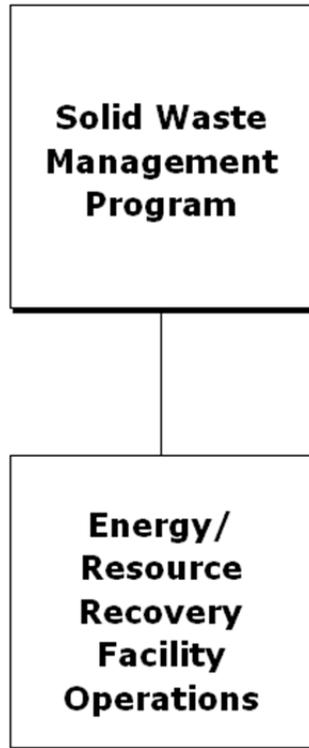


# Fund 40160

## Energy/Resource Recovery Facility

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### Mission

To serve Fairfax County residents 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; by reducing the greenhouse gas emissions both by not landfilling waste and by generating renewable energy; by recovering ferrous and non-ferrous metal from the ash and recycling them; by partnering with other agencies in projects such as water reuse project that takes treated wastewater and uses it in the boilers instead of using potable water; and by managing the operational contract in the best interests of the residents.



*Aerial view of the I-95 Energy/Resource Recovery Facility*

## **Fund 40160**

### **Energy/Resource Recovery Facility**

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#### **Focus**

Fund 40160 supports the management of 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 current Service Agreement, the County delivers municipal solid waste (MSW) for which it pays a disposal fee to CFI. With the approval of its Title V (Air) Permit in January 2007, the facility has the flexibility to operate at a level above its nameplate rating of 3,000 tons per day. Pursuant to an agreement between Dominion Virginia Power and CFI, signed in 1987 and amended in 1996, Dominion Virginia Power purchases up to 80 megawatts of electricity, enough to power about 75,000 homes annually. An amendment approved in FY 2008 allows CFI to generate and sell additional electricity over 80 megawatts; this additional electricity revenue further keeps the rate paid to CFI low and benefits County residents.

The County charges a disposal fee to all users of the E/RRF and subsequently pays the contractual disposal fee to CFI. The initial Fairfax County and CFI Service Agreement, negotiated in 1997 to get the facility built and paid for, terminates on January 31, 2016. County staff and CFI negotiated a Waste Disposal Agreement (WDA) that becomes effective February 1, 2016. This new contract guarantees the County capacity to dispose of its waste through January 31, 2021 with two additional 5-year extensions available. This WDA covers the period of CFI's lease of the property to FY 2031. Moreover, the WDA affords the County stable pricing and sustainability for waste disposal. The County significantly reduced its risks and liabilities with the new agreement while maintaining performance guarantees and monitoring of the facility.

Under the WDA, CFI will continue to report recycling of ferrous and nonferrous metals. In FY 2014, about 72.5 tons of ferrous and nonferrous metals were recovered each day from the processed ash. This additional recycling helps support the County's recycling rate of 48 percent of the waste generated being recycled.

County staff must be constantly vigilant in balancing waste as a commodity to ensure that it is disposed of efficiently, cost-effectively and with minimal environmental consequences. These efforts will continue during the implementation of the new Waste Disposal Agreement. In FY 2016, the waste disposal rate will remain at \$29 per ton. Funding from the Rate Stabilization Reserve will be used to buffer against any long-term adjustments to the tip fee.

Until the end of the Service Agreement in January 2016, staff will continue to closely monitor the performance of the facility. As in past years, the June 2014 annual stack test indicated that the overall air emissions reductions from the E/RRF, resulting from the Clean Air Act retrofits in 2000, remained well below permit limits with further reductions in carbon monoxide, nitrogen oxide, hydrochloric acid, and mercury from FY 2013 levels. The results of the stack test are listed on the next page:

## Fund 40160 Energy/Resource Recovery Facility

Energy/Resource Recovery Facility Emissions Results <sup>1</sup>			
Constituent	Permit Limit	Average E/RRF Result June 2013	Average E/RRF Result June 2014
Sulfur Dioxide (SO <sub>2</sub> )	29 ppm	4.75 ppm	6.0 ppm
Carbon Monoxide (CO)	100 ppm	3.75 ppm	0.75 ppm
Nitrogen Oxides (NO <sub>x</sub> )	205 ppm	183.0 ppm	175.75 ppm
Hydrochloric Acid (HCL)	29 ppm	4.40 ppm	3.71 ppm
Particulate Matter (PM)	27 mg/dscm	1.42 mg/dscm	1.42 mg/dscm
Mercury (Hg)	0.080 mg/dscm	0.0018 mg/dscm	0.0009 mg/dscm
Lead (Pb)	0.44 mg/dscm	0.0030 mg/dscm	0.0030 dscm

ppm = parts per million                      mg = milligram  
dscm = dry standard cubic meter

<sup>1</sup> Covanta Fairfax Inc. Annual Determination of Compliance with Permitted Emission Limits and 40 CFR, Subpart Cb Report, (COV Report No. 3640 Volumes 1), pages 12-15 for testing conducted May 27-June 6, 2014.

Ash testing performed by an independent laboratory during May 27-June 6, 2014, characterized the ash from the E/RRF as non-hazardous waste. This means that the ash can continue to be disposed at the I-95 Ashfill under its permit for non-hazardous materials. The ash conditioning system that was added to the E/RRF in FY 2005 is providing stabilization for the ash that is placed in the I-95 Ashfill. County staff will continue to receive performance and monitoring data from CFI after the new WDA becomes effective.

The E/RRF has helped reduce the overall Fairfax County waste system carbon emissions by about one ton of carbon for every ton of waste processed. This calculation includes the reduction in overall carbon dioxide generated by the waste management system, due to emission reductions that are realized by not transporting waste to a landfill, the actual carbon dioxide that would be generated at the landfill as well as the carbon dioxide that would be emitted to produce electricity using a fossil fuel.

**The Energy/Resource Recovery Facility supports  
the following County Vision Elements:**

- 
***Maintaining Safe and Caring Communities***
- 
***Creating a Culture of Engagement***
- 
***Practicing Environmental Stewardship***
- 
***Exercising Corporate Stewardship***

CFI and the County implemented an innovative project that allows the E/RRF to use reclaimed water from the Noman Cole Wastewater Treatment Plant as the cooling water at the E/RRF, saving millions of gallons of potable water each year. The project which became operational in FY 2013 continues to reduce the use of potable water, replacing it with treated water from the Wastewater Treatment Plant. County staff is always exploring and evaluating new technologies to ensure that the integrated waste management system continues to provide the required environmental service of waste processing while having the least environmental impact possible.

# Fund 40160

## Energy/Resource Recovery Facility

The expanded Household Hazardous Waste (HHW) program, the three Conditionally Exempt Small Quantity Generator events, rechargeable battery and CFL light collections, daily waste collection and other programs continue to remove significant amounts of materials with hazardous properties from the waste stream of the E/RRF. These measures contribute to the facility maintaining a low environmental impact for the amount of waste disposed by County residents.

Performance measures for Solid Waste are displayed at a program-wide level. Please refer to the Solid Waste Management Program Overview in Volume 2 of the FY 2016 Advertised Budget Plan for those items.

### Budget and Staff Resources

Category	FY 2014 Actual	FY 2015 Adopted	FY 2015 Revised	FY 2016 Advertised
<b>FUNDING</b>				
Expenditures:				
Personnel Services	\$930,747	\$980,027	\$980,027	\$1,007,222
Operating Expenses	16,451,581	20,535,512	20,559,584	24,791,786
Capital Equipment	0	0	0	0
<b>Total Expenditures</b>	<b>\$17,382,328</b>	<b>\$21,515,539</b>	<b>\$21,539,611</b>	<b>\$25,799,008</b>
<b>AUTHORIZED POSITIONS/FULL-TIME EQUIVALENT (FTE)</b>				
Regular	12 / 12	12 / 12	12 / 12	12 / 12
1 Management Analyst III		1 Heavy Equipment Operator	1 Administrative Assistant II	
1 Management Analyst II		1 Administrative Assistant IV	5 Weighmasters	
1 Engineering Technician II		1 Administrative Assistant III		
<b>TOTAL POSITIONS</b>				
12 Positions / 12.0 FTE				

### FY 2016 Funding Adjustments

The following funding adjustments from the FY 2015 Adopted Budget Plan are necessary to support the FY 2016 program.

- ◆ **Employee Compensation** **\$26,842**  
 An increase of \$26,842 in Personnel Services includes \$7,311 for a 0.84 percent market rate adjustment (MRA) for all employees and \$19,531 for performance-based and longevity increases for non-uniformed merit employees, both effective July 2015.
- ◆ **Other Post-Employment Benefits** **\$353**  
 An increase of \$353 in Personnel Services reflects required adjustments associated with providing Other Post-Employment Benefits (OPEBs) to retirees, including the Retiree Health benefits Subsidy. For more information on Other Post-Employment Benefits, please refer to Fund 73030, OPEB Trust Fund, in Volume 2 of the FY 2016 Advertised Budget Plan.

## Fund 40160 Energy/Resource Recovery Facility

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- ◆ **Operating Expenses** **\$4,256,274**  
An increase of \$4,256,274 in Operating Expenses is associated with a new Waste Disposal Agreement between Covanta Fairfax, Inc. and Fairfax County. The initial term of this agreement ended in 2011, with a 5-year extension until 2016. The new agreement which will go into effect on February 1, 2016 includes an increase in tipping fee requirements for municipal solid waste and ash disposal. In addition, funding is included for the expanded Household Hazardous Waste (HHW) program.

### **Changes to FY 2015 Adopted Budget Plan**

*The following funding adjustments reflect all approved changes in the FY 2015 Revised Budget Plan since passage of the FY 2015 Adopted Budget Plan. Included are all adjustments made as part of the FY 2014 Carryover Review, and all other approved changes through December 31, 2014.*

- ◆ **Carryover Adjustments** **\$24,072**  
As part of the *FY 2014 Carryover Review*, the Board of Supervisors approved encumbered carryover of \$24,072 in Operating Expenses due to contractual services requirements.

# Fund 40160

## Energy/Resource Recovery Facility

### FUND STATEMENT

#### Fund 40160, Energy/Resource Recovery Facility (E/RRF)

	FY 2014 Actual	FY 2015 Adopted Budget Plan	FY 2015 Revised Budget Plan	FY 2016 Advertised Budget Plan
<b>Beginning Balance</b>	\$46,300,636	\$52,444,206	\$57,217,357	\$64,364,557
Revenue:				
Disposal Revenue <sup>1</sup>	\$28,298,195	\$31,193,600	\$28,550,000	\$25,112,350
Interest on Investments	42,854	150,000	53,811	53,811
Miscellaneous <sup>2</sup>	0	125,000	125,000	792,000
<b>Total Revenue</b>	\$28,341,049	\$31,468,600	\$28,728,811	\$25,958,161
<b>Total Available</b>	\$74,641,685	\$83,912,806	\$85,946,168	\$90,322,718
Expenditures:				
Personnel Services	\$930,747	\$980,027	\$980,027	\$1,007,222
Operating Expenses <sup>3</sup>	16,451,581	20,535,512	20,559,584	24,791,786
<b>Total Expenditures</b>	\$17,382,328	\$21,515,539	\$21,539,611	\$25,799,008
Transfers Out:				
General Fund (10001) <sup>4</sup>	\$42,000	\$42,000	\$42,000	\$49,000
<b>Total Transfers Out:</b>	\$42,000	\$42,000	\$42,000	\$49,000
<b>Total Disbursements</b>	\$17,424,328	\$21,557,539	\$21,581,611	\$25,848,008
<b>Ending Balance<sup>5</sup></b>	\$57,217,357	\$62,355,267	\$64,364,557	\$64,474,710
Tipping Fee Reserve <sup>6</sup>	\$1,500,000	\$1,500,000	\$1,500,000	\$1,500,000
Rate Stabilization Reserve <sup>7</sup>	45,717,357	50,855,267	51,855,267	51,974,710
Operations and Maintenance Reserve <sup>8</sup>	10,000,000	10,000,000	11,009,290	11,000,000
<b>Unreserved Ending Balance</b>	\$0	\$0	\$0	\$0
Disposal Rate/Ton	\$29	\$29	\$29	\$29

<sup>1</sup> The decrease in FY 2015 and FY 2016 revenue reflects lower disposal tonnage in line with FY 2014 actual experience. The fund is absorbing the reduction through a higher than projected beginning balance.

<sup>2</sup> Miscellaneous Revenue is generated by the excess amount that Covanta Fairfax, Inc. (CFI) charges for the disposal of Supplemental Waste.

<sup>3</sup> Operating Expenses rise in FY 2016 as a result of the new Waste Disposal Agreement.

<sup>4</sup> Funding in the amount of \$49,000 is transferred to the General Fund to partially offset central support services supported by the General Fund which benefit Fund 40160. These indirect costs include support services such as Human Resources, Purchasing, Budget and other administrative services.

<sup>5</sup> Ending balance fluctuations are a result of operating and revenue requirements that change annually. Funding is carried forward each fiscal year to provide flexibility given the uncertainty of market conditions, tipping fee negotiations, and expenditure requirements.

<sup>6</sup> The Tipping Fee Reserve is used to buffer against sharp annual changes in tipping fees. Potential changes could result from issues such as tax changes regarding energy sales, power deregulation, state or EPA environmental fees, and/or contract changes.

<sup>7</sup> The Rate Stabilization Reserve (RSR) is maintained in order to safeguard against significant increases in tipping fees charged to users of the E/RRF. This reserve peaked in FY 2015 and is being used in FY 2016 as a result of the new Waste Disposal Agreement that increased disposal cost to the County.

<sup>8</sup> The Operations and Maintenance Reserve is maintained for ongoing improvements and enhancements to the E/RRF including emissions control efforts. Future projects may include additional retrofits to the air pollution control systems for reductions in nitrogen oxides. The reserve will fund the County's share of the initial capital expenditures on the improvements, future uses would include end-of-lease site management.