

111 Speen St, Ste 410 Framingham, MA 01701 P: (508) 661-2200 ameresco.com

August 22, 2023

Mr. Zachary Bittner, P.E. Environmental Engineer Supervisor Combustion Section Division for Air Quality 300 Sower Blvd Frankfort, KY 40601

RE: Title V Air Permit – Form 7007AI

Ameresco Benson Valley RNG LLC - Frankfort, Kentucky

Air Quality Permit ID No. F-21-028

Agency Interest #: 167923 Activity ID: APE20210002 Source ID: 21-073-00112

Dear Mr. Bittner:

Ameresco Benson Valley RNG LLC (Ameresco) is submitting to the Kentucky Department of Environmental Protection (KDEP) completed form 7007AI in order for KDEP to issue a Title V Air Operating Permit for the Ameresco facility located in Frankfort. Ameresco understands that Ameresco will be issued an individual Title V permit separate from the Benson Valley Landfill, and that the Ameresco facility will maintain minor source status. Ameresco understands that Ameresco will not be responsible for any compliance obligations in the Benson Valley's Landfill's separate Title V permit, and that Ameresco and the Landfill will have no shared compliance requirements or limitations. Ameresco understands that no further submittal beyond this form is necessary to process and issue the Title V permit for the Ameresco facility.

Thank you for your time and attention to this matter. Should you have any questions or desire additional information, please contact Stevia Smith at (704) 989-2023 or smiths@ameresco.com.

Respectfully submitted,

Mr. Nathan Hall, Sr. Vice President – Asset Operations

Authorized Representative

Ameresco Benson Valley RNG LLC

cc: Ms. Stacie Daniels - KYDEP

Ms. Stephanie Burberry – KYDEP Mr. William Slack – Ameresco

Ms. Stevia Smith - Ameresco

11/2018 DEP7007AI

Additional Documentation

Additional Documentation attached

Division for Air Quality

300 Sower Boulevard Frankfort, KY 40601 (502) 564-3999

DEP7007AI

Administrative Information

Section AI.1:	Source	Information

Section AI.2: Applicant Information Section AI.3: Owner Information

Section AI.4: Type of Application

Section AI.5: Other Required Information

_ Section AI.6: Signature Block

Section AI.7: Notes, Comments, and Explanations

Source Name:		Ameresco E	enson Val	lley F	RNG LLC					
KY EIS (AFS) #:	21-	073-00112								
Permit #:	rmit #: <u>F-21-028</u>									
Agency Interest (AI) ID:		167923								
Date:		9/22/2023								
Section AI.1: Source	Inform	ation								
Physical Location Street	:	2157 Highw	ay 151							
Address: City: Street	or	Frankfort			County	y: Franklin		Zip Code:	40601	
Mailing Address: P.O. B		111 Speen S		e 410						
City:		Framingham			State:	MA		Zip Code:	01701	
			Sta	ndar	d Coordinates f	or Source	Physical Locati	on		
Longitude:	-84.9	086345	(decimal	l degre	ees)	Latitude:	:	38.135686	(decimal degrees)	
Primary (NAICS) Category:		Natural Gas	Distributi	on		Primar	y NAICS #:	221210		
Classification (SIC) Category		Mixed, Man Gas Product		or Li	quefied Petroleum		Primary SIC #:	4925		
Briefly discuss the type of bus conducted at this site:	iness	Convert lands	ill gas into 1	renew	able natural gas (RN	IG) for sale ar	<u> </u>			
Surrounding	ral Area ban Area	☐ Indus	trial Park trial Area	_	Residential Area Commercial Area		part of the source l on federal land?	□ Yes □ No	Number of Employees:	4
Approximate distance to nearest residence or commercial property:	400)		F	Property Area:	.65 acres		Is this source por	rtable? □ Yes ☑ No	
v	Vhat oth	er environme	ntal perm	nits o	r registrations do	es this sour	ce currently hold	or need to obtain	in Kentucky?	
NPDES/KPDES: Cu	rrently H	old	☐ Need	l	☑ N/A					
Solid Waste:	rrently H	old	□ Need	l	☑ N/A					
RCRA: □ Cu	rrently H	old	☐ Need	I	☑ N/A					
UST:	rrently H	old	☐ Need	l	☑ N/A					
Type of Regulated	xed Wast	e Generator			Generator	☐ Recycl	er	Other:		
Waste Activity:	S. Import	er of Hazardou	Waste		•		ent/Storage/Dispos	al Facility	☑ N/A	
					Pa	ge 1 of 4				

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Section AI.2: App	plicant Information					
Applicant Name:	Ameresco Benson Valley	RNG LLC				
Title: (if individual)						
Mailing Address:	Street or P.O. Box:	111 Speen St., Suite 410				
rianing rian ess.	City:	Framingham	State:	MA	Zip Code:	01701
Email: (if individual)						
Phone:	508-598-4386					
Technical Contact						
Name:	Stevia Smith					
Title:	Manager - RNG Complian	nce				
Mailing Address:	Street or P.O. Box:			111 Speen Street, Suite 410)	
	City: Framinghan	n	State:	MA	Zip Code:	01701
Email:	smiths@ameresco.com					
Phone:	508-598-4386					
Air Permit Contact for	Source					
Name:	Stevia Smith					
Title:	Manager - RNG Complian	nce				
Mailing Address:	Street or P.O. Box:	111 Speen Street, Suite 41	.0			
	City:	Framingham	State:	MA	Zip Code:	01701
Email:	smiths@ameresco.com					
Phone:	508-598-4386					
Section AI.3: Ow						
✓ Owner same :	Ameresco Benson Valley	DNG LLC				
	Ameresco Benson vaney	KNG LLC				
Title:	Street or P.O. Box:	111 Curan Street Swite A1	0			
Mailing Address:	City:	111 Speen Street, Suite 41 Framingham	State:	MA	Zip Code:	01701
Email:	smiths@ameresco.com					
Phone:	508-598-4386					
List names of owners ar	nd officers of the company w	ho have an interest in the comp	oany of 5%	% or more.		
,	Name			Position		
	George Sakellaris			Chairman, President, and	Chief Executive	e Officer

Section AI.4: Type	of Application					
Current Status:	☐ Title V ☑ Conditi	ional Major 🔲 State	-Origin	☐ General Permit	☐ Registra	ation 🗆 None
	_	_	_		_	
	•	☐ Initial Registration		ignificant Revision		strative Permit Amendment
Requested Action:	☐ Renewal Permit	☐ Revised Registration		linor Revision		ource-wide OperatingPermit
(check all that apply)	☐ 502(b)(10)Change	☐ Extension Request		ddition of New Facility	☐ Portable	e Plant Relocation Notice
	☐ Revision	☐ Off Permit Change		andfill Alternate Compliance Submitt	al 🗆 Modifie	cation of Existing Facilities
	 Ownership Change 	☐ Closure				
Requested Status:	☑ Title V □ Conditi	ional Major State	-Origin	□ PSD □ NSR	☐ Othe	r:
Is the source requesting	a limitation of potential	emissions?	[7]	Yes 🗆 No		
Pollutant:	, a minute or potential	Requested Limit:		Pollutant:		Requested Limit:
☑ Particulate Matter		<100 tons/12 months		☑ Single HAP		<10 tons/12 months
				-		
✓ Volatile Organic C	Compounds (VOC)	90 tons/12-months		☑ Combined HAPs		22.5 tons/12 months
 Carbon Monoxide 	•	<100 tons/12-months		☐ Air Toxics (40 CFR	68, Subpart F)	•••
☑ Nitrogen Oxides		<100 tons/12 months		☐ Carbon Dioxide		
				_		
☑ Sulfur Dioxide		<100 tons/12 months		☐ Greenhouse Gases (C	iHG)	Vincential III
☐ Lead				☐ Other		
For New Construct	lon:					
Proposed Start	Date of Construction:			Proposed Operation Start-Up Da	to AALVVVV	
a	им үүүү)	07/2022		rreposed Operation Start-Op Da	ie: pana 1111)	08/2023
n 14 Mg .:						
For Modifications:						
	t Date of Modification: AM YYYY)			Proposed Operation Start-Up Da	te: (MM-YYYY)	
Applicant is sacking	coverage under a permit s	shield. Yes	Ø			ents for which permit shield is ent to the application.
Applicant is seeming	coverage ander a permies	7 00		210 Boalfacton ii	DEPARTMENT	
Section AI.5 Other	r Required Informa	ation				
Section AI.5 Other	r Required Informs		nts attacl	ed as part of this application:		
	r Required Informa			ed as part of this application: DEP7007CC Compliance Certificat	îon	
☐ DEP7007A Indirect Hea		Indicate the docume				
☐ DEP7007A Indirect Hea ☐ DEP7007B Manufacturi ☐ DEP7007C Incinerators	at Exchangers and Turbines ing or Processing Operations and Waste Burners	Indicate the docume		DEP7007CC Compliance Certificat DEP7007DD Insignificant Activities DEP7007EE Internal Combustion E	ngines	
☐ DEP7007A Indirect Hea ☐ DEP7007B Manufacturi ☐ DEP7007C Incinerators ☐ DEP7007F Episode Star	at Exchangers and Turbines ing or Processing Operations and Waste Bumers ndby Plan	Indicate the docume	0	DEP7007CC Compliance Certificat DEP7007DD Insignificant Activities DEP7007EE Internal Combustion E DEP7007FF Secondary Aluminum	ngines	
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11/2018 DEP7007AI

Section AI.7: Notes, Comments, and Explanations
Per KDEP instruction, Ameresco is submitting this form in order for KDEP to issue a Title V Air Operating Permit for Ameresco Benson Valley RNG LLC. Ameresco understands that Ameresco Benson Valley RNG LLC will be issued an individual Title V permit separate from the Benson Valley Landfill, and that the Ameresco facility will maintain minor source status. Ameresco understands that Ameresco will
not be responsible for any compliance obligations in the Benson Valley's Landfill's separate Title V permit, and that Ameresco and the Landfill will have no shared compliance requirements or limitations. Ameresco understands that no further submittal beyond this form is necessary to process and issue the Title V permit for the Ameresco facility.



111 Speen St, Ste 410 Framingham, MA 01701 P: (508) 661-2200 ameresco.com

April 25, 2023

Mr. Zachary Bittner, P.E. Environmental Engineer Supervisor Combustion Section Division for Air Quality 300 Sower Blvd Frankfort, KY 40601

RE: Air Quality Permit Modification Application – Emergency Diesel Generator

Ameresco Benson Valley RNG LLC – Frankfort, Kentucky Air Quality Permit ID No. F-21-028

Off-Permit Change Approved 8/10/2022

Agency Interest #: 167923 Activity ID: APE20210002 Source ID: 21-073-00112

Dear Mr. Bittner:

Ameresco Benson Valley RNG LLC (Ameresco) is submitting to the Kentucky Department of Environmental Protection (KDEP) this Air Quality Permit Modification Application (Application) for the Ameresco facility which holds Air Quality Permit ID F-21-028 issued November 7, 2021. Ameresco's air permit grants permission to construct and operate a renewable natural gas (RNG) facility which processes and treats landfill gas to meet pipeline-quality gas standards for injection into a natural gas transmission pipeline. The RNG plant includes a thermal oxidizer and an open flare. This Application seeks to add an emergency diesel engine generator to the Ameresco Air Permit.

As detailed in the attached Application, Ameresco understands that the generator addition constitutes a minor change and that there will be no alteration to the permitted emissions limitations contained in Ameresco's existing Air Permit ID F-21-028. The project potential emissions are still within the Conditional Major / Synthetic Minor limits of the air permit. This addition does trigger applicability of some additional regulations applicable to the generator, therefore revision to the permit is needed.

This Application also seeks to incorporate the Off-Permit Change approved for the Ameresco Air Permit on August 10, 2022. Thank you for your time and attention in processing this Application. Ameresco requests that you please issue a written completeness determination for this Application. Should you have any questions or desire additional information, please contact Stevia Smith at (704) 989-2023 or smiths@ameresco.com.

Respectfully submitted,

Mr. Nathan Hall

Sr. Vice President – Asset Operations

Ameresco, Inc.

cc: Ms. Stacie Daniels – KYDEP

Ms. Stephanie Burberry - KYDEP

Mr. William Slack - Ameresco

Ms. Stevia Smith - Ameresco

AIR QUALITY PERMIT MODIFICATION APPLICATION

AMERESCO BENSON VALLEY RNG LLC 2157 HIGHWAY 151 FRANKFORT, KENTUCKY 40601

Prepared by:



Ameresco Benson Valley RNG LLC 111 Speen Street, Suite 410 Framingham, Massachusetts 01701

Submitted to:

Kentucky Department of Environmental Protection

Division for Air Quality 300 Sower Boulevard Frankfort, Kentucky 40601

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1.0 EXECUTIVE SUMMARY

1.1 BACKGROUND AND APPLICATION PURPOSE

Ameresco Benson Valley RNG LLC (Ameresco) is in the process of installing a renewable natural gas (RNG) processing facility which will receive landfill gas from the Benson Valley Landfill and process it into renewable natural gas (RNG) which will be piped to a metering station and injected into a natural gas pipeline. The RNG will be distributed and consumed as a useful fuel source, thereby reducing use of fossil-based natural gas.

Operation of the Ameresco facility will result in significantly less landfill gas burned in the Landfill flare(s), and will therefore reduce pollutant emissions to the atmosphere. As a result, the project will provide significant public benefits that are consistent with the goals, directives, and policies of the KDEP. The environmental benefits of this type of RNG project have been proven by operation of several existing Ameresco RNG facilities the United States, and will be further demonstrated and broadened with operation of this new facility.

Waste gases from the Ameresco gas treatment process will be combusted in a thermal oxidizer and open flare. The new Ameresco facility will operate continuously with occasional downtime for maintenance. Ameresco Benson Valley RNG LLC is the legal owner, operator and permittee for the new facility. Ameresco, Inc. is the parent company of Ameresco Benson Valley RNG LLC.

This Application is being submitted to add a backup emergency diesel generator to the Ameresco existing Air Quality Permit ID F-21-028. Ameresco understands that the generator addition constitutes a minor change and that there will be no alteration to the permitted emissions limitations contained in Ameresco's Air Permit. The project potential emissions are still within the Conditional Major / Synthetic Minor limits of the air permit. While the potential emissions from the engine generator are insignificant, this addition triggers applicability of Federal NSPS and NESHAP regulations applicable to the generator, therefore revision to the permit is needed.

This Application also seeks to incorporate the Air Permit Off-Permit Change which Ameresco applied for on July 12, 2022 and which was approved on August 10, 2022 (see approval included in Section 8.0).

1.2 GAS TREATMENT PROCESS

1.2.1 LFG Conditioning and Pre-Processing

The RNG feed blowers will take suction from the existing LFG blowers at approximately 1 psig and raise the pressure to approximately 10 psig. From the existing feed blowers, the LFG will be dehydrated and filtered before entering a fixed bed hydrogen sulfide (H2S) scrubber unit utilizing activated carbon media. H2S levels in the gas will decrease to a maximum of 20 ppm (average of 4 ppm). From the H2S scrubber the gas will be further dehydrated to approximately 50-degree dew point. This partially processed renewable natural gas (PPRNG) will then either be sent to the feed compressors or used as supplemental fuel in the thermal oxidizer or as continuous pilot fuel in the thermal oxidizer.



This process will provide the required treatment of the collected landfill gas sent to the RNG plant to meet the requirements of 40 CFR 60.752(b)(2)(iii)(C) including compression, dewatering, and filtration. All gas delivered to the plant combustion devices will be NSPS post-treated landfill gas (either PPRNG, off-spec RNG, or treatment off-gas) that has already met the NSPS requirements for the treatment of landfill gas. No untreated gas will be combusted in the proposed Ameresco TOX or Open Flare.

1.2.2 Feed Compression & Dehydration

The feed compressors will increase the LFG pressure to approximately 250 psig using oil flooded screw compressors. The compressed gas will then be cooled to approximately 80-degree Fahrenheit prior to it being sent to the gas separation equipment.

1.2.3 Gas Separation Process

Volatile organic compounds (VOC), non-methane organic compounds (NMOCs) and siloxane compounds will be removed from the gas stream using a VOC removal system using pressure swing adsorption technology (PSA). The conditioned gas will then be sent to a carbon dioxide (CO2) separation system (PSA system) to remove CO2 from the gas. From the CO2 separation system, the gas is sent to a PSA nitrogen (N2) rejection unit (NRU) to remove N2 and some amounts of oxygen (O2) remaining in the gas. The gas will be further conditioned to remove the remaining O2 by using a catalytic oxidation process in a Deoxo system. Gas leaving the Deoxo system will be dehydrated utilizing a TSA system. The TSA will have closed-loop regeneration and therefore will not be required to vent off-gases.

1.2.4 Product Compression

After impurities are removed, the gas is sent to a product compressor where it is pressurized to meet pipeline pressure requirements, filtered, and cooled before delivery to a utility gas transmission line. At the utility metering station, the gas will be metered and analyzed prior to entry into the utility gas line. The gas leaving the product compressor will be odorized before being sent to the pipeline.

Section 5.0 contains a process flow diagram depicting the new facility operating process.

1.3 THERMAL OXIDIZER

Waste gas (tail gas or off gas) from the process will be sent to a Thermal Oxidizer (TOX) for destruction. The waste gas streams come from the following process equipment: VOC removal system, CO2 separation system, and NRU. From the VOC separation system, siloxanes and hydrocarbon compounds present in the PPRNG are removed from the process during regeneration of the adsorption vessels and are sent to the TOX for destruction. From the CO2 removal system, waste gases containing primarily CO2 and small amounts of methane (CH4), O2 and N2 are sent to the TOX for destruction. From the NRU, waste gas containing N2, and small amounts of CH4 and O2, are sent to the TOX for destruction.



1.4 OPEN FLARE

A candlestick flare will be used for destruction of waste gases generated during start-up, process upset conditions and for purging of gas from process equipment and pipelines. The five (5) possible flare streams are summarized below.

Waste (Off-spec) Gas Stream 1 is generated during periods of startup and shutdown when the product pipeline purge and depress operations are initiated.

Waste (Off-spec) Gas Stream 2 results from intermittent upset conditions which may occur during the polymeric membrane gas separation process, which removes O2 and CO2 from the biogas stream.

Waste (Off-spec) Gas Stream 3 is generated during the startup of the N2 rejection unit.

Waste (Off-spec) Gas Stream 4 results from intermittent upset conditions which may occur during the product pipeline purge process.

Waste Gas Stream 5 is excess PPRNG, which has been subject to the primary treatment phase, making it "partially processed".

1.5 CONDENSATE TANK

LFG supplied to the blower feed station will be saturated with water and any cooling below the water dew point will result in condensate forming. Condensate will be collected from the various points in the process and sent to a condensate tank. Condensate traps, condensate seal tanks or loop seals will be used to prevent LFG from entering the condensate system. The collected condensate from the RNG plant is then pumped to the Landfill's condensate system for disposal.

1.6 BACKUP / EMERGENCY DIESEL GENERATOR

Ameresco intends to install a 250-kW diesel-fueled Caterpillar Model D250GC engine generator to be used for backup and emergency purposes at the facility. The potential emissions from the engine generator will be insignificant, as shown in Section 4.0. The stationary compression ignition internal combustion engine is subject to Federal NSPS 40 CFR 60 Subpart IIII as well as NESHAP 40 CFR 63 Subpart ZZZZ, therefore the requirements of these regulations must be incorporated into the facility's air permit.

1.7 FACILITY CONTACTS

The facility contacts relevant to this application are as follows:

Responsible Official:

Mr. Harold Stewart Director – Plant Operations 111 Speen Street, Suite 410 Framingham, MA 01701 (847) 463-0628



Application and Compliance Contacts:

Mr. Richard Peary Compliance Director 111 Speen Street, Suite 410 Framingham, MA 01701 (508) 598-3076

Ms. Stevia Smith Manager – RNG Compliance 111 Speen Street, Suite 410 Framingham, MA 01701 (508) 598-4386

1.4 POTENTIAL EMISSIONS SUMMARY

As presented in Section 4.0 of this application, Ameresco has calculated the potential emissions from the new Ameresco facility as follows:

Table. 1.4.1 Ameresco Facility Potential Emissions

Pollutant	lb/hr	lb/day	lb/yr	ton/yr
NOx	5.81	139.41	32,586.83	16.29
СО	16.38	393.21	139,559.51	69.78
VOC	3.70	88.88	31,450.66	15.73
PM/PM10/PM2.5	2.05	49.29	17,057.00	8.53
SOx	1.90	45.68	16,674.91	8.34
HAPs	0.97	23.23	8,477.42	4.24

2.0 REGULATORY REVIEW

2.1 NSPS AND NESHAP APPLICABILITY

The Benson Valley Landfill is subject to regulatory requirements of federal New Source Performance Standards for Municipal Solid Waste Landfills (40 CFR Part 60 subpart WWW) and National Emissions Standards for Hazardous Air Pollutants (40 CFR 63 subpart AAAA). Based on previous determinations issued by EPA, equipment that uses or combusts the treated gas is not subject to 40 CFR Part 60 subpart WWW. The RNG plant gas treatment equipment will function to treat the gas (on the behalf of Benson Valley) for subsequent sale or use in accordance with 40 CFR 60.752(b)(2)(iii)(c) and 40 CFR 63.1959(b)(2)(iii)(C). Combustion of treated gas, including waste gas in the TOX and flaring of off-spec gas by Ameresco, are exempt from NSPS Subpart WWW and NESHAP Subpart AAAA as this occurs after treatment of the LFG.



The emergency stationary compression ignition internal combustion engine generator being applied for is subject to Federal NSPS 40 CFR 60 Subpart IIII as well as NESHAP 40 CFR 63 Subpart ZZZZ. The generator manufacturer specifications are included in Section 7.0.

2.1 TITLE V

Title V is a Federal program designed to standardize air quality permits and the permitting process for major sources of emissions. The name "Title V" comes from Title V of the 1990 federal Clean Air Act Amendments which required that the U.S. Environmental Protection Agency (EPA) establish a national operating permit program. Accordingly, EPA adopted regulations [Title 40 of the Code of Federal Regulations, Chapter 1, Part 70 (Part 70)], which required states and local permitting authorities to develop and submit a federally enforceable operating permit programs for EPA approval. Maximum potential emissions from the Ameresco facility are below Title V permit limits. Potential emissions from the Ameresco facility have been calculated assuming unrestricted operating hours (8,760/yr) and the maximum potential gas inlet flow to the plant.

2.2 PREVENTION OF SIGNIFICANT DETERIORATION (PSD)

The Prevention of Significant Deterioration (PSD) air quality regulations apply to construction of a new major stationary source or a project at an existing major stationary source. The planned Ameresco facility is not a major stationary source as it does not have the potential to emit 250 tons per year or more of a regulated new source review pollutant. Therefore, the PSD requirements do not apply to the planned project.



3.0 KDEP FORMS



11/2018 DEP7007AI

Division for Air Quality

300 Sower Boulevard Frankfort, KY 40601 (502) 564-3999

Source Name:

DEP7007AI

Administrative Information

Section AI.1: Source Information
Section AI.2: Applicant Information

Section AI.3: Owner Information Section AI.4: Type of Application

Section AI.5: Other Required Information

_ Section AI.6: Signature Block

Ameresco Benson Valley RNG LLC

Section AI.7: Notes, Comments, and Explanations

Additional Documentation

Additional Documentation attached

KY EIS (AFS) #:	2	1- 073-00112								
Permit #:		F-21-028	F-21-028							
Agency Interest (AI)	ID:	167923								
Date:		4/25/2023								
Section AI.1: So	urce Infor	mation								
Physical Location Address:	Street: City: Street or	2157 Highway 151 Frankfort 111 Speen Street, Suite		Franklin	Zip Code:	40601				
Mailing Address:	P.O. Box: City:	Framingham	State:	MA	Zip Code:	01701				
		Stan	dard Coordinates for	r Source Physical Locati	on					
Longitude:	-84	4.986345 (decimal d		·		cimal degrees)				
Primary (NAICS) Cat	tegory:	Natural Gas Distributio	n	Primary NAICS #:	221210					
Classification (SIC) C	ategory:	Mixed, Manufactured, o	r Liquefied Petroleum	Primary SIC #:	4925					
Briefly discuss the typ conducted at this site:	e of business	Convert landfill gas into re	newable natural gas (RNG) for sale and injection into gas	pipeline.					
Description of Area Surrounding Source:	✓ Rural Are☐ Urban Are	_	☑ Residential Area☐ Commercial Area	Is any part of the source located on federal land?	□ Yes □ No	Number of Employees: 4				
Approximate distance to nearest residence of commercial property:	r	900	Property Area: 1.6.	5 acres	Is this source portable?	☐ Yes ☑ No				
	What o	ther environmental permi	ts or registrations does	this source currently hold	or need to obtain in Kent	tucky?				
NPDES/KPDES:	☐ Currently	Hold	✓ N/A							
Solid Waste:	☐ Currently	Hold \square Need	☑ N/A							
RCRA:	☐ Currently	Hold	☑ N/A							
UST:	☐ Currently	Hold 🗆 Need	✓ N/A							
Type of Regulated	☐ Mixed Wa	aste Generator	Generator	☐ Recycler	Other:					
Waste Activity:	☐ U.S. Impo	orter of Hazardous Waste	•	☐ Treatment/Storage/Disposa	l Facility	A				
			Page	: 1 of 4						

11/2018 DEP7007AI

Section AI.2: App	olicant Information					
Applicant Name:	Ameresco Benson Valley F	RNG LLC				
Title: (if individual)						
Mailing Address:	Street or P.O. Box: City:	111 Speen St., Suite 410 Framingham	State:	MA	Zip Code:	01701
Email: (if individual)	_					
Phone:	508-598-4386					
Technical Contact						
Name:	Stevia Smith					
Title:	Manager - RNG Compliance	ee				
Mailing Address:	Street or P.O. Box:			111 Speen Street, Suite 410)	
Malling Address:	City: Framingham		State:	MA	Zip Code:	01701
Email:	smiths@ameresco.com					
Phone:	508-598-4386					
Air Permit Contact for S	Source					
Name:	Stevia Smith					
Title:	Manager - RNG Compliance	ee				
Mailing Address:	Street or P.O. Box: City:	111 Speen Street, Suite 41 Framingham	0 State:	MA	Zip Code:	01701
Email:	smiths@ameresco.com					
Phone:	508-598-4386					_
Section AI.3: Ow Owner same a						
Name:	Ameresco Benson Valley R	NGLIC				
	Timereseo Benson vancy R	ING EDC				_
Title: Mailing Address:	Street or P.O. Box: City:	111 Speen Street, Suite 41 Framingham	0 State:	MA	Zip Code:	01701
Email:	smiths@ameresco.com					
Phone:	508-598-4386					
List names of owners an	d officers of the company who	o have an interest in the comp	any of 5%	6 or more.		
	Name			Position		
	George Sakellaris			Chairman, President, and	Chief Executiv	e Officer

Section AI.4: Type	of Application						
Current Status:	☐ Title V ☑ Condit	ional Major State-C	higin		General Permit	☐ Regis	tration None
	☐ Name Change	☐ Initial Registration		Significant Revi	sion	☐ Admi	nistrative Permit Amendment
	Renewal Permit	☐ Revised Registration	2	Minor Revision		🗆 Initial	Source-wide OperatingPermit
Requested Action:		C	_		P 115.		
(check all that apply)	☐ 502(b)(10)Change	☐ Extension Request		Addition of New	raciny	☐ Porta	ble Plant Relocation Notice
	☐ Revision	Off Permit Change		andfill Alternat	e Compliance Submitta	al 🗆 Modi	fication of Existing Facilities
	Ownership Change	☐ Closure					
Requested Status:	☐ Title V ☑ Condit	ional Major 🔲 State-C	riois.	□ PSD	□ NSR	□ Otl	ner:
requested status.	_ Thic + (a) collabor		1,6,1,				
to the course pequesting	a limitation of potential	amissions?	[5]	Yes □	No		
	a minuation of potential		ت				Requested Limit:
Pollutant:		Requested Limit:			ollutant:		•
Particulate Matter		<100 tons/12 months			Single HAP		<10 tons/12 months
☑ Volatile Organic (Compounds (VOC)	90 tons/12-months		Ø	Combined HAPs		22.5 tons/12 months
		-100 to 112 months		<i>y</i> -m ₃	4. T	(0, 0, 1,, E)	WWW.
 Carbon Monoxide 	!	<100 tons/12-months			Air Toxics (40 CFR 6	os, Suppart F)	
☑ Nitrogen Oxides		<100 tons/12 months			Carbon Dioxide		
 Sulfur Dioxide 		<100 tons/12 months			Greenhouse Gases (G	HG)	
☐ Lead					Other		
For New Construct	ion:						
-	Date of Construction:			Proposed O	peration Start-Up Dat	te: (MM/YYYY)	
(A	AM/YYYY)	07/2022					05/2023
For Modifications:							
	Data a CM a differentions						
	Date of Modification:			Proposed O	peration Start-Up Dat	te: (MM/YYYY)	
1.							
		hield. 🗆 Yes		No		•	ments for which permit shield is
Applicant is seeking	coverage under a permit	inicio, — Tes		110	adding on a	separate attach	ment to the application.
Section AI.5 Other	r Required Inform						
		Indicate the document	s attacl	hed as part of	this application:		
DEP7007A Indirect Hea	at Exchangers and Turbines			DEP7007CC	Compliance Certificati	on	
	ing or Processing Operations	;			Insignificant Activities		
□ DEP7007C Incinerators			_		Internal Combustion E		
DEP7007F Episode Sta	•		_		Secondary Aluminum F	Processing	
DEP7007J Volatile Liqu	-		<u> </u>		Control Equipment		
	tting or Printing Operations		_	DEP7007HH			
DEP7007L Mineral Pro					•		
DEP7007M Metal Clear DEP7007N Source Emi				Secretary of S	•		
DEP7007N Source Emi	ssions Prottle Tylene Dry Cleaning System	.	<u> </u>		diagrams depicting pro	ncess	
DEP7007F Fereinologii DEP7007R Emission O		•			iraphs (DLG) files of b		etc.
DEP7007S Service State				Site Map	p (220) 11100 01 0	gog rowning t	***
	g and Surface Treatment Op	erations	2	· ·	ng depicting location o	f facility	
	Requirements and Complian					•	
	neering Practice and Stack H						
DEP7007AA Complian	ce Schedule for Non-comply	ing Emission Units		Other:	-		
DEP7007BB Certified I	Progress Report						

Castion ATE: S:	atura Plack						
Section AI.6: Sign	ature Diock						
information submi	itted in this document an tify that the information	d all its attachments. Bas	sed on n ef, true,	ny inquiry of accurate, and	those individuals wi I complete. I am aw	th primary re	ed, and am familiar with, the sponsibility for obtaining the are significant penalties for
		/			•	111	. /
	v /					21/7	1 1 20 22
						1/000	10000
	Aut)	orized Signature				Dat	» / 2023
		· ·			Senio	Dat	- Asset Operations
		orized Signature Nathan Hall nted Name of Signatory			Senior	Dat Title of Signature T	- Asset Operations
*Responsible official as		Nathan Hall nted Name of Signatory			Senio		

11/2018 DEP7007AI

Section AI.7: Notes, Comments, and Explanations
This Application is being submitted to add a backup emergency diesel generator to the existing Ameresco Benson Valley RNG LLC Air Quality Permit ID F-21-028. Ameresco understands that the generator addition constitutes a minor change and that there will be no alteration to the permitted emissions limitations contained in Ameresco's Air Permit. The project potential emissions are still within the
Conditional Major / Synthetic Minor limits of the air permit. While the potential emissions from the engine generator are insignificant, this addition triggers applicability of Federal NSPS and NESHAP regulations applicable to the generator, therefore revision to the permit is needed.

Division for Air Quality

300 Sower Boulevard Frankfort, KY 40601 (502) 564-3999

DEP70	07E
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Manufacturing or Processing Operations

 Section	В.1:	Process information
Section	B.2:	Materials and Fuel Information

Se	ection l	B.3: 1	Notes,	Comments.	, and	Exp	lanatio

Additional Documentation

Complete DEP7007AI, DEP7007N,
DEP7007V, and DEP7007GG.

_ Attach a flow diagram

Attach SDS

Source Name:	Ameresco Benson Valley RNG LLC
KY EIS (AFS) #:	21073-00112
Permit #:	F-21-028
Agency Interest (AI) ID:	167923
Date:	4/25/2023

									N 1 0	
Emission Unit #	Emission Unit Name	Describe Emission Unit	Process ID	Process Name	Manufacturer	Model No.	Proposed/Actual Date of Construction Commencement (MM/YYYY)	Is the Process Continuous or Batch?	Number of Batches per 24 Hours (if applicable)	Hours per Batch (if applicable
EU 01	Thermal Oxidizer	Combustion of process waste gas, supplemental fuel and burner/pilot fuel	EP 01	TOX1	Perennial (or equivalent)	FL-72X58- 45-TP	01/2023	Continuous	N/A	N/A
EU 02	Open Flare	Combustion of process waste gas, off-spec gas, purge and depress gas, excess PPRNG, pilot gas	EP 02	FLR1	Perennial (or equivalent)	FL-10-C	12/2022	Continuous	N/A	N/A
TBD	Emergency Diesel Generator	Combustion of diesel fuel to produce electricity, to be used for emergency/backup purposes	TBD	TBD	Caterpillar	D250GC	04/2023	Continuous	N/A	N/A

Section B.2: Materials and Fuel Information

*Maximum yearly fuel usage rate only applies if applicant request operating restrictions through federally enforceable limitations.

Emission Unit #	Emission Unit Name	Name of Raw Materials Input		Name of Raw		Name of Raw	Maxi Quantity Raw M	mum of Each Iaterial put	Total Process Weight Rate for Emission Unit	Name of Finished Materials	Maximum Each l	Quantity of	Maximu	m Hourly age Rate	Maximun Fuel Usa	ı Yearly ge Rate	Sulfur Content	
				(Specify Units/hr)	(tons/hr)	Waterials		(Specify Units/hr)		(Specify Units)		(Specify Units)	(70)	(%)				
N/A																		

Section B.3: Notes, Comments, and Explanations
None

Division for Air Quality 300 Sower Boulevard Frankfort, KY 40601 (502) 564-3999

DEP7007DD

Insignificant Activities

___ Section DD.1: Table of Insignificant Activities

(502) 564-3999	Section DD.2: Signature Block Section DD.3: Notes, Comments, and Explanations
Source Name:	Ameresco Benson Valley RNG LLC
KY EIS (AFS) #:	21- 073-00112
Permit #:	F-21-028
Agency Interest (AI) ID:	167923
Date:	4/25/2023

Section DD.1: Table of Insignificant Activities

Insignificant Activity #	Description of Activity including Rated Capacity	Serial Number or Other Unique Identifier	Applicable Regulation(s)	Calculated Emissions
IA-01	Equipment Leaks	N/A	401 KAR 63:010	de minimis
				7.3

Section DD.2: Signature Block

I, THE UNDERSIGNED, HEREBY CERTIFY UNDER PENALTY OF LAW, THAT I AM A RESPONSIBLE OFFICIAL, AND THAT I HAVE PERSONALLY	,
EXAMINED, AND AM FAMILIAR WITH, THE INFORMATION SUBMITTED IN THIS DOCUMENT AND ALL ITS ATTACHMENTS. BASED ON MY INQUIF	RY OF
THOSE INDIVIDUALS WITH PRIMARY RESPONSIBILITY FOR OBTAINING THE INFORMATION, I CERTIFY THAT THE INFORMATION IS ON KNOWLE	EDGE
AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE OR INCOMP	LETE
INFORMATION, INCLUDING THE POSSIBILITY OF FINE OR IMPRISONMENT.	

	Altas	4/26/2023
Ву:	Authorized Signature	Date
By.	Nathan Hall	Senior VP - Asset Operations
	Type/Print Name of Siguatory	Title of Siguatory

11/2018 DEP7007DD

Section DD.3: Notes, Comments, and Explanations
-

11/2018 DEP7007GG

Division for Air Quality

300 Sower Boulevard

Frankfort, KY 40601

(502) 564-3999

DEP7007GG

Control Equipment

Additional Documentation

Complete Sections GG.1 through GG.12, as applicable

Attach manufacturer's specifications for each control device

Complete DEP7007AI

Source Name: Ameresco Benson Valley RNG LLC

KY EIS (AFS) #: 21- 073-00112

Permit #: F-21-028

Agency Interest (AI) ID: 167923

Date: 4/25/2023

Section G	Section GG.1: General Information - Control Equipment															
Control Device ID	Control Device	Cost	Manufacturer	Model Name/	Date	Inle	t Gas Stream	Data For <u>All</u> C	ontrol Devices		Cone Afterb	Gas Stream Da lensers, Adsor purners, Incine Oxidizers <u>Only</u>	bers, rators,	Equipment Operational Data For All Control Devices		
#	Name	Cost	Manutacturer	Serial #	Installed	Temperature	Flowrate (scfm @ 68 ° F)	Average Particle Diameter (µm)	Particle Density (lb/ft³) or Specific Gravity	Gas Density (lb/ft³)	Gas Moisture Content	Gas Composition	Fan Type	Pressure Drop Range (in. H ₂ O)	Pollutants Collected/ Controlled	Pollutant Removal
CD 01	Thermal Oxidizer	\$317k	Perennial	FL-72X58-45- TP	1/24/2023	200 (max)	0-2,000	<2.5	varies	varies	varies	varies	Forced draft centrifugal blower	varies	VOC, NMOC	98
CD 02	Open Flare	\$148k	Perennial	FL-10-C	12/13/2022	200 (max)	0-2,000	<2.5	varies	varies	varies	varies	None	varies	VOC, NMOC	98

DEP7007GG

Section GG.2:	Flare Source Information					
Control Device ID#	Identify all Emission Units and Control Devices that Feed to Flare	Type of Flare (e.g. steam-assisted, air-assisted, nonassisted)	Process Gas Flowrate (acfm)	Net Heating Value of Stream(s) (Btu/scf)	Removal Efficiency (%)	Flare Rated Capacity (MMBtu/hr)
CD 02	Pre-processed RNG (PPRNG) , CO2 Removal Off-Spec Gas, O2/N2 Off-Spec Gas, System Purge Gas, Natural Gas Pilot	Open-Nonassisted	0-1,500	992 (max)	98	34.0

11/2018 DEP7007GG

Section	ection GG.7: Afterburner/Incinerator/Oxidizer																
	Identify all Emission Units and Control Devices that	Identify Type:	Number	Burner	Dimensions of	Residence	Combustion	Type of	Type of Heat				Auxiliary Fu	ıel			Composition and Quantities
Device ID#	Feed to Afterburner/Incinerator/ Oxidizer	burner/Incinerator/ Incinerator, Oxidizer or	Afterburner, Incinerator, Oxidizer, or Oxidizer, or Oxidizer, or	Combustion Chamber (specify units)	Time (sec)	Chamber Temperature (°F)	Cotolyet	Exchanger (if applicable)	Identify Fuel Type	Higher Heating Value (MMBtu/scf)	Hourly Fuel Usage (scf/hr)	% Sulfur (Maximum)	% Sulfur (Average)	% Ash (Maximum)	% Ash (Average)	of Combusted Waste	
CD 01	PPRNG for pilot/supplemental fuel, Off-Gas from CO2 Menbrane, Off-Gas from O2/N2 Removal Unit	Thermal Oxidizer	1	6,000,000	TBD	1 (min)	1400-1800	None	None	PPRNG (50% CH4)	0.0005	10,000 (max)	46.9 ppm	4 ppm	0	0	N/A

Division for Air Quality

300 Sower Boulevard Frankfort, KY 40601 (502) 564-3999

DEP7007N

Source Emissions Profile

__ Section N.1: Emission Summary

__ Section N.2: Stack Information

__ Section N.3: Fugitive Information __ Section N.4: Notes, Comments, and Explanations

Additional	Documentation
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__ Complete DEP7007AI

Source Name: <u>Ameresco Ben</u>son Valley RNG LLC

KY EIS (AFS) #: 21- <u>073-00112</u>

Permit #: <u>F-21-028</u>

 Agency Interest (AI) ID:
 167923

 Date:
 4/25/2023

N.1: Emission Summary

Emission	Emission Emission Proce		Process	Control	Control	Stack	Maximum Design		Uncontrolled Emission	Emission Factor Source	Capture	Control	Hourly F	Emissions	Annual Emissions	
Unit#	Unit Name	ID	Name	Device Name	Device ID	ID	Capacity (SCC Units/hour)	Pollutant	Factor (lb/SCC Units)	(e.g. AP-42, Stack Test, Mass Balance)	Efficiency (%)	Efficiency (%)	Uncontrolled Potential (lb/hr)	Controlled Potential (lb/hr)	Uncontrolled Potential (tons/yr)	Controlled Potential (tons/yr)
EU 01	Thermal Oxidizer	EP 01	TOX1	Thermal Oxidizer	CD 01	ST 01	0.068 lb/mmbtu	NOx	0.068 lb/mmbtu	Manufacturer, AP-42 2.4	0.00%	98.00%	1.18	1.18	5.15	5.15
EU 01	Thermal Oxidizer	EP 01	TOX1	Thermal Oxidizer	CD 01	ST 01	0.31 lb/mmbtu	СО	0.31 lb/mmbtu	Manufacturer, AP-42 2.4	0.00%	98.00%	5.36	5.36	23.5	23.5
EU 01	Thermal Oxidizer	EP 01	TOX1	Thermal Oxidizer	CD 01	ST 01	see attached calculations	VOC	see attached calculations	Manufacturer, AP-42 2.4	0.00%	98.00%	2.58	2.58	11.30	11.30
EU 01	Thermal Oxidizer	EP 01	TOX1	Thermal Oxidizer	CD 01	ST 01	17 lb/mmscf CH4	PM	17 lb/mmscf CH4	AP-42 2.4	0.00%	N/A	1.17	1.17	5.14	5.14
EU 01	Thermal Oxidizer	EP 01	TOX1	Thermal Oxidizer	CD 01	ST 01	46.9 ppm	SOx	46.9 ppm	AP-42 2.4	0.00%	N/A	1.17	1.17	5.12	5.12
EU 01	Thermal Oxidizer	EP 01	TOX1	Thermal Oxidizer	CD 01	ST 01	0.08 lb/hr	HAP	0.08 lb/hr	AP-42 2.4	0.00%	98.00%	0.08	0.08	0.37	0.37
EU 02	Open Flare	EP 02	FLR1	Open Flare	CD 02	ST 02	0.068 lb/mmbtu	NOx	0.068 lb/mmbtu	Manufacturer, AP-42 2.4	0.00%	98.00%	2.31	2.31	10.12	10.12
EU 02	Open Flare	EP 02	FLR1	Open Flare	CD 02	ST 02	0.31 lb/mmbtu	СО	0.31 lb/mmbtu	Manufacturer, AP-42 2.4	0.00%	98.00%	10.52	10.52	46.06	46.06
EU 02	Open Flare	EP 02	FLR1	Open Flare	CD 02	ST 02	see attached calculations	VOC	see attached calculations	Manufacturer, AP-42 2.4	0.00%	98.00%	1.00	1.00	4.37	4.37
EU 02	Open Flare	EP 02	FLR1	Open Flare	CD 02	ST 02	17 lb/mmscf CH4	PM	17 lb/mmscf CH4	AP-42 2.4	0.00%	N/A	0.76	0.76	3.34	3.34
EU 02	Open Flare	EP 02	FLR1	Open Flare	CD 02	ST 02	46.9 ppm	SOx	46.9 ppm	AP-42 2.4	0.00%	N/A	0.73	0.73	3.22	3.22
EU 02	Open Flare	EP 02	FLR1	Open Flare	CD 02	ST 02	0.06 lb/hr	HAP	0.06 lb/hr	AP-42 2.4	0.00%	98.00%	0.06	0.06	0.24	0.24
TBD	Emergency Diesel Generator	TBD	TBD	Emergency Diesel Generator	TBD	TBD	250 kW	NOx	3.14 g/hp-hr	Manufacturer	0.00%	N/A	2.32	2.32	1.02	1.02
TBD	Emergency Diesel Generator	TBD	TBD	Emergency Diesel Generator	TBD	TBD	250 kW	СО	0.68 g/hp-hr	Manufacturer	0.00%	N/A	0.50	0.50	0.22	0.22
TBD	Emergency Diesel Generator	TBD	TBD	Emergency Diesel Generator	TBD	TBD	250 kW	VOC	0.17 g/hp-hr	Manufacturer	0.00%	N/A	0.13	0.13	0.06	0.06
TBD	Emergency Diesel Generator	TBD	TBD	Emergency Diesel Generator	TBD	TBD	250 kW	PM	0.16 g/hp-hr	Manufacturer	0.00%	N/A	0.12	0.12	0.05	0.05

Section N.2: Stack Information

UTM Zone:

G. LID	Identify all Emission Units (with Process ID) and	Sta	ack Physical Da	ıta	Stack UTM	Coordinates	Stack Gas Stream Data			
Stack ID	Control Devices that Feed to Stack	Equivalent Diameter (ft)	Height (ft)	Base Elevation (ft)	Northing (m)	Easting (m)	Flowrate (acfm)	Temperature (°F)	Exit Velocity (ft/sec)	
ST 01	Thermal Oxidizer	4.16' ID	45'	810	4222817	676470	0-1600	1400-1800	<60	
ST 02	Open Flare	0.868'	40'	810	4222817	676470	0-1500	1400-1800	<60	
TBD	Emergency Diesel Generator	0.417'	7.81'	810	4222817	676470	0-2246	700-900	unknown	

Section N.3: Fugitive Information

UTM Zone:

		Process ID	Area Physic	eal Data	Area UTM	Coordinates	Area Release Data		
Emission Unit #	Emission Unit Name		Length of the X Side	Length of the Y Side (ft)	Northing (m)	Easting (m)	Release Temperature	Release Height	
N/A									

Section N.4: Notes, Comments, and Explanations
SCC for Emission Points = Thermal Oxidizer: 31000209, Flare: 31000205
UTM Zone = 16S. Elevation and UTM Coordinates are Estimated.

Division for Air Quality

300 Sower Boulevard Frankfort, KY 40601 (502) 564-3999

DEP7007V

Applicable Requirements and Compliance Activities

Section V.1: Emission and Operating Limitation(s)
Section V.2: Monitoring Requirements

Additional Documentation

Complete DEP7007AI

 Section	V.3:	Record	lkeeping	Requi	rements

Section V.4: Reporting Requirements

Section V.5: Testing Requirements

____ Section V.6: Notes, Comments, and Explanations

Source Name: Ameresco Benson Valley RNG LLC

KY EIS (AFS) #: 21- 073-00112

Permit #: F-21-028

Agency Interest (AI) ID: 167923

Date: 4/25/2023

Section V.1: Emission and Operating Limitation(s)

Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)
EU 01	Thermal Oxidizer	401 KAR 63:020	VOC, HAP				Recordkeeping
EU 02	Open Flare	401 KAR 63:020	VOC, HAP				Recordkeeping
TBD	Emergency/Backup Diesel Generator	40 CFR 60 Subpart IIII	NOx	4 g/kW-hr			Recordkeeping
TBD	Emergency/Backup Diesel Generator	40 CFR 60 Subpart IIII	СО	3.5 g/kW-hr			Recordkeeping
TBD	Emergency/Backup Diesel Generator	40 CFR 60 Subpart IIII	PM	0.2 g/kW-hr			Recordkeeping

Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)
TBD	Emergency/Backup Diesel Generator	40 CFR 63 Subpart ZZZZ	NOx, CO, PM				Recordkeeping

Section V.2: Monitoring Requirements

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Monitored	Description of Monitoring
EU 01	Thermal Oxidizer	VOC, HAP	401 KAR 63:020	Flow/Temperature	
EU 02	Open Flare	VOC, HAP	401 KAR 63:020	Flow/Temperature	
TBD	Emergency/Backup Diesel Generator	NOx, CO, PM	40 CFR 60 Subpart IIII	Fuel usage	
TBD	Emergency/Backup Diesel Generator	NOx, CO, PM	40 CFR 63 Subpart ZZZZ	Fuel usage	

Section V.3: Recordkeeping Requirements

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Recorded	Description of Recordkeeping
EU 01	Themal Oxidizer	VOC, HAP	401 KAR 63:020	Flow/Temperature	
EU 02	Open Flare	VOC, HAP	401 KAR 63:020	Flow/Temperature	
TBD	Emergency/Backup Diesel Generator	NOx, CO, PM	40 CFR 60 Subpart IIII	Fuel usage	
TBD	Emergency/Backup Diesel Generator	NOx, CO, PM	40 CFR 63 Subpart ZZZZ	Fuel usage	

Section V.4: Reporting Requirements

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Reported	Description of Reporting
EU 01	Themal Oxidizer	VOC, HAP	401 KAR 63:020	Flow/Temperature	Semi-Annual
EU 02	Open Flare	VOC, HAP	401 KAR 63:020	Flow/Temperature	Semi-Annual
TBD	Emergency/Backup Diesel Generator	NOx, CO, PM	40 CFR 60 Subpart IIII	Fuel usage	Semi-Annual
TBD	Emergency/Backup Diesel Generator	NOx, CO, PM	40 CFR 63 Subpart ZZZZ	Fuel usage	Semi-Annual

Section V.5: Testing Requirements

Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Tested	Description of Testing
EU 01	Themal Oxidizer	VOC, HAP	401 KAR 63:020	VOC/HAP	Initial Performance Test, if required.
EU 02	Open Flare	VOC, HAP	401 KAR 63:020	None	
TBD	Emergency/Backup Diesel Generator	NOx, CO, PM	40 CFR 60 Subpart IIII	None	
TBD	Emergency/Backup Diesel Generator	NOx, CO, PM	40 CFR 63 Subpart ZZZZ	None	

11/2018 DEP7007V

Section V.6: Notes, Comments, and Explanations

4.0 EMISSIONS CACLULATIONS



POTENTIAL AIR EMISSIONS CALCULATIONS PROJECT PROFILE

PLANT NAME:	Ameresco Benson Valley RNG LLC
PLANT LOCATION:	Frankfort, KY
PROJECT:	Air Quality Permit Modification Application
DATE:	4/25/2023

	Value	Unit	Source
Methane heat content:	1,012	Btu/scf	EPA AP-42 Section 1.4
Wethane neat content.	0.00101	MMBtu/scf	LFA AF-42 Section 1.4
Raw gas methane content:	50%	%	Engineering estimate
Raw gas VOC content:	3,780	ppm as hexane	Lab analytical testing on 2/17/2020 with 4x factor added
Raw gas sulfur content:	46.9	ppm as hexane	AP-42 Section 2.4
	2,300	scf/minute	
Amereca as processing equipment	1,208,880,000	scf/year	
Ameresco gas processing equipment inlet gas capacity:	70	MMBtu/hr	Engineering estimate
inlet gas capacity.	1,676	MMBtu/day	
	611,693	MMBtu/year	

PLANT NAME:	Ameresco Benson Valley RNG LLC
PLANT LOCATION:	Frankfort, KY
PROJECT:	Air Quality Permit Modification Application
DATE:	4/25/2023

FACILITY TOTAL EMISSIONS:	Facility Total
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Pollutant	lb/hr	lb/day	lb/yr	ton/yr
NOx	5.81	139.41	32,586.83	16.29
со	16.38	393.21	139,559.51	69.78
voc	3.70	88.88	31,450.66	15.73
РМ	2.05	49.29	17,057.00	8.53
SOx	1.90	45.68	16,674.91	8.34
HAPs	0.97	23.23	8,477.42	4.24

PLANT NAME:	Ameresco Benson Valley RNG LLC
PLANT LOCATION:	Frankfort, KY
PROJECT:	Air Quality Permit Modification Application
DATE:	4/25/2023

DEVICE NAME:	Thermal Oxidizer
DEVICE ID:	EU 01

	Value	Unit	Source
Methane heat	1,012	Btu/scf	FPA AP-42 Section 1.4
content:	0.00101	MMBtu/scf	EPA AP-42 Section 1.4
VOC destruction efficiency:	98%	%	Manufacturer

GAS TYPE:	Waste Gas		
	Value	Unit	Source
Methane content:	13%	%	Engineering estimate
	1,400	scf/minute	
	735,840,000	scf/year	
Inlet gas capacity:	11.3	MMBtu/hr	Engineering estimate
	271	MMBtu/day	
	2,376,987	MMBtu/year	
Operating hours:	8,760	hours/year	Maximum unrestricted

Pollutant	Emission Factor	Unit	EF Source	Notes	lb/hr	lb/day	lb/yr	ton/yr
NOx	0.068	lb/MMBtu	EPA AP-42 Section 13.5 - Industrial Flare		0.77	18.45	6,735	3.37
со	0.31	lb/MMBtu	EPA AP-42 Section 13.5 - Industrial Flare		3.50	84.12	30,703	15.35
voc	6,210	ppm as hexane	Lab analytical results dated 2/19/2020 with 4x factor applied. EPA AP-42 Section 2.4 - Equations 3 & 4	Calculation assumes that all VOCs entering the gas processing equipment are emitted through this device. Raw gas VOC content concentrated up based on flow ratio between gas entering the gas processing equipment and gas entering this device.	2.38	57.01	20,807	10.40
РМ	17	lb PM/mmscf CH4	EPA AP-42 Section 2.4 - LFG Flare	Calculation assumes that all PM entering the gas processing equipment are emitted through this device. PM emissions calculated using inlet flow to gas processing equipment.	1.17	28.15	10,275	5.14
SOx	46.9	ppm TRS		Calculation assumes that all TRS entering the gas processing equipment are emitted through this device. SOx emissions calculated using inlet flow to gas processing equipment.	1.17	28.06	10,242	5.12

GAS TYPE:	Supplemental PPRNG		
	Value	Unit	Source
Methane content:	50%	%	Engineering estimate
	198	scf/minute	
	103,858,560	scf/year	1
Inlet gas capacity:	6.0	MMBtu/hr	Engineering estimate
	144	MMBtu/day	1
	1,261,258	MMBtu/year	1
Operating hours:	8,760	hours/year	Maximum unrestricted

Pollutant	Emission Factor	Unit	EF Source	Notes	lb/hr	lb/day	lb/yr	ton/yr
NOx	0.068	lb/MMBtu	EPA AP-42 Section 13.5 - Industrial Flare		0.41	9.79	3,574	1.79
со	0.31	lb/MMBtu	EPA AP-42 Section 13.5 - Industrial Flare		1.86	44.63	16,291	8.15
voc	3,780	ppm as hexane	Lab analytical results dated 2/19/2020 with 4x factor applied.		0.20	4.90	1,788	0.89

Total Potential Emissions:	Thermal Oxidizer

Pollutant	lb/hr	lb/day	lb/yr	ton/yr
NOx	1.18	28.24	10,308	5.15
со	5.36	128.75	46,994	23.50
voc	2.58	61.90	22,595	11.30
PM	1.17	28.15	10,275	5.14
SOx	1.17	28.06	10,242	5.12

PLANT NAME:	Ameresco Benson Valley RNG LLC
PLANT LOCATION:	Frankfort, KY
PROJECT:	Air Quality Permit Modification Application
DATE:	4/25/2023

DEVICE NAME:	Open Flare
DEVICE ID:	EU 02

	Value	Unit	Source
Methane heat	1,012	Btu/scf	FPA AP-42 Section 1.4
content:	0.00101	MMBtu/scf	EPA AP-42 Section 1.4
VOC destruction efficiency:	98%	%	Manufacturer

GAS TYPE:	VARIOUS		
		_	
	Value	Unit	Source
Methane content:	50%	%	Engineering estimate
	1,500	scf/minute	
	788,400,000	scf/year	
Inlet gas capacity:	33.9	MMBtu/hr	Engineering estimate
	814	MMBtu/day	
	7,130,920	MMBtu/year	
Operating hours:	8,760	hours/year	Maximum unrestricted

Pollutant	Emission Factor	Unit	EF Source	Notes	lb/hr	lb/day	lb/yr	ton/yr
NOx	0.068	lb/MMBtu	EPA AP-42 Section 13.5 - Industrial Flare		2.31	55.35	20,204	10.10
со	0.31	lb/MMBtu	EPA AP-42 Section 13.5 - Industrial Flare		10.51	252.3	92,108	46.05
voc	3,780	ppm as hexane	Lab analytical results dated 2/19/2020 with 4x factor applied. EPA AP-42 Section 2.4 - Equations 3 & 4		1.00	23.95	8,743	4.37
PM	17	lb PM/mmscf CH4	EPA AP-42 Section 2.4 - LFG Flare		0.76	18.29	6,675	3.34
SOx	46.9	ppm TRS	EPA AP-42 Section 2.4 - Equations 3 & 4		0.73	17.62	6,433	3.22

GAS TYPE:	Natural Gas		
	Value	Unit	
		Unit	Source
Methane content:	98%	%	Industry-standard estimate
	0.83	scf/minute	
	438,000	scf/year	
Inlet gas capacity:	0.05	MMBtu/hr	Site-specific estimate
	1.19	MMBtu/day	
	10,425	MMBtu/year	
Operating hours:	8,760	hours/year	Site-specific estimate

Pollutant	Emission Factor	Unit	EF Source	Notes	lb/hr	lb/day	lb/yr	ton/yr
NOx	94	lb/MMscf	EPA AP-42 Section 1.4 - NG Combustion		0.005	0.113	41.17	0.02
со	40	lb/MMscf	EPA AP-42 Section 1.4 - NG Combustion		0.002	0.048	17.52	0.01
voc	5.50	lb/MMscf	EPA AP-42 Section 1.4 - NG Combustion		0.000	0.007	2.41	0.001
PM	7.60	lb/MMscf	EPA AP-42 Section 1.4 - NG Combustion		0.000	0.009	3.33	0.002
SOx	0.60	lb/MMscf	EPA AP-42 Section 1.4 - NG Combustion		0.000	0.001	0.26	0.0001

Total Potential Emissions: Open	Flare
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Pollutant	lb/hr	lb/day	lb/yr	ton/yr
NOx	2.31	55.47	20,245	10.12
со	10.52	252.4	92,125	46.06
voc	1.00	23.96	8,746	4.37
PM	0.76	18.30	6,678	3.34
sox	0.73	17.63	6,433	3.22

PLANT NAME:	Ameresco Benson Valley RNG LLC
PLANT LOCATION:	Frankfort, KY
PROJECT:	Air Quality Permit Modification Application
DATE:	4/25/2023

DEVICE:	Thermal Oxidizer (EU 01)
GAS TYPE:	Waste Gas and PPRNG

	Value	Unit	Source
Methane heat content:	1,020	Btu/scf	EPA AP-42 Section 1.4
Wethane neat content.	0.00102	MMBtu/scf	LFA AF-42 Section 1.4
HAP destruction efficiency:	98.0%	%	Manufacturer
Gas exhaust temperature	25	degC	Engineering estimate

	Value	Unit	Source
1-1-4	2,300	scf/minute	Plant inlet flow rate utilized as conservative estimate to account for all HAPS entering facility.
Inlet gas capacity:	1,208,880,000	scf/year	Plant fillet now rate utilized as conservative estimate to account for all HAPS entering facility.
Operating hours:	8,760	hours/year	Maximum unrestricted

Pollutant	Molecular Weight (g/mol)	Concentration (ppmv)	Concentration Source	lb/hr	lb/day	lb/yr	ton/yr
1,1,1-Trichloroethane (methyl chloroform)	133.41	0.48	USEPA AP-42 Section 2.4, Tables 2.4-1 and 2.4.2 (Nov. 1998) and CAA Section 112	4.51E-04	1.08E-02	3.95E+00	1.98E-03
1,1,2,2-Tetrachloroethane	167.85	0.07	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	8.28E-05	1.99E-03	7.25E-01	3.63E-04
1,1-Dichloroethane (ethylidene dichloride)	98.97	0.741	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	5.17E-04	1.24E-02	4.53E+00	2.26E-03
1,1-Dichloroethene (vinylidene chloride)	96.94	0.092	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	6.28E-05	1.51E-03	5.51E-01	2.75E-04
1,2-Dichloroethane (ethylene dichloride)	98.96	0.12	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	8.37E-05	2.01E-03	7.33E-01	3.67E-04
1,2-Dichloropropane (propylene dichloride)	112.99	0.023	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	1.83E-05	4.40E-04	1.60E-01	8.02E-05
Acrylonitrile*	53.06	0.036	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	1.35E-05	3.23E-04	1.18E-01	5.90E-05
Benzene*	78.11	0.97	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	5.35E-04	1.28E-02	4.69E+00	2.34E-03
Carbon disulfide*	76.13	0.32	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	1.72E-04	4.12E-03	1.50E+00	7.52E-04
Carbon tetrachloride	153.84	0.007	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	7.59E-06	1.82E-04	6.65E-02	3.32E-05
Carbonyl sulfide*	60.07	0.183	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	7.75E-05	1.86E-03	6.79E-01	3.39E-04
Chlorobenzene	112.56	0.227	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	1.80E-04	4.32E-03	1.58E+00	7.89E-04
Chloroethane (ethyl chloride)	64.52	0.448	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	2.04E-04	4.89E-03	1.78E+00	8.92E-04
Chloroform	119.39	0.021	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	1.77E-05	4.24E-04	1.55E-01	7.74E-05
Chloromethane (methyl chloride)	50.49	0.249	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	8.86E-05	2.13E-03	7.76E-01	3.88E-04
1,2-Dichlorobenzene	147.00	0.21	USEPA AP-42 Section 2.4, Tables 2.4-1 and 2.4.2 (Nov. 1998) and CAA Section 112	2.18E-04	5.22E-03	1.91E+00	9.53E-04
Dichlorodifluoromethane	120.91	1.751	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	1.49E-03	3.58E-02	1.31E+01	6.53E-03
Dichlorofluoromethane	102.92	2.62	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	1.90E-03	4.56E-02	1.66E+01	8.32E-03
Dichloromethane (methylene chloride)	84.94	3.395	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2000	2.03E-03	4.88E-02	1.78E+01	8.90E-03
Ethyl mercaptan*	62.13	1.356	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	5.94E-04	1.42E-02	5.20E+00	2.60E-03
Ethylene dibromide (1,2-Dibromoethane)	187.88	0.001	USEPA AP-42 Section 2.4, Tables 2.4-1 and 2.4.2 (Nov. 1998) and CAA Section 112	1.32E-06	3.18E-05	1.16E-02	5.80E-06
Ethylbenzene*	106.16	4.61	USEPA AP-42 Section 2.4, Tables 2.4-1 and 2.4.2 (Nov. 1998) and CAA Section 112	3.45E-03	8.28E-02	3.02E+01	1.51E-02
Hexane*	86.18	2.324	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	1.41E-03	3.39E-02	1.24E+01	6.18E-03
Hydrochloric Acid (hydrogen chloride)	36.46	42.0	USEPA AP-42 Section 2.4 (Nov. 1998)	5.40E-01	1.29E+01	4.73E+03	2.36E+00
Mercury (total)*	200.61	0.00029	USEPA AP-42 Section 2.4, Tables 2.4-1 and 2.4.2 (Nov. 1998) and CAA Section 112	4.13E-07	9.91E-06	3.62E-03	1.81E-06
Methyl ethyl ketone*	72.11	7.09	USEPA AP-42 Section 2.4, Tables 2.4-1 and 2.4.2 (Nov. 1998) and CAA Section 112	3.60E-03	8.65E-02	3.16E+01	1.58E-02
Methyl isobutyl ketone*	100.16	0.75	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	5.29E-04	1.27E-02	4.64E+00	2.32E-03
Methyl mercaptan*	48.11	1.292	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	4.38E-04	1.05E-02	3.84E+00	1.92E-03
Perchloroethylene (tetrachloroethylene)	165.83	1.193	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	1.39E-03	3.35E-02	1.22E+01	6.11E-03
Toluene*	92.13	25.405	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	1.65E-02	3.96E-01	1.44E+02	7.22E-02
Trichloroethylene (trichloroethene)	131.40	0.681	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	6.31E-04	1.51E-02	5.52E+00	2.76E-03
Vinyl chloride	62.50	1.077	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	4.74E-04	1.14E-02	4.16E+00	2.08E-03
Xylenes*	106.16	12.10	USEPA AP-42 Section 2.4, Tables 2.4-1 and 2.4.2 (Nov. 1998) and CAA Section 112	9.05E-03	2.17E-01	7.93E+01	3.96E-02
Total HAPs:				0.59	14.06	5,131	2.57
Single Highest HAP:				0.54	12.95	4,726	2.36

PLANT NAME:	Ameresco Benson Valley RNG LLC
PLANT LOCATION:	Frankfort, KY
PROJECT:	Air Quality Permit Modification Application
DATE:	4/25/2023

DEVICE:	Open Flare (EU 02)
GAS TYPE:	Various

	Value	Unit	Source
Methane heat content:	1,020	Btu/scf	EPA AP-42 Section 1.4
ivietnane neat content.	0.00102	MMBtu/scf	LFA AF-42 Section 1.4
HAP destruction efficiency:	98.0%	%	Manufacturer
Gas exhaust temperature	25	degC	Engineering estimate

	Value	Unit	Source
1.1.1	1,500	scf/minute	Engineering estimate
Inlet gas capacity:	788,400,000	scf/year	Engineering estimate
Operating hours:	8,760	hours/year	Maximum unrestricted

Pollutant	Molecular Weight (g/mol)	Concentration (ppmv)	Concentration Source	lb/hr	lb/day	lb/yr	ton/yr
1,1,1-Trichloroethane (methyl chloroform)	133.41	0.48	USEPA AP-42 Section 2.4, Tables 2.4-1 and 2.4.2 (Nov. 1998) and CAA Section 112	2.94E-04	7.06E-03	2.58E+00	1.29E-03
1,1,2,2-Tetrachloroethane	167.85	0.07	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	5.40E-05	1.30E-03	4.73E-01	2.37E-04
1,1-Dichloroethane (ethylidene dichloride)	98.97	0.741	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	3.37E-04	8.09E-03	2.95E+00	1.48E-03
1,1-Dichloroethene (vinylidene chloride)	96.94	0.092	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	4.10E-05	9.84E-04	3.59E-01	1.80E-04
1,2-Dichloroethane (ethylene dichloride)	98.96	0.12	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	5.46E-05	1.31E-03	4.78E-01	2.39E-04
1,2-Dichloropropane (propylene dichloride)	112.99	0.023	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	1.19E-05	2.87E-04	1.05E-01	5.23E-05
Acrylonitrile*	53.06	0.036	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	8.78E-06	2.11E-04	7.69E-02	3.85E-05
Benzene*	78.11	0.97	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	3.49E-04	8.37E-03	3.06E+00	1.53E-03
Carbon disulfide*	76.13	0.32	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	1.12E-04	2.69E-03	9.81E-01	4.90E-04
Carbon tetrachloride	153.84	0.007	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	4.95E-06	1.19E-04	4.34E-02	2.17E-05
Carbonyl sulfide*	60.07	0.183	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	5.05E-05	1.21E-03	4.43E-01	2.21E-04
Chlorobenzene	112.56	0.227	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	1.17E-04	2.82E-03	1.03E+00	5.14E-04
Chloroethane (ethyl chloride)	64.52	0.448	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	1.33E-04	3.19E-03	1.16E+00	5.82E-04
Chloroform	119.39	0.021	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	1.15E-05	2.77E-04	1.01E-01	5.05E-05
Chloromethane (methyl chloride)	50.49	0.249	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	5.78E-05	1.39E-03	5.06E-01	2.53E-04
1,2-Dichlorobenzene	147.00	0.21	USEPA AP-42 Section 2.4, Tables 2.4-1 and 2.4.2 (Nov. 1998) and CAA Section 112	1.42E-04	3.40E-03	1.24E+00	6.21E-04
Dichlorodifluoromethane	120.91	1.751	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	9.73E-04	2.34E-02	8.52E+00	4.26E-03
Dichlorofluoromethane	102.92	2.62	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	1.24E-03	2.97E-02	1.09E+01	5.43E-03
Dichloromethane (methylene chloride)	84.94	3.395	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2000	1.33E-03	3.18E-02	1.16E+01	5.80E-03
Ethyl mercaptan*	62.13	1.356	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	3.87E-04	9.29E-03	3.39E+00	1.70E-03
Ethylene dibromide (1,2-Dibromoethane)	187.88	0.001	USEPA AP-42 Section 2.4, Tables 2.4-1 and 2.4.2 (Nov. 1998) and CAA Section 112	8.63E-07	2.07E-05	7.56E-03	3.78E-06
Ethylbenzene*	106.16	4.61	USEPA AP-42 Section 2.4, Tables 2.4-1 and 2.4.2 (Nov. 1998) and CAA Section 112	2.25E-03	5.40E-02	1.97E+01	9.85E-03
Hexane*	86.18	2.324	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	9.20E-04	2.21E-02	8.06E+00	4.03E-03
Hydrochloric Acid (hydrogen chloride)	36.46	42.0	USEPA AP-42 Section 2.4 (Nov. 1998)	3.52E-01	8.44E+00	3.08E+03	1.54E+00
Mercury (total)*	200.61	0.00029	USEPA AP-42 Section 2.4, Tables 2.4-1 and 2.4.2 (Nov. 1998) and CAA Section 112	2.69E-07	6.46E-06	2.36E-03	1.18E-06
Methyl ethyl ketone*	72.11	7.09	USEPA AP-42 Section 2.4, Tables 2.4-1 and 2.4.2 (Nov. 1998) and CAA Section 112	2.35E-03	5.64E-02	2.06E+01	1.03E-02
Methyl isobutyl ketone*	100.16	0.75	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	3.45E-04	8.29E-03	3.02E+00	1.51E-03
Methyl mercaptan*	48.11	1.292	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	2.86E-04	6.86E-03	2.50E+00	1.25E-03
Perchloroethylene (tetrachloroethylene)	165.83	1.193	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	9.09E-04	2.18E-02	7.96E+00	3.98E-03
Toluene*	92.13	25.405	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	1.08E-02	2.58E-01	9.42E+01	4.71E-02
Trichloroethylene (trichloroethene)	131.40	0.681	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	4.11E-04	9.87E-03	3.60E+00	1.80E-03
Vinyl chloride	62.50	1.077	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	3.09E-04	7.42E-03	2.71E+00	1.35E-03
Xylenes*	106.16	12.10	USEPA AP-42 Section 2.4, Tables 2.4-1 and 2.4.2 (Nov. 1998) and CAA Section 112	5.90E-03	1.42E-01	5.17E+01	2.59E-02
Total HAPs:				0.38	9.17	3,346	1.67
Single Highest HAP:				0.35	8.44	3,082	1.54

AIR EMISSIONS CALCULATIONS

PLANT NAME:	Ameresco Benson Valey RNG LLC
PLANT LOCATION:	Frankfort, Kentucky
PROJECT:	Air Quality Permit Modification Application
DATE:	4/25/2023

DEVICE NAME:	Backup / Emergency Diesel Generator
DEVICE ID:	TBD

FUEL TYPE:	DIESEL					
	Value	Unit	Source	-]		
Capacity:	335	НР	Manufacturer	1		
Max fuel consumption:	19.4	gal/hr	Manufacturer	Ī		
Fuel weight:	7.001	lb/gal	Manufacturer	Ī		
	18,390	Btu/lb	Manufacturer	Ī		
Fuel heat input:	128,748	Btu/gal		ľ		
	2.50	MMBtu/hr		ľ		
Operating hours:	876	hours/year	Engineering estimate	ľ		
	•	•		_		
Pollutant	Emission Factor	Unit	EF Source	lb/hr	lb/day	lb/y
NO.	2.44	. // 1		2.22	FF 70	2.02

Pollutant	Emission Factor	Unit	EF Source	lb/hr	lb/day	lb/yr	ton/yr
NOx	3.14	g/hp-hr	Manufacturer	2.32	55.70	2,033	1.02
со	0.68	g/hp-hr	Manufacturer	0.50	12.06	440	0.22
VOC	0.17	g/hp-hr	Manufacturer	0.13	3.02	110	0.06
PM/PM10/PM2.5	0.16	g/hp-hr	Manufacturer	0.12	2.84	104	0.05

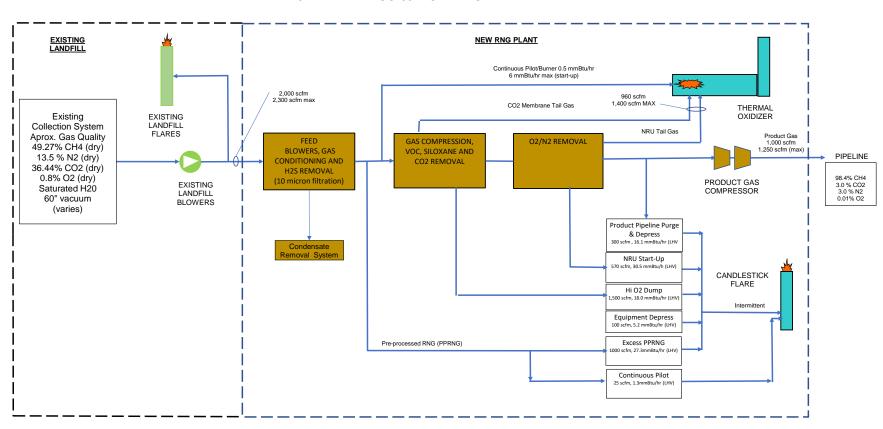
5.0 PROCESS FLOW DIAGRAM



Rev. 1 11/12/2020

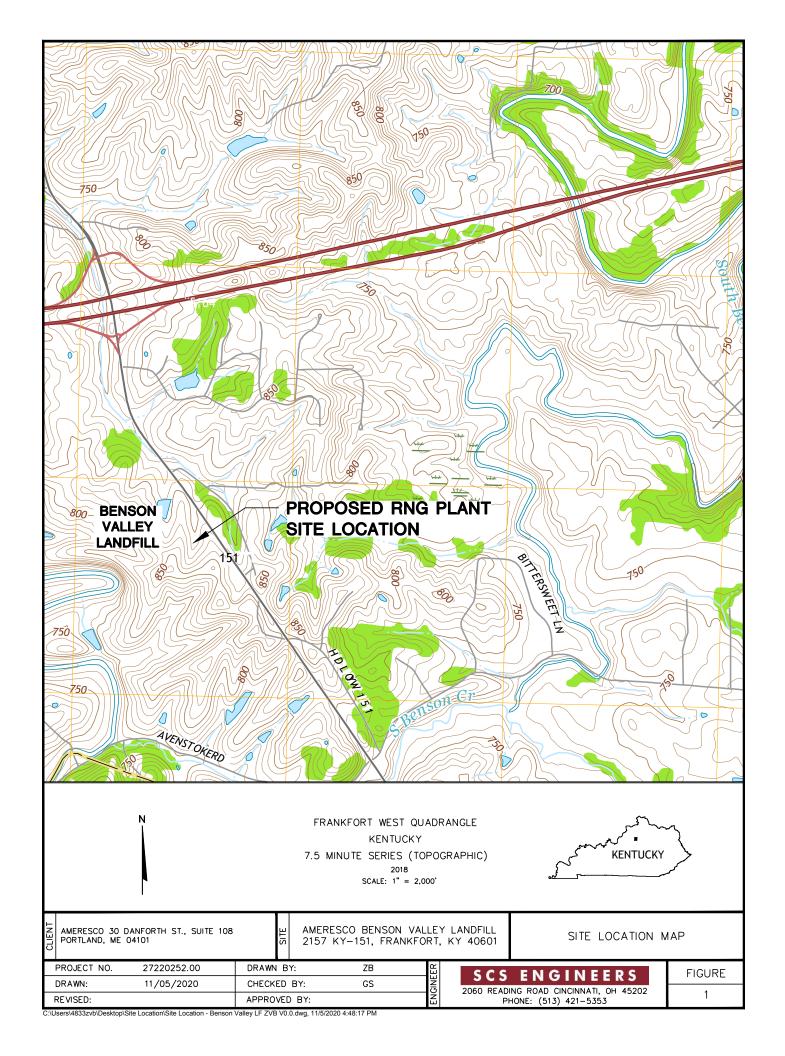
BENSON VALLEY RNG FACILITY

SIMPLIFIED PROCESS FLOW DIAGRAM

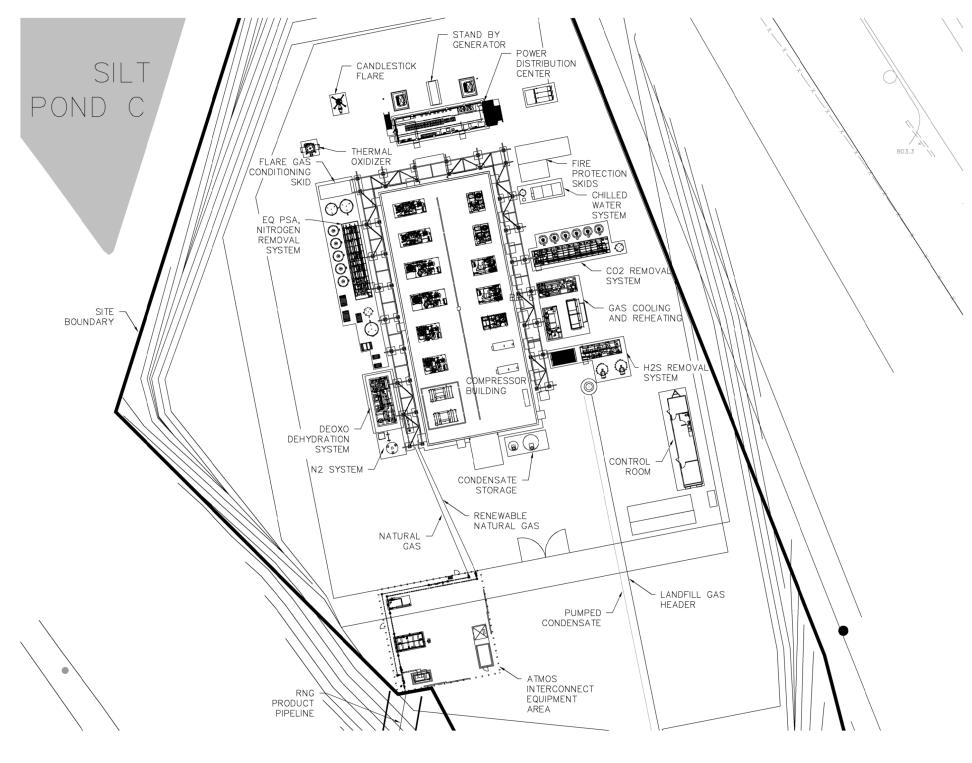


6.0 SITE LOCATION MAP AND SITE PLAN









SITE ARRANGEMENT PLAN SCALE: 1"=40'

PRELIMINARY NOT FOR CONSTRUCTION

																AMERE Green • Clean• S	SCO Gustainable
												DESIGNED BY	SHEET TITLE		AMERICAN DENICON VALLEY DNO 110	JOB NO	DATE 04/24/23
												CHECKED BY		SITE ARRANGEMENT PLAN	AMERESCO BENSON VALLEY RNG. LLC.		
												APPROVED BY		_	BENSON VALLEY RNG. FACILITY	FILENAME	REV. A
												CLIENT APPR.		_	2157 KY-151	SCALE	DWG. NO.
Α	04/24/23	ISSUED FOR INFORMATION														AS NOTED	
NO.	DATE	REVISION DESCRIPTION	BY	CHKD.	APPD.	NO.	DATE	REVISION DESCRIPTION	BY	CHKD.	APPD.			_	FRANKFORT, KY 40601		

7.0 EMERGENCY DIESEL GENERATOR SPECIFICATIONS



Cat® D250 GC DIESEL GENERATOR SETS



Standby: 60 Hz, 208V, 480V & 600V



Image shown might not reflect actual configuration

Engine Model	Cat® C9 In-line 6, 4-cycle diesel		
Bore x Stroke	112mm x 149mm (4.4in x 5.9in)		
Displacement	8.8 L (538 in³)		
Compression Ratio	16.3:1		
Aspiration	Turbocharged Air-to-Air Aftercooled		
Fuel Injection System	HEUI		
Governor	Electronic ADEM™ A4		

Standby	Performance Strategy
250 ok/M 212 5k//A	EPA Certified for Stationary
250 ekW, 312.5kVA	Emergency Application

PACKAGE PERFORMANCE

Performance	Stand	b y			
Frequency	60 Hz				
Genset Power Rating	312.5 kVA				
Gen set power rating with fan @ 0.8 power factor	250 ek	W			
Emissions	EPA TIE	R 3			
Performance Number	DM850)1			
Fuel Consumption					
100% load with fan	73.3 L/hr	19.4 gal/hr			
75% load with fan	58.8 L/hr	15.5 gal/hr			
50% load with fan	43.8 L/hr	11.6 gal/hr			
25% load with fan	27.4 L/hr	7.3 gal/hr			
Cooling System ¹					
Radiatorair flow restriction (system)	0.12 kPa	0.48 in. Water			
Radiatorairflow	497 m³/min	17551 cfm			
Engine coolant capacity	14 L	3.69 gal			
Radiatorcoolantcapacity	25 L	6.6 gal			
Total coolant capacity	45 L	11.88 gal			
Inlet Air					
Combustion air inlet flow rate	23.83 m³/min	841.5 cfm			
Max. Allowable Combustion Air Inlet Temp	49 ℃	120°F			
Exhaust System					
Exhaust stack gas temperature	460 ℃	860°F			
Exhaust gas flow rate	63.6 m³/min	2246 cfm			
Exhaust system backpressure (maximum allowable)	10.0 kPa	40.0 in. water			
Heat Rejection					
Heat rejection to jacket water	104 kW	5928 Btu/min			
Heat rejection to exhaust (total)	277 kW	15772 Btu/min			
Heat rejection to aftercooler	82 kW	4686 Btu/min			
Heat rejection to atmosphere from engine	18 kW	1004 Btu/min			
Heat rejection from alternator	20 kW	1120 Btu/min			

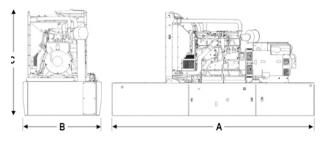
LEHE2023-02 1/2

Cat® D250 GC DIESEL GENERATOR SETS



Emissions(Nominal) ²	Standby						
NOx	1637.5 mg/	3.14 g/hp-hr					
CO	323.2 mg/ľ	Vm³	0.68 g/hp-hr				
HC	71.2 mg/N	m³	0.17 g/hp-hr				
PM	63.7 mg/N	m³	0.16 g/hp-hr				
Alternator ³							
Voltages	480V	208	600V				
Motor Starting Capability @ 30% Voltage Dip	567	544	1006				
Current	375.9	867.4	300.7				
Frame Size	M2754L4	M2774L4	M2754L4				
Excitation	S.E	S.E	AREP				
Temperature Rise	105°C	105°C	105°C				

WEIGHTS & DIMENSIONS - OPEN SET



FUEL TANK CAPACITY

Tank	Total C	apacity	Useable C	Capacity
Design	Litre	Gallon	Litre	Gallon
Integral	2270	600	2059	544

Base	Dim "A" mm (in)	Dim "B" mm (in)	Dim "C" mm (in)	Generator Set Weight kg (lb)
Skid (Wide Base)	3950 (155.5)	1440 (56.7)	1706 (67.2)	2415 (5324.2)
Integral Tank Base	3950 (155.5)	1430 (56.3)	2202 (86.7)	3055 (6735.1)

DEFINITIONS AND CONDITIONS

- ¹ For ambient and altitude capabilities consult your Cat dealer. Air flow restriction (system) is added to existing restriction from factory.
- ² Emissions data measurement procedures are consistent with those described in EPA CFR 40 Part 89, Subpart D & E and ISO8178-1 for measuring HC, CO, PM, NOx. Data shown is based on steady state operating conditions of 77° F, 28.42 in HG and number 2 diesel fuel with 35° API and LHV of 18,390 BTU/lb. The nominal emissions data shown is subject to instrumentation, measurement, facility and engine to engine variations. Emissions data is based on 100% load and thus cannot be used to compare to EPA regulations which use values based on a weighted cycle.
- 3 UL 2200 Listed packages may have oversized generators with a different temperature rise and motor starting characteristics. Generator temperature rise is based on a 40° C ambient per NEMA MG1-32.

APPLICABLE CODES AND STANDARDS:

AS1359, CSA C22.2 No100-04, UL142, UL489, UL869, UL2200, NFPA37, NFPA70, NFPA99, NFPA110, IBC, IEC60034-1, ISO3046, ISO8528, NEMA MG1-22, NEMA MG1-33, 2006/95/EC, 2006/42/EC, 2004/108/EC.

Note: Codes may not be available in all model configurations. Please consult your local Cat Dealer representative for availability.

STANDBY: Output available with varying load for the duration of the interruption of the normal source power. Average power output is 70% of the standby power rating. Typical operation is 200 hours per year, with maximum expected usage of 500 hours per year.

RATINGS: Ratings are based on SAE J1349 standard conditions. These ratings also apply at ISO3046 standard conditions.

Fuel Rates are based on fuel oil of 35° API [16° C (60° F)] gravity having an LHV of 42 780 kJ/kg (18,390 Btu/lb) when used at 29° C (85° F) and weighing 838.9 g/litre (7.001 lbs/U.S. gal.). Additional ratings may be available for specific customer requirements, contact your Caterpillar representative for details. For information regarding Low Sulfur fuel and Biodiesel capability, please consult your Cat dealer.

LEHE2023-02 (05-20)

www.Cat.com/electricpower

8.0 OFF-PERMIT CHANGE APPROVAL – AUG 8, 2022





Andy Beshear

ENERGY AND ENVIRONMENT CABINET

DEPARTMENT FOR ENVIRONMENTAL PROTECTION

300 Sower Boulevard Frankfort, Kentucky 40601 Phone: (502) 564-2150 Fax: 502-564-4245

August 10, 2022

August 10, 2022

Nathan Hall, Senior Vice President – Asset Operations Ameresco Benson Valley RNG LLC 111 Speen St. Framingham, MA 01701

Re: Vendor Changes at a Mixed, Manufactured, or Liquefied Petroleum Gas Production

and/or Distribution Facility

Permittee Name: Ameresco Benson Valley RNG LLC

Source ID: 21-073-00112

Agency Interest: 167923

Activity: APE20220002 Permit: F-21-028

Dear Nathan Hall:

The Division received the Ameresco Benson Valley RNG LLC application for the following changes on July 18, 2022:

- Emission Unit 01 (EU 01) vendor information with a name and description change from "Recuperative Thermal Oxidizer" to "Thermal Oxidizer".
- Emission Unit 02 (EU 02) vendor will no longer be John Zink
- EU 01 NO_x emission factor from 0.056 lb/MMBtu to 0.068 lb/MMBtu
- EU 01 VOC control efficiency from 99% to 98%
- Increase Landfill Gas VOC concentration from 945 ppm to 3,780 ppm (945 x 4) to account for any future fluctuations in VOC content which would result in increased VOC content
- Stack dimensions for EU 01 and EU 02

The Division has determined that these changes can be covered per 401 KAR 52:030, Section 17, Off-permit and Section 502(b)(10) Changes. Therefore, no permit revision is required at this time and you may proceed with the project as described by your permit application. All of the conditions regarding EU 01 and EU 02 will remain the same. The changes will be incorporated into the permit



Rebecca Goodman

SECRETARY

Anthony R. Hatton

COMMISSIONER

at the next revision or renewal, whichever comes first, and if applicable, the Division will perform an air toxics evaluation at that time.

This letter does not exempt your source from the regulatory requirements of any other federal, state, or local agency which may have regulations that apply. You are reminded that if you intend to construct, reconstruct, or modify an air contaminant source in the future, you are required by regulation to apply for and, if required, be issued a permit, in accordance with 401 KAR 52:030 prior to the commencement of any construction.

Maintain a copy of this letter on file with your current permit. If you have any questions regarding this matter, you may contact Zachary Bittner at 502-782-6555.

Sincerely,

Zachary Bittner, P.E.

Combustion Section Supervisor

John Both

Permit Review Branch Division for Air Quality

Enclosure















111 Speen St, Ste 410 Framingham, MA 01701 P: (508) 661-2200 ameresco.com

February 6, 2024

Mr. Zachary Bittner, P.E. Environmental Engineer Supervisor Combustion Section Division for Air Quality 300 Sower Blvd Frankfort, KY 40601



Ameresco Benson Valley RNG LLC – Frankfort, Kentucky Air Quality Permit ID No. F-21-028
Off-Permit Change Approvals Dated 8/10/2022 & 9/18/2023

Agency Interest #: 167923 Activity ID: APE20210002 Source ID: 21-073-00112

Dear Mr. Bittner:

Ameresco Benson Valley RNG LLC (Ameresco) is submitting to the Kentucky Department of Environmental Protection (KDEP) this Section 502(b)(10) Permit Change Application for Air Quality Permit ID F-21-028 dated November 7, 2021, Off-Permit Changes approved August 10, 2022 and September 18, 2023, and the pending Title V Air Operating Permit (not yet issued) for the Ameresco facility. Ameresco's renewable natural gas (RNG) facility processes and treats landfill gas to meet pipeline-quality gas standards for injection into a natural gas transmission pipeline. The RNG plant includes a thermal oxidizer and an open flare. With this submittal, Ameresco seeks to make the following change which we understand qualifies as a Section 502(b)(10) change under 401 KAR 52:020, Section 18:

1. Permit ID No. F-21-028 Section B - Emission Unit 02 Open Flare - Description

Ameresco's Off-Permit Change dated September 18, 2023 approved modification of this permit condition as follows:

Fuel Heat Input: 50 scf/hr Fuel: Natural Gas

Ameresco has determined that greater than 50 scf/hour of natural gas is necessary to allow desired operation of the open flare. Natural gas is occasionally used as a supplemental fuel in the open flare in addition to pilot fuel to sustain proper combustion of the process gases delivered to the flare. Ameresco estimates that up to approximately 150 scf/hour natural gas is needed. Ameresco understands that this increased natural gas usage constitutes a minor change and that there would be no resulting alteration to the permitted emissions limitations contained in Ameresco's existing air permit. The additional natural gas use very slightly increases the potential emissions calculations for the open flare. The project potential emissions would still be within the Conditional Major / Synthetic Minor limits of the air permit. The changes do not trigger applicability of any additional Federal or State regulations beyond what the facility is already subject to. The potential emissions increase from this change are as follows, and the facility emissions calculations are attached to this submittal for your reference:



Pollutant	PTE Increase (ton/yr)
NOx	0.04
СО	0.02
VOC	0.002
PM	0.003
SOx	0.0003_

This increased limit for open flare natural gas use causes no change to the existing permit conditions and requirements, except for the following:

Section B - Emission Unit 02 Open Flare - Description:

Fuel Heat Input: 150 scf/hr, averaged over 24-hr period

Fuel: Natural Gas

Alternately, the above two descriptive lines could simply be stricken from the permit if you prefer.

Ameresco understands that this requested modification qualifies as a Section 502(b)(10) change and Ameresco must submit KDEP Forms DEP7007AI, DEP7007B, DEP7007N, DEP7007V and DEP7007GG, which are attached. Ameresco understands that there is no fee due for this action and that KDEP will issue a letter confirming that this request is approved and will be incorporated in the next permit revision or renewal. Thank you for your time and attention to this matter. Should you have any questions or desire additional information, please contact Stevia Smith at (704) 989-2023 or smiths@ameresco.com.

Respectfully submitted,

Mr. Nathan Hall, Sr. Vice President - Asset Operations

Authorized Representative

Ameresco Benson Valley RNG LLC

cc: Ms. Stacie Daniels - KDEP

Ms. Stephanie Burberry – KDEP

Mr. William Slack - Ameresco

Ms. Stevia Smith - Ameresco

ATTACHMENT A KDEP FORMS

118					<u> </u>	<u>DE</u>
Division	for Air Qua	lity	DEP700)7AI	Addit	ional Documentation
1714131011	ioi Aii Qua	11.9	Administrative l	Information		
300 Sc	wer Boulevard		Section AI.1: Sou	rce Information	Addition	al Documentation attached
Frank	fort, KY 40601		Section Al.2: App	olicant Information		
(50	2) 564-3999		Section AI.3: Own	ner Information		
			Section Al.4: Typ	e of Application		
			Section AI.5: Oth	er Required Information	n	
			Section AI.6: Sign	nature Block		
			Section AI.7: Not	es, Comments, and Exp	olanations	
ource Name:		Ameresco Benson Vall	ey RNG LLC			
Y EIS (AFS) #:	2	1- 073-00112				
ermit #:		F-21-028				
gency Interest (AI)	ID:	167923			<u>-</u>	
ate:		2/6/2024				
Section Al.1: S	ource Infor	nation	· <u></u>			
Physical Location	Street:	2157 Highway 151				
Address:	City:	Frankfort	County: F	ranklin	Zip Code:	40601
Malling Address	Street or P.O. Box:	111 Speen Street, Suite	410			
Mailing Address:	City:	Framingham	State: 18	4.7	Zip Code:	01701
	<u> </u>					
		Star	idard Coordinates for S	Source Physical Locati	ion	
Longitude:	84	.986345 (decimal	degrees) I	atitude:	38.135686	decimal degrees)
Primary (NAICS) C	tegory:	Natural Gas Distribution	n	Primary NAICS#:	22 1210	

Classification (SIC)	ateg	ory:	Mixed, I		r Liquefied Petroleu	m Primary SIC #	e: <u>4925</u>					
Briefly discuss the ty conducted at this site		business	Convert 1	andfill gas into re	newable natural gas (RNG) for sale and injection into g	as pipeline.					
Description of Area Surrounding Source:	1	Rural Area Urban Area	-	ndustrial Park	☑ Residential Are☐ Commercial Are	located on federal land		Number of Employees: 4				
Approximate distance to nearest residence commercial property	r	400			Property Area:	1.65 acres	ls this source portabl	e? □ Yes ☑ No				
	What other environmental permits or registrations does this source currently hold or need to obtain in Kentucky?											
NPDES/KPDES:		Currently Ho	ld	☐ Need	☑ N/A	`						
Solid Waste:		Currently Ho	ld	☐ Need	☑ N/A							
RCRA:		Currently Ho	ld	☐ Need	☑ N/A							
UST:	0	Currently Ho	ld	□ Need	☑ N/A							
Type of Regulated		Mixed Waste	Generato	or	Generator	☐ Recycler	☐ Other					
Waste Activity:		U.S. Importe	r of Hazaı	dous Waste	☐ Transporter	☐ Treatment/Storage/Dispo	osal Facility	N/A				

Section Al.2: Ap	plicant Information					
Applicant Name:	Ameresco Benson Valle	y RNG LLC				
Title: (if individual)						
Mailing Address:	Street or P.O. Box: City:	111 Speen St., Suite 410 Framingham	State:	MA	Zip Code:	01701
Email: (if individual)			_			
Phone:	508-598-4386					
Technical Contact				<u>_</u> _		
Name:	Stevia Smith		-			
Title:	Manager - RNG Complia	ınce				
Mailing Address:	Street or P.O. Box:			111 Speen Street, Suit	e 410	
William Fredress	City: Framingha	<u>m</u>	State:	MA	Zip Code:	01701
Email:	smiths@ameresco.com	<u>.</u>				
Phone:	508-5 98-4386					<u> </u>
Air Permit Contact for	Source					
Name:	Stevia Smith		_			
l'itle:	Manager - RNG Complia	ınce				
Mailing Address:	Street or P.O. Box: City:	111 Speen Street, Suite 416 Framingham	State:	MA	Zip Code:	01701
Email:	smiths@ameresco.com					
Phone:	508-598-4386					-

Email: smiths@ameresco.com Phone: 508-598-4386 names of owners and officers of the company who have an interest in the company of 5% or more. Name Position	Owner same	as applicant					
Mailing Address: Street or P.O. Box: 111 Speen Street, Suite 410 City: Framingham State: MA Zip Code: 0170 Email: smiths@ameresco.com Phone: 508-598-4386 names of owners and officers of the company who have an interest in the company of 5% or more. Name Position	Name:	Ameresco Benson Valley	RNG LLC				
Mailing Address: City: Framingham State: MA Zip Code: 0170 Email: smiths@ameresco.com Phone: 508-598-4386 t names of owners and officers of the company who have an interest in the company of 5% or more. Name Position	Title:						
City: Framingham State: MA Zip Code: 0170 Email: smiths@ameresco.com Phone: 508-598-4386 St names of owners and officers of the company who have an interest in the company of 5% or more. Name Position	Mailing Address.	Street or P.O. Box:	111 Speen Street, So	uite 410			
Phone: 508-598-4386 st names of owners and officers of the company who have an interest in the company of 5% or more. Name Position	wining Address:	City:	Framingham	State:	MA	Zip Code:	01701
st names of owners and officers of the company who have an interest in the company of 5% or more. Name Position	Email:	smiths@ameresco.com					
Name Position	Phone:	508-598-4386		_			
	st names of owners a	nd officers of the company v	vho have an interest in the	company of 5% o	or more.		
George Sakellaris Chaurman President and Chief Executive Officer		Name			Posit	ion	
		George Sakellaris			Chairman, Preside	ent. and Chief Executive	: Officer

Section Al.4: Type	of Application			
Current Status:	☐ Title V ☑ Conditi	onal Major State-Orig	in General Permit	☐ Registration ☐ None
		mi		
	□ Name Change	_	Significant Revision	Administrative Permit Amendment
Requested Action:	Renewal Permit	Revised Registration	Minor Revision	☐ Initial Source-wide OperatingPermit
(check all that apply)	502(b)(10)Change	Extension Request	Addition of New Facility	☐ Portable Plant Relocation Notice
	☐ Revision	Off Permit Change	Landfill Alternate Compliance Submittal	☐ Modification of Existing Facilities
	Ownership Change	☐ Closure		
Requested Status:	☐ Title V ☑ Conditi	onal Major State-Orig	in 🗆 PSD 🗆 NSR	□ Other:
I. she assured to a second to a	a limitation of natoutial	omissions?	☑ Yes □ No	<u> </u>
Pollutant:	a limitation of potential	Requested Limit:	Pollutant:	Requested Limit:
		•	_	•
Particulate Matter		<100 tons/12 months	Single HAP	<10 tons/12 months
Volatile Organic Control	ompounds (VOC)	90 tons/12-months		22.5 tons/12 months
Carbon Monoxide		<100 tons/12-months	Air Toxics (40 CFR 68, Se	ubpart F)
☑ Nitrogen Oxides		<100 tons/12 months	☐ Carbon Dioxide	
☑ Sulfur Dioxide		<100 tons/12 months	Greenhouse Gases (GHG)	
☐ Lead			☐ Other	
For New Construction	on:	_		
	Date of Construction:		n 10 10 00 00 00	A CARRES
	M YYYY)	07/2022	Proposed Operation Start-Up Date: (1	MM:YYYY) 08/2023
For Modifications:				
	Date of Modification:		Proposed Operation Start-Up Date:	MM YYYY)
(MI	M/YYYY)		_	
			real contract of the contract	ble requirements for which permit shield is
Applicant is seeking	coverage under a permit sl	nield. Yes	No sought on a sepa	rate attachment to the application.
Section Al.5 Other	Required Informa	tion		
			ttached as part of this application:	
DEP7007A Indirect Heat	Exchangers and Turbines		DEP7007CC Compliance Certification	
	ng or Processing Operations		☑ DEP7007DD Insignificant Activities	
DEP7007C Incinerators a	and Waste Burners		☐ DEP7007EE Internal Combustion Engine	es
DEP7007F Episode Stan	-		☐ DEP7007FF Secondary Aluminum Proce	ssing
DEP7007J Volatile Liqui	-		DEP7007GG Control Equipment	
	ting or Printing Operations		DEP7007HH Haul Roads	
DEP7007L Mineral Proc			Confidentiality Claim	
□ DEP7007M Metal Cleans ☑ DEP7007N Source Emis	- -		 ☐ Ownership Change Form ☐ Secretary of State Certificate 	
	ylene Dry Cleaning Systems		☑ Flowcharts or diagrams depicting process	
DEP7007R Emission Off			☐ Digital Line Graphs (DLG) files of bulding	
DEP7007S Service Statio	ons		☑ Site Map	
	and Surface Treatment Ope		Map or drawing depicting location of faci	ility
	Requirements and Compliano		☐ Safety Data Sheet (SDS)	
	eering Practice and Stack He	=	☐ Emergency Response Plan	
DEP7007AA Compitation DEP7007BB Certified Pr	e Schedule for Non-complyi	ng emission onus	Other:	•
C DEL TOOT DE COMMINGO T	iogress report			
Section AI.6: Signa	iture Block			
_		•	ponsible official*, and that I have personal	· -
			on my inquiry of those individuals with pr rue, accurate, and complete. I am aware (
		including the possibility of	_ · · · · · · · · · · · · · · · · · · ·	4 4
-	T	A A		2/6/2024
	11/	R/X	_	44/2027
	Autho	rized Signature		Daye
	N	lathan Hall	Senior Vice	President - Asset Operations
	<u> </u>	ted Name of Signatory		Title of Signatory
*Responsible official as de	•••			

11/2018 DEP7007AI

Section AI.7: Notes, Comments, and Explanations
This Application is being submitted for a modification to the existing Ameresco Benson Valley RNG LLC Air Quality Permit ID F-21-028, as detailed in Ameresco's attached cover letter dated 2/1/2024. Ameresco understands that the change described in our letter constitutes a minor change and that there will be no alteration to the permitted emissions limitations contained in Ameresco's existing Air Permit.
<u> </u>
The changes do not trigger applicability of any additional Federal or State air regulations.
L

D	ivision for A	ir Quality			DEP700	7B		Addition	al Documentatio	n
	14131011 101 71	in Quanty		Mani	ufacturing o	or Process	ing	Complete DEP7	7007Al, DEP700	7N,
	300 Sower Be	oulevard			Operati	ons		DEP7007V, and DEI	P7007GG	
ŀ	Frankfort, KY	Y 40601		Section B	1: Process Inf	ormation		Attach a flow di	agram	
	(502) 564-	3999		Section B	2 Materials a	nd Fuel Info	rmation	Attach SDS		
L			J	Section B	3: Notes, Con	nments, and	Explanations	_		
Source Na	me:		Ameresco	Benson Valley	RNG LLC					
KY EIS (A	FS) #:	21-	073-00112							
Permit #:			F-21-028				-			
Agency In	terest (AI) ID:		167923							
Date:			2/6/2024							
Section	B.1: Process	Information								
Emission Unit#	Emission Unit Name	Describe Emission Unit	Process ID	Process Name	Manufacturer	Model No.	Proposed/Actual Date of Construction Commencement (MM YYYY)	is the Process Continuous or Batch?	Number of Batches per 24 Hours (4 applicable)	Hours per Batch (f applicable)
EU 01	Thermal Oxidizer	Combustion of process waste gas, supplemental fuel and burner/pilot fuel	EP 01	TOXT	Perennial (or equivalent)	FL-72X58- 45-TP	01/2023	Continuous	N/A	N/A
EU 02	Open Flare	Combustion of process waste gas, off-spec gas, purge and depress gas, excess PPRNG, pilot gas	EP 02	FLRI	Perennial (or equivalent)	FL-10-C	12/2022	Continuous	N/A	N/A
TBD	Emergency Diesel Generator	Combustion of diesel fuel to produce electricity, to be used for emergency/backup purposes	TBD	TBD	Caterpillar	D250GC	04/2023	Continuous	N/A	N/A
				_				 		
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11/2018 DEP7007B

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11/2018	DEP7007
Section B.3: Notes, Comments, and Explanations	
None	

	Division fo	r Air O	nality			DI	E P7007	GG				Ad	ditional D	ocumenta	tion	
	717151011 10	ı Ali Q	uarity			Cont	rol Equip	pment			Cor	nplete Section	ns GG 1 th	rough GG	12, as appl	ıcable
	300 Sowe	r Boulev	ard								Atta	ich manufactui	rer's specific	cations for	each control	device
	Frankfort	, KY 406	01	1							Cor	nplete DEP70	007AI			
	(502)	64-3999	1							,						
				Į												
Source N			Ameresco Ben	son Valley RN	G LLC											
KY EIS (21-	073-00112											_		
Permit #:	:		F-21-028													
Agency I	nterest (Al) ID:	167923			_										
Date:			2/6/2024													
Section C	G.1: Gene	ral Info	rmation - Cor	trol Equipa	nent					-				, -		
				1		Inlet Gas Stream Data For <u>All</u> Control Devices				Com	Gas Stream Da densers, Adsor	bers,		ent Operation		
Control	Control	C		Model	Date		0 0 .		OMIGI DETRES			ourners, Incine Oxidizers <u>Onl</u> y		△	ll Control De	nices
Control Device ID	Control Device Name	Cost	Manufacturer	Model Name/ Serial#	Date Installed		Flowrate (scim a 68°F)	Average Particle Diameter	Particle Density db m', or Specific Gravity	Gas Density				Pressure Drop Range in H ₂ Or	Pollutants Collected/ Controlled	Pollutant Removal
Device ID	Device	Cost \$317k	Manufacturer	Name/		Temperature	Flowrate	Average Particle Diameter	Particle Density dhada or Specific	Density	Gas Moisture Content	Oxidizers Only Gas		Pressure Drop Range	Pollutants Collected/	Poliutant Removal
Device ID	Device Name			Name/ Serial # FL-72X58-45-	Installed	Temperature	Flowrate (scim is 68°F)	Average Particle Diameter	Particle Density (IE pri) or Specific Gravity	Density 25 ft 1	Gas Moisture Content	Oxidizers Only Gas Composition	Fan Type Forced draft contridugal	Pressure Drop Range in H ₂ Or	Pollutants Collected/ Controlled	Poliutant Removal
Device ID	Device Name Thermal Oxidizer	\$317k	Perennial	Name/ Serial # FL-72X58-45- TP	1 24 2023	Temperature	Flowrate (sc/m a od *F) 0-2,000	Average Particle Diameter (µm) <2.5	Particle Density density or Specific Gravity Varies	Density #6.6% varies	Gas Moisture Content	Gas Composition	Fan Type Forced draft contridugal blower	Pressure Drop Range in (1)(0)	Pollutants Collected/ Controlled VOC. NMOC	Poliutant Removal (%)
Device ID	Device Name Thermal Oxidizer	\$317k	Perennial	Name/ Serial # FL-72X58-45- TP	1 24 2023	Temperature	Flowrate (sc/m a od *F) 0-2,000	Average Particle Diameter (µm) <2.5	Particle Density density or Specific Gravity Varies	Density #6.6% varies	Gas Moisture Content	Gas Composition	Fan Type Forced draft contridugal blower	Pressure Drop Range in (1)(0)	Pollutants Collected/ Controlled VOC. NMOC	Poliutant Removal
Device ID	Device Name Thermal Oxidizer	\$317k	Perennial	Name/ Serial # FL-72X58-45- TP	1 24 2023	Temperature	Flowrate (sc/m a od *F) 0-2,000	Average Particle Diameter (µm) <2.5	Particle Density density or Specific Gravity Varies	Density #6.6% varies	Gas Moisture Content	Gas Composition	Fan Type Forced draft contridugal blower	Pressure Drop Range in (1)(0)	Pollutants Collected/ Controlled VOC. NMOC	Poliutant Removal
Device ID	Device Name Thermal Oxidizer	\$317k	Perennial	Name/ Serial # FL-72X58-45- TP	1 24 2023	Temperature	Flowrate (sc/m a od *F) 0-2,000	Average Particle Diameter (µm) <2.5	Particle Density density or Specific Gravity Varies	Density #6.6% varies	Gas Moisture Content	Gas Composition	Fan Type Forced draft contridugal blower	Pressure Drop Range in (1)(0)	Pollutants Collected/ Controlled VOC. NMOC	Poliutant Removal
Device ID	Device Name Thermal Oxidizer	\$317k	Perennial	Name/ Serial # FL-72X58-45- TP	1 24 2023	Temperature	Flowrate (sc/m a od *F) 0-2,000	Average Particle Diameter (µm) <2.5	Particle Density density or Specific Gravity Varies	Density #6.6% varies	Gas Moisture Content	Gas Composition	Fan Type Forced draft contridugal blower	Pressure Drop Range in (1)(0)	Pollutants Collected/ Controlled VOC. NMOC	Poliutant Removal
Device ID	Device Name Thermal Oxidizer	\$317k	Perennial	Name/ Serial # FL-72X58-45- TP	1 24 2023	Temperature	Flowrate (sc/m a od *F) 0-2,000	Average Particle Diameter (µm) <2.5	Particle Density density or Specific Gravity Varies	Density #6.6% varies	Gas Moisture Content	Gas Composition	Fan Type Forced draft contridugal blower	Pressure Drop Range in (1)(0)	Pollutants Collected/ Controlled VOC. NMOC	Poliutant Removal

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Section GG.2:	Flare Source Information					
Control Device ID#	Identify all Emission Units and Control Devices that Feed to Flare	Type of Flare (e.g. steam-assisted, air- assisted, nonassisted)	Process Gas Flowrate (acfm)	Net Heating Value of Stream(s) (Btu/scf)	Removal Efficiency	Flare Rated Capacity (AISIBIN hr)
CD 02	Pre-processed RNG (PPRNG) , CO2 Removal Off-Spec Gas, O2/N2 Off-Spec Gas, System Purge Gas, Natural Gas Pilot	Open-Nonassisted	0-1,500	992 (max)	98	34.0
	55					
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DEP7007GG

Section GG.7: Afterburner/Incinerator/Oxidizer																	
Control	Identify all Emission Units and Control Devices that	Type:	Number	Burner	Dimensions of	Residence	Combustion	Type of	Type of Heat				Auxiliary Fe	el			Composition
Device ID#	Feed to Afterburner/Incinerator/ Oxidizer	Afforbanical frameration in Periodizer, or 10 there is pecify)	of Burners	Rating	Combustion Chamber	Time	Chamber Lemperature	Catalyst if repumble	Exchanger	Identify Fuel Type	Higher Heating Value	Hourly Fuel Usage	% Sulfur Mountain	% Sulfur Average)		and Quantities of Combusted Waste	
CDal	PPRNG for pilot supplemental fuel, Off-Gas from CO2 Membrane, Off-Gas from O2/N2 Removal Unit	Thermal Oudizer	ı	and depth of	1 = 0	1 - 1000	Laste JX O	New	Person	PPRNG (50% CH4)	0.000\$	10,000 (max)	bett op a	4 ррть	b	Á	8.4
																	
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		,									-						

Division for Air Quality

300 Sower Boulevard Frankfort, KY 40601 (502) 564-3999

DEP7007N

Source Emissions Profile

- ___ Section N.1: Emission Summary
- __ Section N.2: Stack Information
- __ Section N.3: Fugitive Information
- __Section N.4: Notes, Comments, and Explanations

Additional Documentation

Complete DEP7007AI

Source Name:

KY EIS (AFS) #:

Permit #:

Ameresco Benson Valley RNG LLC 21- 073-00112

F-21-028

Agency Interest (AI) ID:

167923 2/6/2024

N.1: Em	ission Su	mmary														
i mission 1 net#	Emission Unit Name	Process ID	Process Name	Control Device Name	Control Device ID	Stack ID	Maximum Design Capacity SCC Units flater)	Pollutant	Uncontrolled Emission Factor (B-SCC Unto)	Emission Factor Source (e.g. AP-42, Stack Test, Mass Balance)	Capture Efficiency (%)	Control Efficiency	Hourly I	Controlled Potential (Bale)	Annual Est I neoatrolled Potential	Controlled Potential
EUOI	Thermal Oxidizer	EP 01	тохі	Thermal Oxidizer	CD 01	ST 01	0 068 lb:mmbtu	NOx	0.068 lib/mambtu	Manufacturer, AP-42.2.4	0.00%	98.00%	1.18	1.18	5.15	5.15
EU 01	Thermal Oxidezer	EP 01	TOXI	Thermel Oxidizer	CD 01	ST 01	0.31 Ib:mmbtu	co	0.31 (b/mmbtu	Manufacturer, AP-42.2.4	0.00%	98,00%	5.36	5.36	23.5	23.5
EU OI	Thermal Oxidizer	EP 01	TOXI	Thormal Oxidizer	CD 01	ST 01	see attached calculations	Voc	see attached calculations	Manufacturer, AP-42.2.4	0.0004	98.00**	2.58	2.58	11.30	11.30
EU 01	Thermal Oxidizer	EP 01	TOXI	Thornal Oxidizer	CD 01	ST 01	17 lb/mmscf CH4	PM	17 lb/mmsef CH4	AP-42 2.4	0.00%	N/A	1.17	1.17	5.14	5.14
EU 01	Thermal Oxidizer	EP 01	TOXI	Thormal Oxodizer	CD 01	ST 01	46.9 ppm	SOx	46.9 ppm	AP-42.2.4	0.00%	N/A	1.17	1.17	5.12	5.12
EU 01	Thermal Oxidizer	EP 01	TOXI	Thermal Oxidizer	CD 01	\$T 01	0.08 lb/hr	НАР	0.08 ib/hr	AP-42 2.4	0.00%	98.00%	0.08	90,0	0.37	0.37
EU 02	Open Flare	EP 02	FLRI	Open Flave	CD 02	ST 02	0.068 lb/mmbtu	NOx	0 068 lb/mmbtu	Manufacturer, AP-42 2.4	0.00%	98.00%	2.32	2.32	10.16	10.16
EU 02	Open Flare	EP 02	FLR1	Open Flare	CD 02	ST 02	0.31 Ib:mmbtu	co	0.31 fb:mmbtu	Manufacturer, AP-42 2 4	0.00%	98.00%	10.52	10.52	46.08	46.08
EU 02	Open Flare	EP 02	FLR1	Open Flare	CD 02	ST 02	see attached calculations	Voc	soc attached calculations	Manufacturer, AP-42 2.4	0.00%	98,00%	1.00	1.00	4.38	4.38
EU 02	Open Flore	EP 02	FLRI	Open Flare	CD 02	ST 02	17 Ib/immscf CH4	PM	17 lb/mmsef CH4	AP-42.2.4	0.00%	N/A	0.76	0.76	3.34	3.34
EU 02	Open Flare	EP 02	FLR1	Open Flare	CD 02	ST 02	46.9 ppm	SOx	46.9 ppm	AP-42.2.4	0.00%	N/A	0.73	0.73	3.22	3.22
EU 02	Open Flare	EP 02	FLRI	Open Flare	CD 02	ST 02	0 06 fb/hr	НАР	0.06 lb-1 _{tr}	AP-42.2.4	0.00%	98.00%	0.06	0.06	0.24	0.24
TBD	Emergency Diesel Constitute	TBD	TBD	Emergency Dissel Operator	TBD	TBD	250 kW	NOx	3.14 g/lp-lir	Manufacturer	0.00%	N/A	2.32	2.32	1.02	1.02
TBD	Emergency Diesel Generator	TBD	TBD	Intergency Donal Constitute	TBD	TBD	250 kW	ço	0.68 g/hp-hr	Manufacturer	0.00%	N/A	0.50	0,50	0.22	0.22
TBD	Emergency Diesel Generator	TBD	TBD	Emergency Dressler Constator	TBD	TBD	250 kW	VOC	0.17 g/hp-hr	Manufacturer	0.00%	N/A	0.13	0.13	0.06	0.06
TBD	Briangemey Description	TBD	TBD	Errorgency Dienel Constructor	TBD	TBD	250 kW	PM	0.16 g/hp-hr	Manufacturer	0.00%	N/A	0.12	0.12	0.05	0.05

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Section N.2: Stack Information

UTM Zone:

	Identify all Emission Units (with Process ID) and	Sta	ick Physical D	ata	Stack UTM	Coordinates	Stack Gas Stream Data			
Stack ID	Control Devices that Feed to Stack	Equivalent Diameter	Height	Base Elevation	Northing (m)	Easting (m)	Flowrate (acfm)	Temperature (*F)	Exit Velocity (fl sec)	
ST 01	Thermal Oxidizer	4.16' ID	45'	810	4222817	676470	0-1600	1400-1800	<60	
ST 02	Open Flare	0.868'	40'	810	4222817	676470	0-1500	1400-1800	<60	
TBD	Emergency Diesel Generator	0.417	7.81'	810	4222817	676470	0-2246	700-900	unknown	
		-								

Section N.3: Fugitive Information UTM Zone:									
			Area Physic	al Data	Area UTM Coordinates		Area Rele	Area Release Data	
Emission Unit #	Emission Unit Name	Process ID	Length of the X Side	Length of the Y Side (ft)	Northing (m)	Easting (m)	Release Temperature	Release Height	
N/A									
					-				
-								<u>.</u>	
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Section N.4: Notes, Comments, and Explanations						
SCC for Emission Points = Thermal Oxidizer: 31000209, Flare: 31000205						
UTM Zone = 16S. Elevation and UTM Coordinates are Estimated.						

				DEP7	7007V	Add	itional Documentation		
Divis	sion for Air Quali	ity Ar	plicable	Requirem	nents and Complian	nce			
				Activ	/ities	C	omplete DEP7007AI		
30	00 Sower Boulevard		Section	on V.1: Emiss	sion and Operating Limi	tation(s)			
F	rankfort, KY 40601		Section	on V.2: Moni	toring Requirements	•			
	(502) 564-3999		Section	on V.3: Recor	rdkeeping Requirements	,			
			Section	on V.4: Repor	rting Requirements				
			Section	on V.5: Testir	ng Requirements				
					s, Comments, and Explar	nations			
Source Nar	ne: Ameres	sco Benson Valley R							
KY EIS (A	FS) #: 21- 073-001	112							
Permit #:	F-21-02	28							
Agency Int	erest (AI) ID:	167923							
Date:	2/6/202	4							
Section V	.1: Emission and	d Operating Lir	mitation(s	;)					
Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)		
EU 01	Thermal Oxidizer	401 KAR 63:020	VOC, HAP				Recordkeeping		
EU 02	Open Flare	401 KAR 63:020	VOC, HAP				Recordkeeping		
TBD	Emergency/Backup Diesel Generator	40 CFR 60 Subpart	NOx	4 g∕kW-hr			Recordkeeping		
TBD	Emergency/Backup Diesel Generator	40 CFR 60 Subpart	со	3.5 g/kW-hr			Recordkeeping		
TBD	Emergency/Backup Diesel Generator	40 CFR 60 Subpart	РМ	0.2 g/kW-hr			Recordkeeping		

	Emission Unit#	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Re quirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)
	(BD	Emergency/Backup Diesel Generator	40 CFR 63 Subpart ZZZZ	NOx, CO, PM				Recordkeeping
l						_		

Section V.	ection V.2: Monitoring Requirements								
Emission Unit#	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Monitored	Description of Monitoring				
EU 01	Thermal Oxidizer	VOC, HAP	401 KAR 63:020	Flow/Temperature					
EU 02	Open Flare	VOC, HAP	401 KAR 63:020	Flow/Temperature					
TBD	Emergency/Backup Diesel Generator	NOx, CO, PM	40 CFR 60 Subpart IIII	Fuel usage					
TBD	Emergency/Backup Diesel Generator	NOx, CO, PM	40 CFR 63 Subpart ZZZZ	Fuel usage					

Section V.	Section V.3: Recordkeeping Requirements								
Emission Unit#	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Recorded	Description of Recordkeeping				
EU 01	Themal Oxidizer	VOC, HAP	401 KAR 63:020	Flow/Temperature					
EU 02	Open Flare	VOC, HAP	401 KAR 63:020	Flow/Temperature					
TBD	Emergency/Backup Diesel Generator	NOx, CO, PM	40 CFR 60 Subpart IIII	Fuel usage					
TBD	Emergency/Backup Diesel Generator	NOx, CO, PM	40 CFR 63 Subpart ZZZZ	Fuel usage					
	14								

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Section V	.4: Reporting R	Requirements			
Emission Unit#	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Reported	Description of Reporting
EU 01	Themal Oxidizer	VOC, HAP	401 KAR 63:020	Flow/Temperature	Semi-Annual
EU 02	Open Flare	VOC, HAP	401 KAR 63:020	Flow/Temperature	Semi-Annual
TBD	Emergency/Backup Diesel Generator	NOx, CO, PM	40 CFR 60 Subpart IIII	Fuel usage	Semi-Annual
TBD	Emergency/Backup Diesel Generator	NOx, CO, PM	40 CFR 63 Subpart ZZZZ	Fuel usage	Semi-Annual
				,	

Section V	Section V.5: Testing Requirements						
Emission Unit#	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Tested	Description of Testing		
EU 01	Themal Oxidizer	VOC, HAP	401 KAR 63:020	VOC/HAP	Initial Performance Test, if required.		
EU 02	Open Flare	VOC, HAP	401 KAR 63:020	None			
твр	Emergency/Backup Diesel Generator	NOx, CO, PM	40 CFR 60 Subpart IIII	None			
TBD	Emergency/Backup Diesel Generator	NOx, CO, PM	40 CFR 63 Subpart ZZZZ	None			

Section V.6: Notes, Comments, and Explanations						

ATTACHMENT B EMISSIONS CALCULATIONS

POTENTIAL AIR EMISSIONS CALCULATIONS

PLANT NAME:	Ameresco Benson Valley RNG LLC
PLANT LOCATION:	Frankfort, KY
PROJECT:	Air Quality Permit Modification Application
DATE:	2/1/2024

FACILITY TOTAL EMISSIONS:	Facility Total
---------------------------	----------------

Pollutant	lb/hr	lb/day	lb/yr	ton/yr
NOx	5.82	139.63	32,669.18	16.33
со	16.39	393.31	139,594.55	69.80
VOC	3.70	88.89	31,455.47	15.73
PM	2.05	49.30	17,063.65	8.53
SOx	1.90	45.69	16,675.44	8.34

POTENTIAL AIR EMISSIONS CALCULATIONS

PLANT NAME:	Ameresco Benson Valley RNG LLC
PLANT LOCATION:	Frankfort, KY
PROJECT:	Air Quality Permit Modification Application
DATE:	2/1/2024

DEVICE NAME:	Open Flare	
DEVICE ID:	EU 02	

	Value	Unit	Source
Methane heat	1,012	Btu/scf	504 4D 42 5
content:	0.00101	MMBtu/scf	EPA AP-42 Section 1.4
VOC destruction	98%		
efficiency:	98%	 %	Manufacturer
Gas exhaust	1,,	1.6	411
temperature	15	degC	Site-specific estimate

GASTYPE	Verious		
	Value	Unit	Source
Methane content:	50%	%	Engineering estimate
	1,500	scf/minute	
	788,400,000	scf/year	
Inlet gas capacity:	33.9	MMBtu/hr	Engineering estimate
	814	MM8tu/day	7
	7,130,920	MM8tu/year	
Operating hours:	8,760	hours/year	Maximum unrestricted

Pollutant	Basission Fector	Unit	EF Source	Notes	M/hr	to/day	lb/yr	ton/yr
NOx	0.068	lb/MMBtu	EPA AP-42 Section 13.5 - Industrial Flare		2.31	55.35	20,204	10.10
со	0.31	lb/MMBtu	EPA AP-42 Section 13.5 - Industrial Flare		10.51	252.3	92,108	46.05
voc	3,780	ppm as hexane	Lab analytical results dated 2/19/2020 with 4x factor applied. EPA AP-42 Section 2.4 - Equations 3 & 4		1.00	23.95	8,743	4.37
РМ	17	lb PM/mmscf CH4	EPA AP-42 Section 2.4 - LFG Flare		0.76	18.29	6,675	3.34
SOx	46.9	ppm TRS	EPA AP-42 Section 2.4 - Equations 3 & 4		0.73	17.62	6,433	3.22

GAS TYPE:	Natural Gas			
4	Value	Unit	Source	
Methane content:	98%	%	Industry-standard estimate	
	2.50	scf/minute		
	1,314,000	scf/year		
Inlet gas capacity:	0.15	MMBtu/hr	Site-specific estimate	
	3.57	MMBtu/day	7	
	31,276	MMBtu/year	7	
Operating hours:	8,760	hours/year	Site-specific estimate	

Pollutant	Emission Factor	Unik	EF Source	Notes	lb/hr	th/day	lb/yr	ton/yr
NOx	94	lb/MMscf	EPA AP-42 Section 1.4 - NG Combustion		0.014	0.338	123.52	0.06
со	40	lb/MMscf	EPA AP-42 Section 1.4 - NG Combustion		0.006	0.144	52.56	0.03
voc	5.50	lb/MMscf	EPA AP-42 Section 1.4 - NG Combustion		0.001	0.020	7.23	0.004
РМ	7.60	lb/MMscf	EPA AP-42 Section 1.4 - NG Combustion		0.001	0.027	9.99	0.005
SOx	0.60	lb/MMscf	EPA AP-42 Section 1.4 - NG Combustion		0.000	0.002	0.79	0.0004

0	pen Flare						
		Pollutant	No/hr	lb/day	Ш ут	ton/yr	
		xCN	2.32	55.69	20,328	10.16	
		со	10.52	252.5	92,160	46.08	
		voc	1.00	23.97	8,750	4.38	
		РМ	0.76	18.31	6,685	3.34	
		SOx	0.73	17.63	6,434	3.22	



111 Speen St, Ste 410 Framingham, MA 01701 P: (508) 661-2200 ameresco.com

April 2, 2024

Attn: Samantha Hoffman Kentucky Department for Environmental Protection, Division for Air Quality 300 Sower Boulevard, 2nd Floor Frankfort, KY 40601

RE: Responsible Official (RO) Contact Information Update
Ameresco Benson Valley RNG LLC, Permit #F-21-028, Agency Interest #167923

Dear Ms. Hoffman,

Ameresco Benson Valley RNG LLC (Ameresco) is submitting this letter inform Kentucky Department for Environmental Protection (KYDEP) that our facility Responsible Official (RO) has changed from Nathan Hall to Harold Stewart, effective April 1, 2024. In addition, the Air Permit Contact should be updated from Nathan Hall to Rebecca Sherwood. Ameresco kindly requests that KYDEP update its database to reflect these changes. Mr. Stewart's and Ms. Sherwood's contact information is below:

Full Name: Harold Stewart

Title: Director of Operations

Address: 111 Speen Street, Suite 410, Framingham MA 01701

Phone (work): (847) 463-0628 **Phone (cell):** (847) 463-0628

Email: hstewart@ameresco.com

Full Name: Rebecca Sherwood

Title: Environmental Compliance Engineer

Address: 111 Speen Street, Suite 410, Framingham MA 01701

Phone (work): (508) 598-3049 **Phone (cell):** (215) 586-1197

Email: rsherwood@ameresco.com

If you have any questions or comments on this report, please contact Rebecca Sherwood at (508) 598-3049 or rsherwood@ameresco.com.

Harold Stewart

Ameresco Benson Valley RNG LLC

Rebecca Sherwood, Harold Stewart

Environmental Compliance Engineer Director of Operations

Itr Benson RO Change 20240402

Final Audit Report 2024-04-02

Created: 2024-04-02

By: Rebecca Sherwood (rsherwood@ameresco.com)

Status: Signed

Transaction ID: CBJCHBCAABAAWpFjE5M4CpczquNpJHeYYNAhRYZVdl7U

"Itr Benson RO Change 20240402" History

Document created by Rebecca Sherwood (rsherwood@ameresco.com) 2024-04-02 - 2:10:05 PM GMT- IP address: 73.126.75.96

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Document e-signed by Harold Stewart (hstewart@ameresco.com)

Signature Date: 2024-04-02 - 5:56:37 PM GMT - Time Source: server- IP address: 149.75.228.4

Agreement completed. 2024-04-02 - 5:56:37 PM GMT



111 Speen St, Ste 410 Framingham, MA 01701 P: (508) 661-2200 ameresco.com

March 15, 2025

Mr. Zachary Bittner, P.E.
Environmental Engineer Supervisor
Combustion Section
Kentucky Department of Environmental Protection
Division for Air Quality
300 Sower Blvd
Frankfort, KY 40601

RE: Off-Permit Change Application

Ameresco Benson Valley RNG LLC – Frankfort, Kentucky Air Quality Permit ID No. F-21-028 Agency Interest #: 167923

Activity ID: APE20210002 Source ID: 21-073-00112

Dear Mr. Bittner:

Ameresco Benson Valley RNG LLC (Ameresco) is submitting to the Kentucky Department of Environmental Protection (KDEP) this Off-Permit Change Application for Air Quality Permit ID F-21-028 dated November 7, 2021. The facility was previously issued Off-Permit changes on August 10, 2022 and September 18, 2023 and a Section 502(b)(1) change on March 1, 2024, and a Title V Air Operating Permit is currently pending for the facility. Ameresco's renewable natural gas (RNG) facility processes landfill gas into pipeline-quality gas which is injected into a natural gas pipeline. The RNG plant includes a thermal oxidizer and an open flare. With this submittal, Ameresco seeks to make the following changes which we understand qualify as an Off-Permit change under 401 KAR 52:020, Section 17:

REQUESTED MODIFICATIONS

Ameresco has identified the need for an increased heat input limit for the open flare (EU02) in order to accommodate operational needs at the facility. The estimations made for the open flare maximum operating rates in the initial air permit application submitted in February 2021 have recently been determined to be insufficient for optimal operation of the facility. The requested increased open flare heat input will allow Ameresco to minimize the startup duration of the facility and maximize the amount of landfill gas processed into renewable natural gas. The requested increase will allow Ameresco to fully maximize the environmental benefits of the facility, which is consistent with the goals, directives, and policies of KDEP.

Ameresco's initial air permit application indicated the following maximum operating rates for the open flare:

<u>Initial Air Plan Approval application – open flare</u>: Maximum heat input: 33.9 MMBtu/hour

33.9 MMBtu/hour 297,122 MMBtu/12-months

Maximum inlet gas flow rate: 90,000 scf/hour

788,400,000 scf/12-months

Ameresco has clarified that the maximum potential heat input from all the gases which may be delivered to the open flare may total up to the following:

<u>Requested revised limits – open flare:</u>

Maximum heat input: 70 MMBtu/hour

311,500 MMBtu/12-months

Maximum inlet gas flow rate: 138,000 scf/hour

614,100,000 scf/12-months

With these revised values, the maximum potential emissions from the open flare will increase, with the hourly rate increase being more significant than the annual rate increase, which is slight (or zero for some pollutants). Ameresco is requesting no changes to the existing heat input, flow or emissions limits for the thermal oxidizer or emergency diesel generator. Ameresco has calculated the revised potential emissions from the open flare as follows.

Table 1. Open Flare Revised Potential Emissions

Pollutant	lb/hr	ton/yr
NOx	4.76	10.59
CO	21.70	48.28
VOC	2.38	5.28
PM/PM10/PM2.5	1.17	2.61
SOx	1.17	2.59
HAPs	0.61	2.65

Table 2. Open Flare Increase in Potential Emissions

Pollutant	lb/hr	ton/yr
NOx	2.44	0.00
CO	11.18	2.10
VOC	1.39	0.93
PM/PM10/PM2.5	0.42	0.00
SOx	0.43	0.00

Table 3. Facility Total Revised Potential Emissions

Pollutant	lb/hr	ton/yr
NOx	8.26	16.32
CO	27.57	71.90
VOC	5.09	16.66
PM/PM10/PM2.5	2.47	7.81
SOx	2.33	7.70
HAPs	0.61	2.65

Ameresco's detailed facility emissions calculations are attached.

AIR PERMIT TYPE

Ameresco currently holds a Conditional Major / Synthetic Minor air permit issued from KDEP. With the modifications requested in this application, the Ameresco facility will remain qualified for this existing permit. The modifications requested above do not alter the requirements of the existing permit, and do not trigger additional regulatory requirements. Given that no permit conditions are affected, there is no need to revise and reissue the permit, and the modification may be approved by an Off-Permit Change action. This approach was discussed with Ms. Stacie Daniels of KDEP by email on March 17, 2025, who advised that this modification may be approved by an Off-Permit change. KDEP has advised that this modification (along with the previous off-permit change and 502(b)(10) changes) will be incorporated into the forthcoming Title V air operating permit for the Ameresco facility.

KDEP FORMS

Ameresco understands that the following forms are required for this Off-Permit change request, which are attached: DEP7007AI, DEP7007B, DEP7007N, DEP7007V, DEP7007DD and DEP7007GG. Ameresco understands that there is no fee due for this action and that KDEP will issue a letter confirming that this modification is approved. Thank you for your time and attention to this matter. Should you have any questions or desire additional information, please contact Stevia Smith at (704) 989-2023 or smiths@ameresco.com.

Respectfully submitted,

Mr. Harold Stewart, Director – Operations

Authorized Representative

Ameresco Benson Valley RNG LLC

Harold Steme

cc: Ms. Stacie Daniels - KDEP

Ms. Stephanie Burberry - KDEP

Mr. Scott Hill – Ameresco

Ms. Stevia Smith - Ameresco

ATTACHMENT A KDEP FORMS

11/2018 DEP7007AI

Division for Air Quality

DEP7007AI	Additional Documentation
Administrative Information	
Section AI 1: Source Information	Additional Dogumentation attached

300 Sc	wer Boulevard		Section A	AI.1: Source Information	Addition	nal Documentation attached	
Frankfort, KY 40601 (502) 564-3999			Section A	AI.2: Applicant Information			
				AI.3: Owner Information			
			Section A	AI.4: Type of Application			
			Section A	AI.5: Other Required Information	tion		
				AI.6: Signature Block			
			Section A	AI.7: Notes, Comments, and F	Explanations		
Source Name:		Ameresco Benson	Valley RNG LLC				
KY EIS (AFS) #:	21	073-00112					
Permit #:		F-21-028					
Agency Interest (AI)	ID:	167923					
Date:		4/15/2025					
Section AI.1: S	ource Inforn	nation					
Physical Location	Street:	2157 Highway 151					
Address:	City: Street or	Frankfort	_	County: Franklin	Zip Code:	40601	
Mailing Address:	P.O. Box:	111 Speen Street, S				0.1.50.1	
	City:	Framingham	S	tate: MA	Zip Code:	01701	
			Standard Coordina	ates for Source Physical Loc	cation		
Longitude:	-84.9	086345 (dec	imal degrees)	Latitude:	38.135686	(decimal degrees)	
Longitude: Primary (NAICS) Ca		Natural Gas Distri		Latitude: Primary NAICS #:	<u>221210</u>	(decimal degrees)	
		`				(decimal degrees)	
		`				(decimal degrees)	
		`				(decimal degrees)	
		`				(decimal degrees)	
Primary (NAICS) Ca	tegory:	Natural Gas Distri		Primary NAICS #:	221210	(decimal degrees)	
	tegory:	Natural Gas Distri	bution	Primary NAICS #:	221210	(decimal degrees)	
Primary (NAICS) Ca	tegory:	Natural Gas Distri Mixed, Manufactur Gas Production	ed, or Liquefied Petrol	Primary NAICS #:	<u>221210</u> C#: <u>4925</u>	(decimal degrees)	
Primary (NAICS) Ca Classification (SIC) C Briefly discuss the type conducted at this site: Description of Area	tegory:	Natural Gas Distri Mixed, Manufactur Gas Production	ed, or Liquefied Petrol	Primary NAICS #: leum Primary SIC s (RNG) for sale and injection into s	221210 2:#: 4925 gas pipeline.	Number of	
Primary (NAICS) Ca Classification (SIC) C Briefly discuss the type conducted at this site:	tegory:	Natural Gas Distri Mixed, Manufactur Gas Production Convert landfill gas i	ed, or Liquefied Petrol nto renewable natural gas	Primary NAICS #: leum Primary SIC s (RNG) for sale and injection into a	221210 2#: 4925 gas pipeline. rce □ Yes		
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11/2018 DEP7007AI

Section AI.2: Applicant Information						
Applicant Name:	Ameresco Benson Valley	RNG LLC				
Title: (if individual)						
Mailing Address:	Street or P.O. Box: City:	111 Speen St., Suite 410 Framingham	State:	MA	Zip Code:	01701
Email: (if individual)						
Phone:	508-598-4386					
Technical Contact						
Name:	Stevia Smith					
Title:	Manager - RNG Complian	ce				
Mailing Address:	Street or P.O. Box:			111 Speen Street, Suite 41	.0	
Walling Address.	City: Framingham	1	State:	MA	Zip Code:	01701
Email:	smiths@ameresco.com					
Phone:	508-598-4386					
Air Permit Contact for	Source					
Name:	Stevia Smith					
Title:	Manager - RNG Complian	ce				
Mailing Address:	Street or P.O. Box: City:	111 Speen Street, Suite 41 Framingham	0 State:	MA	Zip Code:	01701
Email:	smiths@ameresco.com					
Phone:	508-598-4386					
Section AI.3: Ow						
Name:	Ameresco Benson Valley I	RNG LLC				
Title:						
Mailing Address:	Street or P.O. Box: City:	111 Speen Street, Suite 41 Framingham	O State:	MA	Zip Code:	01701
Email:	smiths@ameresco.com					
Phone:	508-598-4386					
List names of owners a	nd officers of the company wh	o have an interest in the comp	oany of 5%	% or more.		
	Name			Position		
	George Sakellaris			Chairman, President, an	d Chief Executiv	re Officer

Current Status:	Title V Z Conditional Ma	ajor	n	☐ General Permit	☐ Regis	tration None
	□ Name Change □ Init	tial Registration	Significant	Revision	□ Admi	inistrative Permit Amendment
lequested Action:	Renewal Permit Re	vised Registration	Minor Rev	ision	☐ Initial	Source-wide OperatingPermit
check all that apply)	□ 502(b)(10)Change □ Ex	tension Request	Addition of	f New Facility	□ Porta	ble Plant Relocation Notice
	□ Revision □ Off	f Permit Change	Landfill Al	ternate Compliance Submit	tal 🗆 Modi	fication of Existing Facilities
	Ownership Change L. Clo	osure				
equested Status:	☐ Title V ☑ Conditional Ma	njor L. State-Origi	n 🗆 PS	SD 🗆 NSR	□ Otl	her:
the source requesting	a limitation of potential emission	ons?	☑ Yes	□ No		
Pollutant:	Reque	ested Limit:		Pollutant:		Requested Limit:
Particulate Matter	<100	tons/12 months		☑ Single HAP		<10 tons/12 months
			_			
☑ Volatile Organic C		ns/12-months				22.5 tons/12 months
Carbon Monoxide	<100	tons/12-months	_	☐ Air Toxics (40 CFR	68, Subpart F)	***
Nitrogen Oxides	<100	tons/12 months	_	Carbon Dioxide		-
∠ Sulfur Dioxide	<100	tons/12 months		Greenhouse Gases (GHG)	
□ Lead			-	C Other		
For New Construct	ion					
	Date of Construction: AM YYYY)		Propos	ed Operation Start-Up Da	ite: (MM YYYY)	
	Date of Modification: MM YYYY) coverage under a permit shield.	□ Yes	→ No		plicable require	ements for which permit shield
Applicant is seeking	coverage under a permit shield.		⊒ No	Identify any non-ap sought on a	plicable require	•
Applicant is seeking	coverage under a permit shield. r Required Information	☐ Yes	☑ No	Identify any non-ap sought on a rt of this application:	plicable require separate attach	•
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11/2018 DEP7007AI

Section AI.7: Notes, Comments, and Explanations
This application is being submitted for a modification to the existing Ameresco Benson Valley RNG LLC Air Quality Permit ID F-21-028, as detailed in Ameresco's attached cover letter. Ameresco understands that the change described in our letter constitutes an Off-Permit change. Ameresco has identified the need for an increased heat input limit for the open flare (EU02) in order to accommodate
operational needs at the facility. The estimations made for the open flare maximum operating rates in the initial air permit application submitted in February 2021 have recently been determined to be insufficient for optimal operation of the facility. The requested increased open flare heat input will allow Ameresco to minimize the startup duration of the facility and maximize the amount of landfill gas
facility, which is consistent with the goals, directives, and policies of KDEP. With these revised values, the maximum potential emissions from the open flare will increase, with the hourly rate increase being more significant than the annual rate increase, which is slight (or zero for some pollutants). Ameresco is requesting no changes to the existing heat input, flow or emissions limits for the thermal oxidizer or
emergency diesel generator. The modifications requested above do not alter the requirements of the existing permit, and do not trigger additional regulatory requirements. Given that no permit conditions are affected, there is no need to revise and reissue the permit, and the modification may be approved by an Off-Permit Change action. This approach was discussed with Ms. Stacie Daniels of KDEP by email
on March 17, 2025, who advised that this modification may be approved by an Off-Permit change.

Division for Air Quality

300 Sower Boulevard Frankfort, KY 40601 (502) 564-3999

DEP7007B

Manufacturing or Processing Operations

 Section	Б.1.	1 100033 11	Hormano	11
Section	B.2:	Materials	and Fuel	Information

Complete DEP7007AI, DEP7007	N,

Additional Documentation

DEP7007V, and DEP7007GG.

___ Attach a flow diagram

_	2 Ittucii	u 110 W	CI.
	Attach	SDS	

Source Name:	Ameresco Benson Valley RNG LLC
KY EIS (AFS) #:	21073-00112
Permit #:	F-21-028
Agency Interest (AI) ID:	167923
Date:	4/15/2025

Section B.3: Notes, Comments, and Explanations

Emission Unit #	Emission Unit Name	Describe Emission Unit	Process ID	Process Name	Manufacturer	Model No.	Proposed/Actual Date of Construction Commencement (MM/YYYY)	Is the Process <u>Continuous</u> or <u>Batch</u> ?	Number of Batches per 24 Hours (if applicable)	Hours per Batch (if applicable
EU 01	Thermal Oxidizer	Combustion of process waste gas, supplemental fuel and burner/pilot fuel	EP 01	TOX1	Perennial	FL-72X58- 45-TP	01/2023	Continuous	N/A	N/A
EU 02	Open Flare	Combustion of process waste gas, off-spec gas, purge and depress gas, excess PPRNG, pilot gas	EP 02	FLR1	Perennial	FL-10-C	12/2022	Continuous	N/A	N/A
TBD	Emergency Diesel Generator	Combustion of diesel fuel to produce electricity, to be used for emergency/backup purposes	TBD	TBD	Caterpillar	D250GC	04/2023	Continuous	N/A	N/A

Section B.2: Materials and Fuel Information *Maximum yearly fuel usage rate only applies if applicant re

*Maximum yearly fuel usage rate only applies if applicant request operating restrictions through federally enforceable limitations.																	
Emission Unit#	Emission Unit Name	Jama	Name of Raw Materials	mission Materials	Quantity Raw M	imum y of Each Iaterial put	Total Process Weight Rate for Emission	Name of Finished	Each l	Quantity of Finished al Output	Fuel Type	Fuel He	m Hourly age Rate	Maximun Fuel Usa	ı Yearly ge Rate	Sulfur Content	Ash Content
		Input		(Specify Units/hr)	Unit (tons/hr)	Materials		(Specify Units/hr)			(Specify Units)		(Specify Units)	(%)	(%)		
N/A																	
	<u> </u>			ļ			<u> </u>		<u> </u>			<u> </u>	ļ	<u> </u>			

11/2018	DEP7007B
Section B.3: Notes, Comments, and Explanations	
None	

DEP7007DD Division for Air Quality 300 Sower Boulevard Insignificant Activities Frankfort, KY 40601 Section DD.1: Table of Insignificant Activities (502) 564-3999 Section DD.2: Signature Block Section DD.3: Notes, Comments, and Explanations Source Name: Ameresco Benson Valley RNG LLC KY EIS (AFS) #: 21- 073-00112 Permit #: F-21-028 Agency Interest (AI) ID: 167923 Date: 4/15/2025 Section DD.1: Table of Insignificant Activities *Identify each activity with a unique Insignificant Activity number (IA #); for example: 1, 2, 3... etc. Description of Activity Insignificant Serial Number or Other Unique including Rated Applicable Regulation(s) Calculated Emissions Activity # **Identifier** Capacity IA-01 Equipment Leaks N/A 401 KAR 63:010 de minimis Section DD.2: Signature Block I, THE UNDERSIGNED, HEREBY CERTIFY UNDER PENALTY OF LAW, THAT I AM A RESPONSIBLE OFFICIAL, AND THAT I HAVE PERSONALLY EXAMINED, AND AM FAMILIAR WITH, THE INFORMATION SUBMITTED IN THIS DOCUMENT AND ALL ITS ATTACHMENTS. BASED ON MY INQUIRY OF THOSE INDIVIDUALS WITH PRIMARY RESPONSIBILITY FOR OBTAINING THE INFORMATION, I CERTIFY THAT THE INFORMATION IS ON KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE OR INCOMPLETE INFORMATION, INCLUDING THE POSSIBILITY OF FINE OR IMPRISONMENT. 04/15/2025 **Authorized Signature** By: Harold Stewart Director - Plant Operations

Title of Siguatory

Type/Print Name of Siguatory

Section DD.3: Notes, Comments, and Explanations	
_	_
	_
	_

11/2018 DEP7007GG

Division for Air Quality

300 Sower Boulevard

DEP7007GGControl Equipment

Additional Documentation	n

_ Complete Sections GG.1 through GG.12, as applicable

_ Attach manufacturer's specifications for each control device

_ Complete DEP7007AI

Frankfort, KY 40601 (502) 564-3999

Source Name:	Ameresco Benson Valley RNG LLC
KY EIS (AFS) #: 21	- 073-00112
Permit #:	F-21-028
Agency Interest (AI) ID:	167923
Date:	4/15/2025

Section G	G.1: Gene	ral Info	rmation - Co	ntrol Equip	ment											
Control Device ID	Control Device		M. C.	Model	Date	Inlet	Inlet Gas Stream Data For <u>All</u> Control Devices					Gas Stream Da densers, Adsor ourners, Incine Oxidizers <u>Onl</u> y	bers, erators,		al Data For vices	
#	Name	Cost	Manufacturer	Name/ Serial #	Installed	Temperature (°F)	Flowrate (scfm @ 68 °F)	Average Particle Diameter (µm)	Particle Density (lb/ft³) or Specific Gravity	Gas Density (lb/ft³)	Gas Moisture Content	Gas Composition	Fan Type	Pressure Drop Range (in. H ₂ O)	Pollutants Collected/ Controlled	Pollutant Removal
CD 01	Thermal Oxidizer	\$317k	Perennial	FL-72X58-45- TP	1/24/2023	200 (max)	0-2,000	<2.5	varies	varies	varies	varies	Forced draft centrifugal blower	varies	VOC, NMOC	98
CD 02	Open Flare	\$148k	Perennial	FL-10-C	12/13/2022	200 (max)	0-2,000	<2.5	varies	varies	varies	varies	None	varies	VOC, NMOC	98

11/2018 DEP7007GG

Section GG.2	: Flare Source Information					
Control Device ID #	Identify all Emission Units and Control Devices that Feed to Flare	Type of Flare (e.g. steam-assisted, air-assisted, nonassisted)	Process Gas Flowrate (acfm)	Net Heating Value of Stream(s) (Btu/scf)	Removal Efficiency (%)	Flare Rated Capacity (MMBtu/hr)
CD 02	Pre-processed RNG (PPRNG) , waste gases, off-spec gases, depress and purge gases, natural gas, RNG, propane	Open-Nonassisted	0-2,300	992 (max)	98	70.0

11/2018 DEP7007GG

Sectio	n GG.7: Afterburn	er/Incine	rator/C	Oxidizer													
Control	Identify all Emission Units and Control	Identify Type:	Number	Burner	Dimensions of	Residence	Combustion Chamber	Type of	Type of Heat			A	Auxiliary Fu	uel			Composition and Quantities
Device ID#	Devices that Feed to Afterburner/Incinerator/ Oxidizer	Afterburner, Incinerator, Oxidizer, <u>or</u> Other (specify)	of Burners	Rating (BTU/hr)	Combustion Chamber (specify units)	Time (sec)	Temperature	Cuturyst	Exchanger (if applicable)	Identify Fuel Type	Higher Heating Value (MMBtu/scf)	Hourly Fuel Usage (scf/hr)	% Sulfur (Maximum)	% Sulfur (Average)	% Ash (Maximum)	% Ash (Average)	of Combusted Waste
CD 01	PPRNG, waste gases, natural gas, RNG	Thermal Oxidizer	1	6,000,000	TBD	1 (min)	1400-1800	None	None	PPRNG (50% CH4)	0.0005	10,000 (max)	46.9 ppm	4 ppm	0	0	N/A

Division for Air Quality

300 Sower Boulevard Frankfort, KY 40601 (502) 564-3999

DEP7007N

Source Emissions Profile

__ Section N.1: Emission Summary

Section N.2: Stack Information

___ Section N.3: Fugitive Information

__ Section N.4: Notes, Comments, and Explanations

_ Complete DEP7007AI

ource Name:	Ameresco Benson Valley RNG LLO

KY EIS (AFS) #: 21- <u>073-00112</u>

Permit #: <u>F-21-028</u>

Agency Interest (AI) ID: <u>167923</u>
Date: <u>4/15/2025</u>

N.1: Emission Summary

Emission	Emission	Process	Process	Control Device	Control Device	Stack	Maximum Design	Pollutant	Uncontrolled Emission	Capture Control		ol cv		ntrol		Annual E	missions
Unit#	Unit Name	ID	Name	Name	ID	ID	Capacity (SCC Units/hour)	Follutant	Factor (lb/SCC Units)	(e.g. AP-42, Stack Test, Mass Balance)	Efficiency (%)	Efficiency (%)	Uncontrolled Potential (lb/hr)	Controlled Potential (lb/hr)	Uncontrolled Potential (tons/yr)	Controlled Potential (tons/yr)	
EU 01	Thermal Oxidizer	EP 01	TOX1	Thermal Oxidizer	CD 01	ST 01	0.068 lb/mmbtu	NOx	0.068 lb/mmbtu	Manufacturer, AP-42 2.4	0.00%	N/A	1.18	1.18	5.15	5.15	
EU 01	Thermal Oxidizer	EP 01	TOX1	Thermal Oxidizer	CD 01	ST 01	0.31 lb/mmbtu	СО	0.31 lb/mmbtu	Manufacturer, AP-42 2.4	0.00%	N/A	5.36	5.36	23.49	23.49	
EU 01	Thermal Oxidizer	EP 01	TOX1	Thermal Oxidizer	CD 01	ST 01	see attached calculations	VOC	5,900 ppm, 98% DE	Manufacturer, AP-42 2.4	0.00%	98.00%	2.58	2.58	11.30	11.30	
EU 01	Thermal Oxidizer	EP 01	TOX1	Thermal Oxidizer	CD 01	ST 01	17 lb/mmscf CH4	PM	17 lb/mmscf CH4	AP-42 2.4	0.00%	N/A	1.18	1.18	5.17	5.17	
EU 01	Thermal Oxidizer	EP 01	TOX1	Thermal Oxidizer	CD 01	ST 01	46.9 ppm	SOx	46.9 ppm	AP-42 2.4	0.00%	N/A	1.17	1.17	5.10	5.10	
EU 01	Thermal Oxidizer	EP 01	TOX1	Thermal Oxidizer	CD 01	ST 01	0.08 lb/hr	HAP	0.61 lb/hr	AP-42 2.4	0.00%	98.00%	0.61	0.61	2.65	2.65	
EU 02	Open Flare	EP 02	FLR1	Open Flare	CD 02	ST 02	0.068 lb/mmbtu	NOx	0.068 lb/mmbtu	Manufacturer, AP-42 2.4	0.00%	N/A	4.76	4.76	10.59	10.59	
EU 02	Open Flare	EP 02	FLR1	Open Flare	CD 02	ST 02	0.31 lb/mmbtu	СО	0.31 lb/mmbtu	Manufacturer, AP-42 2.4	0.00%	N/A	21.70	21.70	48.28	48.28	
EU 02	Open Flare	EP 02	FLR1	Open Flare	CD 02	ST 02	see attached calculations	VOC	3,780 ppm, 98% DE	Manufacturer, AP-42 2.4	0.00%	98.00%	2.38	2.38	5.28	5.28	
EU 02	Open Flare	EP 02	FLR1	Open Flare	CD 02	ST 02	17 lb/mmscf CH4	PM	17 lb/mmscf CH4	AP-42 2.4	0.00%	N/A	1.17	1.17	2.61	2.61	
EU 02	Open Flare	EP 02	FLR1	Open Flare	CD 02	ST 02	46.9 ppm	SOx	46.9 ppm	AP-42 2.4	0.00%	N/A	1.17	1.17	2.59	2.59	
EU 02	Open Flare	EP 02	FLR1	Open Flare	CD 02	ST 02	0.06 lb/hr	HAP	0.61 lb/hr	AP-42 2.4	0.00%	98.00%	0.61	0.61	2.65	2.65	
TBD	Emergency Diesel Generator	TBD	TBD	Emergency Diesel Generator	TBD	TBD	250 kW	NOx	3.14 g/hp-hr	Manufacturer	0.00%	N/A	2.32	2.32	0.58	0.58	
TBD	Emergency Diesel Generator	TBD	TBD	Emergency Diesel Generator	TBD	TBD	250 kW	СО	0.68 g/hp-hr	Manufacturer	0.00%	N/A	0.50	0.50	0.13	0.13	
TBD	Emergency Diesel Generator	TBD	TBD	Emergency Diesel Generator	TBD	TBD	250 kW	VOC	0.17 g/hp-hr	Manufacturer	0.00%	N/A	0.13	0.13	0.03	0.03	
TBD	Emergency Diesel Generator	TBD	TBD	Emergency Diesel Generator	TBD	TBD	250 kW	PM	0.16 g/hp-hr	Manufacturer	0.00%	N/A	0.12	0.12	0.03	0.03	
TBD	Emergency Diesel Generator	TBD	TBD	Emergency Diesel Generator	TBD	TBD	251 kW	SOx	0.00205 g/hp-hr	AP-42 Section 3.3	0.00%	N/A	0.0015	0.0015	0.0004	0.0004	

Section N.2: Stack Information

UTM Zone:

	Identify all Emission Units (with Process ID) and	Sta	ack Physical D	ata	Stack UTM	Coordinates	Stack Gas Stream Data		
Stack ID	Control Devices that Feed to Stack	Equivalent Diameter (ft)	Height (ft)	Base Elevation (ft)	Northing (m)	Easting (m)	Flowrate (acfm)	Temperature (°F)	Exit Velocity (ft/sec)
ST 01	Thermal Oxidizer	4.16' ID	45'	810	4222817	676470	0-1600	1400-1800	<60
ST 02	Open Flare	0.868'	40'	810	4222817	676470	0-1500	1400-1800	<60
TBD	Emergency Diesel Generator	0.417'	7.81'	810	4222817	676470	0-2246	700-900	unknown

Section N.3: Fugitive Information

UTM Zone:

			Area Physi	cal Data	Area UTM (Coordinates	Area Release Data		
Emission Unit#	Emission Unit Name	Process ID	Length of the X Side (ft)	Length of the Y Side (ft)	Northing (m)	Easting (m)	Release Temperature	Release Height	
N/A									

Section N.4: Notes, Comments, and Explanations
SCC for Emission Points = Thermal Oxidizer: 31000209, Flare: 31000205
UTM Zone = 16S. Elevation and UTM Coordinates are Estimated.

Division for Air Quality

300 Sower Boulevard Frankfort, KY 40601 (502) 564-3999

D	E	P'	70	N	71	

Applicable Requirements and Compliance Activities

Section V.1: Emission and Operating Limitation(s)
 Section V.2: Monitoring Requirements
 Section V.3: Recordkeeping Requirements
 Section V.4: Reporting Requirements
 Section V.5: Testing Requirements

Section V.6: Notes, Comments, and Explanations

Additional Documentation

Complete DEP7007AI

Source Name: Ameresco Benson Valley RNG LLC

KY EIS (AFS) #: 21- 073-00112 Permit #: F-21-028

Permit #: F-21-028
Agency Interest (AI) ID: 167923

Date: 4/15/2025

Section V.1: Emission and Operating Limitation(s)

Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)
EU 01	Thermal Oxidizer	401 KAR 63:020	VOC, HAP	98% DE, see calcs attached		98% DE	Recordkeeping
EU 02	Open Flare	401 KAR 63:020	VOC, HAP	98% DE, see calcs attached		98% DE	Recordkeeping
TBD	Emergency/Backup Diesel Generator	40 CFR 60 Subpart IIII	NOx	2.32 lb/hr		500 hrs/year	Recordkeeping
TBD	Emergency/Backup Diesel Generator	40 CFR 60 Subpart IIII	СО	0.50 lb/hr		500 hrs/year	Recordkeeping
TBD	Emergency/Backup Diesel Generator	40 CFR 60 Subpart IIII	PM	0.12 lb/hr		500 hrs/year	Recordkeeping
TBD	Emergency/Backup Diesel Generator	40 CFR 63 Subpart ZZZZ	NOx, CO, PM	see above		500 hrs/year	Recordkeeping

Section V.2: Monitoring Requirements							
Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Monitored	Description of Monitoring		
EU 01	Thermal Oxidizer	VOC, HAP	401 KAR 63:020	Flow/Temperature	Flow meter(s), thermocouple(s)		
EU 02	Open Flare	VOC, HAP	401 KAR 63:020	Flow/Temperature	Flow meter(s), thermocouple(s)		
TBD	Emergency/Backup Diesel Generator	NOx, CO, PM	40 CFR 60 Subpart IIII	Fuel usage	Volume of fuel		
TBD	Emergency/Backup Diesel Generator	NOx, CO, PM	40 CFR 63 Subpart ZZZZ	Fuel usage	Volume of fuel		

Section V.3: Recordkeeping Requirements									
Emission Unit#	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Recorded	Description of Recordkeeping				
EU 01	Themal Oxidizer	VOC, HAP	401 KAR 63:020	Flow/Temperature	Electronic data / historian				
EU 02	Open Flare	VOC, HAP	401 KAR 63:020	Flow/Temperature	Electronic data / historian				
TBD	Emergency/Backup Diesel Generator	NOx, CO, PM	40 CFR 60 Subpart IIII	Fuel usage	Volume of fuel				
TBD	Emergency/Backup Diesel Generator	NOx, CO, PM	40 CFR 63 Subpart ZZZZ	Fuel usage	Volume of fuel				

Section V	Section V.4: Reporting Requirements								
Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Reported	Description of Reporting				
EU 01	Themal Oxidizer	VOC, HAP	401 KAR 63:020	Flow/Temperature	Semi-Annual				
EU 02	Open Flare	VOC, HAP	401 KAR 63:020	Flow/Temperature	Semi-Annual				
TBD	Emergency/Backup Diesel Generator	NOx, CO, PM	40 CFR 60 Subpart IIII	Fuel usage	Semi-Annual				
TBD	Emergency/Backup Diesel Generator	NOx, CO, PM	40 CFR 63 Subpart ZZZZ	Fuel usage	Semi-Annual				

Section V	Section V.5: Testing Requirements									
Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Tested	Description of Testing					
EU 01	Themal Oxidizer	VOC, HAP	401 KAR 63:020	VOC/HAP	Initial Performance Test, if required.					
EU 02	Open Flare	VOC, HAP	401 KAR 63:020	Inlet gas heat content, flame present	Initial Performance Test, if required.					
TBD	Emergency/Backup Diesel Generator	NOx, CO, PM	40 CFR 60 Subpart IIII	None						
TBD	Emergency/Backup Diesel Generator	NOx, CO, PM	40 CFR 63 Subpart ZZZZ	None						

Section V.6: Notes, Comments, and Explanations	

ATTACHMENT B POTENTIAL EMISSIONS CALCULATIONS

PLANT NAME:	Ameresco Benson Valley RNG LLC
PLANT LOCATION:	Frankfort, Kentucky
PROJECT:	Off-Permit Change Application
DATE:	4/15/2025

PROJECT ASSUMPTIONS:

	Value	Unit	Source		
Methane heat content:	1,012	Btu/scf	Engineering estimate		
Wethane neat content.	0.00101	MMBtu/scf	Engineering estimate		
Raw gas methane content:	50%	%	Engineering estimate		
Raw gas VOC content:	3,780	ppm as hexane	Lab analytical testing on 2/17/2020 with 4x factor added		
Post-treat gas TRS content:	46.9	ppm	US EPA AP-42 Section 2.4		
	2,300	scf/min			
	138,000	scf/hour			
Ameresco plant inlet gas capacity:	3,312,000	scf/day	Engineering estimate		
	102,672,000	scf/mo			
	1,208,880,000	scf/year			

PLANT NAME:	Ameresco Benson Valley RNG LLC
PLANT LOCATION:	Frankfort, Kentucky
PROJECT:	Off-Permit Change Application
DATE:	4/15/2025

FACILITY MAXIMUM POTENTIAL EMISSIONS

DEVICE ID:	Thermal Oxio	lizer (EU01)				
Pollutan	it	lb/hr	lb/day	lb/mo	lb/yr	ton/yr
NOx		1.18	28.23	875.24	10,305.26	5.15
CO		5.36	128.71	3,990.07	46,979.88	23.49
VOC		2.58	61.90	1,918.84	22,592.83	11.30
PM/PM10/PM2.5		1.18	28.35	878.78	10,346.96	5.17
SOx		1.17	27.96	866.83	10,206.22	5.10
HAPs		0.61	14.55	450.92	5,309.23	2.65

DEVICE ID:	Open Flare (I	EU02)				
Pollutan	t	lb/hr	lb/day	lb/mo	lb/yr	ton/yr
NOx		4.76	114.24	3,541.44	21,182.00	10.59
СО		21.70	520.80	16,144.80	96,565.00	48.28
VOC		2.38	57.01	1,767.21	10,569.98	5.28
PM/PM10/PM2.5		1.17	28.15	872.71	5,219.85	2.61
SOx		1.17	27.96	866.83	5,184.67	2.59
HAPs		0.61	14.55	450.92	5,309.23	2.65

DEVICE ID: Equi	pment Fu	ugitives				
Pollutant		lb/hr	lb/day	lb/mo	lb/yr	ton/yr
VOC		0.010	0.243	7.548	88.875	0.044

DEVICE ID:	Backup / Em	ergency Generato	r			
Pollutant		lb/hr	lb/day	lb/mo	lb/yr	ton/yr
NOx		2.32	55.70	1,160.40	1,160.40	0.58
со		0.50	12.06	251.30	251.30	0.13
voc		0.13	3.02	62.82	62.82	0.03
PM/PM10/PM2.5		0.12	2.84	59.13	59.13	0.03
SOx		0.002	0.04	0.76	0.76	0.0004

DEVICE ID:	Facility Total	Maximum Potent	tial			
Pollutan	t	lb/hr	lb/day	lb/mo	lb/yr	ton/yr
NOx		8.26	198.17	5,577.08	32,647.67	16.32
СО		27.57	661.57	20,386.17	143,796.18	71.90
VOC		5.09	122.16	3,756.42	33,314.51	16.66
PM/PM10/PM2.5		2.47	59.34	1,810.62	15,625.94	7.81
SOx		2.33	55.96	1,734.42	15,391.65	7.70
HAPs		0.61	14.55	450.92	5,309.23	2.65

PLANT NAME:	Ameresco Benson Valley RNG LLC
PLANT LOCATION:	Frankfort, Kentucky
PROJECT:	Off-Permit Change Application
DATE:	4/15/2025

DEVICE:	Thermal Oxidizer (FU01)

	Value	Unit	Source					
Methane heat content:	1,012	Btu/scf	Engineering estimate					
Methane heat content.	0.00101	MMBtu/scf	- Liighteering estimate					
VOC destruction efficiency:	98%	%	Manufacturer					
Gas exhaust temperature	15	degC	Engineering estimate					
Sulfur molar mass	34	grams-per-mole						
	24	hours/day						
Operating hours:	744	hours/month	Maximum unrestricted					
	8,760	hours/year						
	17.3	MMBtu/hour						
	415	MMBtu/day	Engineering estimate					
	12,871	MMBtu/month	Liigiileeriiig estiiliate					
	151,548	MMBtu/year						
Inlet gas capacity:	1,600	scf/min						
	96,000	scf/hour						
	2,304,000	scf/day	Engineering estimate					
	71,424,000	scf/month						
	840,960,000	scf/year						

Pollutant	Emission Factor	Unit	EF Source	lb/hr	lb/day	lb/mo	lb/yr	ton/yr
NOx	0.068	lb/MMBtu	Manufacturer	1.18	28.23	875.24	10,305.26	5.15
со	0.31	lb/MMBtu	Manufacturer	5.36	128.71	3,990.07	46,979.88	23.49
voc	5,900	ppm as hexane inlet	Engineering estimate EPA AP-42 Section 2.4, VOC is assumed 100% equal to NMOC, Equations 3 & 4.	2.58	61.90	1,918.84	22,592.83	11.30
PM/PM10/PM2.5	17	lb PM/mmscf CH4 inlet	EPA AP-42 Section 2.4 - LFG Flare - Table 2.4-4 Assumes that all PM entering plant is delivered to this device. Calculated based on plant inlet flow rate and 50% methane.	1.18	28.35	878.78	10,346.96	5.17
SOx	46.9	ppm TRS inlet	EPA AP-42 Section 2.4 - Equations 3, 4 & 7 Assumes all TRS entering the plant is emitted through this device. Calculated using plant inlet flow rate.	1.17	27.96	866.83	10,206.22	5.10

PLANT NAME:	Ameresco Benson Valley RNG LLC
PLANT LOCATION:	Frankfort, Kentucky
PROJECT:	Off-Permit Change Application
DATE:	4/15/2025

DEVICE: Open Flare (EU02)

	Value	Unit	Source	
Methane heat content:	1,012	Btu/scf	Engineering estimate	
ivietnane neat content.	0.00101	MMBtu/scf	Engineering estimate	
VOC destruction efficiency:	98%	%	Manufacturer	
Gas exhaust temperature:	15	degC Engineering estimate		
Sulfur molar mass	34	grams-per-mole		
	24	hours/day	Maximum unrestricted	
Operating hours:	744	hours/month	Maximum unrestricted	
	4,450	hours/year	Engineering estimate	
	70.0	MMBtu/hour		
	1,680	MMBtu/day	Engineering estimate	
	52,080	MMBtu/month	Engineering estimate	
	311,500	MMBtu/year		
Inlet gas capacity:	2,300	scf/min		
	138,000	scf/hour		
	3,312,000	scf/day	Engineering estimate	
	102,672,000	scf/month		
	614,100,000	scf/year		

Pollutant	Emission Factor	Unit	EF Source	lb/hr	lb/day	lb/mo	lb/yr	ton/yr
NOx	0.068	lb/MMBtu	Manufacturer, EPA AP-42 Section 13.5 - Industrial Flares - Table 13.5-1	4.76	114.24	3,541.44	21,182	10.59
со	0.31	lb/MMBtu	Manufacturer, EPA AP-42 Section 13.5 - Industrial Flares - Table 13.5-2	21.70	520.80	16,144.80	96,565	48.28
voc	3,780	Innm as hexane inlet	EPA AP-42 Section 2.4, VOC is assumed 100% equal to NMOC, Equations 3 & 4.	2.38	57.01	1,767.21	10,570	5.28
PM/PM10/PM2.5	17	IIh PM/mmsct CH4 inlet	EPA AP-42 Section 2.4 - LFG Flare - Table 2.4-4, calculated based on 50% CH4.	1.17	28.15	872.71	5,220	2.61
SOx	46.9	ppm TRS inlet	EPA AP-42 Section 2.4 - Equations 3, 4 & 7	1.17	27.96	866.83	5,185	2.59

PLANT NAME:	Ameresco Bens	Ameresco Benson Valley RNG LLC							
PLANT LOCATION:	Frankfort, Kent	ankfort, Kentucky							
PROJECT:	Off-Permit Cha	nge Application							
DATE:	4/15/2025								
DEVICE ID: Thermal Oxidizer (EU01)									
	Value	Unit	Source						
Methane heat content:	1,012	Btu/scf	Engineering estimate						
Wethane near content.	0.00101	MMBtu/scf	- Liighteeting estimate						
HAP destruction efficiency:	98.0%	%	Manufacturer						
Gas exhaust temperature	15	degC	Engineering estimate						
	2,300	scf/min							
Inlet ass sanasitu	138,000	scf/hour							
Inlet gas capacity:	3,312,000	scf/day	Assumes all HAPs entering Ameresco facility are delivered to this device.						
	102,672,000	scf/mo]						
	1,208,880,000	scf/year]						

Pollutant	CAS No.	Molecular Weight (g/mol)	Concentration (ppmv)	Concentration Source	lb/hr	lb/day	lb/mo	lb/yr	ton/yr
1,1,1-Trichloroethane (methyl chloroform)	71556	133.41	0.48	USEPA AP-42 Section 2.4, Tables 2.4-1 and 2.4.2 (Nov. 1998) and CAA Section 112	4.67E-04	1.12E-02	3.47E-01	4.09E+00	2.05E-03
1,1,2,2-Tetrachloroethane	79345	167.85	0.07	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	8.57E-05	2.06E-03	6.37E-02	7.50E-01	3.75E-04
1,1-Dichloroethane (ethylidene dichloride)	75343	98.97	0.741	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	5.35E-04	1.28E-02	3.98E-01	4.68E+00	2.34E-03
1,1-Dichloroethene (vinylidene chloride)	75354	96.94	0.092	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	6.50E-05	1.56E-03	4.84E-02	5.70E-01	2.85E-04
1,2-Dichloroethane (ethylene dichloride)	107062	98.96	0.12	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	8.66E-05	2.08E-03	6.44E-02	7.59E-01	3.79E-04
1,2-Dichloropropane (propylene dichloride)	78875	112.99	0.023	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	1.89E-05	4.55E-04	1.41E-02	1.66E-01	8.30E-05
Acrylonitrile*	107131	53.06	0.036	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	1.39E-05	3.34E-04	1.04E-02	1.22E-01	6.10E-05
Benzene*	71432	78.11	0.97	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	5.54E-04	1.33E-02	4.12E-01	4.85E+00	2.42E-03
Carbon disulfide*	75150	76.13	0.32	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	1.78E-04	4.26E-03	1.32E-01	1.56E+00	7.78E-04
Carbon tetrachloride	56235	153.84	0.007	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	7.85E-06	1.88E-04	5.84E-03	6.88E-02	3.44E-05
Carbonyl sulfide*	463581	60.07	0.183	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	8.02E-05	1.92E-03	5.96E-02	7.02E-01	3.51E-04
Chlorobenzene	108907	112.56	0.227	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	1.86E-04	4.47E-03	1.39E-01	1.63E+00	8.16E-04
Chloroethane (ethyl chloride)	75003	64.52	0.448	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	2.11E-04	5.06E-03	1.57E-01	1.85E+00	9.23E-04
Chloroform	67663	119.39	0.021	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	1.83E-05	4.39E-04	1.36E-02	1.60E-01	8.01E-05
Chloromethane (methyl chloride)	74873	50.49	0.249	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	9.17E-05	2.20E-03	6.82E-02	8.03E-01	4.02E-04
1,2-Dichlorobenzene	95501	147.00	0.21	USEPA AP-42 Section 2.4, Tables 2.4-1 and 2.4.2 (Nov. 1998) and CAA Section 112	2.25E-04	5.40E-03	1.67E-01	1.97E+00	9.86E-04
Dichlorodifluoromethane	75718	120.91	1.751	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	1.54E-03	3.70E-02	1.15E+00	1.35E+01	6.76E-03
Dichlorofluoromethane	75434	102.92	2.62	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	1.97E-03	4.72E-02	1.46E+00	1.72E+01	8.61E-03
Dichloromethane (methylene chloride)	75092	84.94	3.395	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2000	2.10E-03	5.05E-02	1.56E+00	1.84E+01	9.21E-03
Ethyl mercaptan*	75081	62.13	1.356	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	6.14E-04	1.47E-02	4.57E-01	5.38E+00	2.69E-03
Ethylene dibromide (1,2-Dibromoethane)	106934	187.88	0.001	USEPA AP-42 Section 2.4, Tables 2.4-1 and 2.4.2 (Nov. 1998) and CAA Section 112	1.37E-06	3.29E-05	1.02E-03	1.20E-02	6.00E-06
Ethylbenzene*	100414	106.16	4.61	USEPA AP-42 Section 2.4, Tables 2.4-1 and 2.4.2 (Nov. 1998) and CAA Section 112	3.57E-03	8.56E-02	2.65E+00	3.13E+01	1.56E-02
Hexane*	110543	86.18	2.324	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	1.46E-03	3.50E-02	1.09E+00	1.28E+01	6.40E-03
Hydrochloric Acid (hydrogen chloride)	7647010	36.46	42.0	USEPA AP-42 Section 2.4 (Nov. 1998)	0.56	13.40	415.34	4890.26	2.45
Mercury (total)*	7439976	200.61	0.00029	USEPA AP-42 Section 2.4, Tables 2.4-1 and 2.4.2 (Nov. 1998) and CAA Section 112	4.27E-07	1.03E-05	3.18E-04	3.74E-03	1.87E-06
Methyl ethyl ketone*	78933	72.11	7.09	USEPA AP-42 Section 2.4, Tables 2.4-1 and 2.4.2 (Nov. 1998) and CAA Section 112	3.73E-03	8.95E-02	2.77E+00	3.27E+01	1.63E-02
Methyl isobutyl ketone*	108101	100.16	0.75	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	5.48E-04	1.31E-02	4.08E-01	4.80E+00	2.40E-03
Methyl mercaptan*	74931	48.11	1.292	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	4.53E-04	1.09E-02	3.37E-01	3.97E+00	1.99E-03
Perchloroethylene (tetrachloroethylene)	127184	165.83	1.193	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	1.44E-03	3.46E-02	1.07E+00	1.26E+01	6.32E-03
Toluene*	108883	92.13	25.405	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	1.71E-02	4.10E-01	1.27E+01	1.49E+02	7.47E-02
Trichloroethylene (trichloroethene)	79016	131.40	0.681	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	6.52E-04	1.57E-02	4.85E-01	5.72E+00	2.86E-03
Vinyl chloride	75014	62.50	1.077	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	4.91E-04	1.18E-02	3.65E-01	4.30E+00	2.15E-03
Xylenes*	1330207	106.16	12.10	USEPA AP-42 Section 2.4, Tables 2.4-1 and 2.4.2 (Nov. 1998) and CAA Section 112	9.37E-03	2.25E-01	6.97E+00	8.20E+01	4.10E-02
Total HAPs:	·				0.61	14.55	450.92	5,309.23	2.65
Single Highest HAP:					0.56	13.40	415.34	4,890.26	2.45

PLANT NAME:	Ameresco Bens	Ameresco Benson Valley RNG LLC							
PLANT LOCATION:	Frankfort, Kent	Frankfort, Kentucky							
PROJECT:	Off-Permit Cha	nge Application							
DATE:	4/15/2025								
DEVICE ID:	Open Flare (EU	Open Flare (EU02)							
	Value	Unit	Source						
Methane heat content:	1,012	Btu/scf	Engineering estimate						
Wethane near content.	0.00101	MMBtu/scf	Lighteering estimate						
HAP destruction efficiency:	98.0%	%	Manufacturer						
Gas exhaust temperature	15	degC	Engineering estimate						
	2,300	scf/min							
Inlet are conneity	138,000	scf/hour							
Inlet gas capacity:	3,312,000	scf/day	Assumes all HAPs entering Ameresco facility are delivered to this device.						
	102,672,000	scf/mo]						
	1,208,880,000	scf/year]						

Pollutant	CAS No.	Molecular Weight (g/mol)	Concentration (ppmv)	Concentration Source	lb/hr	lb/day	lb/mo	lb/yr	ton/yr
1,1,1-Trichloroethane (methyl chloroform)	71556	133.41	0.48	USEPA AP-42 Section 2.4, Tables 2.4-1 and 2.4.2 (Nov. 1998) and CAA Section 112	4.67E-04	1.12E-02	3.47E-01	4.09E+00	2.05E-03
1,1,2,2-Tetrachloroethane	79345	167.85	0.07	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	8.57E-05	2.06E-03	6.37E-02	7.50E-01	3.75E-04
1,1-Dichloroethane (ethylidene dichloride)	75343	98.97	0.741	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	5.35E-04	1.28E-02	3.98E-01	4.68E+00	2.34E-03
1,1-Dichloroethene (vinylidene chloride)	75354	96.94	0.092	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	6.50E-05	1.56E-03	4.84E-02	5.70E-01	2.85E-04
1,2-Dichloroethane (ethylene dichloride)	107062	98.96	0.12	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	8.66E-05	2.08E-03	6.44E-02	7.59E-01	3.79E-04
1,2-Dichloropropane (propylene dichloride)	78875	112.99	0.023	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	1.89E-05	4.55E-04	1.41E-02	1.66E-01	8.30E-05
Acrylonitrile*	107131	53.06	0.036	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	1.39E-05	3.34E-04	1.04E-02	1.22E-01	6.10E-05
Benzene*	71432	78.11	0.97	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	5.54E-04	1.33E-02	4.12E-01	4.85E+00	2.42E-03
Carbon disulfide*	75150	76.13	0.32	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	1.78E-04	4.26E-03	1.32E-01	1.56E+00	7.78E-04
Carbon tetrachloride	56235	153.84	0.007	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	7.85E-06	1.88E-04	5.84E-03	6.88E-02	3.44E-05
Carbonyl sulfide*	463581	60.07	0.183	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	8.02E-05	1.92E-03	5.96E-02	7.02E-01	3.51E-04
Chlorobenzene	108907	112.56	0.227	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	1.86E-04	4.47E-03	1.39E-01	1.63E+00	8.16E-04
Chloroethane (ethyl chloride)	75003	64.52	0.448	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	2.11E-04	5.06E-03	1.57E-01	1.85E+00	9.23E-04
Chloroform	67663	119.39	0.021	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	1.83E-05	4.39E-04	1.36E-02	1.60E-01	8.01E-05
Chloromethane (methyl chloride)	74873	50.49	0.249	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	9.17E-05	2.20E-03	6.82E-02	8.03E-01	4.02E-04
1,2-Dichlorobenzene	95501	147.00	0.21	USEPA AP-42 Section 2.4, Tables 2.4-1 and 2.4.2 (Nov. 1998) and CAA Section 112	2.25E-04	5.40E-03	1.67E-01	1.97E+00	9.86E-04
Dichlorodifluoromethane	75718	120.91	1.751	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	1.54E-03	3.70E-02	1.15E+00	1.35E+01	6.76E-03
Dichlorofluoromethane	75434	102.92	2.62	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	1.97E-03	4.72E-02	1.46E+00	1.72E+01	8.61E-03
Dichloromethane (methylene chloride)	75092	84.94	3.395	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2000	2.10E-03	5.05E-02	1.56E+00	1.84E+01	9.21E-03
Ethyl mercaptan*	75081	62.13	1.356	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	6.14E-04	1.47E-02	4.57E-01	5.38E+00	2.69E-03
Ethylene dibromide (1,2-Dibromoethane)	106934	187.88	0.001	USEPA AP-42 Section 2.4, Tables 2.4-1 and 2.4.2 (Nov. 1998) and CAA Section 112	1.37E-06	3.29E-05	1.02E-03	1.20E-02	6.00E-06
Ethylbenzene*	100414	106.16	4.61	USEPA AP-42 Section 2.4, Tables 2.4-1 and 2.4.2 (Nov. 1998) and CAA Section 112	3.57E-03	8.56E-02	2.65E+00	3.13E+01	1.56E-02
Hexane*	110543	86.18	2.324	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	1.46E-03	3.50E-02	1.09E+00	1.28E+01	6.40E-03
Hydrochloric Acid (hydrogen chloride)	7647010	36.46	42.0	USEPA AP-42 Section 2.4 (Nov. 1998)	0.56	13.40	415.34	4890.26	2.45
Mercury (total)*	7439976	200.61	0.00029	USEPA AP-42 Section 2.4, Tables 2.4-1 and 2.4.2 (Nov. 1998) and CAA Section 112	4.27E-07	1.03E-05	3.18E-04	3.74E-03	1.87E-06
Methyl ethyl ketone*	78933	72.11	7.09	USEPA AP-42 Section 2.4, Tables 2.4-1 and 2.4.2 (Nov. 1998) and CAA Section 112	3.73E-03	8.95E-02	2.77E+00	3.27E+01	1.63E-02
Methyl isobutyl ketone*	108101	100.16	0.75	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	5.48E-04	1.31E-02	4.08E-01	4.80E+00	2.40E-03
Methyl mercaptan*	74931	48.11	1.292	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	4.53E-04	1.09E-02	3.37E-01	3.97E+00	1.99E-03
Perchloroethylene (tetrachloroethylene)	127184	165.83	1.193	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	1.44E-03	3.46E-02	1.07E+00	1.26E+01	6.32E-03
Toluene*	108883	92.13	25.405	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	1.71E-02	4.10E-01	1.27E+01	1.49E+02	7.47E-02
Trichloroethylene (trichloroethene)	79016	131.40	0.681	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	6.52E-04	1.57E-02	4.85E-01	5.72E+00	2.86E-03
Vinyl chloride	75014	62.50	1.077	Waste Industry Air Coalition (WAIC) Comparison of Recent Landfill Gas Analyses, Jan 2001	4.91E-04	1.18E-02	3.65E-01	4.30E+00	2.15E-03
Xylenes*	1330207	106.16	12.10	USEPA AP-42 Section 2.4, Tables 2.4-1 and 2.4.2 (Nov. 1998) and CAA Section 112	9.37E-03	2.25E-01	6.97E+00	8.20E+01	4.10E-02
Total HAPs:	·				0.61	14.55	450.92	5,309.23	2.65
Single Highest HAP:					0.56	13.40	415.34	4,890.26	2.45

PLANT NAME:	Ameresco Benson Valley RNG LLC
PLANT LOCATION:	Frankfort, Kentucky
PROJECT:	Off-Permit Change Application
DATE:	4/15/2025
DEVICE ID:	Fugitive Emissions

Gas VOC Conentration (ppm):	595	Source: AP-42 Section 2.4, VOCs conservatively estimated equal to 100% of NMOCs
Gas VOC Conentration (%):	0.0595%	

Equipment	Emission Factor	Unit	EF Source	Estimated Count	lb/hr	lb/day	lb/mo	lb/yr	ton/yr
Valves	0.0099	lb/hr	USEPA Protocol for Equipment Leak Emissions Estimates, 435/R-93-026, Nov 1995, Table 2-4	1,510	0.0089	0.2139	6.6315	78.0808	0.0390
Flanges	0.0009	lb/hr		1,720	0.0009	0.0211	0.6547	7.7081	0.0039
Compressors/Treatment Skids/Other	0.019	lb/hr		17	0.0002	0.0047	0.1460	1.7190	0.0009
Open End Lines	0.005	lb/hr		0	0.0000	0.0000	0.0000	0.0000	0.0000
Connectors	0.00044	lb/hr		595	0.0002	0.0037	0.1161	1.3674	0.0007
Total:					0.01	0.24	7.55	88.88	0.04

PLANT NAME:	Ameresco Benson Valley RNG LLC					
PLANT LOCATION:	Frankfort, Kentucky					
PROJECT:	Off-Permit Change Application					
DATE:	4/15/2025					
DEVICE ID:	Emergency/Backup Diesel Engine Generator					

	Value	Unit	Source
Inlet gas capacity:	335	HP	Manufacturer
Max fuel consumption:	19.4	gal/hr	Manufacturer
	9,700	gal/yr	Manufacturer
Fuel weight:	7.001	lb/gal	Manufacturer
	18,390	Btu/lb	Manufacturer
Fuel heat input:	128,748	Btu/gal	
	2.50	MMBtu/hr	
Operating hours:	500	hours/year	Engineering estimate

Pollutant	Emission Factor	Unit	EF Source	lb/hr	lb/day	lb/mo	lb/yr	ton/yr
NOx	3.14	g/hp-hr	Manufacturer	2.32	55.70	1,160.40	1,160.40	0.58
со	0.68	g/hp-hr	Manufacturer	0.50	12.06	251.30	251.30	0.13
VOC	0.17	g/hp-hr	Manufacturer	0.13	3.02	62.82	62.82	0.03
PM/PM10/PM2.5	0.16	g/hp-hr	Manufacturer	0.12	2.84	59.13	59.13	0.03
SOx	0.00205	lg/hp-hr	EPA AP-42 Section 3.3 Oct 1996, Table 3.3-1- Diesel	0.0015	0.04	0.76	0.76	0.0004



RE: AFS 21-073-00112, Ameresco Benson Valley Landfill

From Smith, Stevia <smiths@ameresco.com>

Date Thu 6/5/2025 2:01 PM

To Daniels, Stacie (EEC) <stacie.daniels@ky.gov>

Cc Tempus-Doom, Amy K (EEC) < Amy. Tempus-Doom@ky.gov>

This Message Originated from Outside the Organization

This Message Is From an External Sender.

Report Suspicious

Stacie, Amy,

Thank you for the call yesterday. As discussed, Ameresco is proposing no annual hours restriction for the open flare (EU02), but instead either an annual mmbtu limit (preferred) or an annual inlet gas flow limit. The limit, either mmbtu/year (first choice) or scf/year, would be as follows, in accordance with our application submitted 4/15/2025:

Open Flare Heat Input Limit: 311,500 MMBtu/year

Open Flare Inlet Gas Flow Limit: 614,100,000 scf/year

Please let me know if you need anything further. Thank you.

Stevia Smith

Manager - RNG Compliance 704-989-2023 smiths@ameresco.com

30 Danforth Street, Suite 108 Portland, ME 04101 <u>ameresco.com</u>



From: Smith, Stevia <smiths@ameresco.com> Sent: Wednesday, May 28, 2025 3:56 PM

To: Daniels, Stacie (EEC) <stacie.daniels@ky.gov>

Cc: Tempus-Doom, Amy K (EEC) <Amy.Tempus-Doom@ky.gov> Subject: RE: AFS 21-073-00112, Ameresco Benson Valley Landfill

Yes I am available between 1-2:30 any day next week except Thursday.

Thanks

Stevia Smith

Manager - RNG Compliance 704-989-2023 smiths@ameresco.com

30 Danforth Street, Suite 108 Portland, ME 04101 ameresco.com



From: Daniels, Stacie (EEC) < stacie.daniels@ky.gov>

Sent: Wednesday, May 28, 2025 3:30 PM To: Smith, Stevia < smiths@ameresco.com >

Cc: Tempus-Doom, Amy K (EEC) < Amy.Tempus-Doom@ky.gov> Subject: RE: AFS 21-073-00112, Ameresco Benson Valley Landfill

Caution - External Email

Hey Stevia,

Are you available between 1 and 3 any day next week?

Thanks,

Stacie

From: Smith, Stevia <smiths@ameresco.com> Sent: Wednesday, May 28, 2025 3:13 PM

To: Daniels, Stacie (EEC) < stacie.daniels@ky.gov>

Cc: Tempus-Doom, Amy K (EEC) < Amy.Tempus-Doom@ky.gov> Subject: RE: AFS 21-073-00112, Ameresco Benson Valley Landfill

Stacie,

Checking back on this. Please let me know when you would like to meet to discuss the calculations and our comments on the draft Title V permit.

Thank you

Stevia Smith

Manager - RNG Compliance 704-989-2023 smiths@ameresco.com

30 Danforth Street, Suite 108 Portland, ME 04101 ameresco.com



From: Smith, Stevia

Sent: Thursday, May 22, 2025 2:07 PM

To: Daniels, Stacie (EEC) < stacie.daniels@ky.gov>

Subject: RE: AFS 21-073-00112, Ameresco Benson Valley Landfill

Stacie,

Checking back on this. Please let me know when you would like to meet to discuss the calculations.

Thank you

Stevia Smith

Manager - RNG Compliance 704-989-2023 smiths@ameresco.com

30 Danforth Street, Suite 108 Portland, ME 04101 <u>ameresco.com</u>



From: Smith, Stevia <<u>smiths@ameresco.com</u>>

Sent: Friday, May 16, 2025 1:13 PM

To: Daniels, Stacie (EEC) < stacie.daniels@ky.gov>

Subject: RE: AFS 21-073-00112, Ameresco Benson Valley Landfill

Stacie,

Please let me know when you would like to discuss the calculations. I am available this afternoon and Monday.

Thanks

Stevia Smith

Manager - RNG Compliance 704-989-2023 smiths@ameresco.com

30 Danforth Street, Suite 108 Portland, ME 04101 ameresco.com



From: Daniels, Stacie (EEC) < stacie.daniels@ky.gov>

Sent: Wednesday, May 14, 2025 3:33 PM **To:** Smith, Stevia <<u>smiths@ameresco.com</u>>

Subject: RE: AFS 21-073-00112, Ameresco Benson Valley Landfill

Caution - External Email

Hey Stevia,

I need to talk to you about the calculations. I'll try to give you a call tomorrow.

Thanks,

Stacie

From: Smith, Stevia <<u>smiths@ameresco.com</u>> Sent: Wednesday, May 14, 2025 8:25 AM

To: Daniels, Stacie (EEC) < stacie.daniels@ky.gov>

Subject: RE: AFS 21-073-00112, Ameresco Benson Valley Landfill

Great, thank you Stacie. Also, I just wanted to check in on the Off-Permit Change application we submitted on April 15, 2025 for the facility. Has that application been accepted / approved by KDEP? If so, would you be able to send me a letter or email for our records confirming such?

Thank you



Stevia Smith Manager – RNG Compliance P:+1 508 598 4386 C:+1 704 989 2023 smiths@ameresco.com 30 Danforth St., Suite 108 Portland, ME 04101 http://www.ameresco.com Please print only if necessary.

From: Daniels, Stacie (EEC) < stacie.daniels@ky.gov>

Sent: Wednesday, May 14, 2025 8:21 AM **To:** Smith, Stevia < smiths@ameresco.com>

Subject: RE: AFS 21-073-00112, Ameresco Benson Valley Landfill

Caution - External Email

Hey Stevia,

Amy was out last week, and we have training this week, so Amy and I are meeting next week to have an internal discussion prior to a call with you all.

Thank you for your patience,

Stacie

From: Smith, Stevia <smiths@ameresco.com> Sent: Wednesday, May 14, 2025 8:17 AM To: Daniels, Stacie (EEC) < stacie.daniels@ky.gov>

Subject: RE: AFS 21-073-00112, Ameresco Benson Valley Landfill

Good morning Stacie,

Just wanted to check in with you regarding scheduling a call to discuss our comments on the draft Title V permit.

Thank you



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From: Daniels, Stacie (EEC) < stacie.daniels@ky.gov>

Sent: Friday, May 2, 2025 10:30 AM

To: Smith, Stevia <<u>smiths@ameresco.com</u>>; Patil, Durga D (EEC) <<u>Durga.Patil@ky.gov</u>>; Tempus-Doom, Amy K

(EEC) <<u>Amy.Tempus-Doom@ky.gov</u>>; Bittner, Zachary P (EEC) <<u>Zachary.Bittner@ky.gov</u>>

Andrew <amcclelland@ameresco.com>

Subject: RE: AFS 21-073-00112, Ameresco Benson Valley Landfill

Caution - External Email

Good morning,

We have received and are reviewing the comments to your draft Title V permit. I will reach out toward the end of the month to schedule a call with you all.

Thanks,

Stacie Daniels, P.E.

Environmental Engineer I Combustion Section Permit Review Branch (502) 782-1121

Division for Air Quality 300 Sower Blvd Frankfort, KY 40601

From: Smith, Stevia <smiths@ameresco.com>

Sent: Wednesday, April 30, 2025 4:56 PM

To: Daniels, Stacie (EEC) < stacie.daniels@ky.gov >; Patil, Durga D (EEC) < Durga.Patil@ky.gov >; Tempus-Doom, Amy

K (EEC) < Amy.Tempus-Doom@ky.gov>; Bittner, Zachary P (EEC) < Zachary.Bittner@ky.gov>

Cc: Peary, Richard rpeary@ameresco.com; Sherwood, Rebecca rsherwood@ameresco.com; McClelland,

Andrew <amcclelland@ameresco.com>

Subject: RE: AFS 21-073-00112, Ameresco Benson Valley Landfill

CAUTION PDF attachments may contain links to malicious sites. Please contact the COT Service Desk <u>ServiceCorrespondence@ky.gov</u> for any assistance.

Mr. Bittner, Ms. Daniels,

Please see the attached letter response with comments on the draft Title V permit for Ameresco Benson Valley RNG LLC and the draft permit with suggested revisions shown with tracked changes. Thank you for your evaluation of these comments and please let me know if you have any questions or would like to discuss these comments. I would be glad to arrange a call if useful.



Stevia Smith
Manager – RNG Compliance
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Portland, ME 04101
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Please print only if necessary.

From: Daniels, Stacie (EEC) < stacie.daniels@ky.gov>

Sent: Monday, April 21, 2025 11:20 AM

To: Smith, Stevia <smiths@ameresco.com>; Patil, Durga D (EEC) <<u>Durga.Patil@ky.gov</u>>; Tempus-Doom, Amy K

(EEC) < Amy.Tempus-Doom@ky.gov>; Bittner, Zachary P (EEC) < Zachary.Bittner@ky.gov>

Subject: RE: AFS 21-073-00112, Ameresco Benson Valley Landfill

Caution - External Email

Stevia,

Extension granted. I have also attached a Word version of the draft permit.

Sorry for the delay. I was out last week.

Kind Regards, Stacie

Stacie Daniels, P.E.

Environmental Engineer I Combustion Section Permit Review Branch (502) 782-1121

Division for Air Quality 300 Sower Blvd Frankfort, KY 40601

From: Smith, Stevia <<u>smiths@ameresco.com</u>> Sent: Monday, April 21, 2025 11:16 AM

To: Patil, Durga D (EEC) < <u>Durga.Patil@ky.gov</u>>; Tempus-Doom, Amy K (EEC) < <u>Amy.Tempus-Doom@ky.gov</u>>; Bittner,

Zachary P (EEC) <Zachary.Bittner@ky.gov>; Daniels, Stacie (EEC) <stacie.daniels@ky.gov>

Subject: RE: AFS 21-073-00112, Ameresco Benson Valley Landfill

Zachary, Stacie,

I just wanted to check back on this extension request (the due date is today).

Thank you



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Please print only if necessary.

From: Smith, Stevia <smiths@ameresco.com>

Sent: Friday, April 18, 2025 11:49 AM

To: Patil, Durga D (EEC) < <u>Durga.Patil@ky.gov</u>>; Tempus-Doom, Amy K (EEC) < <u>Amy.Tempus-Doom@ky.gov</u>>; Bittner,

Zachary P (EEC) < Zachary.Bittner@ky.gov>; Daniels, Stacie (EEC) < stacie.daniels@ky.gov>

Subject: RE: AFS 21-073-00112, Ameresco Benson Valley Landfill

All,

In order to complete a sufficient review of the draft permit with my colleagues, I would like to please request an extension to submit comments to KY DEP on the draft Title V permit for Ameresco Benson Valley RNG LLC until April 30. Please let me know if this is acceptable.

Thank you



Stevia Smith Manager - RNG Compliance P:+1 508 598 4386 C:+1 704 989 2023 smiths@ameresco.com 30 Danforth St., Suite 108 Portland, ME 04101 http://www.ameresco.com



Please print only if necessary.

From: Patil, Durga D (EEC) < <u>Durga.Patil@ky.gov</u>>

Sent: Friday, April 18, 2025 9:17 AM

To: Smith, Stevia <smiths@ameresco.com>; Tempus-Doom, Amy K (EEC) <Amy.Tempus-Doom@ky.gov> Cc: Daniels, Stacie (EEC) <<u>stacie.daniels@ky.gov</u>>; Bittner, Zachary P (EEC) <<u>Zachary.Bittner@ky.gov</u>>

Subject: RE: AFS 21-073-00112, Ameresco Benson Valley Landfill

Caution - External Email

Good morning:

Attached is the last saved word copy of the document in our files.

If you need additional time to provide feedback on the courtesy predraft, please send an email with the request for a time extension.

Thanks for your patience, Durga Patil

From: Smith, Stevia < smiths@ameresco.com >

Sent: Friday, April 18, 2025 9:05 AM

To: Tempus-Doom, Amy K (EEC) <<u>Amy.Tempus-Doom@ky.gov</u>>; Patil, Durga D (EEC) <<u>Durga.Patil@ky.gov</u>>

Subject: RE: AFS 21-073-00112, Ameresco Benson Valley Landfill

Importance: High

Amy, Durga,

I have not heard back from Stacie or Zachary regarding getting this draft permit in Word to facilitate review/edits. Are you able to send it to me? This is urgent as comments are due back early next week.

Thank you



Stevia Smith
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Portland, ME 04101
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Please print only if necessary.

From: Smith, Stevia <<u>smiths@ameresco.com</u>> Sent: Wednesday, April 16, 2025 3:36 PM

To: Daniels, Stacie (EEC) < stacie.daniels@ky.gov>

Cc: Bittner, Zachary P (EEC) <Zachary.Bittner@ky.gov>; Tempus-Doom, Amy K (EEC) <Amy.Tempus-Doom@ky.gov>;

Patil, Durga D (EEC) < <u>Durga.Patil@ky.gov</u>>

Subject: RE: AFS 21-073-00112, Ameresco Benson Valley Landfill

Thank you Stacie. Would you be able to please send me the draft permit in Word so that I can more easily indicate requested revisions with tracked changes?

Thanks



Stevia Smith
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Please print only if necessary.

From: Daniels, Stacie (EEC) < stacie.daniels@ky.gov >

Sent: Friday, April 11, 2025 11:07 AM

To: Smith, Stevia <<u>smiths@ameresco.com</u>>; Sherwood, Rebecca <<u>rsherwood@ameresco.com</u>>; Stewart, Harold <<u>hstewart@ameresco.com</u>>

Cc: Bittner, Zachary P (EEC) <Zachary.Bittner@ky.gov>; Tempus-Doom, Amy K (EEC) <Amy.Tempus-Doom@ky.gov>;

Patil, Durga D (EEC) < <u>Durga.Patil@ky.gov</u>>

Subject: AFS 21-073-00112, Ameresco Benson Valley Landfill

Caution - External Email

All:

Attached is a courtesy copy of the initial Title V permit for Ameresco Benson Valley Landfill. Please confirm the maximum gas flow rate and submit any written questions or comments no later than April 21, 2025 so the Division may continue processing the permitting action. Any submitted questions and comments will be part of the public permitting record and considered disclosable under the Kentucky Open Records Act. Be advised that the draft permit may differ from the attached even if there are no questions or comments, as the permit package will undergo additional internal reviews and approvals.

Kind Regards, Stacie

Stacie Daniels, P.E.
Environmental Engineer I
Combustion Section
Permit Review Branch

(502) 782-1121

Division for Air Quality 300 Sower Blvd Frankfort, KY 40601

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