-95 Energy/Resource Recovery Facility (E/RRF), owned and operated by Covanta Fairfax, Inc. (CFI). Under the terms of the Service Agreement, the County is required to deliver a guaranteed 930,750 tons of municipal solid waste (MSW) per year for which it pays a disposal fee to CFI. The facility can dispose up to 1,095,000 tons of waste annually to produce approximately 80 megawatts of electricity that is sold to Dominion Virginia Power. This is enough electricity to power about 75,000 homes.

For the first time in FY 2006, Fairfax County residents generated all of the guaranteed annual tonnage (GAT) of waste required under the Service Agreement. The County also accepts additional MSW from other regional jurisdictions and through the Supplemental Waste program. Refuse is exchanged with Prince William County under a mutually beneficial agreement. Efforts by the fund to maximize revenues through additional MSW from other jurisdictions and the refuse exchange agreement with Prince William County have significantly increased revenues in those categories and have reduced the burden on Fairfax County ratepayers.

The County charges users of the E/RRF a disposal fee and subsequently pays the contractual disposal fee to CFI from these revenues. Revenues from the sale of electricity, recycled ferrous and nonferrous metals, and supplemental waste are used to offset the cost of the disposal fee paid to CFI. When the E/RRF is unable to handle the amount of waste delivered, some waste is diverted to

Virginia landfills. Staff must be constantly vigilant in balancing waste as a commodity to ensure that it is disposed of efficiently and cost-effectively.

Pursuant to an agreement between Dominion Virginia Power and CFI signed in 1987 and amended in 1996, Dominion Virginia Power began purchasing electrical capacity from CFI at a lower rate starting in May 2005. However, the price of electricity has increased somewhat offsetting this reduced payment. As the E/RRF is able to generate higher amounts of electricity, revenues should continue to increase and these County credits will help keep the tip fee low.

Careful management of the operations contract with CFI has allowed the County to hold down disposal fee increases in recent years. The FY 2008 rate is $33 per ton and is projected to decrease to $32 per ton for FY 2009. Funding from the Rate Stabilization Reserve will be used, as planned, to supplement any difference between this revenue and the actual expenditures of Fund 112.

The June 2007 annual stack test verified that the overall air emissions from the E/RRF, significantly reduced by the Clean Air Act retrofits installed in FY 2000, remained well below permit limits. The ash conditioning system that was added to the E/RRF in FY 2005 is providing the anticipated ash stabilization for ash that will be placed in the I-95 Landfill.

Execution of the Solid Waste Management Plan continues with recycling as a primary focus. The program has increased the amounts of cardboard, mixed paper and plastics being removed from the waste stream. Increased recycling is needed so that capacity at the E/RRF can be maintained for waste that requires processing.

In addition, removal of materials from the waste stream that are constituents of concern has increased with the expanded partnership between the County and the Rechargeable Battery Recycling Corporation. The County also helped establish a program *KnowToxics* in conjunction with the Northern Virginia Regional Commission to educate citizens about removing pollutants from the waste stream. Removal of computers, other electronic equipment, and household hazardous waste through remote recycling/collection events are further improving the fuel source for the E/RRF.

The County's Solid Waste Management Plan recommends continued use of the E/RRF. Negotiation of a Service Agreement for facility use beyond the end of the contract extension through 2016 has begun with CFI. The negotiation will address how the relationship with CFI will be structured after the facility's initial term and pre-established extension are over.

Fund 112
Energy Resource Recovery Facility

Budget and Staff Resources

Fund Summary		
Category	FY 2007 Actual	FY 2008 Adopted Budget Plan
Authorized Positions/Staff Years		
Regular	9/ 9	9/ 9
Expenditures:		
Personnel Services	$610,135	$666,197
Operating Expenses	34,331,437	39,907,419
Capital Equipment	12,827	0
Total Expenditures	**$34,954,399**	**$40,573,616**

SUMMARY OF ALL AGENCY LOBS (FY 2008 Adopted Budget Data)

Number	*LOB Title*	*Net LOB Cost*	*Number of Positions*	*LOB SYE*
112-01	Energy/Resource Recovery Facility	$3,796,755	9	9.0
TOTAL		**$3,796,755**	**9**	**9.0**

LOBS SUMMARY

112-01: Energy/Resource Recovery Facility

Fund/Agency: 112	*Solid Waste*
LOB #: 112-01	*Energy/Resource Recovery Facility*
Personnel Services	$666,197
Operating Expenses	39,907,419
Recovered Costs	0
Capital Equipment	0
Total LOB Cost:	$40,573,616
Federal Revenue	$0
State Revenue	0
User Fee Revenue	35,979,498
Other Revenue	797,363
Total Revenue:	$36,776,861
Net LOB Cost[1]:	$3,796,755
Positions/SYE involved in the delivery of this LOB	9 / 9.0

[1]Net cost is supported by revenue to the fund as well as fund balance.

Fund 112
Energy Resource Recovery Facility

► LOB Summary

Fund 112 manages the long term contract for the I-95 Energy/Resource Recovery Facility (E/RRF), owned and operated by Covanta Fairfax, Inc. (CFI), that burns municipal solid waste to produce 80 megawatts of electricity, which is sold to Dominion Virginia Power. Under the terms of the Service Agreement, the County is required to deliver at least 930,750 tons of waste per year, for which it pays a disposal fee to CFI. The County charges a disposal fee to users of the E/RRF and subsequently pays the contractual disposal fee to CFI from these revenues. Revenues from the sale of electricity and recovered ferrous and non ferrous metals are also used to offset the cost of the disposal fee paid to CFI.

Key Accomplishments

- Agency closely monitored CFI's efforts to obtain a Title V (Air) Permit for the facility.
- Facilitated a project that will allow the E/RRF to serve as emergency supplemental power for the Griffith Water Treatment Plant and the Noman Cole Pollution Control Plant.
- Monitored facility emissions (ash, air, particulate) so that the environmental footprint of the facility remained minimal.
- Continued to process over 1 million tons of waste annually to serve the needs of all Fairfax County residents and other regional jurisdictions.
- Completed and had approved by the Virginia Department of Environmental Quality a 20-year Solid Waste Management Plan that retains the E/RRF as the centerpiece of waste disposal activities for the County.
- Installed an ash conditioning system that ensures that any metals are chemically bound in the ash residue before it is landfilled, reducing the possibility of leaching of the metal from the ash.
- Monitored the operations of the facility so that Service Agreement performance measures were met/exceeded: since 2001 the availability of the facility exceeded 92 percent; ash residue averaged 26 percent; electrical generation exceeded the contract by more than 10 percent; carbon remaining after processing was about 2 percent; always operated within the projected budget; and tip fee remained one of the lowest in the region.

FY 2008 Initiatives

- Renegotiate the Power Purchase Agreement between Dominion Virginia Power and Covanta Fairfax Inc. that will allow the facility to generate more than 80 megawatts of electricity to be sold to the grid.
- Replace the original scales at the Energy/Resource Recovery Facility with state-of-the-art above ground scales that will improve service to customers and reduce maintenance costs.
- Continue negotiation of a Service Agreement extension between Covanta Fairfax, Inc. and Fairfax County, extending the County's disposal capacity through another 10-15 years.

- Explore ways for the E/RRF to contribute further to maintaining the environment in Fairfax County such as: using tertiary wastewater for its makeup water instead of using potable water--this could save millions of gallons of potable water annually; reducing internal electrical load to minimums and selling additional electricity to the grid; employing enhanced combustion practices to further reduce NOx emissions; and employing other technological changes to the processing of waste.

Source of Revenue
Fees are charged based on the type of waste material entering the E/RRF. In FY 2008, the disposal rate is $33/ton and total projected refuse disposal revenue is $35,979,498. Under the terms of the service agreement, the County is obligated to ensure sufficient operating revenues to meet expenses and pay the debt service associated with the 20 year Economic Development Authority bond issue.

► Method of Service Provision

Staff maintains oversight of facility operations by participating in monthly Operations Meetings with Covanta staff and reviewing technical reports of an independent engineering firm contracted for by the County. The contracted engineer analyzes stack test reports, and Covanta reports to the Virginia Department of Environmental Quality on ash tests and other documentation that shows how the facility operates compared to its permits. Likewise the County's Health Department conducts quarterly ambient air emissions tests from 3 sites near the facility. All reports indicate that the E/RRF is operating within its permitted emissions limits and agreement terms.

Hours of Operation:

Facility Receiving Hours		Administrative	
Monday thru Friday	5:00 a.m. to 7:00 p.m.	Monday thru Friday	8:00 a.m. to 4:30 p.m.
Saturday	5:00 a.m. to 4:00 p.m.		
Sunday	Closed		

In FY 2006 and FY 2007 Fairfax County residents generated more waste than the guaranteed annual tons. Prior to FY 2006, out-of-county waste was needed to ensure that the GAT was met. Waste from the District of Columbia and Prince William and Loudoun Counties is still processed, helping to keep the tip fee low.

Environmental Benefits of Facility
With the emphasis on reducing the environmental impact of infrastructure facilities, the E/RRF excels in addressing several significant environmental concerns:

- Disposes safely over 1 million tons of waste per year.

- Generates electricity for sale, utilizing a renewable resource.

- Offsets carbon emissions that would be incurred if the waste were landfilled. The offset is one ton of carbon dioxide (greenhouse gas) for each ton of waste processed at the E/RRF.

- Produces no methane gas (another greenhouse gas released by landfills that is 20 times more potent in contributing to global warming than carbon dioxide).

- Recovers ferrous and nonferrous metals from the ash residue (enough metal in FY 2007 to build over 20,000 hybrid cars).

Strategic Planning

- In compliance with the Solid Waste Management Plan (SWMP), the E/RRF should remain the County's primary disposal site for the next 20 years. The SWMP describes the holistic needs of the County for waste management during the period 2004 through 2024 and includes waste reduction and reuse, recycling, collection, transportation, and disposal, primarily through waste to energy.

- Compliance with the environmental initiatives within the Division of Solid Waste Disposal and Resource Recovery and the Department of Public Works and Environmental Services' Strategic Plans. The E/RRF operates with minimal environmental impact as documented through close monitoring of ash and air emissions. The E/RRF pricing strategy and its place within the County overall solid waste management system allows the tip fee to remain competitively priced while providing necessary waste disposal capacity for the next 20 years.

Future Trends/Issues

- Future trends that will impact the E/RRF and Fund 112 are:

    - Increased recycling will change the composition of the fuel for the E/RRF, potentially lowering the Higher Heating Value of the fuel, which would require burning more trash to produce the same amount of electricity.

    - Continued emphasis on reducing Greenhouse Gases may further reduce the amount of carbon dioxide that the E/RRF can produce, notwithstanding the overall carbon offset capability of burning waste rather than landfilling it.

    - Increased removal of Household Hazardous Waste and other materials, such as electronics, will continue to improve the quality of the waste as a fuel and help to reduce the environmental impact potential.

    - Increased sale of electrical power will increase revenues to help offset increases in Operations and Maintenance and other costs, keeping the tip fee lower than most disposal sites in the region.

    - Technological improvements are in development that may further reduce the emissions of the E/RRF and its environmental impact on the region.

    - The relationship between Fairfax County, the Solid Waste Authority and CFI fundamentally changes when the current Service Agreement ends in 2016. The intervening renegotiation of the Service Agreement will be critical to maintain the County's partnership with CFI.

    - E/RRF is being adequately maintained and has a useful life until at least 2030.

- The following statistics can be shown for Fund 112 and the E/RRF since 2001:
  - Tons disposed varied annually from a low of 1,027,878 tons in FY 2002 to a high of 1,084,712 tons in FY 2004.
  - Tip fee has increased from $28 per ton to $33 per ton or 18 percent over the seven fiscal years (FY 2001-FY 2008).
  - Fairfax County has exceeded GAT by at least 10 percent each year.
  - Emissions reductions remain well below permit limits and in compliance with expectations following the installation of the Clean Air Act Retrofits in 2000.

► Mandate Information

The E/RRF and Fund 112 have a state mandate to monitor air emissions near the facility. A very small portion of the budget, $115,600 or 0.3 percent pays for the Health Department to conduct its quarterly monitoring. See the January 2007 Mandate Study, reference page 64 for the specific federal or state code and a brief description.

AGENCY PERFORMANCE MEASURES

Objectives

- To deliver no less than the Guaranteed Annual Tonnage (GAT) amount of 930,750 tons of municipal solid waste to the E/RRF as required under the contractual obligations of the Service Agreement between Covanta Fairfax, Inc. and Fairfax County.

Indicator	Prior Year Actuals FY 2006 Actual	Prior Year Actuals FY 2007 Estimate/Actual	Current Estimate FY 2008	Future Estimate FY 2009	LOB Reference Number
Output:					
Tons of material delivered to the E/RRF	1,050,012	1,085,000 / 1,058,988	1,023,825	1,023,825	112-01
Efficiency:					
Cost per ton of material processed at the E/RRF	$33.97	$36.45 / $33.20	$39.70	$36.98	112-01
Service Quality:					
Tons delivered to the E/RRF in excess of GAT	119,262	154,250 / 128,238	93,075	93,075	112-01
Outcome:					
Percent of GAT met	112.81%	116.57% / 113.78%	110.00%	110.00%	112-01