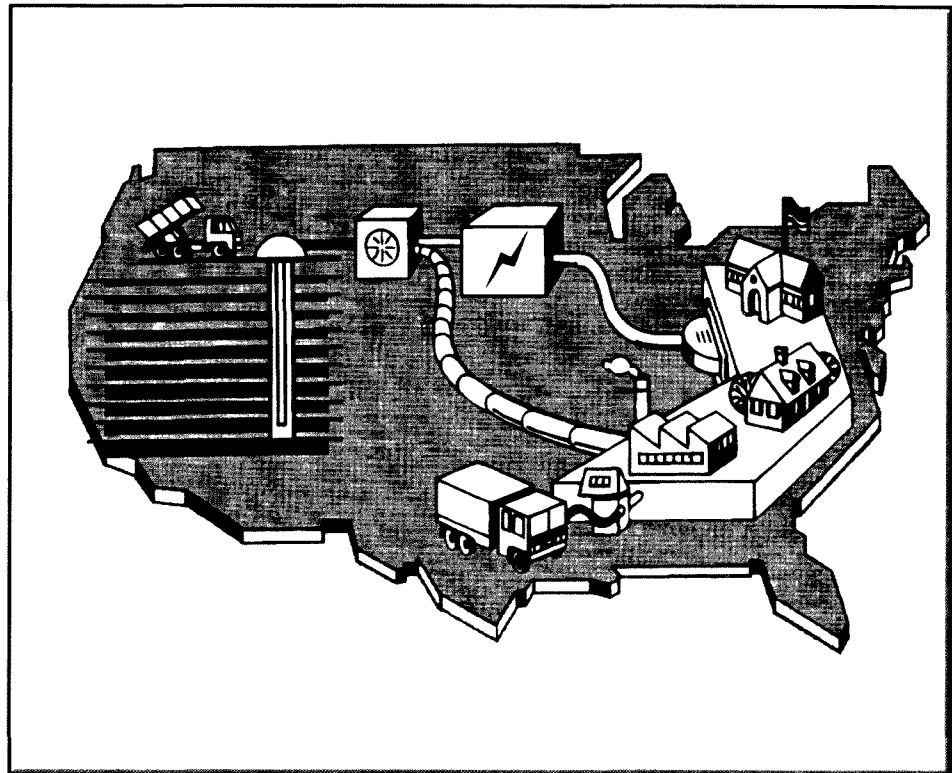




# Landfill Gas-to-Energy Project Opportunities

## Landfill Profiles for the State of Virginia



## EPA Landfill Methane Outreach Program



The EPA Landfill Methane Outreach Program, a key component of the United State's *Climate Change Action Plan*, encourages the use of landfill gas (LFG) as an energy resource. EPA assists utilities, municipal and private landfill owners and operators, tribes, and state agencies in reducing methane emissions from landfills through the development of profitable landfill energy recovery projects. Methane captured from landfills can be transformed into a cost-effective fuel source for electricity, heat, boiler and vehicular fuel, or sale to a pipeline. EPA estimates there are approximately 200 landfill methane recovery projects in the U.S. and that up to 750 landfills could install economically viable landfill energy projects.

The Landfill Methane Outreach Program includes five important components: the State Ally, Energy Ally, Industry Ally, Community Partner, and Endorser programs. EPA establishes separate alliances with state agencies, energy providers (including investor-owned, municipal and other public power utilities and cooperatives), key trade and public sector associations, members of the landfill gas development industry (including developers, engineers, equipment vendors, and others) and local communities, municipalities and landfill owner/operators through a Memorandum of Understanding (MOU). By signing the MOU, each Ally/Partner acknowledges a shared commitment to the promotion of landfill gas-to-energy recovery at solid waste landfills, recognizes that the widespread use of landfill gas will reduce emissions of methane and other gases, and commits to undertake activities to enhance development of this resource. In return, EPA agrees to provide landfill gas-to-energy project assistance and public recognition of the Allies' and Partners' participation in the program.

## Introduction

Since 1994 the U.S. EPA's Landfill Methane Outreach Program (LMOP) has participated in an ongoing effort to gather information on Municipal Solid Waste landfills (MSW). A key component of the LMOP is to provide MSW landfill owners and operators, project developers, utilities, and other potential project participants with information on MSW landfills that may offer attractive energy development opportunities. This document presents state specific landfill information, hereinafter referred to as the landfill profiles. These profiles are useful to evaluate the potential for developing landfill gas-to-energy projects (LFGTE). EPA assembled this information from state and local sources as well as various national solid waste publications, landfill owners and operators, and project developers.

The EPA has prepared a separate document to describe the methodology used to develop the state-specific landfill profiles and estimate the benefits of using LFGTE as an energy source. The document, *Landfill Gas-to-Energy Project Opportunities, Background Information on Landfill Profiles*, contains background information on gas collection and use, describes the data fields according to the five sections listed on the landfill profiles, and where applicable, illustrates calculations and default values used to derive estimates. EPA strongly recommends that users read the document prior to using the landfill profiles. Users can obtain the document by calling the LMOP hotline at 1-888-STAR-YES.

### Data Sources

- EPA-ORD Landfill Gas Utilization-Survey (Thomeloe, 1997)
- Directory and Atlas of Solid Waste Disposal Facilities (SWA, 1994)
- Implementation Guide for Landfill Gas Recovery Projects in the Northeast (SCS, 1994)
- Landfill Gas-to-Energy 1994-1995 Activity Report (SWT, 1994)
- Methane Recovery from Landfill Yearbook (GAA, 1994)
- Project developers, landfill owners, and operators
- State and local records
- Survey of Landfill Gas Generation Potential (EPRI, 1992)
- U.S. Landfill Directory (SWANA, 1992)

## Landfill Classification

To facilitate the use of available landfill information, EPA has categorized the landfills into five categories: Current Project,<sup>1</sup> Candidate Project, Shutdown, Other, and Unknown waste-in-place (WIP). These categories are based on the status of the landfill's LFGTE project(s) and WIP. The generation of methane is a function of many factors, the most critical being the amount of waste-in-place and the number of years the waste has been in the landfill. Peak methane generation occurs soon after closure; therefore, the longer the landfill has been closed, the less attractive it becomes for methane recovery. Based on the general timing of peak methane generation, EPA assumes that landfills that ceased accepting waste prior to 1993 have a low probability of generating enough methane to make a gas recovery project economical. Consequently, landfills need to be operating in 1993 to be considered as having a Candidate Project.

### Landfill Categorizes

#### Current Project:

- Landfill with operational LFGTE project or landfill with LFGTE project under construction.

#### Candidate Project:

- Landfill with a potential or planned LFGTE utilization project; or
- Landfill is currently operating or closed after 1993; and has more than 1,000,000 tons of municipal solid waste-in-place.<sup>2</sup>

#### Shutdown:

- Landfill with shutdown LFGTE project.

#### Other:

- Landfill has less than 1,000,000 tons of municipal solid waste-in-place with no current or planned LFGTE project.

#### Unknown WIP:

- Landfill with insufficient data to determine the waste-in-place.

## State Summary

State-specific landfill profile information is summarized in three exhibits. Exhibit 1 presents a summary of the state-specific potential for LFG utilization energy by landfill category. Exhibit 2 summarizes the emissions avoided by fossil fuel displacement for electricity generation and direct use projects. Exhibit 3 presents an index of the state-specific MSW landfills, referenced by category, landfill name and general characteristics.

<sup>1</sup> Current projects illustrate the wide range of successful project development options.

<sup>2</sup> By modeling the relationship between WIP and methane generation, a cut-off of 1,000,000 tons of WIP was established; landfills having at least 1,000,000 tons of WIP are considered candidate landfills.



## Exhibit 1: Virginia MSW Landfill Summary

Category	No. of Landfills	Est. Capacity Potential		Est. CH4 Generation (mmscf/d)	Methane Reduction (tons/yr)		CO2 Equivalent of CH4 Reduction (tons/yr)	
		Electricity (MW)	Gas Capacity (mmBtu/hr)		Potential	Current	Potential	Current
Current	9	69	688	22	127,272	44,865	2,672,702	942,167
Candidate	17	57	570	18	105,463	5,782	2,214,729	121,414
Shutdown	2	3	26	1	4,789	5,011	100,559	105,227
Other	6	2	24	1	4,388	0	92,148	0
Unknown WIP	6							
Total	40	131	1,308	42	241,911	55,658	5,080,137	1,168,808

## Exhibit 2: Potential Virginia Emissions Avoided by Fossil Fuel Displacement

Category	Electricity Generation Project						Direct Use Project					
	CO2 (tons/yr)			SO2 (tons/yr)			CO2 (tons/yr)			SO2 (tons/yr)		
	Coal	Oil	Natural Gas	Coal	Oil	Natural Gas	Coal	Oil	Natural Gas	Coal	Oil	Natural Gas
Current	543,811	446,336	300,122	3,437	2,873	0	383,261	314,563	211,516	3,487	1,833	2
Candidate	449,098	368,599	247,851	2,839	2,372	0	317,588	260,662	175,273	2,890	1,519	2
Shutdown	20,521	16,843	11,325	130	108	0	14,420	11,835	7,958	131	69	0
Other	18,153	14,899	10,019	115	96	0	13,214	10,846	7,293	120	63	0
Unknown WIP												
Total	1,031,584	846,677	569,318	6,520	5,450	0	728,483	597,906	402,040	6,629	3,484	4

### Exhibit 3: Index of Landfills in Virginia

Category	Landfill Name	WIP			Landfill Operating in 1998	LFG Collected	LFG Utilization Project	Status of LFGTE Project
		<2.5 million tons	2.5 to 4 million tons	>4 million tons				
Current	1-95 Lorton LF	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Operational
Current	1-95 Lorton LF	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Operational
Current	1-95 Lorton LF	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Operational
Current	Big Bethel LF	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Construction
Current	Big Bethel LF	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Operational
Current	Independent Hill LF Prince William	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Construction
Current	Old Dominion Landfill	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Operational
Current	SPSA Regional LF	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Operational
Current	SPSA Regional LF	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Operational
Candidate	Albemarle Ivy SF	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Potential
Candidate	Atlantic Waste Disposal SLF	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Potential
Candidate	Charles City County SLF	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Planned
Candidate	Danville City SLF	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Potential
Candidate	Frederick County Winchester SLF	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Potential
Candidate	Greene County	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Planned
Candidate	Loudoun County LF	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Unknown
Candidate	Lynchburg City LF	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Planned
Candidate	Maplewood Recycling and Waste Dispo	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Planned
Candidate	Martinsville City LF	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Potential
Candidate	Newport News LF	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Unknown
Candidate	Newport News Solid Waste Disposal F	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Planned
Candidate	Nuckols Road LF	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Planned
Candidate	Petersburg City LF	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Unknown
Candidate	Shoosmith Richmond Area LF	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Planned
Candidate	Smith Gap Regional Landfill	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Potential
Candidate	Virginia Beach LF #2 Mount Trashmore	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Planned
Shutdown	Carver Heights Landfill Gas Project	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Shutdown
Shutdown	Dinwiddie County Landfill Gas Project	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Shutdown
Other	Bedford City Hyton Site	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Unknown
Other	Bedford County SLF	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Unknown
Other	Chesterfield County Northern Area LF	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Unknown
Other	Franklin County SLF	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Unknown
Other	Orange County LF	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Unknown
Other	Stafford County LF	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Unknown
Unknown WIP	Amelia County SLF	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Unknown
Unknown WIP	Frederick County SLF	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Unknown
Unknown WIP	Lynchburg City SLF	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Unknown
Unknown WIP	Madison District LF	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Unknown
Unknown WIP	Rutrough Road Landfill	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Unknown

### Exhibit 3: Index of Landfills in Virginia

Category	Landfill Name	WIP			Landfill Operating in 1998	LFG Collected	LFG Utilization Project	Status of LFGTE Project
		<2.5 million tons	2.5 to 4 million tons	>4 million tons				
Unknown WIP	Woods Road SLF	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Unknown

**A. GENERAL LANDFILL INFORMATION**

Landfill Owner:		Annual Acceptance Rate (tons):	286,000
Landfill Owner Type:	Public	Year Annual Acceptance Rate Reported:	
Alternative Landfill Name:	195 Resource Recovery LF	Design Capacity (tons):	
City:	Fairfax	Acres Currently Landfilled (acres):	300
County:	Fairfax	Average Depth (feet):	100
State:	VA	Waste-in-Place (tons):	
Year Open:	1973	1998 Waste-in-Place (tons):	29,034,133
Year Closed:	1995		

**B. LANDFILL GAS COLLECTION**

Estimated Methane Generation (mmscf/d):	7.84
LFG Collection System Status:	Operational
Current LFG Collected (mmscf/d):	3.3
Collection and Treatment System Required Under NSPS/EG:	No

**C. LANDFILL GAS UTILIZATION**

## Current Utilization:

Utilization System Status:	Operational
Utilization System Type:	Reciprocating Engine
Utilization System Start Year:	1991
Electric Utility Provider(s):	
Natural Gas Provider(s):	
Energy Purchaser(s):	Virginia Electric & Power Co

Capacity:	Electricity Generation Project (MW)	OR	Direct Use Project (mmBtu/hr)
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Estimated Potential Capacity:	25	245
Current Capacity:	3.2	69
Planned Capacity:		

Utilities in County:	Northern Virginia Elec Coop; Southeastern Power Admin; Virginia Electric & Power Co
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**D. ENVIROMENTAL BENEFITS OF UTILIZATION**

	<i>Potential</i>		<i>Current</i>	
<i>Methane Reduction (tons/yr):</i>	45,352		12,720	
<i>CO2 Equivalent of CH4 Reduction (tons/yr):</i>	952,394		267,110	
<i>Emissions Avoided by Fossil Fuel Displacement:</i>	<i>Electricity Generation Project</i>		<i>Direct Use Project</i>	
	<i>CO2 (tons/yr)</i>	<i>SO2 (tons/yr)</i>	<i>CO2 (tons/yr)</i>	<i>SO2 (tons/yr)</i>
<i>Coal:</i>	193,373	1,222	136,572	1,243
<i>Fuel Oil:</i>	158,712	1,022	112,092	653
<i>Natural Gas:</i>	106,720	0	75,372	1

**E. CONTACT INFORMATION**

Landfill Owner		Landfill Operator
Contact Name:	Earl Delauder	
Mailing Address:	9850 Furnace Road	12000 Government Center Pkwy Suite 324
Phone Number:	703-690-1703	703-690-1525
Fax Number:		



**A. GENERAL LANDFILL INFORMATION**

Landfill Owner:		Annual Acceptance Rate (tons):	286,000
Landfill Owner Type:	Public	Year Annual Acceptance Rate Reported:	1998
Alternative Landfill Name:	I 95 Resource Recovery LF	Design Capacity (tons):	
City:	Fairfax	Acres Currently Landfilled (acres):	300
County:	Fairfax	Average Depth (feet):	100
State:	VA	1998 Waste-in-Place (tons):	18,072,000
Year Open:	1973	1998 Waste-in-Place (tons):	18,072,000
Year Closed:	1995		

**B. LANDFILL GAS COLLECTION**

Estimated Methane Generation (mmscf/d):	5.04
LFG Collection System Status:	
Current LFG Collected (mmscf/d):	1.44
Collection and Treatment System Required Under NSPS/EG:	No

**C. LANDFILL GAS UTILIZATION**

## Current Utilization:

Utilization System Status:	Operational
Utilization System Type:	Direct Thermal
Utilization System Start Year:	1997
Electric Utility Provider(s):	
Natural Gas Provider(s):	
Energy Purchaser(s):	Virginia Electric & Power Co

Capacity: Electricity Generation Project (MW) OR Direct Use Project (mmBtu/hr)

Estimated Potential Capacity:	16	158
Current Capacity:		30
Planned Capacity:		

Utilities in County: Northern Virginia Elec Coop; Southeastern Power Admin; Virginia Electric & Power Co

**D. ENVIROMENTAL BENEFITS OF UTILIZATION**

	Potential		Current	
Methane Reduction (tons/yr):	29,141		5,550	
CO2 Equivalent of CH4 Reduction (tons/yr):	611,969		116,556	
Emissions Avoided by Fossil Fuel Displacement:	Electricity Generation Project		Direct Use Project	
	CO2 (tons/yr)	SO2 (tons/yr)	CO2 (tons/yr)	SO2 (tons/yr)
Coal:	124,706	788	87,755	799
Fuel Oil:	102,353	659	72,026	420
Natural Gas:	68,823	0	48,431	0

**E. CONTACT INFORMATION**

## Landfill Owner

## Landfill Operator

Contact Name:	Earl Delauder	
Mailing Address:	9850 Furnace Road	12000 Government Center Pkwy Suite 324
Phone Number:	703-690-1703	703-690-1525
Fax Number:		

\* Italicized indicates values estimated by EPA.

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**A. GENERAL LANDFILL INFORMATION**

Landfill Owner:		Annual Acceptance Rate (tons):	286,000
Landfill Owner Type:	Public	Year Annual Acceptance Rate Reported:	1998
Alternative Landfill Name:	1 95 Resource Recovery LF	Design Capacity (tons):	
City:	Fairfax	Acres Currently Landfilled (acres):	300
County:	Fairfax	Average Depth (feet):	100
State:	VA	1998 Waste-in-Place (tons):	18,072,000
Year Open:	1973	1998 Waste-in-Place (tons):	18,072,000
Year Closed:	1995		

**B. LANDFILL GAS COLLECTION**

Estimated Methane Generation (mmscf/d):	5.04
LFG Collection System Status:	
Current LFG Collected (mmscf/d):	3.3
Collection and Treatment System Required Under NSPS/EG:	No

**C. LANDFILL GAS UTILIZATION**

## Current Utilization:

Utilization System Status:	Operational
Utilization System Type:	Reciprocating Engine
Utilization System Start Year:	1993
Electric Utility Provider(s):	
Natural Gas Provider(s):	
Energy Purchaser(s):	Virginia Electric & Power Co

Capacity:	Electricity Generation Project (MW)	OR	Direct Use Project (mmBtu/hr)
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Estimated Potential Capacity:	16	158
Current Capacity:	3.2	69
Planned Capacity:		

Utilities in County:	Northern Virginia Elec Coop; Southeastern Power Admin; Virginia Electric & Power Co
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**D. ENVIROMENTAL BENEFITS OF UTILIZATION**

	Potential		Current	
Methane Reduction (tons/yr):	29,141		12,720	
CO2 Equivalent of CH4 Reduction (tons/yr):	611,969		267,110	
Emissions Avoided by Fossil Fuel Displacement:	Electricity Generation Project		Direct Use Project	
	CO2 (tons/yr)	SO2 (tons/yr)	CO2 (tons/yr)	SO2 (tons/yr)
Coal:	124,706	788	87,755	799
Fuel Oil:	102,353	659	72,026	420
Natural Gas:	68,823	0	48,431	0

**E. CONTACT INFORMATION**

## Landfill Owner

## Landfill Operator

Contact Name:	Earl Delauder	
Mailing Address:	9850 Furnace Road	12000 Government Center Pkwy Suite 324
Phone Number:	703-690-1703	703-690-1525
Fax Number:		



**A. GENERAL LANDFILL INFORMATION**

Landfill Owner:		Annual Acceptance Rate (tons):	104,962
Landfill Owner Type:	Public	Year Annual Acceptance Rate Reported:	
Alternative Landfill Name:	Rivanna Solid Waste Authority LF	Design Capacity (tons):	
City:	Charlottesville	Acres Currently Landfilled (acres):	
County:	Albemarle	Average Depth (feet):	
State:	VA	Waste-in-Place (tons):	2,519,088
Year Open:	1973	1998 Waste-in-Place (tons):	2,519,088
Year Closed:	2013		

**B. LANDFILL GAS COLLECTION**

Estimated Methane Generation (mmscf/d):	1.06
LFG Collection System Status:	
Current LFG Collected (mmscf/d):	
Collection and Treatment System Required Under NSPS/EG:	No

**C. LANDFILL GAS UTILIZATION**

Current Utilization:			
Utilization System Status:	Potential		
Utilization System Type:	Unknown		
Utilization System Start Year:			
Electric Utility Provider(s):			
Natural Gas Provider(s):			
Energy Purchaser(s):			
Capacity:	Electricity Generation Project (MW)	OR	Direct Use Project (mmBtu/hr)
Estimated Potential Capacity:	3		
Current Capacity:			
Planned Capacity:			

Utilities in County: Central Virginia Electric Coop; Rappahannock Electric Coop; Southeastern Power Admin; Virginia E

**D. ENVIROMENTAL BENEFITS OF UTILIZATION**

	Potential		Current	
Methane Reduction (tons/yr):		6,142		0
CO2 Equivalent of CH4 Reduction (tons/yr):		128,978		0
Emissions Avoided by Fossil Fuel Displacement:	Electricity Generation Project		Direct Use Project	
	CO2 (tons/yr)	SO2 (tons/yr)	CO2 (tons/yr)	SO2 (tons/yr)
Coal:	26,046	165	18,495	168
Fuel Oil:	21,378	138	15,180	89
Natural Gas:	14,375	0	10,207	0

**E. CONTACT INFORMATION**

	Landfill Owner	Landfill Operator
Contact Name:	Steve Chitzy	Leonard Walker
Mailing Address:	401 McIntyre Road	PO Box 979
Phone Number:	804-977-2970 ext. 129	804-977-2976
Fax Number:		

\* Italicized indicates values estimated by EPA.

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**A. GENERAL LANDFILL INFORMATION**

Landfill Owner:	Atlantic Waste Disposal	Annual Acceptance Rate (tons):	
Landfill Owner Type:	Private	Year Annual Acceptance Rate Reported:	
Alternative Landfill Name:		Design Capacity (tons):	1,559,688
City:	Sussex	Acres Currently Landfilled (acres):	206
County:	Sussex	Average Depth (feet):	
State:	VA	Waste-in-Place (tons):	
Year Open:	1991	1998 Waste-in-Place (tons):	
Year Closed:	1996		

**B. LANDFILL GAS COLLECTION**

Estimated Methane Generation (mmscf/d):

LFG Collection System Status:

Current LFG Collected (mmscf/d):

Collection and Treatment System Required Under NSPS/EG: No

**C. LANDFILL GAS UTILIZATION**

## Current Utilization:

Utilization System Status: Potential

Utilization System Type: Unknown

Utilization System Start Year:

Electric Utility Provider(s):

Natural Gas Provider(s):

Energy Purchaser(s):

Capacity: Electricity Generation Project (MW) OR Direct Use Project (mmBtu/hr)

Estimated Potential Capacity:

Current Capacity:

Planned Capacity:

Utilities in County: Community Electric Cooperative; Mecklenburg Electric Coop; Prince George Electric Coop; Southeast

**D. ENVIRONMENTAL BENEFITS OF UTILIZATION**

	Potential	Current
Methane Reduction (tons/yr):		
CO2 Equivalent of CH4 Reduction (tons/yr):		
Emissions Avoided by Fossil Fuel Displacement:	Electricity Generation Project	Direct Use Project
	CO2 (tons/yr) SO2 (tons/yr)	CO2 (tons/yr) SO2 (tons/yr)
Coal:		
Fuel Oil:		
Natural Gas:		

**E. CONTACT INFORMATION**

Landfill Owner

Landfill Operator

Contact Name:	Carlton Duddings	
Mailing Address:	4451 Crossings Boulevard	3474 Atlantic Lane
Phone Number:	804-748-8690	804-834-8300
Fax Number:		

\* Italicized indicates values estimated by EPA.

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**A. GENERAL LANDFILL INFORMATION**

Landfill Owner:	WMI	Annual Acceptance Rate (tons):	
Landfill Owner Type:	Private	Year Annual Acceptance Rate Reported:	
Alternative Landfill Name:	Big Bethel LF Big Bethel LF SLF Incorporat	Design Capacity (tons):	
City:	Newport News	Acres Currently Landfilled (acres):	316
County:	Hampton	Average Depth (feet):	
State:	VA	Waste-in-Place (tons):	
Year Open:	1988	1998 Waste-in-Place (tons):	
Year Closed:	2000		

**B. LANDFILL GAS COLLECTION**

Estimated Methane Generation (mmscf/d):

LFG Collection System Status:

Current LFG Collected (mmscf/d):

Collection and Treatment System Required Under NSPS/EG: No

**C. LANDFILL GAS UTILIZATION**

## Current Utilization:

Utilization System Status: Operational

Utilization System Type: Leachate Evaporation

Utilization System Start Year: 1997

Electric Utility Provider(s):

Natural Gas Provider(s):

Energy Purchaser(s):

Capacity: Electricity Generation Project (MW) OR Direct Use Project (mmBtu/hr)

Estimated Potential Capacity:

Current Capacity:

Planned Capacity:

Utilities in County: Southeastern Power Admin; Virginia Electric & Power Co

**D. ENVIROMENTAL BENEFITS OF UTILIZATION**

	Potential	Current
Methane Reduction (tons/yr):		
CO2 Equivalent of CH4 Reduction (tons/yr):		
Emissions Avoided by Fossil Fuel Displacement:	Electricity Generation Project	Direct Use Project
	CO2 (tons/yr) SO2 (tons/yr)	CO2 (tons/yr) SO2 (tons/yr)
Coal:		
Fuel Oil:		
Natural Gas:		

**E. CONTACT INFORMATION**

	Landfill Owner	Landfill Operator
Contact Name:	M Freeman	
Mailing Address:	2972 Armistead Avenue	6201 Powers Ferry Road Suite 150
Phone Number:	804-766-1092	804-723-5273
Fax Number:		

\* Italicized indicates values estimated by EPA.

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**A. GENERAL LANDFILL INFORMATION**

Landfill Owner:	Sanifill	Annual Acceptance Rate (tons):	
Landfill Owner Type:	Private	Year Annual Acceptance Rate Reported:	1998
Alternative Landfill Name:		Design Capacity (tons):	
City:	Newport News	Acres Currently Landfilled (acres):	316
County:	Hampton	Average Depth (feet):	
State:	VA	1998 Waste-in-Place (tons):	
Year Open:	1988	1998 Waste-in-Place (tons):	
Year Closed:	2000		

**B. LANDFILL GAS COLLECTION***Estimated Methane Generation (mmscf/d):*

LFG Collection System Status:

Current LFG Collected (mmscf/d):

Collection and Treatment System Required Under NSPS/EG: No

**C. LANDFILL GAS UTILIZATION**

Current Utilization:

Utilization System Status:	Construction
Utilization System Type:	Reciprocating Engine
Utilization System Start Year:	1998
Electric Utility Provider(s):	
Natural Gas Provider(s):	
Energy Purchaser(s):	

Capacity: Electricity Generation Project (MW) OR Direct Use Project (mmBtu/hr)

*Estimated Potential Capacity:*

Current Capacity:

Planned Capacity: 0.095

Utilities in County: Southeastern Power Admin; Virginia Electric &amp; Power Co

**D. ENVIROMENTAL BENEFITS OF UTILIZATION**

	Potential	Current
<i>Methane Reduction (tons/yr):</i>		
<i>CO2 Equivalent of CH4 Reduction (tons/yr):</i>		
<i>Emissions Avoided by Fossil Fuel Displacement:</i>	<i>Electricity Generation Project</i> CO2 (tons/yr)      SO2 (tons/yr)	<i>Direct Use Project</i> CO2 (tons/yr)      SO2 (tons/yr)
Coal:		
Fuel Oil:		
Natural Gas:		

**E. CONTACT INFORMATION**

Landfill Owner

Landfill Operator

Contact Name:	M Freeman	
Mailing Address:	2972 Armistead Avenue	6201 Powers Ferry Road Suite 150
Phone Number:	804-766-1092	804-723-5273
Fax Number:		



**A. GENERAL LANDFILL INFORMATION**

Landfill Owner:	Chesterfield County	Annual Acceptance Rate (tons):	
Landfill Owner Type:	Public	Year Annual Acceptance Rate Reported:	
Alternative Landfill Name:	Carver Heights LF	Design Capacity (tons):	
City:	Chester	Acres Currently Landfilled (acres):	86
County:	Chesterfield	Average Depth (feet):	28
State:	VA	1994 Waste-in-Place (tons):	1,250,000
Year Open:	1962	1998 Waste-in-Place (tons):	1,250,000
Year Closed:	1990		

**B. LANDFILL GAS COLLECTION**

Estimated Methane Generation (mmscf/d):	0.67
LFG Collection System Status:	Operational
Current LFG Collected (mmscf/d):	0.9
Collection and Treatment System Required Under NSPS/EG:	No

**C. LANDFILL GAS UTILIZATION**

## Current Utilization:

Utilization System Status:	Shutdown
Utilization System Type:	Reciprocating Engine
Utilization System Start Year:	1994
Electric Utility Provider(s):	
Natural Gas Provider(s):	
Energy Purchaser(s):	Virginia Electric & Power Co

Capacity:	Electricity Generation Project (MW)	OR	Direct Use Project (mmBtu/hr)
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Estimated Potential Capacity:	2	21
Current Capacity:		
Planned Capacity:	1.6	19

Utilities in County:	Southeastern Power Admin; Southside Electric Coop Inc; Virginia Electric & Power Co
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**D. ENVIRONMENTAL BENEFITS OF UTILIZATION**

	<i>Potential</i>		<i>Current</i>	
<i>Methane Reduction (tons/yr):</i>		3,869		3,469
<i>CO2 Equivalent of CH4 Reduction (tons/yr):</i>		81,249		72,849
<i>Emissions Avoided by Fossil Fuel Displacement:</i>	<i>Electricity Generation Project</i>		<i>Direct Use Project</i>	
	<i>CO2 (tons/yr)</i>	<i>SO2 (tons/yr)</i>	<i>CO2 (tons/yr)</i>	<i>SO2 (tons/yr)</i>
<i>Coal:</i>	16,575	105	11,651	106
<i>Fuel Oil:</i>	13,604	88	9,563	56
<i>Natural Gas:</i>	9,147	0	6,430	0

**E. CONTACT INFORMATION**

Landfill Owner

Landfill Operator

Contact Name:

Mailing Address:

Phone Number:

Fax Number:

\* *Italicized indicates values estimated by EPA.*

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**A. GENERAL LANDFILL INFORMATION**

Landfill Owner:		Annual Acceptance Rate (tons):	800,800
Landfill Owner Type:	Private	Year Annual Acceptance Rate Reported:	
Alternative Landfill Name:	Chambers Charles City LF; Chambers LF; C	Design Capacity (tons):	
City:	Charles City	Acres Currently Landfilled (acres):	294
County:	Charles City	Average Depth (feet):	
State:	VA	Waste-in-Place (tons):	6,406,400
Year Open:	1989	1998 Waste-in-Place (tons):	6,406,400
Year Closed:	2011		

**B. LANDFILL GAS COLLECTION**

Estimated Methane Generation (mmscf/d): 2.06

LFG Collection System Status:

Current LFG Collected (mmscf/d):

Collection and Treatment System Required Under NSPS/EG: No

**C. LANDFILL GAS UTILIZATION**

## Current Utilization:

Utilization System Status: Planned

Utilization System Type: Unknown

Utilization System Start Year: 2000

Electric Utility Provider(s):

Natural Gas Provider(s):

Energy Purchaser(s):

Capacity: Electricity Generation Project (MW) OR Direct Use Project (mmBtu/hr)

Estimated Potential Capacity:	6	64
Current Capacity:		
Planned Capacity:		

Utilities in County: Southeastern Power Admin; Virginia Electric & Power Co

**D. ENVIROMENTAL BENEFITS OF UTILIZATION**

	Potential		Current	
Methane Reduction (tons/yr):	11,890		0	
CO2 Equivalent of CH4 Reduction (tons/yr):	249,698		0	
Emissions Avoided by Fossil Fuel Displacement:	Electricity Generation Project		Direct Use Project	
	CO2 (tons/yr)	SO2 (tons/yr)	CO2 (tons/yr)	SO2 (tons/yr)
Coal:	50,514	319	35,806	326
Fuel Oil:	41,459	267	29,388	171
Natural Gas:	27,878	0	19,761	0

**E. CONTACT INFORMATION**

	Landfill Owner	Landfill Operator
Contact Name:	Lee Wilson	William Cooksey
Mailing Address:	8000 Chambers Road	8000 Chambers Road
Phone Number:	804-966-7146	804-966-7146
Fax Number:		

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**A. GENERAL LANDFILL INFORMATION**

Landfill Owner:		Annual Acceptance Rate (tons):	114,400
Landfill Owner Type:	Public	Year Annual Acceptance Rate Reported:	
Alternative Landfill Name:		Design Capacity (tons):	
City:	Danville	Acres Currently Landfilled (acres):	
County:	Danville	Average Depth (feet):	
State:	VA	Waste-in-Place (tons):	2,745,600
Year Open:	1973	1998 Waste-in-Place (tons):	2,745,600
Year Closed:			

**B. LANDFILL GAS COLLECTION**

Estimated Methane Generation (mmscf/d):	1.12
LFG Collection System Status:	
Current LFG Collected (mmscf/d):	
Collection and Treatment System Required Under NSPS/EG:	No

**C. LANDFILL GAS UTILIZATION**

## Current Utilization:

Utilization System Status:	Potential
Utilization System Type:	Unknown
Utilization System Start Year:	
Electric Utility Provider(s):	
Natural Gas Provider(s):	
Energy Purchaser(s):	

Capacity:	Electricity Generation Project (MW)	OR	Direct Use Project (mmBtu/hr)
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Estimated Potential Capacity:	4	35
Current Capacity:		
Planned Capacity:		

Utilities in County:	Southeastern Power Admin
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**D. ENVIROMENTAL BENEFITS OF UTILIZATION**

	Potential	Current
Methane Reduction (tons/yr):	6,477	0
CO2 Equivalent of CH4 Reduction (tons/yr):	136,013	0
Emissions Avoided by Fossil Fuel Displacement:	Electricity Generation Project	Direct Use Project
	CO2 (tons/yr) SO2 (tons/yr)	CO2 (tons/yr) SO2 (tons/yr)
Coal:	27,625 175	19,504 178
Fuel Oil:	22,673 146	16,008 93
Natural Gas:	15,246 0	10,764 0

**E. CONTACT INFORMATION**

	Landfill Owner	Landfill Operator
Contact Name:	Tom Spicer, City Manager	
Mailing Address:	PO Box 3300	PO Box 3300
Phone Number:	804-799-5245	804-799-5100
Fax Number:		

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**A. GENERAL LANDFILL INFORMATION**

Landfill Owner:	Dinwiddie County	Annual Acceptance Rate (tons):	
Landfill Owner Type:	Public	Year Annual Acceptance Rate Reported:	
Alternative Landfill Name:	Dinwiddie County LF	Design Capacity (tons):	
City:	Dinwiddie	Acres Currently Landfilled (acres):	10
County:	Dinwiddie	Average Depth (feet):	30
State:	VA	1994 Waste-in-Place (tons):	450,000
Year Open:	1979	1998 Waste-in-Place (tons):	450,000
Year Closed:	1994		

**B. LANDFILL GAS COLLECTION**

Estimated Methane Generation (mmscf/d):	0.16
LFG Collection System Status:	Operational
Current LFG Collected (mmscf/d):	0.4
Collection and Treatment System Required Under NSPS/EG:	No

**C. LANDFILL GAS UTILIZATION**

## Current Utilization:

Utilization System Status:	Shutdown
Utilization System Type:	Reciprocating Engine
Utilization System Start Year:	1994
Electric Utility Provider(s):	
Natural Gas Provider(s):	
Energy Purchaser(s):	Virginia Electric & Power Co

Capacity:	Electricity Generation Project (MW)	OR	Direct Use Project (mmBtu/hr)
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Estimated Potential Capacity:	1	5
Current Capacity:		
Planned Capacity:	0.8	8

Utilities in County:	Prince George Electric Coop; Southeastern Power Admin; Southside Electric Coop Inc; Virginia Elec
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**D. ENVIROMENTAL BENEFITS OF UTILIZATION**

	<i>Potential</i>		<i>Current</i>	
<i>Methane Reduction (tons/yr):</i>	920		1,542	
<i>CO2 Equivalent of CH4 Reduction (tons/yr):</i>	19,310		32,378	
<i>Emissions Avoided by Fossil Fuel Displacement:</i>	<i>Electricity Generation Project</i>		<i>Direct Use Project</i>	
	<i>CO2 (tons/yr)</i>	<i>SO2 (tons/yr)</i>	<i>CO2 (tons/yr)</i>	<i>SO2 (tons/yr)</i>
<i>Coal:</i>	3,946	25	2,769	25
<i>Fuel Oil:</i>	3,239	21	2,273	13
<i>Natural Gas:</i>	2,178	0	1,528	0

**E. CONTACT INFORMATION**

Landfill Owner		Landfill Operator
Contact Name:		
Mailing Address:		
Phone Number:	804-469-4545	
Fax Number:		



**A. GENERAL LANDFILL INFORMATION**

Landfill Owner:		Annual Acceptance Rate (tons):	121,550
Landfill Owner Type:	Public	Year Annual Acceptance Rate Reported:	
Alternative Landfill Name:		Design Capacity (tons):	
City:	Winchester	Acres Currently Landfilled (acres):	
County:	Frederick	Average Depth (feet):	
State:	VA	Waste-in-Place (tons):	3,160,300
Year Open:	1971	1998 Waste-in-Place (tons):	3,160,300
Year Closed:	2013		

**B. LANDFILL GAS COLLECTION**

Estimated Methane Generation (mmscf/d):	1.23
LFG Collection System Status:	
Current LFG Collected (mmscf/d):	
Collection and Treatment System Required Under NSPS/EG:	No

**C. LANDFILL GAS UTILIZATION**

## Current Utilization:

Utilization System Status:	Potential
Utilization System Type:	Leachate Evaporation
Utilization System Start Year:	
Electric Utility Provider(s):	
Natural Gas Provider(s):	
Energy Purchaser(s):	

Capacity:	Electricity Generation Project (MW)	OR	Direct Use Project (mmBtu/hr)
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Estimated Potential Capacity:	4	38
Current Capacity:		
Planned Capacity:		

Utilities in County:	Potomac Edison Co; Southeastern Power Admin
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**D. ENVIROMENTAL BENEFITS OF UTILIZATION**

	Potential		Current	
Methane Reduction (tons/yr):	7,090		0	
CO2 Equivalent of CH4 Reduction (tons/yr):	148,892		0	
Emissions Avoided by Fossil Fuel Displacement:	Electricity Generation Project		Direct Use Project	
	CO2 (tons/yr)	SO2 (tons/yr)	CO2 (tons/yr)	SO2 (tons/yr)
Coal:	29,993	190	21,351	194
Fuel Oil:	24,617	159	17,524	102
Natural Gas:	16,553	0	11,783	0

**E. CONTACT INFORMATION**

	Landfill Owner	Landfill Operator
Contact Name:	Ed Strawsnyder, Director of Public Works	
Mailing Address:	107 North Kent Street	9 North Loudoun Street 2nd floor
Phone Number:	703-667-2365	
Fax Number:		



**A. GENERAL LANDFILL INFORMATION**

Landfill Owner:	Greene County	Annual Acceptance Rate (tons):
Landfill Owner Type:	Public	Year Annual Acceptance Rate Reported:
Alternative Landfill Name:	Greene County LF	Design Capacity (tons):
City:	Stanardsville	Acres Currently Landfilled (acres):
County:	Greene	Average Depth (feet):
State:	VA	Waste-in-Place (tons):
Year Open:		<i>1998 Waste-in-Place (tons):</i>
Year Closed:		

**B. LANDFILL GAS COLLECTION**

*Estimated Methane Generation (mmscf/d):*

LFG Collection System Status: Planned

Current LFG Collected (mmscf/d):

Collection and Treatment System Required Under NSPS/EG: No

**C. LANDFILL GAS UTILIZATION**

## Current Utilization:

Utilization System Status: Planned

Utilization System Type: Reciprocating Engine

Utilization System Start Year: 2000

Electric Utility Provider(s):

Natural Gas Provider(s):

Energy Purchaser(s):

Capacity: Electricity Generation Project (MW) OR Direct Use Project (mmBtu/hr)

*Estimated Potential Capacity:*

Current Capacity:

Planned Capacity:

.3

Utilities in County: Central Virginia Electric Coop; Rappahannock Electric Coop; Southeastern Power Admin; Virginia E

**D. ENVIROMENTAL BENEFITS OF UTILIZATION**

	<i>Potential</i>	<i>Current</i>
<i>Methane Reduction (tons/yr):</i>		
<i>CO2 Equivalent of CH4 Reduction (tons/yr):</i>		
<i>Emissions Avoided by Fossil Fuel Displacement:</i>	<i>Electricity Generation Project</i>	<i>Direct Use Project</i>
	<i>CO2 (tons/yr)</i> <i>SO2 (tons/yr)</i>	<i>CO2 (tons/yr)</i> <i>SO2 (tons/yr)</i>
<i>Coal:</i>		
<i>Fuel Oil:</i>		
<i>Natural Gas:</i>		

**E. CONTACT INFORMATION**

Landfill Owner

Landfill Operator

Contact Name:

Mailing Address:

Phone Number:

804-985-7803

Fax Number:



**A. GENERAL LANDFILL INFORMATION**

Landfill Owner:	Prince William County	Annual Acceptance Rate (tons):	171,600
Landfill Owner Type:	Public	Year Annual Acceptance Rate Reported:	
Alternative Landfill Name:	Prince William County LF	Design Capacity (tons):	
City:	Prince William	Acres Currently Landfilled (acres):	860
County:	Prince William	Average Depth (feet):	
State:	VA	Waste-in-Place (tons):	
Year Open:	1971	1998 Waste-in-Place (tons):	
Year Closed:	2021		

**B. LANDFILL GAS COLLECTION***Estimated Methane Generation (mmscf/d):*

LFG Collection System Status:

Current LFG Collected (mmscf/d):

Collection and Treatment System Required Under NSPS/EG:

No

**C. LANDFILL GAS UTILIZATION**

Current Utilization:

Utilization System Status:	Construction
Utilization System Type:	Reciprocating Engine
Utilization System Start Year:	1998
Electric Utility Provider(s):	
Natural Gas Provider(s):	
Energy Purchaser(s):	Northern Virginia Electric Corp

Capacity: Electricity Generation Project (MW) OR Direct Use Project (mmBtu/hr)

*Estimated Potential Capacity:*

Current Capacity:

Planned Capacity:

1.6

Utilities in County:

Northern Virginia Elec Coop; Southeastern Power Admin; Virginia Electric &amp; Power Co

**D. ENVIROMENTAL BENEFITS OF UTILIZATION**

	Potential	Current
<i>Methane Reduction (tons/yr):</i>		
<i>CO2 Equivalent of CH4 Reduction (tons/yr):</i>		
<i>Emissions Avoided by Fossil Fuel Displacement:</i>	<i>Electricity Generation Project</i> CO2 (tons/yr)      SO2 (tons/yr)	<i>Direct Use Project</i> CO2 (tons/yr)      SO2 (tons/yr)
Coal:		
Fuel Oil:		
Natural Gas:		

**E. CONTACT INFORMATION**

Landfill Owner

Landfill Operator

Contact Name:	Thomas Smith	Thomas Smith
Mailing Address:	4379 Ridgewood Center Drive	4379 Ridgewood Center Drive
Phone Number:	703-792-6254	703-792-6254
Fax Number:		

\* *Italicized indicates values estimated by EPA.*

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**A. GENERAL LANDFILL INFORMATION**

Landfill Owner:	Loudoun County	Annual Acceptance Rate (tons):	57,200
Landfill Owner Type:	Public	Year Annual Acceptance Rate Reported:	
Alternative Landfill Name:		Design Capacity (tons):	
City:		Acres Currently Landfilled (acres):	88
County:	Loudoun	Average Depth (feet):	
State:	VA	Waste-in-Place (tons):	1,487,200
Year Open:	1971	1998 Waste-in-Place (tons):	1,487,200
Year Closed:	2010		

**B. LANDFILL GAS COLLECTION**

Estimated Methane Generation (mmscf/d): 0.80

LFG Collection System Status:

Current LFG Collected (mmscf/d):

Collection and Treatment System Required Under NSPS/EG: No

**C. LANDFILL GAS UTILIZATION**

## Current Utilization:

Utilization System Status: Unknown

Utilization System Type: Unknown

Utilization System Start Year:

Electric Utility Provider(s):

Natural Gas Provider(s):

Energy Purchaser(s):

Capacity: Electricity Generation Project (MW) OR Direct Use Project (mmBtu/hr)

Estimated Potential Capacity:	3	25
Current Capacity:		
Planned Capacity:		

Utilities in County: Northern Virginia Elec Coop; Southeastern Power Admin; Virginia Electric & Power Co

**D. ENVIROMENTAL BENEFITS OF UTILIZATION**

	<i>Potential</i>		<i>Current</i>	
<i>Methane Reduction (tons/yr):</i>	4,616		0	
<i>CO2 Equivalent of CH4 Reduction (tons/yr):</i>	96,934		0	
<i>Emissions Avoided by Fossil Fuel Displacement:</i>	<i>Electricity Generation Project</i>		<i>Direct Use Project</i>	
	<i>CO2 (tons/yr)</i>	<i>SO2 (tons/yr)</i>	<i>CO2 (tons/yr)</i>	<i>SO2 (tons/yr)</i>
<i>Coal:</i>	19,732	125	13,900	127
<i>Fuel Oil:</i>	16,195	104	11,409	67
<i>Natural Gas:</i>	10,890	0	7,671	0

**E. CONTACT INFORMATION**

	Landfill Owner	Landfill Operator
Contact Name:	Richard S. Webber, Department Engineer	Robert Montgomery
Mailing Address:	750 Miller Drive Suite 200	750 Miller Drive Suite 200
Phone Number:	703-771-5200	703-771-5200
Fax Number:		



**A. GENERAL LANDFILL INFORMATION**

Landfill Owner:	Lynchburg City	Annual Acceptance Rate (tons):	85,800
Landfill Owner Type:	Public	Year Annual Acceptance Rate Reported:	
Alternative Landfill Name:		Design Capacity (tons):	
City:	Lynchburg	Acres Currently Landfilled (acres):	
County:	Lynchburg	Average Depth (feet):	
State:	VA	Waste-in-Place (tons):	1,544,400
Year Open:	1979	1998 Waste-in-Place (tons):	1,544,400
Year Closed:	1995		

**B. LANDFILL GAS COLLECTION**

Estimated Methane Generation (mmscf/d): 0.81

LFG Collection System Status:

Current LFG Collected (mmscf/d):

Collection and Treatment System Required Under NSPS/EG: No

**C. LANDFILL GAS UTILIZATION**

## Current Utilization:

Utilization System Status: Planned

Utilization System Type: Direct Thermal

Utilization System Start Year: 2000

Electric Utility Provider(s):

Natural Gas Provider(s):

Energy Purchaser(s): Rock Tenn

Capacity: Electricity Generation Project (MW) OR Direct Use Project (mmBtu/hr)

Estimated Potential Capacity:	3	25
Current Capacity:		
Planned Capacity:		

Utilities in County: Appalachian Power Company; Southeastern Power Admin

**D. ENVIRONMENTAL BENEFITS OF UTILIZATION**

	<i>Potential</i>		<i>Current</i>	
Methane Reduction (tons/yr):	4,701		0	
CO2 Equivalent of CH4 Reduction (tons/yr):	98,711		0	
<i>Emissions Avoided by Fossil Fuel Displacement:</i>	<i>Electricity Generation Project</i>		<i>Direct Use Project</i>	
	<i>CO2 (tons/yr)</i>	<i>SO2 (tons/yr)</i>	<i>CO2 (tons/yr)</i>	<i>SO2 (tons/yr)</i>
Coal:	19,732	125	14,155	129
Fuel Oil:	16,195	104	11,618	68
Natural Gas:	10,890	0	7,812	0

**E. CONTACT INFORMATION**

Landfill Owner		Landfill Operator
Contact Name:	, City Manager	
Mailing Address:	PO Box 60	PO Box 60
Phone Number:	804-847-1659	804-847-1659
Fax Number:		

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**A. GENERAL LANDFILL INFORMATION**

Landfill Owner:		Annual Acceptance Rate (tons):	1,430,000
Landfill Owner Type:	Private	Year Annual Acceptance Rate Reported:	
Alternative Landfill Name:	Chambers Maplewood RDF	Design Capacity (tons):	25,794,841
City:	Amelia	Acres Currently Landfilled (acres):	404
County:	Amelia	Average Depth (feet):	
State:	VA	Waste-in-Place (tons):	5,720,000
Year Open:	1993	1998 Waste-in-Place (tons):	5,720,000
Year Closed:	2011		

**B. LANDFILL GAS COLLECTION**

Estimated Methane Generation (mmscf/d): 1.88

LFG Collection System Status:

Current LFG Collected (mmscf/d):

Collection and Treatment System Required Under NSPS/EG: No

**C. LANDFILL GAS UTILIZATION**

## Current Utilization:

Utilization System Status: Planned

Utilization System Type: Unknown

Utilization System Start Year:

Electric Utility Provider(s):

Natural Gas Provider(s):

Energy Purchaser(s):

Capacity: Electricity Generation Project (MW) OR Direct Use Project (mmBtu/hr)

Estimated Potential Capacity:	6	59
Current Capacity:		
Planned Capacity:		

Utilities in County: Southeastern Power Admin; Southside Electric Coop Inc; Virginia Electric & Power Co

**D. ENVIROMENTAL BENEFITS OF UTILIZATION**

	Potential		Current	
Methane Reduction (tons/yr):	10,875		0	
CO2 Equivalent of CH4 Reduction (tons/yr):	228,381		0	
Emissions Avoided by Fossil Fuel Displacement:	Electricity Generation Project		Direct Use Project	
	CO2 (tons/yr)	SO2 (tons/yr)	CO2 (tons/yr)	SO2 (tons/yr)
Coal:	46,567	294	32,750	298
Fuel Oil:	38,220	246	26,879	157
Natural Gas:	25,700	0	18,074	0

**E. CONTACT INFORMATION**

Landfill Owner		Landfill Operator
Contact Name:	Lee Wilson	Ronald Beaton
Mailing Address:	PO Box 168	PO Box 168
Phone Number:	804-561-5787	804-561-5787
Fax Number:		

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**A. GENERAL LANDFILL INFORMATION**

Landfill Owner:		Annual Acceptance Rate (tons):	92,950
Landfill Owner Type:	Public	Year Annual Acceptance Rate Reported:	
Alternative Landfill Name:		Design Capacity (tons):	
City:	Martinsville	Acres Currently Landfilled (acres):	
County:	Martinsville	Average Depth (feet):	
State:	VA	Waste-in-Place (tons):	2,323,750
Year Open:	1972	1998 Waste-in-Place (tons):	2,323,750
Year Closed:			

**B. LANDFILL GAS COLLECTION**

Estimated Methane Generation (mmscf/d):	1.01
LFG Collection System Status:	
Current LFG Collected (mmscf/d):	
Collection and Treatment System Required Under NSPS/EG:	No

**C. LANDFILL GAS UTILIZATION**

## Current Utilization:

Utilization System Status:	Potential
Utilization System Type:	Unknown
Utilization System Start Year:	
Electric Utility Provider(s):	
Natural Gas Provider(s):	
Energy Purchaser(s):	

Capacity:	Electricity Generation Project (MW)	OR	Direct Use Project (mmBtu/hr)
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Estimated Potential Capacity:	3	32
Current Capacity:		
Planned Capacity:		

Utilities in County:	Southeastern Power Admin
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**D. ENVIROMENTAL BENEFITS OF UTILIZATION**

	Potential	Current
Methane Reduction (tons/yr):	5,853	0
CO2 Equivalent of CH4 Reduction (tons/yr):	122,913	0

Emissions Avoided by Fossil Fuel Displacement:	Electricity Generation Project		Direct Use Project	
	CO2 (tons/yr)	SO2 (tons/yr)	CO2 (tons/yr)	SO2 (tons/yr)
Coal:	25,257	160	17,625	160
Fuel Oil:	20,730	133	14,466	84
Natural Gas:	13,939	0	9,727	0

**E. CONTACT INFORMATION**

Landfill Owner		Landfill Operator
Contact Name:	Jeff Joyce, City Manager	
Mailing Address:	PO Box 112	55 West Church Street
Phone Number:	540-656-5177	
Fax Number:		





**A. GENERAL LANDFILL INFORMATION**

Landfill Owner:	City of Newport News	Annual Acceptance Rate (tons):	0
Landfill Owner Type:	Public	Year Annual Acceptance Rate Reported:	1998
Alternative Landfill Name:		Design Capacity (tons):	
City:	Newport News	Acres Currently Landfilled (acres):	50
County:		Average Depth (feet):	80
State:	VA	1998 Waste-in-Place (tons):	1,250,000
Year Open:	1984	1998 Waste-in-Place (tons):	1,250,000
Year Closed:	1998		

**B. LANDFILL GAS COLLECTION**

Estimated Methane Generation (mmscf/d): 0.74

LFG Collection System Status:

Current LFG Collected (mmscf/d):

Collection and Treatment System Required Under NSPS/EG: No

**C. LANDFILL GAS UTILIZATION**

## Current Utilization:

Utilization System Status: Unknown

Utilization System Type: Unknown

Utilization System Start Year:

Electric Utility Provider(s):

Natural Gas Provider(s):

Energy Purchaser(s):

Capacity: Electricity Generation Project (MW) OR Direct Use Project (mmBtu/hr)

Estimated Potential Capacity:	2	23
Current Capacity:		
Planned Capacity:		

Utilities in County:

**D. ENVIROMENTAL BENEFITS OF UTILIZATION**

	Potential		Current	
Methane Reduction (tons/yr):	4,265		0	
CO2 Equivalent of CH4 Reduction (tons/yr):	89,567		0	
Emissions Avoided by Fossil Fuel Displacement:	Electricity Generation Project		Direct Use Project	
	CO2 (tons/yr)	SO2 (tons/yr)	CO2 (tons/yr)	SO2 (tons/yr)
Coal:	18,153	115	12,844	117
Fuel Oil:	14,899	96	10,542	61
Natural Gas:	10,019	0	7,088	0

**E. CONTACT INFORMATION**

	Landfill Owner	Landfill Operator
Contact Name:	David Sinclair	David Sinclair
Mailing Address:	513 Oyster Point Road	513 Oyster Point Road
Phone Number:	757-886-7948	757-886-7948
Fax Number:		

\* *Italicized indicates values estimated by EPA.*

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**A. GENERAL LANDFILL INFORMATION**

Landfill Owner:		Annual Acceptance Rate (tons):	171,600
Landfill Owner Type:	Public	Year Annual Acceptance Rate Reported:	
Alternative Landfill Name:	Newport News City LF	Design Capacity (tons):	
City:	Newport News	Acres Currently Landfilled (acres):	
County:	Newport News	Average Depth (feet):	80
State:	VA	1998 Waste-in-Place (tons):	1,250,000
Year Open:	1984	1998 Waste-in-Place (tons):	1,250,000
Year Closed:	1996		

**B. LANDFILL GAS COLLECTION**

Estimated Methane Generation (mmscf/d): 0.74

LFG Collection System Status:

Current LFG Collected (mmscf/d):

Collection and Treatment System Required Under NSPS/EG: No

**C. LANDFILL GAS UTILIZATION**

## Current Utilization:

Utilization System Status: Planned

Utilization System Type: Reciprocating Engine

Utilization System Start Year: 1999

Electric Utility Provider(s):

Natural Gas Provider(s):

Energy Purchaser(s):

Capacity: Electricity Generation Project (MW) OR Direct Use Project (mmBtu/hr)

Estimated Potential Capacity:	2	23
Current Capacity:		
Planned Capacity:		

Utilities in County: Southeastern Power Admin; Virginia Electric & Power Co

**D. ENVIROMENTAL BENEFITS OF UTILIZATION**

	<i>Potential</i>		<i>Current</i>	
<i>Methane Reduction (tons/yr):</i>		4,265		0
<i>CO2 Equivalent of CH4 Reduction (tons/yr):</i>		89,567		0
<i>Emissions Avoided by Fossil Fuel Displacement:</i>	<i>Electricity Generation Project</i>		<i>Direct Use Project</i>	
	<i>CO2 (tons/yr)</i>	<i>SO2 (tons/yr)</i>	<i>CO2 (tons/yr)</i>	<i>SO2 (tons/yr)</i>
<i>Coal:</i>	18,153	115	12,844	117
<i>Fuel Oil:</i>	14,899	96	10,542	61
<i>Natural Gas:</i>	10,019	0	7,088	0

**E. CONTACT INFORMATION**

	Landfill Owner	Landfill Operator
Contact Name:	David Sinclair, Solid Waste Administrator	David Sinclair
Mailing Address:	2400 Washington Avenue	2400 Washington Avenue
Phone Number:	804-249-5700	804-249-5700
Fax Number:		

\* *Italicized indicates values estimated by EPA.*

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**A. GENERAL LANDFILL INFORMATION**

Landfill Owner:	Henrico County	Annual Acceptance Rate (tons):	114,400
Landfill Owner Type:	Public	Year Annual Acceptance Rate Reported:	
Alternative Landfill Name:	Springfield Road LF #1	Design Capacity (tons):	
City:	Richmond	Acres Currently Landfilled (acres):	92
County:	Henrico	Average Depth (feet):	70
State:	VA	1998 Waste-in-Place (tons):	2,745,600
Year Open:	1965	1998 Waste-in-Place (tons):	2,745,600
Year Closed:	1990		

**B. LANDFILL GAS COLLECTION**

Estimated Methane Generation (mmscf/d): 1.04

LFG Collection System Status: Operational

Current LFG Collected (mmscf/d):

Collection and Treatment System Required Under NSPS/EG: No

**C. LANDFILL GAS UTILIZATION**

## Current Utilization:

Utilization System Status: Planned

Utilization System Type: Unknown

Utilization System Start Year:

Electric Utility Provider(s):

Natural Gas Provider(s):

Energy Purchaser(s): Virginia Electric & Power Co

Capacity: Electricity Generation Project (MW) OR Direct Use Project (mmBtu/hr)

Estimated Potential Capacity:	3	32
Current Capacity:		
Planned Capacity:		

Utilities in County: Southeastern Power Admin; Virginia Electric & Power Co

**D. ENVIROMENTAL BENEFITS OF UTILIZATION**

	Potential		Current	
Methane Reduction (tons/yr):	5,990		0	
CO2 Equivalent of CH4 Reduction (tons/yr):	125,782		0	
Emissions Avoided by Fossil Fuel Displacement:	Electricity Generation Project		Direct Use Project	
	CO2 (tons/yr)	SO2 (tons/yr)	CO2 (tons/yr)	SO2 (tons/yr)
Coal:	25,257	160	18,037	164
Fuel Oil:	20,730	133	14,804	86
Natural Gas:	13,939	0	9,954	0

**E. CONTACT INFORMATION**

Landfill Owner		Landfill Operator
Contact Name:	, Director Public Works	
Mailing Address:	410 Dabbs House Road	Parham and Hungary Springs Rd PO Box 27032
Phone Number:	804-672-4393	804-672-4393
Fax Number:		

\* Italicized indicates values estimated by EPA.

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**A. GENERAL LANDFILL INFORMATION**

Landfill Owner:	BFI	Annual Acceptance Rate (tons):
Landfill Owner Type:	Private	Year Annual Acceptance Rate Reported:
Alternative Landfill Name:	Richmond Landfill Gas Project; Richmond L	Design Capacity (tons):
City:	Richmond	Acres Currently Landfilled (acres):
County:	Henrico	Average Depth (feet):
State:	VA	Waste-in-Place (tons):
Year Open:		1998 Waste-in-Place (tons):
Year Closed:		

**B. LANDFILL GAS COLLECTION**

*Estimated Methane Generation (mmscf/d):*

LFG Collection System Status:	Operational
Current LFG Collected (mmscf/d):	0.9
Collection and Treatment System Required Under NSPS/EG:	No

**C. LANDFILL GAS UTILIZATION**

Current Utilization:

Utilization System Status:	Operational
Utilization System Type:	Reciprocating Engine
Utilization System Start Year:	1993
Electric Utility Provider(s):	
Natural Gas Provider(s):	
Energy Purchaser(s):	Virginia Electric & Power Co

Capacity:                      Electricity Generation Project (MW)                      OR                      Direct Use Project (mmBtu/hr)

<i>Estimated Potential Capacity:</i>		
Current Capacity:	2.9	19
Planned Capacity:		

Utilities in County:                      Southeastern Power Admin; Virginia Electric & Power Co

**D. ENVIRONMENTAL BENEFITS OF UTILIZATION**

	Potential	Current
<i>Methane Reduction (tons/yr):</i>		
<i>CO2 Equivalent of CH4 Reduction (tons/yr):</i>		
<i>Emissions Avoided by Fossil Fuel Displacement:</i>	<i>Electricity Generation Project</i>	<i>Direct Use Project</i>
	CO2 (tons/yr)      SO2 (tons/yr)	CO2 (tons/yr)      SO2 (tons/yr)
Coal:		
Fuel Oil:		
Natural Gas:		

**E. CONTACT INFORMATION**

Landfill Owner

Landfill Operator

Contact Name:

Mailing Address:

Phone Number:

Fax Number:



**A. GENERAL LANDFILL INFORMATION**

Landfill Owner:	City of Petersburg	Annual Acceptance Rate (tons):	57,200
Landfill Owner Type:	Public	Year Annual Acceptance Rate Reported:	
Alternative Landfill Name:		Design Capacity (tons):	
City:	Petersburg	Acres Currently Landfilled (acres):	75
County:	Petersburg	Average Depth (feet):	
State:	VA	Waste-in-Place (tons):	1,144,000
Year Open:	1977	1998 Waste-in-Place (tons):	1,144,000
Year Closed:	2002		

**B. LANDFILL GAS COLLECTION**

Estimated Methane Generation (mmscf/d): 0.71

LFG Collection System Status:

Current LFG Collected (mmscf/d):

Collection and Treatment System Required Under NSPS/EG: No

**C. LANDFILL GAS UTILIZATION**

## Current Utilization:

Utilization System Status: Unknown

Utilization System Type: Unknown

Utilization System Start Year:

Electric Utility Provider(s):

Natural Gas Provider(s):

Energy Purchaser(s):

Capacity: Electricity Generation Project (MW) OR Direct Use Project (mmBtu/hr)

Estimated Potential Capacity:	2	22
Current Capacity:		
Planned Capacity:		

Utilities in County: Southeastern Power Admin; Southside Electric Coop Inc; Virginia Electric & Power Co

**D. ENVIROMENTAL BENEFITS OF UTILIZATION**

	Potential		Current	
Methane Reduction (tons/yr):	4,108		0	
CO2 Equivalent of CH4 Reduction (tons/yr):	86,276		0	
Emissions Avoided by Fossil Fuel Displacement:	Electricity Generation Project		Direct Use Project	
	CO2 (tons/yr)	SO2 (tons/yr)	CO2 (tons/yr)	SO2 (tons/yr)
Coal:	17,364	110	12,372	113
Fuel Oil:	14,252	92	10,154	59
Natural Gas:	9,583	0	6,828	0

**E. CONTACT INFORMATION**

Landfill Owner		Landfill Operator	
Contact Name:	Charles Dane	Contact Name:	Charles Dane
Mailing Address:	390 Industrial Drive	Mailing Address:	390 Industrial Drive
Phone Number:	804-733-2417	Phone Number:	804-733-2417
Fax Number:		Fax Number:	



**A. GENERAL LANDFILL INFORMATION**

Landfill Owner:	SPSA	Annual Acceptance Rate (tons):	410,000
Landfill Owner Type:	Public	Year Annual Acceptance Rate Reported:	1998
Alternative Landfill Name:	Suffolk Regional LF	Design Capacity (tons):	
City:	Suffolk	Acres Currently Landfilled (acres):	308
County:		Average Depth (feet):	140
State:	VA	1998 Waste-in-Place (tons):	6,357,700
Year Open:	1985	1998 Waste-in-Place (tons):	6,357,700
Year Closed:	2015		

**B. LANDFILL GAS COLLECTION**

Estimated Methane Generation (mmscf/d):	2.04
LFG Collection System Status:	Operational
Current LFG Collected (mmscf/d):	1.8
Collection and Treatment System Required Under NSPS/EG:	Yes

**C. LANDFILL GAS UTILIZATION**

## Current Utilization:

Utilization System Status:	Operational
Utilization System Type:	Reciprocating Engine
Utilization System Start Year:	1995
Electric Utility Provider(s):	Virginia Power
Natural Gas Provider(s):	Commonwealth Gas
Energy Purchaser(s):	Virginia Power

Capacity: Electricity Generation Project (MW) OR Direct Use Project (mmBtu/hr)

Estimated Potential Capacity:	6	64
Current Capacity:	3.2	38
Planned Capacity:		

Utilities in County: Southeastern Power Admin; Virginia Electric &amp; Power Co

**D. ENVIROMENTAL BENEFITS OF UTILIZATION**

	Potential		Current	
Methane Reduction (tons/yr):		11,818		6,938
CO2 Equivalent of CH4 Reduction (tons/yr):		248,184		145,696
Emissions Avoided by Fossil Fuel Displacement:	Electricity Generation Project		Direct Use Project	
	CO2 (tons/yr)	SO2 (tons/yr)	CO2 (tons/yr)	SO2 (tons/yr)
Coal:	50,514	319	35,589	324
Fuel Oil:	41,459	267	29,210	170
Natural Gas:	27,878	0	19,641	0

**E. CONTACT INFORMATION**

	Landfill Owner	Landfill Operator
Contact Name:	Dan Miles	Dan Miles
Mailing Address:	723 Woodlake	723 Woodlake Drive
Phone Number:	757-420-4700	757-420-4700
Fax Number:		

\* Italicized indicates values estimated by EPA.

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SPSA Regional LF		Landfill Category:	Current
<b>A. GENERAL LANDFILL INFORMATION</b>			
Landfill Owner:	SPSA	Annual Acceptance Rate (tons):	410,000
Landfill Owner Type:	Public	Year Annual Acceptance Rate Reported:	1998
Alternative Landfill Name:	Suffolk Regional LF	Design Capacity (tons):	
City:	Suffolk	Acres Currently Landfilled (acres):	308
County:		Average Depth (feet):	140
State:	VA	1998 Waste-in-Place (tons):	6,357,700
Year Open:	1985	1998 Waste-in-Place (tons):	6,357,700
Year Closed:	2015		
<b>B. LANDFILL GAS COLLECTION</b>			
Estimated Methane Generation (mmscf/d):	2.04		
LFG Collection System Status:			
Current LFG Collected (mmscf/d):	1.8		
Collection and Treatment System Required Under NSPS/EG:	Yes		
<b>C. LANDFILL GAS UTILIZATION</b>			
Current Utilization:			
Utilization System Status:	Operational		
Utilization System Type:	Leachate Evaporation		
Utilization System Start Year:	1995		
Electric Utility Provider(s):	Virginia Power		
Natural Gas Provider(s):	Commonwealth Gas		
Energy Purchaser(s):	Virginia Power		
Capacity:	Electricity Generation Project (MW)	OR	Direct Use Project (mmBtu/hr)
Estimated Potential Capacity:	6		64
Current Capacity:			38
Planned Capacity:			
Utilities in County:			
<b>D. ENVIROMENTAL BENEFITS OF UTILIZATION</b>			
	Potential		Current
Methane Reduction (tons/yr):	11,818		6,938
CO2 Equivalent of CH4 Reduction (tons/yr):	248,184		145,696
Emissions Avoided by Fossil Fuel Displacement:	Electricity Generation Project		Direct Use Project
	CO2 (tons/yr)	SO2 (tons/yr)	CO2 (tons/yr)      SO2 (tons/yr)
Coal:	50,514	319	35,589      324
Fuel Oil:	41,459	267	29,210      170
Natural Gas:	27,878	0	19,641      0
<b>E. CONTACT INFORMATION</b>			
Landfill Owner		Landfill Operator	
Contact Name:	Dan Miles	Dan Miles	
Mailing Address:	723 Woodlake	723 Woodlake Drive	
Phone Number:	757-420-4700	757-420-4700	
Fax Number:			

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**A. GENERAL LANDFILL INFORMATION**

Landfill Owner:	Annual Acceptance Rate (tons):	143,000
Landfill Owner Type:	Year Annual Acceptance Rate Reported:	
Alternative Landfill Name:	Design Capacity (tons):	
City: Chester	Acres Currently Landfilled (acres):	150
County: Chesterfield	Average Depth (feet):	
State: VA	Waste-in-Place (tons):	3,003,000
Year Open: 1976	1998 Waste-in-Place (tons):	3,003,000
Year Closed:		

**B. LANDFILL GAS COLLECTION**

Estimated Methane Generation (mmscf/d): 1.19

LFG Collection System Status:

Current LFG Collected (mmscf/d):

Collection and Treatment System Required Under NSPS/EG: No

**C. LANDFILL GAS UTILIZATION**

## Current Utilization:

Utilization System Status: Planned

Utilization System Type: Direct Thermal

Utilization System Start Year: 1999

Electric Utility Provider(s):

Natural Gas Provider(s):

Energy Purchaser(s):

Capacity: Electricity Generation Project (MW) OR Direct Use Project (mmBtu/hr)

Estimated Potential Capacity:	4	37
Current Capacity:		
Planned Capacity:		

Utilities in County: Southeastern Power Admin; Southside Electric Coop Inc; Virginia Electric & Power Co

**D. ENVIROMENTAL BENEFITS OF UTILIZATION**

	Potential	Current
Methane Reduction (tons/yr):	6,857	0
CO2 Equivalent of CH4 Reduction (tons/yr):	144,005	0
Emissions Avoided by Fossil Fuel Displacement:	Electricity Generation Project	Direct Use Project
	CO2 (tons/yr) SO2 (tons/yr)	CO2 (tons/yr) SO2 (tons/yr)
Coal:	29,203 185	20,650 188
Fuel Oil:	23,969 154	16,949 99
Natural Gas:	16,117 0	11,397 0

**E. CONTACT INFORMATION**

## Landfill Owner

## Landfill Operator

Contact Name:	Tom Gorzycki	James McCook
Mailing Address:	11800 Lewis Road	11800 Lewis Road
Phone Number:	804-748-5823	804-748-5823
Fax Number:		

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**A. GENERAL LANDFILL INFORMATION**

Landfill Owner:	Roanoke Valley RA	Annual Acceptance Rate (tons):	228,800
Landfill Owner Type:	Public	Year Annual Acceptance Rate Reported:	
Alternative Landfill Name:	Roanoke Valley SLF	Design Capacity (tons):	
City:	Roanoke	Acres Currently Landfilled (acres):	
County:	Roanoke	Average Depth (feet):	
State:	VA	Waste-in-Place (tons):	5,262,400
Year Open:	1974	1998 Waste-in-Place (tons):	5,262,400
Year Closed:	1995		

**B. LANDFILL GAS COLLECTION**

Estimated Methane Generation (mmscf/d): 1.76

LFG Collection System Status:

Current LFG Collected (mmscf/d):

Collection and Treatment System Required Under NSPS/EG: No

**C. LANDFILL GAS UTILIZATION**

## Current Utilization:

Utilization System Status: Potential

Utilization System Type: Reciprocating Engine

Utilization System Start Year:

Electric Utility Provider(s): AEP

Natural Gas Provider(s):

Energy Purchaser(s): AEP

Capacity: Electricity Generation Project (MW) OR Direct Use Project (mmBtu/hr)

Estimated Potential Capacity:	6	55
Current Capacity:		
Planned Capacity:		

Utilities in County: Appalachian Power Company; Craig-Botetourt Electric Coop; Southeastern Power Admin

**D. ENVIROMENTAL BENEFITS OF UTILIZATION**

	<i>Potential</i>		<i>Current</i>	
<i>Methane Reduction (tons/yr):</i>	10,199		0	
<i>CO2 Equivalent of CH4 Reduction (tons/yr):</i>	214,171		0	
<i>Emissions Avoided by Fossil Fuel Displacement:</i>	<i>Electricity Generation Project</i>		<i>Direct Use Project</i>	
	<i>CO2 (tons/yr)</i>	<i>SO2 (tons/yr)</i>	<i>CO2 (tons/yr)</i>	<i>SO2 (tons/yr)</i>
<i>Coal:</i>	43,410	274	30,712	279
<i>Fuel Oil:</i>	35,629	229	25,207	147
<i>Natural Gas:</i>	23,958	0	16,949	0

**E. CONTACT INFORMATION**

## Landfill Owner

## Landfill Operator

Contact Name:	John Hubbard	
Mailing Address:	1020 Hollins Road	
Phone Number:	540-857-5050	540-857-5050
Fax Number:		

\* *Italicized indicates values estimated by EPA.*

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**A. GENERAL LANDFILL INFORMATION**

Landfill Owner:		Annual Acceptance Rate (tons):	286,000
Landfill Owner Type:	Public	Year Annual Acceptance Rate Reported:	
Alternative Landfill Name:	Virginia Beach LF II; Virginia Beach LF Nu	Design Capacity (tons):	
City:	Virginia Beach	Acres Currently Landfilled (acres):	232
County:	Virginia Beach	Average Depth (feet):	100
State:	VA	1994 Waste-in-Place (tons):	6,572,000
Year Open:	1983	1998 Waste-in-Place (tons):	6,572,000
Year Closed:	2015		

**B. LANDFILL GAS COLLECTION**

Estimated Methane Generation (mmscf/d):	2.10
LFG Collection System Status:	Operational
Current LFG Collected (mmscf/d):	1.5
Collection and Treatment System Required Under NSPS/EG:	No

**C. LANDFILL GAS UTILIZATION**

## Current Utilization:

Utilization System Status:	Planned
Utilization System Type:	High Btu
Utilization System Start Year:	1999
Electric Utility Provider(s):	
Natural Gas Provider(s):	
Energy Purchaser(s):	

Capacity: Electricity Generation Project (MW) OR Direct Use Project (mmBtu/hr)

Estimated Potential Capacity:	7	66
Current Capacity:		
Planned Capacity:		31

Utilities in County: Southeastern Power Admin; Virginia Electric &amp; Power Co

**D. ENVIROMENTAL BENEFITS OF UTILIZATION**

	Potential		Current	
Methane Reduction (tons/yr):	12,135		5,782	
CO2 Equivalent of CH4 Reduction (tons/yr):	254,841		121,414	
Emissions Avoided by Fossil Fuel Displacement:	Electricity Generation Project		Direct Use Project	
	CO2 (tons/yr)	SO2 (tons/yr)	CO2 (tons/yr)	SO2 (tons/yr)
Coal:	52,092	329	36,544	333
Fuel Oil:	42,755	275	29,993	175
Natural Gas:	28,749	0	20,168	0

**E. CONTACT INFORMATION**

Landfill Owner		Landfill Operator
Contact Name:	, City Manager	
Mailing Address:	Municipal Center	Department of Public Works
Phone Number:	804-427-4242	804-430-2450
Fax Number:		

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