



west virginia department of environmental protection

WVDEP - Air Quality In-Person Public Meeting for TransGas Development's Proposed Air Quality Permits R13-3714 and R13-3715
Thursday, September 18, 2025, at 4:30 PM : Larry Joe Harless Community Center, 202 Larry Joe Harless Drive, Gilbert, WV 25621

Page ____ of ____

PRE-REGISTRATION SIGN-IN SHEET

The Department of Environmental Protection requests the information below so that agency staff can provide responses and information to you.
The information you voluntarily provide on this sheet becomes part of the public record related to this topic and may be released if requested under the Freedom of Information Act.

Last Name, First Name	Group or Organization	Signature	Question (Y/N)	Comment (Y/N)
Bias, Mitchell			No	Yes
Perry, Roger	self	Roger S. Perry	Yes	Yes
Powers, Tommy	Citizen	Tommy J Powers	Yes	Yes
Turnbull, Greta			Yes	Yes



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SIGN-IN SHEET

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Name (First and Last)	Group or Organization	Email Address (Preferred) - OR- Address: PLEASE PRINT NEATLY	Question (Y/N)	Comment (Y/N)
Damon Morgan	C.C.O.G.	62 Winger Ave. Kistler WV		
Ernest Mole	ASCA OG	62 Winger Ave Kistler WV		
CAITLIN WARE	FROM BELOW	6616 PARTERSBURG RD SANDYVILLE, WV 25275		
Annmarie Sue Benbow	From Ben Creek	1493 Right Fork Road Wv 25651		
Regina Cline	Ben Creek	21 Family Lane, Wharncliffe, WV 25651		
ARRED Cline	Ben Creek	21 Family Lane, Wharncliffe, WV 25651		
Barbara Myers	Charleston	125 Clubview Dr. S Charleston		
Bridgett Adkins	Kenova	1018 Brook St. Kenova WV 25530		
Russell Flotz		227 Whitten Spring Road Peytona WV		
Michael Whitten	CCL		✓	✓




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Name (First and Last)	Group or Organization	Email Address (Preferred) - OR- Address: PLEASE PRINT NEATLY	Question (Y/N)	Comment (Y/N)
Robert Fields	WVOW Radio	robert.j.fields@wvowradio.com		
Rita Mitchell				
Kunden Simpson	Private Citiz			
Kenle Kest		kenle.kest@proton.me kenle.k42@proton.me	✓	✓
Irene Toler	—	irenetoler@icloud.com	2	
Treva Hatfield	—	trevahatfield@outlook.com	✓	✓
Brandon Giff	—	giffbrandon@yale.com	N	N
Dennis Toler		thetolers@gmail.com	✓	M
				
Britta Aguirre	Appalachians for Change	britta@britforwv.com	N	N



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Brenda Wilson	Gilbert			
Donald Compton	WHARF CLIFFE WVA			
Shana Nelson	WVOW Radio	shananelson@wvowradio.com	Y	
Sheila Miller	Resident of Wharfe WV 46 Melba Blossom Lane		N	N
James Goette	citizen	Box 177 Amherstdale WV 25607	Y	Y
Keretta Hatfield	Citizen	kerettahatfield@hotmail.com	N	N
Mr. Brad Jain	FROM BELOW	BRADGDAVIST1@GMAIL.COM	N	N
Mik Beckoff	Logan	mikbeckoff@hotmail.com	M	M
Kyle Adams	Cora VFD	CoraVFD@gmail.com	N	N
Bill Gilkerson		B. Gilkerson 1203 @ Gmail. Com		
Herman Teatt				



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Tige Harless	Gilbert CVB	tige.harless@gilbertcvb.com		
Ron Smith	Citizen	rdsmithpower@yahoo.com		
Raymond Ellis	Gilbert			
Barbara Ellis	Gilbert			
Susan Perry	Logan	perrychick112@aol.com	✓	
Paul Harless	Logan			
Michael Harless	n	harlessleasinginc@hotmail.com		
Dana V. Queen		vqueen1950@yahoo.com		
Tonya Mounts	Citizen	tmounts@hotmail.com 304-784-6651	✓	
Joseph DiCristofaro	WCHS	jdicristofaro@sbgtnu.com		



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Carol Stinson			N	
Dusty Nagle			N	
Carter Woyal				
Ernest Gibson		more 44 Rader Drive Wharncleff WV 25631-2600	N	
Maure May		44 P.O. Box 86, Wharncleff, W.V. 25651	N	
Baker May		"		
Debbie Pofford		599 Rt 7k Ben Creek Wharncleff WV	N	
Craig Pofford		"		
Justin Grimmer		919 Left Fork Ben Creek Rd Wharncleff WV	Y	
Kelsey Grimmer		919 Left Fork Ben Creek Rd Wharncleff WV	Y	



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Turner Adornetto		adornetto@mit.edu	N	N
Eric Burgess		dominoprintingwv@gmail.com	Y	Y
Tyler Cannon		tyler@wvcag.org		
Chelsea Sammons		chelsea sammons 5@gmail.com		
Timothy Smith				
Lindsay Gine		LKSURBER@GMAIL.COM	N	N
Pam Surber		proudmom-lk@yahoo.com	Y	Y
Monica Davis		-0-	N	N
Doug Surber			N	N
Joe Dought				N



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Preston Berry		preston.berry@K12.wv.us		
Denver Stacy				✓
Lori Stacy				✓
M. Kay Fay				
Mariah Clay		mclay@wvivers.org		
Wilma Mullins		P.O. Box 13 wharnccliffe, WV 25651		
Kyle Surber		kylesurber20@gmail.com		
Barbara Mauck		P.O. Box 1522 Gilbert WV. 25621		
Lisa McDonald		16 Limestone lane Delbarton WV 25670	✓	
Wayne McDonald		76 Limestone lane Delbarton WV 25670		



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* Mounts	Learmon			
* Nolents	See			
* Sammons	Scotty			
* Ernest Sammons		ERNEST.SAMMONS@GMAIL.COM		X
- Janet Gibson		janetgibson0811@hotmail.com		
- Pamela French		Claricaflowers75@hotmail.com		
- Audrey Smith				
- Kathleen				

16. IPR Documents R13-3715



Williams, Jerry <jerry.williams@wv.gov>

WV DAQ Permit Application Status for TransGas Development Systems LLC; Adams Fork Harless Data Center Energy Campus

1 message

Mink, Stephanie R <stephanie.r.mink@wv.gov>

Thu, Mar 27, 2025 at 12:26 PM

Cc: Joseph R Kessler <joseph.r.kessler@wv.gov>, Jerry Williams <jerry.williams@wv.gov>, Casey M Samples <casey.m.samples@wv.gov>, Gregory L Null <gregory.l.null@wv.gov>, Barbara A Miles <barbara.a.miles@wv.gov>, Kathy M Sullivan <kathy.m.sullivan@wv.gov>

Application Status

TransGas Development Systems LLC; Adams Fork Data Center Energy Campus**Facility ID: 059-00134****Application No. R13-3715**

Mr. Victor:

Your application for a Construction Permit for the Adams Fork Harless Data Center Energy Campus was received by this division on March 16, 2025, and was assigned to Jerry Williams.

It is noted in the Payment Report that payment will be received via phone. The permit engineer will contact you regarding the amount due. Once you have the amount that you owe from the engineer, you may contact the Accounts Receivable section at 304 926-0499 ext. 41195. The DEP accepts Visa and MasterCard only. Please have the Facility ID and Application Number available when calling.

Within 30 days, you should receive notification from Jerry Williams stating the status of the permit application and, if complete, given an estimated time frame for the agency's final action on the permit.

Any determination of completeness shall not relieve the permit applicant of the requirement to subsequently submit, in a timely manner, any additional or corrected information deemed necessary for a final permit decision.

Should you have any questions, please contact the assigned engineer, Jerry Williams, at 304-926-0499, extension 41214.

--

--

Stephanie Mink

Environmental Resources Associate

West Virginia Department of Environmental Protection

Division of Air Quality, Title V & NSR Permitting

601 57th Street SE

3/28/25, 7:00 AM

State of West Virginia Mail - WV DAQ Permit Application Status for TransGas Development Systems LLC; Adams Fork Harless Dat...

Charleston, WV 25304

Phone: 304-926-0499 x41281



Williams, Jerry <jerry.williams@wv.gov>

Applications R13-3714 and R13-3715

Patrick E. Ward <PEWard@potesta.com>

Thu, Apr 3, 2025 at 2:10 PM

To: "Jerry.Williams@wv.gov" <Jerry.Williams@wv.gov>

Cc: Adam Victor <adam@tgds.com>, "Adam Victor, Jr." <avj@adamsforkenergy.com>, "Ronald R. Potesta" <RRPotesta@potesta.com>, "Rhonda L. Henson" <rlhenson@potesta.com>

This email is to let you know the status of the fee payments and legal advertisements for the above applications. The application fees (\$2,000 each) were paid yesterday. The legal advertisements have been sent to the Williamson Daily Mail and will be published on April 9th. We will submit the affidavits of publications when we receive them from the newspaper.

Regards,

Patrick Ward

Potesta & Associates, Inc.

[7012 MacCorkle Avenue, S.E.](#)[Charleston, West Virginia 25304](#)

Ph: (304) 342-1400

Direct: (304) 414-4751

Fax: (304) 343-9031

This electronic communication and its attachments contain confidential information. The recommendations and/or design data included herein are provided as a matter of convenience and should not be used for final design or ultimate decision making. Rely only on the final hardcopy materials bearing the consultant's original signature and seal. If you have received this information in error, please notify the sender immediately.



Williams, Jerry <jerry.williams@wv.gov>

WV DAQ Permit Application Incomplete for TransGas Development Systems, LLC - Adams Fork

1 message

Williams, Jerry <jerry.williams@wv.gov>

Mon, Apr 21, 2025 at 10:59 AM

To: Adam Victor <adam@tgds.com>, "Adam Victor, Jr." <avj@adamsforkenergy.com>, "Patrick E. Ward" <PEWard@potesta.com>

Cc: Joseph R Kessler <joseph.r.kessler@wv.gov>

**RE: Application Status: Incomplete
TransGas Development Systems, LLC - Adams Fork
Permit Application R13-3715
Plant ID No. 059-00134**

Dear Adam,

Your application for a 45 CSR 13 construction permit for a data center energy campus was received by this Division on March 26, 2025, and assigned to the writer for review. Upon initial review of said application, it has been determined that the application as submitted is incomplete based on the following items:

1. Submit affidavit of publication for Class I legal advertisement.

Please address the above deficiencies in writing within fifteen (15) days of the receipt of this email. Application review will not commence until the application has been deemed to be technically complete. Failure to respond to this request in a timely manner may result in the denial of the application.

Should you have any questions, please reply to this email.

--

**Jerry Williams, P.E.***Engineer, Division of Air Quality***WV Department of Environmental Protection**

601 57th Street SE, Charleston, WV 25304

Phone 304-926-0499, ext. 41214**Web** dep.wv.gov **Email** jerry.williams@wv.gov



Williams, Jerry <jerry.williams@wv.gov>

WV DAQ Permit Application Incomplete for TransGas Development Systems, LLC - Adams Fork

Patrick E. Ward <PEWard@potesta.com>

Tue, Apr 22, 2025 at 9:50 AM

To: "Williams, Jerry" <jerry.williams@wv.gov>

Cc: Joseph R Kessler <joseph.r.kessler@wv.gov>, Adam Victor <adam@tgds.com>, "Adam Victor, Jr." <avj@adamsforkenergy.com>, "Ronald R. Potesta" <RRPotesta@potesta.com>, "Rhonda L. Henson" <rlhenson@potesta.com>

Attached is the affidavit of publication as requested below.

Regards,

Patrick Ward

Potesta & Associates, Inc.

[7012 MacCorkle Avenue, S.E.](#)

[Charleston, West Virginia 25304](#)

Ph: (304) 342-1400

Direct: (304) 414-4751

Fax: (304) 343-9031

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[Quoted text hidden]



235082.pdf

243K

Ad Number 235082

Affidavit of Legal Publication and Posting

STATE OF WEST VIRGINIA

COUNTY OF Mingo, TO-WIT

I Elisha R. Copley, Classified Advertising

Representative of the The Williamson Daily News, a newspaper
published in the county of Mingo, West Virginia, hereby
certify that the annexed publication was inserted in said
newspaper _____

The cost of publishing said annexed advertisement
as aforesaid was \$ 43.00

Commencing On: 04/09/2025

Ending On: 04/09/2025

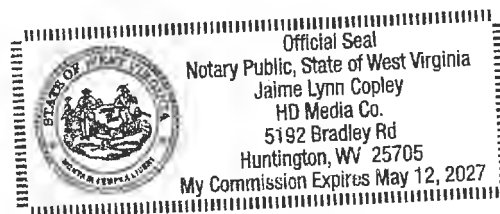
Given under my hand this day 04/09/2025

Sworn to and subscribed before me 04/09/2025
at Williamson, Mingo County, West Virginia

[Signature]
Notary Public, in and for Mingo County, West Virginia

MY COMMISSION EXPIRES: May 12, 2027

Elisha R. Copley



**AIR QUALITY
PERMIT NOTICE****Notice of Application**

Notice is given that TransGas Development Systems, LLC has applied to the West Virginia Department of Environmental Protection, Division of Air Quality, for a Construction Permit for the Adams Fork Data Center Energy Campus located on Twisted Gun Road near Wharnciffe in Mingo County, West Virginia. The latitude and longitude coordinates are: 37.593717 and 81.954906.

The applicant estimates the potential to discharge the following Regulated Air Pollutants will be: NOx of 194.30 tons per year (tpy), SO2 of 9.93 tpy, CO of 205.62 tpy, VOC of 117.66 which includes fugitives of 0.31 tpy, PM of 215.17 tpy which includes fugitives of 28.64 tpy, PM10 of 192.26 which includes fugitives of 5.73 tpy, PM2.5 of 188.03 tpy which includes fugitives of 1.50 tpy, and total HAPs of 0.87 tpy.

Startup of operations is planned to begin on or about the 1st day of January 2027. Written comments will be received by the West Virginia Department of Environmental Protection, Division of Air Quality, 601 57th Street, SE, Charleston, WV 25304, for at least 30 calendar days from the date of publication of this notice. Written comments will also be received via email at DEPAirQualityPermitting@WV.gov.

Any questions regarding this permit application should be directed to the DAQ at (304) 926-0499, Extension 41281, during normal business hours.

Dated this 9th day of April 2025.

By:
TransGas Development
Systems, LLC
Adam Victor
President
630 First Avenue,
Suite 300
New York, New York
10016 3799

LH-235082

04-09-2025

Acc.Id: 66275
Name: POTEITA &
ASSOCIATES
Phone: 304-342-1400
Address: 7012 MACCORKLE AVE
SE
City: CHARLESTON
State: WV
Postcode: 25304
Class: 9010 Legal Notices
Edition: WDN
Start: 04/09/2025
Stop: 04/09/2025
Issues: 1
Units: 87.0
Order ID: HC 235082
TFN: C
TFN cycle:
Rep: EQUEEN
Status: CF
Source: EM
Paytype: BI
Rate: LG
Cost EXC 43.00
GST:
Tax: 0.00
Total Charge: 43.00
Printed on: 04/02/2025 16:26:35
Printed by: EQUEEN

Legal Notices

ADVERTISEMENT FOR BID

Sealed bids for Matewan
The fair grounds will be received by the Town of Matewan at City Hall, located at 508 McNelly Alley, Matewan, WV 25078. The bid includes cutting all vegetation inside the fence and 15 feet outside the fence surrounding the property. This includes cutting all grass and trees and clean-up and removal of any debris including tree stumps. The deadline to turn in your bid is April 10th, 2025.

Bids must be submitted in a sealed envelope, bearing on the outside the name and address of the bidder and the words "Bids for Town of Matewan". The owner reserves the right to waive any information or to reject any or all bids. All bids must be mailed to:

Town of Matewan
PO Box 304
Matewan WV 25478

LH-229175
04-02-09-2025

IN THE CIRCUIT COURT OF MINGO COUNTY, WEST VIRGINIA

CASE NO.: 2025-P-38

IN RE THE MINOR CHILD OF: Rebecca Layne

TO: Interested Parties of baby Cassidy born 3-9-20 in Pike County, Kentucky at AP01.

Notice is hereby given to the above named parties pursuant to West Virginia code §49-6-1 and §49-3-1 that a petition in the above captioned matter has been previously filed in the Circuit Court of Mingo County, West Virginia. Notice is further

Legal Notices

given that a name change hearing in this case is scheduled for May 28, at 9:00 A.M. before the Honorable Judge S. Dedmon, located at 78 East 2nd Avenue, Room 202, Floor, Williamson, West Virginia, 25661. From this hearing, the interested parties SHALL BE AFFECTED. You may appear and protect any rights and if you are claiming any rights or relationship to said child belonging to Courtney Harris, please contact the Mingo County Circuit Clerk's Office by Courtney Clark's Office for more information.

A copy of the Petition in this matter may be obtained from the MINGO COUNTY CIRCUIT CLERK'S OFFICE, MINGO, WEST VIRGINIA.

Lorrie Hannah MINGO COUNTY CIRCUIT CLERK

LH-325497
04-09-2025

AIR QUALITY PERMIT NOTICE

Notice is given that TransGas Development Systems, LLC has applied to the West Virginia Department of Environmental Protection, Division of Air Quality, for a Construction Permit for the Adams Fork Data Center located on Twisted Gun Road near Wharmouth in Mingo County, West Virginia. The latitude and longitude coordinates are 37°59'37.1" N and 81°54'05.0" W. The applicant estimates the potential to discharge the following regulated air pollutants per year based on 2025: 5.38 tpy, SO₂ of 205.62 tpy, VOC of 117.66 which includes

Legal Notices

hugones of 0.31 tpy, PM of 213.17 tpy which includes fugitives of 192.25 which includes fugitives of 5.73 tpy, PM₁₀ of 186.03 tpy which includes fugitives of 1.50 tpy, and total HAPs of 0.81 tpy.

Starting of operations is planned to begin on or about the 1st day of January 2027. Written comments will be received by the West Virginia Department of Environmental Protection, Division of Air Quality, 601, 57th Street, SE, Charleston, WV 25304, for at least 30 calendar days from the date of publication of this notice. Written comments will also be received via email at DEP.AirQuality@permits.wv.gov.

Any questions regarding this permit application should be directed to the DAQ at (304) 926-0439, Extension 41261, during normal business hours.

Dated this 9th day of April 2025.

By:

TransGas Development Systems, LLC
Adam Victor President
630 First Avenue, Suite 300
New York, New York 10016-3799
LH-235082
04-09-2025

Legal Notices

Workforce Investment Opportunity Act 2014 (WIOA) by the United States Department of Labor and the State of West Virginia to South West Virginia Region 2 Workforce Investment Board, Inc. To learn more and review the RFP, please visit <https://www.wv.gov/2025/04/09/2025>.

Any questions regarding this permit application should be directed to the DAQ at (304) 926-0439, Extension 41261, during normal business hours.

Dated this 9th day of April 2025.

By:

TransGas Development Systems, LLC
Adam Victor President
630 First Avenue, Suite 300
New York, New York 10016-3799
LH-235082
04-09-2025

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630 First Avenue, Suite 300
New York, New York 10016-3799
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Adam Victor President
630 First Avenue, Suite 300
New York, New York 10016-3799
LH-235082
04-09-2025

Legal Notices

Division of Air Quality, 601, 57th Street, SE, Charleston, WV 25304, for at least 30 calendar days from the date of publication of this notice. Written comments will also be received via email at DEP.AirQuality@permits.wv.gov.

Any questions regarding this permit application should be directed to the DAQ at (304) 926-0439, Extension 41261, during normal business hours.

Dated this 9th day of April 2025.

By:

TransGas Development Systems, LLC
Adam Victor President
630 First Avenue, Suite 300
New York, New York 10016-3799
LH-235082
04-09-2025

Legal Notices

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Any questions regarding this permit application should be directed to the DAQ at (304) 926-0439, Extension 41261, during normal business hours.

Dated this 9th day of April 2025.

By:

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Adam Victor President
630 First Avenue, Suite 300
New York, New York 10016-3799
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Any questions regarding this permit application should be directed to the DAQ at (304) 926-0439, Extension 41261, during normal business hours.

Dated this 9th day of April 2025.

By:

TransGas Development Systems, LLC
Adam Victor President
630 First Avenue, Suite 300
New York, New York 10016-3799
LH-235082
04-09-2025

Legal Notices

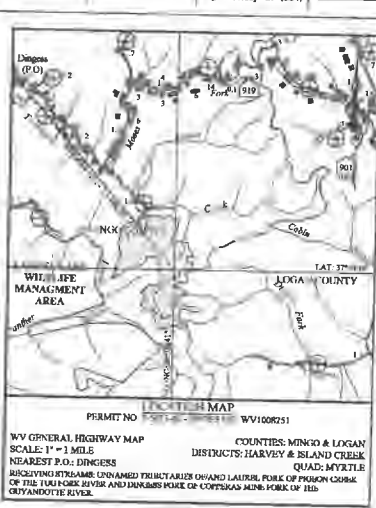
Division of Air Quality, 601, 57th Street, SE, Charleston, WV 25304, for at least 30 calendar days from the date of publication of this notice. Written comments will also be received via email at DEP.AirQuality@permits.wv.gov.

Any questions regarding this permit application should be directed to the DAQ at (304) 926-0439, Extension 41261, during normal business hours.

Dated this 9th day of April 2025.

By:

TransGas Development Systems, LLC
Adam Victor President
630 First Avenue, Suite 300
New York, New York 10016-3799
LH-235082
04-09-2025



Notice is hereby given that Coal Mac, LLC 1245 22 Mine Road, Holden, WV 25625 has submitted an application with the Department of Environmental Protection (DEP), 1101 George Kostas Drive, Logan, WV 25601 for Permit Number 5501366 for a Phase 1 release on Increment Number 3 issued for 34.06 acres, a Phase 1 release on Increment Number 4 issued for 39.83 acres, a Phase 1 release on Increment 8 issued for 67.87 acres and a Phase 1 release on Increment 9 issued for 45.83 acres.

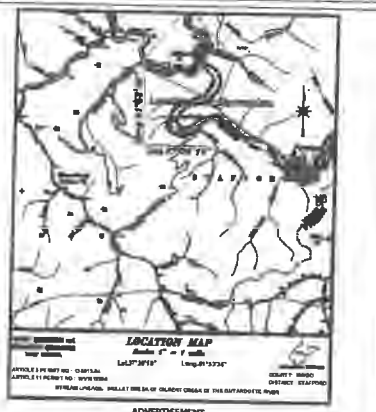
The permit is located in the Harvey and Island Creek Districts of Logan and Mingo Counties, 3.8 miles South-east of Dingess on unnamed tributaries of and Laurel Fork of Pigeon Creek of the Top Fork River. Dingess Fork of Copperas Mine Fork of the Guyanote River and West Fork Twelvepole Creek of Twelvepole Creek.

Coal Mac LLC completed backfilling and regrading on 12/31/2021 and is requesting release of 60 percent of the reclamation performance bond currently in the amount of \$15,000 for Phase 1 on Increment 3, 60% of \$40,000 for Phase 1 on Increment 6, 60% of \$48,000 for Phase 1 on Increment 8 and 60% of \$48,000 for Phase 1 on Increment 9.

Written comments will be received at the DEP address above until 5/23/2025, or thirty (30) days from the date of final publication.

DEP Telephone Number: 304-792-7250

Permit Number: 5-5013-98



Notice is hereby given that Reflectance Energy, LLC, 200 George St., Suite A, Beckley, WV has a permit on file with the Department of Environmental Protection (DEP), Division of Mining and Reclamation (DMR) located at 1101 George Kostas Drive, Logan, West Virginia 25601 for the surface mining of 47.23 acres and has submitted an application to the WVDEP for Renewal of Article 3 Permit Number O-5013-94 to operate the 47.23 acres of the Coal Mac LLC site. The proposed operation is discharging into Skiffle Creek and unnamed tributaries of Skiffle Creek at tributaries of the Guyanote River of the Ohio River and is located 1.8 miles Southwest of Gilbert in Stafford District of Mingo County, Longitude 81° 53' 37" Latitude 37° 36' 15". (Coordinates from USGS Topographic Maps).

Surface of the area associated herewith, and the mineral associated herewith is owned by: Western Pocahontas Land Company, 5260 Irwin Rd, Huntington, WV 25705

Mineral within 100 feet of the permit herewith owned by: Western Pocahontas Land Company, 5260 Irwin Rd, Huntington, WV 25705

and the surface within 100 feet of the permit herewith is owned by: Western Pocahontas Land Company, 5260 Irwin Rd, Huntington, WV 25705

Ernestine Trent, 87 Chimney Pt, Balders, WV 25608, and Wayne Ellis et al, PO Box 247, Gilbert, WV 25621

Written comments and/or requests for a formal conference of the surface mining application shall identify the applicant and application number and will be received by the Permit Supervisor at the WVDEP address above until May 9, 2025, or thirty (30) days from the date of final publication. A copy of the application will be available until May 9, 2025, or thirty (30) days from the date of final publication in the WVDEP Regional Office located at the address above and is available at:

<http://wvdepaep.wv.gov/WebApp/dep/Search/Permitting/PermittingApplicationSearchPage.cfm>

The above link can be accessed from a computer at all West Virginia public libraries.

DEP Telephone No: 304-792-7250 Permit No. O-5013-94

Legal Notices

Office is hereby given that on file with the Department of Environmental Protection (DEP) for the surface mining of approximately 277.32 acres and has submitted an application to the DEP: 1101 George Kostas Drive, Logan, WV 25601, for renewal of Article 3 Permit Number O-5013-98 to the west fork of Twelvepole Creek of the Guyanote River and is located 2.0 miles southeast of Dingess, Mingo County, Longitude 82° 7' 40" and Latitude 37° 53' 37" (Coordinates from USGS Topographic Map).

If the area associated herewith is owned by:

NAME	ADDRESS
Lexington Coal Company, LLC	PO Box 299 Sidney, KY 41564
Lyme Mountaineer Timberlands, LLC	PO Box 1141 Crab Orchard, WV 25827

and the mineral associated herewith is owned by:

NAME	ADDRESS
Pocahontas Land Corp.	PO Box 1517 Bluefield, WV 26012

and the mineral within 100 feet of the area is owned by:

NAME	ADDRESS
Pocahontas Land Corp.	PO Box 1517 Bluefield, WV 26012

and the area within 100 feet of the permit area is owned by:

NAME	ADDRESS
Lexington Coal Company, LLC	PO Box 299 Sidney, KY 41564
Lyme Mountaineer Timberlands, LLC	PO Box 1141 Crab Orchard, WV 25827

Comments and/or requests for an informal conference of the permit renewal application shall identify the applicant and application number and will be received by the Permit Supervisor at the DEP address above until 5/23/2025, or thirty (30) days from the date of final publication. A copy of the application will be available until 5/23/2025, or thirty (30) days from the date of final publication in the DEP Regional Office at the address above and is available at:

<http://wvdepaep.wv.gov/WebApp/dep/Search/Permitting/PermittingApplicationSearchPage.cfm>

The above link can be accessed from a computer at all West Virginia public libraries.

Telephone Number: 304-792-7250
Office Number:
Bids are to be completed only for operations involving mineral removal
Location is in accordance with 36-2 (C)



west virginia department of environmental protection

Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
(304) 926-0475

Harold D. Ward, Cabinet Secretary
dep.wv.gov

April 28, 2025

Mr. Adam Victor
President
TransGas Development Systems, LLC
adam@tgds.com

Re: Confidential Business Information
TransGas Development Systems, LLC
Permit Numbers: R13-3714, 3715
Facility ID Numbers: 059-00133, 059-00134

Mr. Victor:

On March 26, 2025, TransGas Development Systems, LLC (TransGas) submitted air permit applications (R13-3714 and 3715) that contained information claimed as confidential business information (CBI). Redacted copies of the permit application were provided that have been made available for public review. As you are aware, the Division of Air Quality (DAQ) has received a public comment concerning the proposed project, which has specifically requested release of the information that has been redacted in the public version of the applications. This written request for release of information currently redacted has triggered a review of the CBI claims by the DEP's Office of the General Counsel (OGC). This review is governed by the applicable WV Legislative Rules 45CSR31, 31a, and 31b. At this time, the review has determined that some of the information claimed as CBI, specifically data concerning the RICE units and associated control devices, may not qualify for such designation as it falls under the definition of "Types and Amounts of Air Pollutants Discharged" as excluded under §45-31-6 and defined under §45-31-2.4 (and further defined under 45CSR31b). There is also some concern that the claimed CBI may not meet the eligibility requirements under §45-31-4.1(b) and 4.1(c).

At this time the OGC is requesting further justification (beyond that which is given on the CBI cover document) that the information noted above and claimed as CBI is not defined as "Types and Amounts of Air Pollutants Discharged" and also does not conflict with the eligibility requirements under §45-31-4.1(b) and 4.1(c). Please note that no information will be released without both TransGas having a full opportunity to justify the claims of CBI and the opportunity to have a full consultation with the WVDEP over this matter.

Please provide a written response within fifteen (15) days of receipt of this request to facilitate the continued review of Permit Applications R13-3714 and 3715.

Sincerely,



Jason Wandling
WVDEP General Counsel

cc: Adam Victor, Jr., avj@adamsforkewverev.com
Patrick Ward, eward@potesta.com



May 2, 2025

Mr. Jason Wandling, General Counsel
WV Department of Environmental Protection Office of General Counsel
601 57th Street, SE
Charleston, West Virginia 25304

RE: Confidential Business Information
TransGas Development Systems, LLC
Facility I.D. Numbers 059-00133 and 059-00134

Dear Mr. Wandling:

TransGas Development Systems, LLC (TransGas) offers the following response to your agency's request dated April 28, 2025. The agency's letter requests that we further address the confidential business information (CBI) claim contained in the permit applications for the above sites.

To facilitate the review of the permit applications, TransGas is proposing to revise the CBI claim to cover the company names for the engine and control systems designers and manufacturers. This will include the engine model number which would identify the engine company. The remaining, currently claimed CBI, will be removed from our CBI request.

We hope that this revised CBI request is acceptable. If it is acceptable, we will submit another set of permit applications (confidential and redacted) reflecting this change.

Sincerely,

TRANSGAS DEVELOPMENT SYSTEMS, LLC

A handwritten signature in blue ink, appearing to read "Adam Victor", written over the company name.

Adam Victor
President

cc: Patrick Ward, Potesta & Associates, Inc.



web.virginia.gov/dep/air/airquality/permitting/

Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
(304) 926-0475

Harold D. Ward, Cabinet Secretary
dep.wv.gov

May 9, 2025

Mr. Adam Victor
President
TransGas Development Systems, LLC
adam@tgds.com

Re: Confidential Business Information
TransGas Development Systems, LLC
Permit Numbers: R13-3714, 3715
Facility ID Numbers: 059-00133, 059-00134

Mr. Victor:

On May 2, 2025, the Office of the General Counsel (OGC) received from TransGas Development Systems, LLC (TransGas) a letter proposing that TransGas revise its CBI claim in Permit Applications R13-3714/3715 to cover only the company names for the engine and control systems designers and manufacturers, including the engine model number which would identify the engine company. The remaining, currently claimed CBI, would be removed from the CBI request.

The Office of Legal Services has determined that a permit application so submitted would be in compliance with the requirements governing the submission of CBI under 45CSR31 and 45CSR31b.

Sincerely,

Laura M. Crowder

Digitally signed by: Laura M. Crowder
DN: CN = Laura M. Crowder email = Laura.M.
Crowder@wv.gov C = US O = WV DEP OU =
DAQ
Date: 2025.05.09 12:31:00 -04'00'

Laura M. Crowder
Director, Division of Air Quality

cc: Adam Victor, Jr., avj@adamsforkewvergy.com
Patrick Ward, peward@potesta.com



Williams, Jerry <jerry.williams@wv.gov>

Application Complete - TransGas; Adams Fork Data Center Energy Campus

1 message

Williams, Jerry <jerry.williams@wv.gov>

Wed, Jun 4, 2025 at 12:33 PM

To: Adam Victor <adam@tgds.com>

Cc: "Adam Victor, Jr." <avj@adamsforkenergy.com>, "Patrick E. Ward" <PEWard@potesta.com>, Joseph R Kessler <joseph.r.kessler@wv.gov>

Your application (R13-3715) for an off-grid power generation facility was received by the Division of Air Quality on March 26, 2025 and assigned to the writer for review. A revised application was received on May 14, 2025. Upon review of said application, it has been determined that the application is complete and, therefore, the statutory review period **(90 days)** commenced on June 4, 2025.

This determination of completeness shall not relieve the permit applicant of the requirement to subsequently submit, in a timely manner, any additional or corrected information deemed necessary for a final permit determination. **Please note that any additional information requests may pause the statutory review clock.**

Should you have any questions, please contact me at jerry.williams@wv.gov.

**Jerry Williams, P.E.***Engineer, Division of Air Quality*

WV Department of Environmental Protection

601 57th Street SE, Charleston, WV 25304

Phone 304-414-1214**Web** dep.wv.gov **Email** jerry.williams@wv.gov



Williams, Jerry <jerry.williams@wv.gov>

Publication of Class I Legal Ad for the WV Division of Air Quality (2 of 2)

1 message

Mink, Stephanie R <stephanie.r.mink@wv.gov>
To: Southern WV Legals <swvlegals@hdmediallc.com>
Cc: Jerry Williams <jerry.williams@wv.gov>

Fri, Jun 27, 2025 at 3:25 PM

Please publish the information below as a Class I legal advertisement (one time only) in the Wednesday, July 9, 2025 issue of the *The Williamson Daily News*. Please let me know that this has been received and will be published as requested. If this notice cannot be published on July 9 please advise prior to publication so that we can change the comment date within the notice. This is the second of two notices to be published in the July 9 edition. Thank you.

Send the invoice for payment and affidavit of publication to:

Stephanie Mink

Stephanie.R.Mink@wv.gov **

WV Department of Environmental Protection

DIVISION OF AIR QUALITY

601- 57th Street

Charleston, WV 25304

****To expedite payments for legal notices we are asking that all invoices and affidavits be emailed to the requestor. Any invoices which are mailed to the office are subject to delays. Thank you for your assistance.**

AIR QUALITY PERMIT NOTICE

Notice of Intent to Approve

On March 26, 2025, TransGas Development Systems, LLC applied to the WV Department of Environmental Protection, Division of Air Quality (DAQ) for a permit to construct an off grid power generation facility (Adams Fork Data Center Energy Campus) located at [2002 Twisted Gun Road, Wharnccliffe, Mingo County WV](#) at latitude 37.59372 and longitude -81.95491. A preliminary evaluation has determined that all State and Federal air quality requirements will be met by the proposed facility. The DAQ is providing notice to the public of its preliminary determination to issue the permit as R13-3715.

The following potential emissions will be authorized by this permit action: Volatile Organic Compounds, 117.93 tons per year (TPY); Nitrogen Oxides, 194.30 TPY; Carbon Monoxide, 205.62 TPY; Sulfur Dioxide, 9.93 TPY; Total Particulate Matter, 215.17 TPY; Particulate Matter less than 10 microns in diameter, 192.26 TPY; Particulate Matter less than 2.5 microns in diameter, 188.03 TPY; Total Hazardous Air Pollutants, 0.87 TPY.

Written comments or requests for a public meeting must be received by the DAQ before 5:00 p.m. on Friday, August 8, 2025. A public meeting may be held if the Director of the DAQ determines that significant public interest has been

expressed, in writing, or when the Director deems it appropriate.

The purpose of the DAQ's permitting process is to make a preliminary determination if the proposed construction will meet all state and federal air quality requirements. The purpose of the public review process is to accept public comments on air quality issues relevant to this determination. Only written comments received at the address noted below within the specified time frame, or comments presented orally at a scheduled public meeting, will be considered prior to final action on the permit. All such comments will become part of the public record.

Jerry Williams
WV Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
Telephone: 304-926-0499, ext. 41214
Email: jerry.williams@wv.gov

Additional information, including copies of the draft permit, application and all other supporting materials relevant to the permit decision may be obtained by contacting the engineer listed above. The draft permit and engineering evaluation can be downloaded at:

<https://dep.wv.gov/daq/permitting/Pages/NSR-Permit-Applications.aspx>



Williams, Jerry <jerry.williams@wv.gov>

WV Draft Permit R13-3715 for TransGas Development Systems, LLC; Adams Fork Harless Data Center Energy Campus

1 message

Mink, Stephanie R <stephanie.r.mink@wv.gov>

Wed, Jul 9, 2025 at 7:58 AM

To: "Supplee, Gwendolyn" <supplee.gwendolyn@epa.gov>, "Whapham, Joseph" <Whapham.Joseph@epa.gov>, Adam Victor <adam@tgds.com>, avj@adamsforkenergy.com, "Patrick E. Ward" <PEWard@potesta.com>

Cc: "Crowder, Laura M" <Laura.M.Crowder@wv.gov>, "McCumbers, Carrie" <Carrie.McCumbers@wv.gov>, Joseph R Kessler <joseph.r.kessler@wv.gov>, Nicole D Ernest <nicole.d.ernest@wv.gov>, "Williams, Jerry" <jerry.williams@wv.gov>, "Johnson, Rebecca H" <Rebecca.H.Johnson@wv.gov>

Please find attached the Draft Permit R13-3715, Engineering Evaluation and Public Notice for TransGas Development Systems, LLC's Adams Fork Data Center Energy Campus located in Mingo County.

The public notice will be published in *The Williamson Daily News* on Wednesday, July 9, 2025 and the thirty day comment period will end on Friday, August 8, 2025.

Should you have any questions or comments, please contact the permit writer, Jerry Williams, at 304-926-0499 ext. 41214 or Jerry.Williams@wv.gov.

--

Stephanie Mink

Environmental Resources Associate

West Virginia Department of Environmental Protection

Division of Air Quality, Title V & NSR Permitting

601 57th Street SE

Charleston, WV 25304

Phone: 304-926-0499 x41281

3 attachments



059-00134_PERM_13-3715 draft.pdf
389K



R13-3715_AirQualityPermitNotice.pdf
71K



059-00134_EVAL_13-3715 draft.pdf
3361K



west virginia department of environmental protection

Division of Air Quality
601 57th Street SE
Charleston, WV 25304
Phone (304) 926-0475 • FAX: (304) 926-0479

Harold D. Ward, Cabinet Secretary
dep.wv.gov

ENGINEERING EVALUATION / FACT SHEET

BACKGROUND INFORMATION

Application No.: R13-3715
Plant ID No.: 059-00134
Applicant: TransGas Development Systems, LLC
Facility Name: Adams Fork Data Center Energy Campus
Location: Wharncliffe, Mingo County
NAICS Code: 221112 – Fossil Fuel Electric Power Generation
Application Type: Construction
Received Date: March 26, 2025 (Revised application submitted May 14, 2025)
Engineer Assigned: Jerry Williams
Fee Amount: \$2,000 (\$1,000 45 CSR 13 Application Fee, \$1,000 NSPS Fee)
Date Received: April 2, 2025
Complete Date: June 4, 2025
Due Date: September 2, 2025
Applicant Ad Date: April 9, 2025
Newspaper: *Williamson Daily News*
UTM's: Easting: 415.706 km Northing: 4,161.722 km Zone: 17
Latitude/Longitude: 37.59372 / -81.95491
Description: Construction and operation of an off-grid power generation facility.

CONFIDENTIAL BUSINESS INFORMATION OVERVIEW

TransGas Development Systems, LLC (TransGas) submitted an air permit application for an off-grid power generation facility to be located near Wharncliffe in Mingo County. This permit application included confidential business information (CBI) submitted under 45 CSR 31, entitled “Confidential Information”. Therefore, both a CBI and redacted version of the application were submitted. TransGas provided all CBI under the requirements of 45 CSR 31, which is the Division of Air Quality (DAQ)

regulation that establishes the requirements for claiming information submitted to the DAQ as confidential and the procedures for determinations of confidentiality in accordance with the provisions of W. Va. Code §22-5-10.

The reason for the CBI submittal according to TransGas is that the application contains information that is fully protected under non-disclosure and confidentiality agreements between the applicant and equipment provider concerning development of the process and facility design. Release of this information could cause substantial harm to TransGas' competitive position in the market. For each submission of information any portion of which is claimed to be confidential, a complete set of the information, including the document justifying the claim of confidentiality shall be submitted simultaneously on uncolored paper with the information claimed to be confidential blacked out, and with the words "redacted copy – claim of confidentiality" marked clearly on each such page, so that such a set of information is suitable for public disclosure and provides notice to the public that a claim of confidentiality has been made. DAQ allows for electronic submittals (via email) of redacted permit applications. However, all CBI applications must be submitted via mail or hand delivered. During the Notice of Application period, the DAQ received a public comment concerning the proposed project, which specifically requested the release of information that has been redacted.

As stated in 45 CSR 31, Section 4, during the course of the DAQ's review of whether the information claimed to be confidential is a trade secret in accordance with this rule, the DAQ shall consider the following:

- The claim of confidentiality has not expired by its terms, nor been waived or withdrawn;
- The person asserting the claim of confidentiality has satisfactorily shown that it has taken reasonable measures to protect the confidentiality of the information, and that it intends to continue to take such measures;
- The information claimed confidential is not, and has not been, reasonably obtainable without the person's consent by other persons (other than governmental bodies) by use of legitimate means (other than discovery based on a showing of special need in a judicial or quasi-judicial proceeding);
- No statute specifically requires disclosure of the information; and
- Either the person has satisfactorily shown that disclosure of the information is likely to cause substantial harm to the business's competitive position or the information is voluntarily submitted information, and its disclosure would likely to impair the State's ability to obtain necessary information in the future.

Additionally, 45 CSR 31, Section 6, states that no person shall claim as confidential, information concerning the types and amounts of pollutants discharged. "Types and amounts of air pollutants discharged" is defined in 45 CSR 31 Section 2.4. Furthermore, 45 CSR 31B entitled "Confidential Business Information and Emission Data" is an interpretive rule that provides guidance and clarification concerning the term "types and amounts of air pollutants discharged" defined under 45CSR§31-2.4, the DAQ's legislative rule entitled "Confidential Information," and thus what information may not be claimed confidential in accordance with 45CSR§31-6.

The aforementioned public comment received during the Notice of Application comment period triggered a review of the CBI claims by the DEP's Office of the General Counsel (OGC). A letter dated

April 28, 2025, from the OGC was issued to TransGas that stated that the information claimed as CBI may not qualify for such designation as it falls under the definition of “Types and Amounts of Pollutants Discharged” as excluded under §45-31-6 as defined under §45-31-2.4 (and further defined under 45 CSR 31B). This letter was made available to the public on the WVDEP Application Xtender (AX) website at that time. There was also concern that the claimed CBI may not meet the eligibility requirements under §45-31-4.1(b) and 4.1(c). The letter requested further justification that the information claimed as CBI is not defined as “Types and Amounts of Pollutants Discharged” and also does not conflict with the eligibility requirements of §45-31-4.1(b) and 4.1(c). The letter requested a written response within 15 days.

TransGas provided a response to this request on May 2, 2025. This response was made available to the public on the AX website at that time. TransGas proposed to revise the CBI claim to cover the company names for the engine and control systems designers and manufacturers. This includes the engine model number which would identify the engine company. All other previously claimed CBI would be removed from the request. Upon reviewing this information, the WVDEP issued a letter to TransGas on May 9, 2025, stating that a permit application so submitted would be in compliance with the requirements governing the submission of CBI under 45 CSR 31 and 45 CSR 31B. TransGas provided the revised application to DAQ on May 14, 2025, and the application was made available to the public on the AX website at that time.

This engineering evaluation/fact sheet contains only the information that was provided in the redacted copy of the permit application. Furthermore, the information contained herein is more than adequate to make the appropriate permitting determinations and can be used to determine compliance with all applicable rules and regulations. This includes all necessary monitoring, recordkeeping, reporting, and testing that will be required as part of the proposed draft permit.

DESCRIPTION OF PROCESS

The following process description was taken from Permit Application R13-3715:

The Adams Fork Data Center Energy Campus is a unique off-grid, electric generating facility designed to provide power to adjacent data center operations. The facility encompasses 117 engines (Source ID# 1S – 117S) with 114 engines operating full-time and 3 engines in reserve. Each engine has a proposed control strategy (Emission Point ID# 1E – 117E). The facility will contain 39 powerhouses with each containing 3 generator setups with each generator having a nameplate capacity of 25 MWe. Actual power generation will depend on the operating mode of the engines. Each engine will have a maximum power output of 21 MW, therefore, the theoretically installed power output would be 2,457 MW. The effective and continuously delivered power output will be 1,796 MW.

The engines are configured to be dual-fuel units and have the ability to operate on natural gas or diesel fuel, or can be operated on diesel fuel only, in backup mode. Under normal operation, the engines consume natural gas as their primary fuel with a pilot injection of ultra-low sulfur diesel (ULSD). Under natural gas operation, 2% of the energy comes from the pilot fuel, which can be increased to 100% in emergency operation.

The engines can operate under the following operational profiles:

Normal Operation

To ensure peak operation conditions, the engines will be regularly serviced. With 1-2 weeks of downtime per engine per year, 3 engines are going to be off-line at any time of the year. Under normal operations, the engines will be run at 75% power only. Therefore, the continuously delivered power will be 1,796 MW.

Compensation Mode

In the case of one or more, or in the unrealistic, but foreseen case of up to 29 engines out of service, the rest of the field will compensate, increasing their power output to 100%. For the calculation of the yearly emissions the worst case is assumed, when 29 engines go offline and the remaining 85 are operated at 100%.

Emergency Mode

In case the pipeline is down, or the gas cannot be delivered for any other reason, the engines can switch to diesel fuel mode immediately and are then operated on diesel fuel only. Apart from the different fuel type, the engines are controlled in the same way as in Normal Operation.

Startup Mode

To start an engine and bring power production online, several steps are necessary. In the first phase the emission control system is not operational temperature, therefore the control rate is not optimal. The following is a simplification and a representation of the worst case for emissions emission-wise. The different steps can be reduced to four main sub-modes:

- **Speed up**
Bring the engine from standstill to nominal speed (89 rpm). This is done in diesel mode. The emission control system is still offline at this point, as it is not at optimal temperature. Once nominal speed is set and the minimum load for a fuel switch is reached (less than 5 minutes), the system initiates the next sub mode.
- **Fuel Switch**
For about two minutes the load is kept constant, and the fuel is changed from 100% diesel to 98% gas & 2% diesel.
- **Generator switched on**
On gas operation, the load is further increased until the generator can be energized and synchronized with the rest of the engine fleet. This takes no more than 5 minutes. For the emissions calculation of all these steps the emission control system is looked at as non-operational, even though the exhaust gases will have heated it already and some abatement is taking place, even at a reduced level.
- **Load up cold control**
Once the generator is online and synchronized, then the engine is powered up to its set point (75% in normal operation mode). For reasons of simplicity and to ensure a conservative view on the problem, during engine load up the control system is looked at as cold and operational at

25% only. This is even though in reality the system was heated up constantly by the exhaust gases and reaching operational condition during the load up.

Shut Down

The shut down procedure consists of three phases:

- Ramp down
The load is constantly reduced to a minimum load.
- Min Load
At minimum load the generator is decoupled from the grid and the engine's load and speed setting are zero.
- Spin out
Due to the zero-load setting the injection systems are turned off and the engine is spun out until full stop. In this entire sequence the emission control system is still operational due to its thermal inertia. Therefore, until the injection is stopped the emissions are treated.

The engines will operate on ULSD and natural gas depending on the operating status. ULSD will be stored in 40 storage tanks (Source ID# 118S – 157S, Emission Point ID# 118E – 157E) on the property. Natural gas will be delivered via pipeline. Tanks for control device liquids will be located at each powerhouse. There will be 39 tanks each of hydrous ammonia, caustic soda, sulfuric acid, sodium chlorite, and sodium hydrosulfide. These tanks are considered de minimis due to minimal emissions. Liquids and supplies for these tanks will be trucked to the site.

There is no steam-power production at the site. Cooling will be provided by mine pool water as needed. Therefore, there are no requirements for cooling towers.

SITE INSPECTION

A site inspection of the proposed location was conducted on May 20, 2025, by the writer and Joe Kessler (NSR Program Manager) of the DAQ. The proposed site is located at the existing Twisted Gun Golf Course, and no construction or equipment installation was visible at the time of the site inspection. There were no visible residences nearby.

Directions to the site:

The facility will be located on the property currently occupied by the Twisted Gun Golf Course in Wharncliffe. The site can be accessed from WV Route 52 headed toward Gilbert. Turn right onto Gilbert Creek Road, then right onto Right Fork Bens Creek Road to Twisted Gun. Proceed to the end of the Twisted Gun Road to the site.

Aerial view of the proposed site



The site will be located at the existing Twisted Gun Golf Course approximately close to the arrow in the photo found below.



ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

Emissions associated with this facility consist of the equipment listed in the following table and fugitive emissions.

Emission Unit ID#	Process Equipment	Calculation Methodology
1S – 117S	Engine 1 – Engine 117 28,194 HP (each)	Manufacturer Data (NO _x , CO, PM, VOC, SO ₂) EPA AP-42 Emission Factors Chapter 3.2 (HAPs)
118S – 157S	40 – Diesel Storage Tanks 170,000 gal (each)	EPA TANKS Emissions Estimation Software, Version 4.0.9d
De Minimis	39 – Hydrous Ammonia Storage Tanks	De Minimis
De Minimis	39 – Caustic Soda Storage Tanks	De Minimis
De Minimis	39 – Sulfuric Acid Storage Tanks	De Minimis
De Minimis	39 – Sodium Chlorite Storage Tanks	De Minimis
De Minimis	39 – Sodium Hydrosulfide Storage Tanks	De Minimis
HR	Paved Haul Roads	EPA AP-42 Emission Factors, Chapter 13.2.1

The potential emissions from the engines were estimated using the ability to fire the units with natural gas or diesel. The engines at the facility are capable of firing either fuel. The operating hours, operational mode and throughput of each type of fuel will be continuously monitored and recorded. TransGas will keep records of the total amount of hours each engine uses natural gas as a fuel and the total amount of hours each engine uses diesel as a fuel. The 12-month rolling sum of emissions will be calculated monthly.

The emission control systems for the engines consist of two main systems. The dry system on the high pressure side of the engine (before the turbocharger) and the wet system on the low pressure side, which is downstream of the turbocharger. The dry systems consist of an oxidation catalyst and an SCR catalyst. The catalytic reduction of CO has a reduction efficiency of over 99%. The same system oxidizes VOC emissions with a reduction efficiency of 99%. The de-NO_x unit is a urea based SCR technology, and the reduction efficiency exceeds 90%. The wet system consists of four (4) stages, which reduce NO_x further with 90.9% reduction efficiency and SO₂ with 70% reduction efficiency.

The emission abatement system that will be employed on each engine results in the following emissions reductions when operating in the following modes:

Mode	NO_x (%)	CO (%)	VOC/HAP (%)	PM (%)	SO₂ (%)
Speed Up	0	0	0	0	95.0
Fuel Changeover	0	0	0	0	99.0
Generator Switched On	0	0	0	0	99.0
Load Up Cold Control	25.0	25.0	25.0	0	99.0
Normal Operation	99.0	99.0	99.0	25.0	99.0
Compensation Mode	99.0	95.0	99.0	25.0	99.0
Ramp Down	99.0	94.0	99.0	25.0	99.0
Min Load	70.0	50.0	70.0	0	70.0
Spin Out	40.0	35.0	40.0	0	40.0
Emergency	98.0	91.0	99.0	25.0	99.0

As discussed in the DESCRIPTION OF PROCESS and also as shown in the above table, the engines will operate in multiple modes. Under normal operations, the engine will remain comfortably below the PSD threshold. However, to ensure that the facility can be operated under worst-case conditions, the following worst-case scenario was examined.

The pipeline is out for eight (8) days, which equates to 192 hours. During this outage, the facility would be operated only on diesel fuel. During the same year, an unplanned event resulted in 31 engines are down and the remaining 86 engines are operated in compensation mode and will continue to deliver full power. This would increase the engines output to 99.4% load. It was estimated that the compensation mode would last for 24 days or 567 hours. Finally, the engines would have to go through 5 startups and shutdowns in place of the scheduled one (1) event. Using this worst case scenario results in the following hourly breakdown by operational mode:

Mode	Hours
Speed Up	0.42
Fuel Changeover	0.17
Generator Switched On	0.42
Load Up Cold Control	0.83
Normal Operation	7996.80
Compensation Mode	567.20
Ramp Down	1.67
Min Load	0.42
Spin Out	0.08
Emergency	192
Total Time	8,760

The operating hours used for the worst-case scenario results in the following potential to emit (PTE) for all of the engines:

Pollutant	Annual Emissions (tons/year)
Nitrogen Oxides	194.30
Carbon Monoxide	205.62
Volatile Organic Compounds	116.59
Particulate Matter-10/2.5	186.53
Sulfur Dioxide	9.93
Benzene	0.45
Toluene	0.16
Xylenes	0.11
Formaldehyde	0.046
Acrolein	0.0045
Acetaldehyde	0.013
Naphthalene	0.075
Total Hazardous Air Pollutants	0.86

The following table represents the maximum hourly and annual emissions during *normal operations* for one engine:

Pollutant	Hourly Emissions (lb/hr)	Annual Emissions (tons/year)
Nitrogen Oxides	0.14	0.61
Carbon Monoxide	0.34	1.47
Volatile Organic Compounds	0.23	0.99
Particulate Matter-10/2.5	0.34	1.49
Sulfur Dioxide	0.01	0.03
Benzene	0.00088	0.00352
Toluene	0.00032	0.00128
Xylenes	0.00022	0.00088
Formaldehyde	0.00009	0.00036
Acrolein	0.00001	0.00004
Acetaldehyde	0.00003	0.00012
Naphthalene	0.00015	0.0006
Total Hazardous Air Pollutants	0.0017	0.0068

Storage Tanks

The potential aggregate emissions for the 40 – 170,000 gallon diesel storage tanks include the losses from working and breathing. Due to the very low vapor pressure of diesel fuel (0.007 psia), the emissions associated with the diesel fuel tanks are low. EPA TANKS 4.09d allows users to enter specific information about a storage tank (dimensions, construction, paint condition, etc.), the liquid contents (chemical components and liquid temperature), and the meteorological conditions and location of the tank (nearest city, ambient temperature, etc.) to generate an air emissions report. Report features include estimates of monthly, annual, or partial year emissions for each chemical or mixture of chemicals stored in the tank. The closest meteorological location available in EPA TANKS 4.09d that was used was Charleston. As stated above, due to the very low vapor pressure of diesel fuel, the emissions associated with the diesel fuel tanks are low. The results of the EPA TANKS 4.09d analysis resulted in the following diesel storage tank emissions:

Pollutant	Hourly Emissions (lb/hr)	Annual Emissions (tons/year)
Volatile Organic Compounds	7.34	0.75

Truck Loading

There will also be potential emissions associated with the truck loading of the 40 – 170,000 gallon diesel storage tanks. These emissions were accounted for and included as working losses in the aforementioned storage tank emissions.

Paved Haul Roads

There are paved haul road activities associated with this facility. The following table indicates the assumptions made in estimating the emissions:

Operating Condition	Parameter
Potential Operating Days	365
Estimated Roundtrip Distance per Vehicle	5.00 miles/vehicle
Fluid Delivery Trucks per Year	5,583
Miscellaneous Vehicles per Year	4,380

Using these operating conditions, the potential emissions associated with these haul road operations result in the following:

Pollutant	Hourly Emissions (lb/hr)	Annual Emissions (tons/year)
Particulate Matter	11.50	28.64
Particulate Matter-10	2.30	5.73
Particulate Matter-2.5	0.60	1.50

Fugitive Emission Leaks

The fugitive equipment leaks (VOC/HAP) associated with fugitive components (valves, pressure relief valves, connections, flanges, etc.) were estimated using EPA's Protocol for Equipment Leak Emission Estimates Table 2-1 (SOCMI average emission factors) and Table 2-5 (SOCMI screening ranges emission factors) and the component counts associated with the proposed facility. Based on this

analysis, the fugitive equipment leaks associated with this facility would be 0.59 tons per year of VOC and less than 0.01 tons per year of HAPs. The permit does require minimization of fugitive emissions and further requires any above-ground piping, valves, pumps, etc. that shows signs of excess wear that have a reasonable potential for fugitive emissions of regulated air pollutants to be repaired or replaced.

The following table represents the emissions associated with this 45CSR13 construction permit:

Emission Source	Annual Emissions (tons/year)					
	NO _x	CO	VOC	SO ₂	PM ₁₀	Total HAPs
Engines	194.30	205.62	116.59	9.93	186.53	0.86
Storage Tanks	-	-	0.75	-	-	-
Paved Haul Roads	-	-	-	-	5.73	-
Fugitive Leaks	-	-	0.59	-	-	0.01
Facility PTE	194.30	205.62	117.93	9.93	192.26	0.87

REGULATORY APPLICABILITY

State

45 CSR 2 - Particulate Air Pollution from Combustion of Fuel in Indirect Heat Exchangers (*not applicable*)

This rule establishes emission limitations for smoke and particulate matter which are discharged from fuel burning units. 45 CSR 2 states that any fuel burning unit that has a heat input under ten (10) million B.T.U.'s per hour is exempt from sections 4 (weight emission standard), 5 (control of fugitive particulate matter), 6 (registration), 8 (testing, monitoring, recordkeeping, reporting) and 9 (startups, shutdowns, malfunctions). However, failure to attain acceptable air quality in parts of some urban areas may require the mandatory control of these sources at a later date. A fuel burning unit is defined in 45 CSR 2 section 2.10 as any furnace, boiler apparatus, device, mechanism, stack or structure used in the process of burning fuel or other combustible material for the primary purpose of producing heat or power by indirect heat transfer. The engines are not fuel burning units because this operation is not their primary purpose. Therefore, these units would not be subject to this rule.

45 CSR 4 - To Prevent and Control the Discharge of Air Pollutants into the Open Air Which Causes or Contributes to an Objectionable Odor or Odors

The purpose of this rule is to prevent and control the discharge of pollutants into the open air which causes or contributes to an objectionable odor or odors. This facility would generally be subject to this rule, however, this type of facility normally does not have issues with odors. However, the DAQ will, using the authority under this rule to respond to complaints involving objectionable odors if confirmed while the facility is operating, and may require mitigation at that time to reduce the odor potential of the source. An objectionable odor must be determined by the DAQ in the course of an inspection or investigation of an actual odor, and is possible to prove quantitatively, pursuant to this rule, that an objectionable odor will be present before a facility is in operation.

45 CSR 10 - To Prevent and Control Air Pollution from the Emissions of Sulfur Oxides (*not applicable*)

This rule establishes emission limitations for sulfur dioxide which are discharged from fuel burning units. 45 CSR 10 states that any fuel burning unit that has a heat input under ten (10) million B.T.U.'s per hour is exempt from sections 3 (weight emission standard), 6 (registration), 7 (permits), and 8 (testing, monitoring, recordkeeping, reporting). However, failure to attain acceptable air quality in parts of some urban areas may require the mandatory control of these sources at a later date. A fuel burning unit is defined in 45 CSR 10 section 2.8 as any furnace, boiler apparatus, device, mechanism, stack or structure used in the process of burning fuel or other combustible material for the primary purpose of producing heat or power by indirect heat transfer. The engines are not fuel burning units because this operation is not their primary purpose. Therefore, these units would not be subject to this rule.

45 CSR 13 (Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Administrative Updates, Temporary Permits, General Permits, and Procedures for Evaluation)

Pursuant to §45-13-5.1, “[n]o person shall cause, suffer, allow or permit the construction, modification, relocation and operation of any stationary source to be commenced without . . . obtaining a permit to construct.”

Based upon the potential emissions for the facility, TransGas is required to obtain a permit under 45CSR13 for this facility.

As required under §45-13-8.3 (“Notice Level A”), TransGas placed a Class I legal advertisement in the *Williamson Daily News* on April 9, 2025. Additionally, TransGas paid the appropriate application fee of \$2,000 (\$1,000 45 CSR 13 permit application fee, \$1,000 NSPS fee) on April 2, 2025.

45 CSR 14 - Permits for Construction and Major Modification of Major Stationary Sources of Air Pollutants (*not applicable*)

45 CSR 19 - Permits for Construction and Major Modification of Major Stationary Sources of Air Pollution which Cause or Contribute to Nonattainment (*not applicable*)

45CSR14 establishes and adopts a preconstruction permit program for the construction and major modification of major stationary sources in areas of attainment with the National Ambient Air Quality Standards (NAAQS). Mingo County is currently classified as in attainment/unclassifiable with the NAAQS and, therefore, a proposed new “major stationary source” in Mingo County would be subject to the provisions of 45CSR14. The proposed facility is not defined as a source listed under §45-14-2.43(a), therefore, pursuant to 2.4(b), would be defined as a “major stationary source” if any regulated pollutant has a PTE in excess of 250 TPY. The proposed facility, however, does not have a PTE of any regulated pollutant in excess of 250 TPY as shown in the table on the following page, therefore, not defined as a major stationary source and is not subject to the provisions of 45 CSR 14. 45 CSR 19 applies to sources that are located in areas that are classified as non-attainment with the NAAQS. Mingo County is an attainment/unclassified area, therefore, 45 CSR 19 would not apply.

Pollutant	PSD (45CSR14) Threshold (TPY)	NANSR (45CSR19) Threshold (TPY)	Facility PTE (TPY)	45CSR14 or 45CSR19 Review Required?
Carbon Monoxide	250	NA	205.62	No
Nitrogen Oxides	250	NA	194.30	No
Sulfur Dioxide	250	NA	9.93	No
Particulate Matter 2.5	250	NA	186.53	No
Ozone (VOC)	250	NA	117.34	No

45 CSR 16 - Standards of Performance for New Stationary Sources

This rule incorporates the federal Clean Air Act (CAA) standards of performance for new stationary sources (NSPS) set forth in 40 CFR Part 60 by reference. 45 CSR 16 applies to this source by reference of 40 CFR 60 Subpart IIII. These requirements are discussed under that rule below.

45 CSR 17 - To Prevent and Control Particulate Matter Air Pollution from Materials Handling, Preparation, Storage and Other Sources of Fugitive Particulate Matter

The purpose of this rule is to prevent and control particulate matter air pollution from materials handling, preparation, storage and other sources of fugitive particulate matter. TransGas will ensure appropriate precautions are taken to prevent the escape of fugitive particulate matter beyond the boundary lines of the property.

45 CSR 21 - Control of Air Pollution from the Emission of Volatile Organic Compounds (*not applicable*)

This rule establishes reasonably available control technology to control emissions of volatile organic compounds from sources that manufacture, mix, store, use, or apply materials containing volatile organic compounds that are located in Cabell, Kanawha, Putnam, Wayne and Wood Counties. This facility is located in Mingo County, and therefore, not applicable to this rule.

45 CSR 27 - To Prevent and Control the Emissions of Toxic Air Pollutants (*not applicable*)

The purpose of this rule is to prevent and control the discharge of toxic air pollutants requiring the application of best available technology (BAT) for chemical processing units. Section 2.4 defines a chemical processing unit as an assembly of reactors, tanks, distillation columns, heat exchangers, vaporizers, compressors, dryers, decanters, and/or other equipment used to treat, store, manufacture, or use toxic air pollutants. For the purpose of this rule, the term chemical processing unit includes surface coating equipment or similar equipment utilizing a toxic air pollutant as a solvent or for other purposes but does not include equipment used in the production and distribution of petroleum products providing that such equipment does not produce or contact materials containing more than 5% benzene by weight. Potential emissions of toxic air pollutants from this facility result from the combustion of natural gas or diesel in the engines. Regulation of emissions of toxic air pollutants from these unit types are not included in this rule, and therefore, not applicable.

45 CSR 30 - Requirements for Operating Permits

The facility is a major source and is subject to 45CSR30 based upon CO, NO_x, PM, and VOC emissions each exceeding 100 tons per year. Due to this facility's PTE over 100 tons per year of a criteria pollutant, TransGas is required to have an operating permit pursuant to Title V of the Federal Clean Air Act as amended and 45CSR30. TransGas is required to pay the appropriate annual operating fees and submit an annual Certified Emissions Statement.

45 CSR 31 - Confidential Information

The purpose of this rule is to establish the requirements for claiming information submitted to the Director as confidential and the procedures for determinations of confidentiality in accordance with the provisions of W. Va. Code §22-5-10. The reason for the CBI submittal is that the application contains information that is fully protected under non-disclosure and confidentiality agreements between the applicant and equipment provider concerning development of the process and facility design. This was previously discussed in detail in the CONFIDENTIAL BUSINESS INFORMATION section.

45 CSR31B – Confidential Business Information and Emission Data

The purpose of this rule is to provide guidance and clarification concerning the term “types and amounts of pollutants discharged” defined under 45 CSR §31-2.4, the DAQ’s legislative rule (45 CSR 31) and thus what information may not be claimed confidential in accordance with 45 CSR §31-6. An in-depth discussion regarding this was previously discussed in detail in the CONFIDENTIAL BUSINESS INFORMATION section.

45 CSR 33 - Acid Rain Provisions and Permits (*not applicable*)

This rule establishes and adopts general provisions and the operating permit program requirements for affected sources and affected units under the Acid Rain Program promulgated by the United States Environmental Protection Agency under Title IV of the Clean Air Act, as amended (CAA). The rule and associated reference methods, performance specifications and other test methods which are appended to these standards are adopted by reference. These units are exempt under the New Unit Exemption in §40-72.7. See explanation below in Federal for 40 CFR 72 (Permits Regulation).

45 CSR 34 - Emission Standards for Hazardous Air Pollutants

This rule incorporates the federal Clean Air Act (CAA) national emission standards for hazardous air pollutants (NESHAPs) set forth in 40 CFR Parts 61 and 63 by reference. 45 CSR 34 applies to this source by reference of 40 CFR 63 Subpart ZZZZ. These requirements are discussed under that rule below.

45 CSR 40 - Control of Ozone Season Nitrogen Oxide Emissions (*not applicable*)

The purpose of this rule is to establish ozone season NO_x emission limitation, monitoring, recordkeeping, reporting, excess emissions, and NO_x budget demonstration requirements for large industrial boilers and combustion turbines that have a maximum design heat input greater than 250

MMBTU/hr, in accordance with 40 CFR §51.121. Ozone season is defined as May 1 through September 30 in the same calendar year. This facility does not have industrial boilers or combustion turbines, therefore, this rule does not apply.

Federal

40 CFR 51.166 - Prevention of Significant Deterioration of Air Quality (*not applicable*)

Federal construction permitting programs regulate new and modified sources of attainment pollutants under Prevention of Significant Deterioration (PSD) and new and modified sources of non-attainment pollutants under Non-Attainment New Source Review (NANSR). The provisions of this section are captured in the West Virginia state rules discussed above known as 45 CSR 14 (PSD) and 45 CSR 19 (NANSR). Both of these rules are part of West Virginia's State Implementation Plan (SIP).

Mingo County is designated as attainment/unclassifiable for all criteria pollutants. PSD regulations apply when a new source is constructed in which emissions exceed major source thresholds, an existing minor source undergoes modification in which emission increases exceed PSD major source thresholds, or an existing major source undergoes a modification in which emission increases exceed PSD significant emission rates. PSD major source thresholds are 250 tons per year of a regulated pollutant, except for the 28 regulated facility categories. This facility is not one of listed 28 regulated facility categories. Therefore, the PSD major source threshold is 250 tons per year of a regulated pollutant. The emissions associated with this facility is less than the PSD major source threshold, therefore, this rule does not apply.

40 CFR 60 Subpart Kc - Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After October 4, 2023 (*not applicable*)

Subpart Kc applies to storage vessels of volatile organic liquids with capacities greater than or equal to 20,000 gallons for which construction commenced after October 4, 2023. § 60.110c(b)(8) exempts storage vessels that only store volatile organic liquids with a maximum true vapor pressure less than 0.25 psia (1.7 kPa absolute). Each storage vessel at the facility has a capacity of 170,000 gallons. However, the maximum vapor pressure of the storage vessels is 0.007 psia, which is less than 0.25 psia. Therefore, this rule does not apply.

40 CFR 60 Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

Subpart IIII applies to owners and operators of compression ignition internal combustion engines that commenced construction after July 11, 2005, and were manufactured after April 1, 2006, and not a fire pump engine.

The 28,194 HP engines (1S – 117S) are configured to be dual-fuel units and have the ability to operate on natural gas or diesel fuel, or can be operated on diesel fuel only, in backup mode. Under normal operation, the engines consume natural gas as their primary fuel with a pilot injection of ULSD. Under

natural gas operation, 2% of the energy comes from the pilot fuel, which can be increased to 100% in emergency operation.

The engines commenced construction after July 11, 2005, are non-emergency engines, were manufactured after April 1, 2006, utilizes diesel fuel, have displacements greater than 30 liters per cylinder, less than 130 rpm, not reducing PM by 60%, do not have diesel particulate filters, and were installed after January 1, 2016. Due to these parameters, the following are the regulatory requirements for each pollutant:

NO_x

Emission Limit	3.4 g/KW-hr (2.5 g/HP-hr)
Standards	§60.4204(c)(3)
Monitoring/Testing	§60.4213(e)

PM

Emission Limit	0.15 g/kW-hr (0.11 g/HP-hr)
Standards	§60.4204(c)(4)
Monitoring/Testing	§60.4213(f)

Based upon the proposed hourly emission limits for the engines, the regulatory emission limits will be met.

The following requirements also apply to these pollutants:

Standards	§60.4206, §60.4207(d), §60.4211(d)
Monitoring/Testing	§60.4213(a), (b), (c); §60.4211(d)(1), (d)(3)
Recordkeeping	§60.4214(a)(2), §60.4211(d)(2)
Reporting	§60.4214(a)(1), §60.4211(d)(2)

40 CFR 60 Subpart TTTTa - Standards of Performance for Greenhouse Gas Emissions for Modified Coal-Fired Steam Electric Generating Units and New Construction and Reconstruction Stationary Combustion Turbine Electric Generating Units (*not applicable*)

Subpart TTTTa applies to stationary combustion turbines that commence construction after May 23, 2023, that also serve a generator or generators capable of selling greater than 25 MW of electricity to a utility power distribution system. There are no combustion turbines at the proposed facility, therefore, Subpart TTTTa is not applicable.

40 CFR 63 Subpart EEEE - National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution (Non-Gasoline) (*not applicable*)

Subpart EEEE applies to organic liquids storage and distribution at major sources of HAPs. The facility is not a major source of HAPs because its PTE of total HAPs is less than 25 tons per year and its PTE of any single HAP is less than 10 tons per year. Therefore, Subpart EEEE does not apply.

40 CFR 63 Subpart ZZZZ - National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE)

Subpart ZZZZ applies to stationary combustion RICE at area and major sources of HAPs. As stated in §63.6590(c), stationary RICE that are subject to regulations under 40 CFR 60 (III) must meet those requirements, and no further requirements apply for these units under this subpart.

40 CFR 64 - Compliance Assurance Monitoring (*not applicable*)

Compliance Assurance Monitoring (CAM) applies to pollutant-specific emissions units at a major source under 40 CFR 70. The facility is not a major source under 40 CFR 70; therefore, CAM does not apply.

40 CFR 72 - Permits Regulation (*not applicable*)

The purpose of this part is to establish certain general provisions and the operating permit program requirements for affected sources and affected units under the Acid Rain Program, pursuant to title IV of the Clean Air Act, 42 U.S.C. 7401, et seq., as amended by Public Law 101-549 (November 15, 1990).

The nameplate capacity of the generators attached to each unit is 25 MWe or less. The units do not burn coal or a coal-derived fuel, and burns fuel with sulfur of 0.05% or less by weight. Therefore, these units are exempt under the New Unit Exemption in Section 72.7 and are exempt from permit requirements, monitoring, and allowance holdings, except for the provisions of §72.7 itself, and §72.2 through 72.6 (definitions, measurements, abbreviations, and acronyms, federal authority, state authority, and applicability) and 72.10 through 72.13 (availability of information, computation of time, administrative appeals, and incorporation by reference).

40 CFR 97 Subpart DDDDD - Federal NO_x Budget Trading Program, CAIR NO_x and SO₂ Trading Programs, CSAPR NO_x and SO₂ Trading Programs, and Texas SO₂ Trading Program (*not applicable*)

This rule sets forth the general, designated representative, allowance, and monitoring provisions for the Cross-State Air Pollution Rule (CSAPR) SO₂ Group 2 Trading Program, under section 110 of the Clean Air Act and §52.39 of this chapter, as a means of mitigating interstate transport of fine particulates and sulfur dioxide.

This rule applies to fossil-fuel-fired combustion turbines serving at any time, on or after January 1, 2005, a generator with a nameplate capacity of more than 25 MWe producing electricity for sale. These units are RICEs and not combustion turbines. Additionally, the nameplate capacity of the generators attached to each unit is 25 Mwe. Therefore, this regulation does not apply.

ANALYSIS OF NON-CRITERIA REGULATED POLLUTANTS

This section provides information on those regulated pollutants that are not classified as “criteria pollutants”. Criteria pollutants are defined as Carbon Monoxide (CO), Lead (Pb), Oxides of Nitrogen (NO_x), Ozone, Particulate Matter (PM₁₀ and PM_{2.5}), and Sulfur Dioxide (SO₂). These pollutants have National Ambient Air Quality Standards (NAAQS) set for each that are designed to protect public health and welfare. Other pollutants of concern, although designated as non-criteria *and without national air quality standards*, are regulated through various state and federal programs designed to limit their emissions and public exposure. These programs include federal source-specific HAP regulations promulgated under 40 CFR 61 and 40 CFR 63 (NESHAPS/MACT), and WV Legislative Rule 45 CSR 27 that regulates certain HAPs as Toxic Air Pollutants (TAPs). Any potential applicability to these programs were addressed in the REGULATORY APPLICABILITY section of this document.

The majority of non-criteria regulated pollutants fall under the definition of HAPs which, with some revision since, were 188 compounds identified under Section 112(b) of the Clean Air Act (CAA) as pollutants or groups of pollutants that EPA knows, or suspects *may* cause cancer or other serious human health effects. These adverse health effects may be associated with a wide range of ambient concentrations and exposure times and are influenced by source-specific characteristics such as emission rates and local meteorological conditions. Health impacts are also dependent on multiple factors that affect variability in humans such as genetics, age, health status (e.g., the presence of pre-existing disease) and lifestyle. As stated previously, *there are no federal or state ambient air quality standards for these specific chemicals*. It is also important to note that the USEPA does not divide the various HAPs into further classifications based on toxicity or if the compound is a suspected carcinogen. The HAP emissions associated with this application are found in the ESTIMATE OF EMISSIONS section of this document. For a complete discussion of the known health effects of each compound refer to the IRIS database located at www.epa.gov/iris.

The HAPs emitted from the proposed facility are created during the combustion of natural gas and diesel fuel. The HAP emission values were estimated using EPA AP-42: Compilation of Air Emissions Factors from Stationary Sources. AP-42 contains emission factors and process information for more than 200 air pollution source categories. AP-42 Chapter 3.2 contains HAP emission factors for reciprocating engines.

The table on the following page lists each HAP currently identified by TransGas as potentially being emitted based upon the information available in AP-42 Chapter 3.2, Tables 3.2-1, 3.2-3, and 3.2-4. Additionally, the Chemical Abstracts Service (CAS) registry number, the type of HAP, the PTE of the individual HAP, and any potentially applicable Most Available Control Technology (MACT) is provided.

Pollutant	CAS #	Type	PTE (TPY)	MACT¹
Acetaldehyde	75-07-0	VOC	0.013	None
Acrolein	107-02-8	VOC	0.0045	None
Benzene	71-43-2	VOC	0.448	None
Formaldehyde	50-00-0	VOC	0.046	None
Naphthalene	91-20-3	VOC	0.075	None
Toluene	108-88-3	VOC	0.163	None
Xylenes	1330-20-7	VOC	0.111	None

¹ Does a MACT apply to this specific HAP for any emission unit at the facility? See REGULATORY APPLICABILITY section for discussion.

AIR QUALITY IMPACT ANALYSIS

Modeling was not required of this source because the facility is not subject to 45CSR14 (Permits for Construction and Major Modification of Major Stationary Sources of Air Pollutants) as discussed in the Regulatory Discussion Section.

SOURCE AGGREGATION

“Building, structure, facility, or installation” is defined as all the pollutant emitting activities which belong to the same industrial grouping, are located on one or more contiguous and adjacent properties, and are under the control of the same person.

TransGas has an option on the site with the current owner, therefore, they do have control of the proposed site. There are no other emission units belonging to the same industrial grouping, under common control, and located on contiguous or adjacent properties with the facility. Therefore, the emissions from the Adams Fork Data Center facility should not be aggregated in determining Title V or PSD status.

MONITORING, RECORDKEEPING, REPORTING, AND TESTING (MRRT) OF OPERATIONS

TransGas will be required to perform the following MRRT:

- **Operational Limitations**
 - Operating limits will be established on the engines. TransGas will be required to monitor the operating hours, operational mode, and the throughput of each type of fuel will be continuously monitored and recorded for each engine. Required to keep records of the total amount of hours each engine uses natural gas as a fuel and the total amount of hours each engine uses diesel as a fuel. The 12-month rolling sum of emissions will be calculated monthly.
- **40 CFR 60 Subpart III MRRT**
 - Monitor and utilize diesel fuel that meets a maximum per-gallon sulfur content of 1,000 ppm. [§60.4207(d)]
 - Conduct an initial performance test to demonstrate initial compliance with the emission standards as specified in §60.4213. [§60.4211(d)(1)]
 - Conduct an annual performance test to demonstrate initial compliance with the emission standards as specified in §60.4213. [§60.4211(d)(3)]
 - Keep records of the information in paragraphs (a)(2)(i) through (iv) of this section.
 - (i) All notifications submitted to comply with this subpart and all documentation supporting any notification.
 - (ii) Maintenance conducted on the engine.
 - (iii) If the stationary CI internal combustion is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards.
 - (iv) If the stationary CI internal combustion is not a certified engine, documentation that the engine meets the emission standards. [§60.4214(a)(2)]
 - Establish operating parameters to be monitored continuously to ensure the stationary internal combustion engine continues to meet the emission standards. The owner or operator must petition the Administrator for approval of operating parameters to be monitored continuously. The petition must include the information described in paragraphs (d)(2)(i) through (v) of this section.
 - (i) Identification of the specific parameters you propose to monitor continuously;
 - (ii) A discussion of the relationship between these parameters and NOX and PM emissions, identifying how the emissions of these pollutants change with changes in these parameters, and how limitations on these parameters will serve to limit NOX and PM emissions;
 - (iii) A discussion of how you will establish the upper and/or lower values for these parameters which will establish the limits on these parameters in the operating limitations;
 - (iv) A discussion identifying the methods and the instruments you will use to monitor these parameters, as well as the relative accuracy and precision of these methods and instruments; and
 - (v) A discussion identifying the frequency and methods for recalibrating the instruments you will use for monitoring these parameters. [§60.4211(d)(2)]

- Submit an initial notification as required in § 60.7(a)(1). The notification must include the information in paragraphs (a)(1)(i) through (v) of this section. Beginning on February 26, 2025, submit the notification electronically according to paragraph (g) of this section.
 - (i) Name and address of the owner or operator;
 - (ii) The address of the affected source;
 - (iii) Engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement;
 - (iv) Emission control equipment; and
 - (v) Fuel used. [§60.4214(a)(1)]
- **Tank Throughput and Loading**
 - TransGas will be required to monitor the tank throughput and loading operations for each storage tank. The 12-month rolling sum of throughputs/emissions will be calculated monthly.
- **45 CSR 17 Fugitive Sources of Particulate Matter**
 - Sources of fugitive particulate matter at the facility include diesel truck and employee traffic on paved plant roads. Conduct a visual inspection of the paved roads once each operating day to ensure no fugitive emissions are generated. When needed, roads will be swept and/or watered to minimize fugitive dust. Records will be kept of the inspections and any corrective actions.
- Maintain records of testing conducted in accordance with the permit. Said records shall be maintained on-site or in a readily accessible off-site location.
- Maintain the corresponding records specified by the on-going monitoring requirements of and testing requirements of the permit.
- Maintain a record of all PTE HAP calculations for the entire facility.

The records shall be maintained on site or in a readily available off-site location maintained by TransGas for a period of five (5) years.

STATUTORY AUTHORITY OF THE DAQ

The statutory authority of the DAQ is given under the Air Pollution Control Act (APCA) – West Virginia Code §22-5-1, *et. seq.* – which states, under §22-5-1 (“Declaration of policy and purpose”), that:

It is hereby declared that public policy of this state and the purpose of this article is to achieve and maintain such levels of air quality ***as will*** (underlining and emphasis added) protect human health and safety, and to the greatest degree practicable, prevent injury to plant and animal life and property, foster the comfort and convenience of the people, promote the economic and social development of this state and facilitate the enjoyment of the natural attractions of this state.

Therefore, while the code states that the intent of the rule includes the criteria outlined in the latter part of the above sentence, it is clear by the underlined and bolded section of the above sentence that the scope of the delegated authority does not extend beyond the *impact of air quality* on these criteria. Based on the language under §22-5-1, *et. seq.*, the DAQ, in making determinations on issuance or denial of permits under WV Legislative Rule 45 CSR 13 (45 CSR 13), does not take into consideration

substantive non-air quality issues such as job creation, economic viability of proposed project, strategic energy issues, non-air quality environmental impacts, nuisance issues, etc.

The basis for issuance or denial of an air quality permit is given under 45 CSR 13. Pursuant to §45-13-5.7, the DAQ shall issue a permit unless:

a determination is made that the proposed construction, modification, registration or relocation will violate applicable emission standards, will interfere with attainment or maintenance of an applicable ambient air quality standard, cause or contribute to a violation of an applicable air quality increment, or be inconsistent with the intent and purpose of this rule or W. Va. Code § 22-5-1, et seq., in which case the Secretary shall issue an order denying such construction, modification, relocation and operation. The Secretary shall, to the extent possible, give priority to the issuance of any such permit so as to avoid undue delay and hardship.

It is clear under 45 CSR 13 that denial of a permit must be based on one of the above explicitly stated criteria or, as noted, is inconsistent with 45 CSR 13 or §22-5-1, *et. seq.* As is stated above, it is the DAQ's position that the intent of both the APCA and 45 CSR 13 is to circumscribe the authority of the DAQ to air quality issues as outlined in the APCA and in West Virginia's State Implementation Plan (SIP).

The air quality issues evaluated relating to TransGas' proposed construction are outlined in this document. All applicable and potentially applicable rules were evaluated in the REGULATORY DISCUSSION section. The items covered under that section represent the extent of the substantive air quality issues over which the DAQ has authority to evaluate under 45 CSR 13 and the APCA as relating to this permit application.

RECOMMENDATION TO DIRECTOR

The information provided in permit application R13-3715 indicates that compliance with all applicable state and federal air quality regulations will be achieved. Therefore, I recommend to the Director that the DAQ go to public notice with a preliminary determination to issue Permit Number R13-3715 to TransGas for the proposed construction of the Adams Fork Data Center Energy Campus located in Wharncliffe, Mingo County, WV.

**Jerry
Williams**

Digitally signed by: Jerry
Williams
DN: CN = Jerry Williams email =
jerry.williams@wv.gov C = US
Date: 2025.06.27 10:29:57 -
04'00'

Jerry Williams, P.E.
Engineer

West Virginia Department of Environmental Protection

*Harold D. Ward
Cabinet Secretary*

Construction Permit



R13-3715

This permit is issued in accordance with the West Virginia Air Pollution Control Act (West Virginia Code §§22-5-1 et seq.) and 45 C.S.R. 13 – Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits and Procedures for Evaluation. The permittee identified at the above-referenced facility is authorized to construct the stationary sources of air pollutants identified herein in accordance with all terms and conditions of this permit.

Issued to:

**TransGas Development Systems, LLC
Adams Fork Data Center Energy Campus
059-00134**

*Laura M. Crowder
Director, Division of Air Quality*

Issued: Draft

Facility Location: 2002 Twisted Gun Road, Wharncliffe, Mingo County, West Virginia
Mailing Address: 630 First Avenue, Suite 30C, New York, NY 10016-3799
Facility Description: Off-grid Power Generation Facility
NAICS Codes: 221112 – Fossil Fuel Electric Power Generation
UTM Coordinates: 415.706 km Easting • 4,161.7222 km Northing • Zone 17
Latitude/Longitude: 37.59372 / -81.95491
Permit Type: Construction
Description of Change: Construction and operation of an off-grid power generation facility.

Any person whose interest may be affected, including, but not necessarily limited to, the applicant and any person who participated in the public comment process, by a permit issued, modified or denied by the Secretary may appeal such action of the Secretary to the Air Quality Board pursuant to article one [§§22B-1-1 et seq.], Chapter 22B of the Code of West Virginia. West Virginia Code §§22-5-14.

As a result of the granting of this permit, the source is subject to 45CSR30. The Title V (45CSR30) application will be due within twelve (12) months after the date of the commencement of the operation or activity (activities) authorized by this permit, unless granted a deferral or exemption by the Director from such filing deadline pursuant to a request from the permittee.

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1.0. Emission Units

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
1S – 117S	1E – 117E	Engine 1 – Engine 117	2026	28,194 HP (each)	1C – 117C
118S – 157S	118E – 157E	ULSD Tanks (TK1 – TK40)	2026	170,000 gal (each)	None
DM	DM	Hydrous Ammonia Tanks 1-39	2026	4,600 gal (each)	None
DM	DM	Caustic Soda Tanks 1-39	2026	4,600 gal (each)	None
DM	DM	Sulfuric Acid Tanks 1-39	2026	4,600 gal (each)	None
DM	DM	Sodium Chlorite Tanks 1-39	2026	4,600 gal (each)	None
DM	DM	Sodium Hydrosulfide Tanks 1-39	2026	4,600 gal (each)	None
UNLOAD	UNLOAD-E	Diesel Truck Unloading	2026	3,907,000 gal (normal operation)	None

2.0. General Conditions

2.1. Definitions

- 2.1.1. All references to the “West Virginia Air Pollution Control Act” or the “Air Pollution Control Act” mean those provisions contained in W.Va. Code §§ 22-5-1 to 22-5-18.
- 2.1.2. The “Clean Air Act” means those provisions contained in 42 U.S.C. §§ 7401 to 7671q, and regulations promulgated thereunder.
- 2.1.3. “Secretary” means the Secretary of the Department of Environmental Protection or such other person to whom the Secretary has delegated authority or duties pursuant to W.Va. Code §§ 22-1-6 or 22-1-8 (45CSR§30-2.12.). The Director of the Division of Air Quality is the Secretary’s designated representative for the purposes of this permit.

2.2. Acronyms

CAAA	Clean Air Act Amendments	NO_x	Nitrogen Oxides
CBI	Confidential Business Information	NSPS	New Source Performance Standards
CEM	Continuous Emission Monitor	PM	Particulate Matter
CES	Certified Emission Statement	PM_{2.5}	Particulate Matter less than 2.5 µm in diameter
C.F.R. or CFR	Code of Federal Regulations	PM₁₀	Particulate Matter less than 10µm in diameter
CO	Carbon Monoxide	Ppb	Pounds per Batch
C.S.R. or CSR	Codes of State Rules	Pph	Pounds per Hour
DAQ	Division of Air Quality	Ppm	Parts per Million
DEP	Department of Environmental Protection	Ppmv or ppmv	Parts per Million by Volume
dscm	Dry Standard Cubic Meter	PSD	Prevention of Significant Deterioration
FOIA	Freedom of Information Act	Psi	Pounds per Square Inch
HAP	Hazardous Air Pollutant	SIC	Standard Industrial Classification
HON	Hazardous Organic NESHAP	SIP	State Implementation Plan
HP	Horsepower	SO₂	Sulfur Dioxide
lbs/hr	Pounds per Hour	TAP	Toxic Air Pollutant
LDAR	Leak Detection and Repair	TPY	Tons per Year
M	Thousand	TRS	Total Reduced Sulfur
MACT	Maximum Achievable Control Technology	TSP	Total Suspended Particulate
MDHI	Maximum Design Heat Input	USEPA	United States Environmental Protection Agency
MM	Million	UTM	Universal Transverse Mercator
MMBtu/hr or mmbtu/hr	Million British Thermal Units per Hour	VEE	Visual Emissions Evaluation
MMCF/hr or mmcf/hr	Million Cubic Feet per Hour	VOC	Volatile Organic Compounds
NA	Not Applicable	VOL	Volatile Organic Liquids
NAAQS	National Ambient Air Quality Standards		
NESHAPS	National Emissions Standards for Hazardous Air Pollutants		

2.3. Authority

This permit is issued in accordance with West Virginia air pollution control law W.Va. Code §§ 22-5-1. et seq. and the following Legislative Rules promulgated thereunder:

- 2.3.1. 45CSR13 – *Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits and Procedures for Evaluation;*

2.4. Term and Renewal

- 2.4.1. This Permit shall remain valid, continuous and in effect unless it is revised, suspended, revoked or otherwise changed under an applicable provision of 45CSR13 or any other applicable legislative rule;

2.5. Duty to Comply

- 2.5.1. The permitted facility shall be constructed and operated in accordance with the plans and specifications filed in Permit Application R13-3715 and any modifications, administrative updates, or amendments thereto. The Secretary may suspend or revoke a permit if the plans and specifications upon which the approval was based are not adhered to;
[45CSR§§13-5.10 and -10.3.]
- 2.5.2. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the West Virginia Code and the Clean Air Act and is grounds for enforcement action by the Secretary or USEPA;
- 2.5.3. Violations of any of the conditions contained in this permit, or incorporated herein by reference, may subject the permittee to civil and/or criminal penalties for each violation and further action or remedies as provided by West Virginia Code 22-5-6 and 22-5-7;
- 2.5.4. Approval of this permit does not relieve the permittee herein of the responsibility to apply for and obtain all other permits, licenses, and/or approvals from other agencies; i.e., local, state, and federal, which may have jurisdiction over the construction and/or operation of the source(s) and/or facility herein permitted.

2.6. Duty to Provide Information

The permittee shall furnish to the Secretary within a reasonable time any information the Secretary may request in writing to determine whether cause exists for administratively updating, modifying, revoking, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Secretary copies of records to be kept by the permittee. For information claimed to be confidential, the permittee shall furnish such records to the Secretary along with a claim of confidentiality in accordance with 45CSR31. If confidential information is to be sent to USEPA, the permittee shall directly provide such information to USEPA along with a claim of confidentiality in accordance with 40 C.F.R. Part 2.

2.7. Duty to Supplement and Correct Information

Upon becoming aware of a failure to submit any relevant facts or a submittal of incorrect information in any permit application, the permittee shall promptly submit to the Secretary such supplemental facts or corrected information.

2.8. Administrative Update

The permittee may request an administrative update to this permit as defined in and according to the procedures specified in 45CSR13.

[45CSR§13-4.]

2.9. Permit Modification

The permittee may request a minor modification to this permit as defined in and according to the procedures specified in 45CSR13.

[45CSR§13-5.4.]

2.10 Major Permit Modification

The permittee may request a major modification as defined in and according to the procedures specified in 45CSR14 or 45CSR19, as appropriate.

[45CSR§13-5.1]

2.11. Inspection and Entry

The permittee shall allow any authorized representative of the Secretary, upon the presentation of credentials and other documents as may be required by law, to perform the following:

- a. At all reasonable times (including all times in which the facility is in operation) enter upon the permittee's premises where a source is located or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- c. Inspect at reasonable times (including all times in which the facility is in operation) any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit;
- d. Sample or monitor at reasonable times substances or parameters to determine compliance with the permit or applicable requirements or ascertain the amounts and types of air pollutants discharged.

2.12. [Reserved]

2.13. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a permittee in an enforcement action that it should have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. However, nothing in this paragraph shall be construed as precluding consideration of a need to halt or reduce activity as a mitigating factor in determining penalties for noncompliance if the health, safety,

or environmental impacts of halting or reducing operations would be more serious than the impacts of continued operations.

2.14. Suspension of Activities

In the event the permittee should deem it necessary to suspend, for a period in excess of sixty (60) consecutive calendar days, the operations authorized by this permit, the permittee shall notify the Secretary, in writing, within two (2) calendar weeks of the passing of the sixtieth (60) day of the suspension period.

2.15. Property Rights

This permit does not convey any property rights of any sort or any exclusive privilege.

2.16. Severability

The provisions of this permit are severable and should any provision(s) be declared by a court of competent jurisdiction to be invalid or unenforceable, all other provisions shall remain in full force and effect.

2.17. Transferability

This permit is transferable in accordance with the requirements outlined in Section 10.1 of 45CSR13. [45CSR§13-10.1.]

2.18. Notification Requirements

The permittee shall notify the Secretary, in writing, no later than thirty (30) calendar days after the actual startup of the operations authorized under this permit.

2.19. Credible Evidence

Nothing in this permit shall alter or affect the ability of any person to establish compliance with, or a violation of, any applicable requirement through the use of credible evidence to the extent authorized by law. Nothing in this permit shall be construed to waive any defense otherwise available to the permittee including, but not limited to, any challenge to the credible evidence rule in the context of any future proceeding.

3.0. Facility-Wide Requirements

3.1. Limitations and Standards

- 3.1.1. **Open burning.** The open burning of refuse by any person, firm, corporation, association or public agency is prohibited except as noted in 45CSR§6-3.1.
[45CSR§6-3.1.]
- 3.1.2. **Open burning exemptions.** The exemptions listed in 45CSR§6-3.1 are subject to the following stipulation: Upon notification by the Secretary, no person shall cause, suffer, allow or permit any form of open burning during existing or predicted periods of atmospheric stagnation. Notification shall be made by such means as the Secretary may deem necessary and feasible.
[45CSR§6-3.2.]
- 3.1.3. **Asbestos.** The permittee is responsible for thoroughly inspecting the facility, or part of the facility, prior to commencement of demolition or renovation for the presence of asbestos and complying with 40 C.F.R. § 61.145, 40 C.F.R. § 61.148, and 40 C.F.R. § 61.150. The permittee, owner, or operator must notify the Secretary at least ten (10) working days prior to the commencement of any asbestos removal on the forms prescribed by the Secretary if the permittee is subject to the notification requirements of 40 C.F.R. § 61.145(b)(3)(i). The USEPA, the Division of Waste Management, and the Bureau for Public Health - Environmental Health require a copy of this notice to be sent to them.
[40CFR§61.145(b) and 45CSR§34]
- 3.1.4. **Odor.** No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor at any location occupied by the public.
[45CSR§4-3.1] *[State Enforceable Only]*
- 3.1.5. **Permanent shutdown.** A source which has not operated at least 500 hours in one 12-month period within the previous five (5) year time period may be considered permanently shutdown, unless such source can provide to the Secretary, with reasonable specificity, information to the contrary. All permits may be modified or revoked and/or reapplication or application for new permits may be required for any source determined to be permanently shutdown.
[45CSR§13-10.5.]
- 3.1.6. **Standby plan for reducing emissions.** When requested by the Secretary, the permittee shall prepare standby plans for reducing the emissions of air pollutants in accordance with the objectives set forth in Tables I, II, and III of 45CSR11.
[45CSR§11-5.2.]

3.2. Monitoring Requirements

- 3.2.1. **Emission Limit Averaging Time.** Unless otherwise specified, compliance with all annual limits shall be based on a rolling twelve month total. A rolling twelve month total shall be the sum of the measured parameter of the previous twelve calendar months. Compliance with all hourly emission limits shall be based on the applicable NAAQS averaging times or, where applicable, as given in any approved performance test method.

3.3. Testing Requirements

- 3.3.1. **Stack testing.** As per provisions set forth in this permit or as otherwise required by the Secretary, in accordance with the West Virginia Code, underlying regulations, permits and orders, the permittee shall conduct test(s) to determine compliance with the emission limitations set forth in this permit and/or established or set forth in underlying documents. The Secretary, or his duly authorized representative, may at his option witness or conduct such test(s). Should the Secretary exercise his option to conduct such test(s), the operator shall provide all necessary sampling connections and sampling ports to be located in such manner as the Secretary may require, power for test equipment and the required safety equipment, such as scaffolding, railings and ladders, to comply with generally accepted good safety practices. Such tests shall be conducted in accordance with the methods and procedures set forth in this permit or as otherwise approved or specified by the Secretary in accordance with the following:
- a. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with 40 C.F.R. Parts 60, 61, and 63 in accordance with the Secretary's delegated authority and any established equivalency determination methods which are applicable. If a testing method is specified or approved which effectively replaces a test method specified in the permit, the permit may be revised in accordance with 45CSR§13-4. or 45CSR§13-5.4 as applicable.
 - b. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with applicable requirements which do not involve federal delegation. In specifying or approving such alternative testing to the test methods, the Secretary, to the extent possible, shall utilize the same equivalency criteria as would be used in approving such changes under Section 3.3.1.a. of this permit. If a testing method is specified or approved which effectively replaces a test method specified in the permit, the permit may be revised in accordance with 45CSR§13-4. or 45CSR§13-5.4 as applicable.
 - c. All periodic tests to determine mass emission limits from or air pollutant concentrations in discharge stacks and such other tests as specified in this permit shall be conducted in accordance with an approved test protocol. Unless previously approved, such protocols shall be submitted to the Secretary in writing at least thirty (30) days prior to any testing and shall contain the information set forth by the Secretary. In addition, the permittee shall notify the Secretary at least fifteen (15) days prior to any testing so the Secretary may have the opportunity to observe such tests. This notification shall include the actual date and time during which the test will be conducted and, if appropriate, verification that the tests will fully conform to a referenced protocol previously approved by the Secretary.
 - d. The permittee shall submit a report of the results of the stack test within sixty (60) days of completion of the test. The test report shall provide the information necessary to document the objectives of the test and to determine whether proper procedures were used to accomplish these objectives. The report shall include the following: the certification described in paragraph 3.5.1.; a statement of compliance status, also signed by a responsible official; and, a summary of conditions which form the basis for the compliance status evaluation. The summary of conditions shall include the following:

1. The permit or rule evaluated, with the citation number and language;
2. The result of the test for each permit or rule condition; and,
3. A statement of compliance or noncompliance with each permit or rule condition.

[WV Code § 22-5-4(a)(14-15) and 45CSR13]

3.4. Recordkeeping Requirements

- 3.4.1. **Retention of records.** The permittee shall maintain records of all information (including monitoring data, support information, reports, and notifications) required by this permit recorded in a form suitable and readily available for expeditious inspection and review. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation. The files shall be maintained for at least five (5) years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent two (2) years of data shall be maintained on site. The remaining three (3) years of data may be maintained off site, but must remain accessible within a reasonable time. Where appropriate, the permittee may maintain records electronically (on a computer, on computer floppy disks, CDs, DVDs, or magnetic tape disks), on microfilm, or on microfiche.
- 3.4.2. **Odors.** For the purposes of 45CSR4, the permittee shall maintain a record of all odor complaints received, any investigation performed in response to such a complaint, and any responsive action(s) taken.
[45CSR§4. State Enforceable Only.]

3.5. Reporting Requirements

- 3.5.1. **Responsible official.** Any application form, report, or compliance certification required by this permit to be submitted to the DAQ and/or USEPA shall contain a certification by the responsible official that states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
- 3.5.2. **Confidential information.** A permittee may request confidential treatment for the submission of reporting required by this permit pursuant to the limitations and procedures of W.Va. Code § 22-5-10 and 45CSR31.
- 3.5.3. **Correspondence.** All notices, requests, demands, submissions and other communications required or permitted to be made to the Secretary of DEP and/or USEPA shall be made in writing and shall be deemed to have been duly given when delivered by hand, or mailed first class or by private carrier with postage prepaid to the address(es), or submitted in electronic format by email as set forth below or to such other person or address as the Secretary of the Department of Environmental Protection may designate:

DAQ:

Director
WVDEP
Division of Air Quality
601 57th Street
Charleston, WV 25304-2345

US EPA:

Section Chief, USEPA, Region III
Enforcement and Compliance Assurance Division
Air Section (3ED21)
Four Penn Center
1600 John F Kennedy Blvd
Philadelphia, PA 19103-2852

DAQ Compliance and Enforcement¹:

DEPAirQualityReports@wv.gov

¹For all self-monitoring reports (MACT, GACT, NSPS, etc.), stack tests and protocols, Notice of Compliance Status Reports, Initial Notifications, etc.

3.5.4. Operating Fee

- 3.5.4.1. In accordance with 45CSR30 – Operating Permit Program, the permittee shall submit a certified emissions statement and pay fees on an annual basis in accordance with the submittal requirements of the Division of Air Quality. A receipt for the appropriate fee shall be maintained on the premises for which the receipt has been issued, and shall be made immediately available for inspection by the Secretary or his/her duly authorized representative.
- 3.5.4.2. In accordance with 45CSR30 – Operating Permit Program, enclosed with this permit is a Certified Emissions Statement (CES) Invoice, from the date of initial startup through the following June 30. Said invoice and the appropriate fee shall be submitted to this office no later than 30 days prior to the date of initial startup. For any startup date other than July 1, the permittee shall pay a fee or prorated fee in accordance with Section 4.5 of 45CSR22. A copy of this schedule may be found attached to the Certified Emissions Statement (CES) Invoice.
- 3.5.5. **Emission inventory.** At such time(s) as the Secretary may designate, the permittee herein shall prepare and submit an emission inventory for the previous year, addressing the emissions from the facility and/or process(es) authorized herein, in accordance with the emission inventory submittal requirements of the Division of Air Quality. After the initial submittal, the Secretary may, based upon the type and quantity of the pollutants emitted, establish a frequency other than on an annual basis.

4.0. Source-Specific Requirements

4.1. Limitations and Standards

- 4.1.1. The facility shall consist of only the pollutant-emitting equipment and processes identified under Section 1.0 of this permit. In accordance with the information filed under Permit Application R13-3715, the equipment shall be installed, maintained and operated so as to minimize any fugitive escape of pollutants and the equipment/processes shall use the specified air pollution control devices.
- 4.1.2. **Maximum Horsepower.** The maximum horsepower of each engine (1S – 117S) shall be 28,194 hp.
- 4.1.3. **Operation Modes.** The engines (1S – 117S) have the ability to operate in the following operational modes. Each operation mode shall abide by the descriptions included in Permit Application R13-3715.

Operation Mode
Normal
Compensation
Emergency
Startup (Speed Up, Fuel Switch, Generator Switched On, Load Up Cold Control)
Shutdown (Ramp Down, Min Load, Spin Out)

- 4.1.4. The maximum hourly emissions during each operating mode shall not exceed the following for each engine (1S – 117S):

a. Normal

Pollutant	Maximum Hourly Emissions (lb/hr)
Nitrogen Oxides	0.14
Carbon Monoxide	0.34
Volatile Organic Compounds	0.23
Particulate Matter-10/2.5 ¹	0.34
Sulfur Dioxide	0.01
Total Hazardous Air Pollutants	0.004

¹ Includes both filterable and condensable particulate matter.

b. Compensation

Pollutant	Maximum Hourly Emissions (lb/hr)
Nitrogen Oxides	0.46
Carbon Monoxide	1.41
Volatile Organic Compounds	0.27
Particulate Matter-10/2.5 ¹	0.53
Sulfur Dioxide	0.01
Total Hazardous Air Pollutants	0.005

¹ Includes both filterable and condensable particulate matter.

c. Emergency

Pollutant	Maximum Hourly Emissions (lb/hr)
Nitrogen Oxides	10.35
Carbon Monoxide	0.58
Volatile Organic Compounds	0.29
Particulate Matter-10/2.5 ¹	1.29
Sulfur Dioxide	0.11
Total Hazardous Air Pollutants	0.005

¹ Includes both filterable and condensable particulate matter.

d. Startup – Speed Up

Pollutant	Maximum Hourly Emissions (lb/hr)
Nitrogen Oxides	89.54
Carbon Monoxide	2.50
Volatile Organic Compounds	19.49
Particulate Matter-10/2.5 ¹	0.34
Sulfur Dioxide	0.10
Total Hazardous Air Pollutants	0.32

¹ Includes both filterable and condensable particulate matter.

e. Startup – Fuel Switch

Pollutant	Maximum Hourly Emissions (lb/hr)
Nitrogen Oxides	4.81
Carbon Monoxide	8.65
Volatile Organic Compounds	13.07
Particulate Matter-10/2.5 ¹	0.53
Sulfur Dioxide	0.01
Total Hazardous Air Pollutants	0.22

¹ Includes both filterable and condensable particulate matter.

g. Startup – Generator Switched On

Pollutant	Maximum Hourly Emissions (lb/hr)
Nitrogen Oxides	8.15
Carbon Monoxide	9.25
Volatile Organic Compounds	12.48
Particulate Matter-10/2.5 ¹	0.46
Sulfur Dioxide	0.01
Total Hazardous Air Pollutants	0.21

¹ Includes both filterable and condensable particulate matter.

h. Startup – Load Up Cold Control

Pollutant	Maximum Hourly Emissions (lb/hr)
Nitrogen Oxides	6.94
Carbon Monoxide	7.16
Volatile Organic Compounds	9.14
Particulate Matter-10/2.5 ¹	0.43
Sulfur Dioxide	0.01
Total Hazardous Air Pollutants	0.15

¹ Includes both filterable and condensable particulate matter.

i. Shutdown – Ramp Down

Pollutant	Maximum Hourly Emissions (lb/hr)
Nitrogen Oxides	0.10
Carbon Monoxide	0.83
Volatile Organic Compounds	0.15
Particulate Matter-10/2.5 ¹	0.32
Sulfur Dioxide	0.01
Total Hazardous Air Pollutants	0.003

¹ Includes both filterable and condensable particulate matter.

j. Shutdown – Min Load

Pollutant	Maximum Hourly Emissions (lb/hr)
Nitrogen Oxides	2.44
Carbon Monoxide	4.62
Volatile Organic Compounds	3.75
Particulate Matter-10/2.5 ¹	0.46
Sulfur Dioxide	0.07
Total Hazardous Air Pollutants	0.06

¹ Includes both filterable and condensable particulate matter.

k. Shutdown – Spin Out

Pollutant	Maximum Hourly Emissions (lb/hr)
Nitrogen Oxides	2.89
Carbon Monoxide	5.62
Volatile Organic Compounds	7.84
Particulate Matter-10/2.5 ¹	0.53
Sulfur Dioxide	0.07
Total Hazardous Air Pollutants	0.13

¹ Includes both filterable and condensable particulate matter.

- 4.1.5. The maximum aggregate total annual emissions¹ from the engines (1S – 117S) shall not exceed the following:

Pollutant	Maximum Annual Emissions (tons/year)¹
Nitrogen Oxides	194.30
Carbon Monoxide	205.62
Volatile Organic Compounds	116.59
Particulate Matter-10/2.5 ²	186.53
Sulfur Dioxide	9.93
Total Hazardous Air Pollutants	0.86

¹ Includes all operation modes in permit condition 4.1.4.

² Includes both filterable and condensable particulate matter.

Compliance with the annual emission limits shall be determined by multiplying each operational mode hourly emissions in permit condition 4.1.4 by the hours operated in each operation mode.

- 4.1.6. The permittee shall meet the air pollution control technology requirements for each engine (1S – 117S). The emission control systems for the engines consist of two main systems. The dry system on the high pressure side of the engine (before the turbocharger) and the wet system on the low pressure side, which is downstream of the turbocharger. The dry systems consist of an oxidation catalyst and an SCR catalyst. The catalytic reduction of CO has a reduction efficiency of over 99%. The same system oxidizes VOC emissions with a reduction efficiency of 99%. The de-NOx unit is a urea based SCR technology, and the reduction efficiency exceeds 90%. The wet system consists of four (4) stages, which reduce NOx further with 90.9% reduction efficiency and SO₂ with 70% reduction efficiency. The emission abatement system (dry and wet) that will be employed on each engine shall meet the following emissions reductions when operating in the following modes:

Mode	NO _x (%)	CO (%)	VOC (%)	PM (%)	SO ₂ (%)
Speed Up	0	0	0	0	95.0
Fuel Changeover	0	0	0	0	99.0
Generator Switched On	0	0	0	0	99.0
Load Up Cold Control	25.0	25.0	25.0	0	99.0
Normal Operation	99.0	99.0	99.0	25.0	99.0
Compensation Mode	99.0	95.0	99.0	25.0	99.0
Ramp Down	99.0	94.0	99.0	25.0	99.0
Min Load	70.0	50.0	70.0	0	70.0
Spin Out	40.0	35.0	40.0	0	40.0
Emergency	98.0	91.0	99.0	25.0	99.0

- 4.1.7. During startup and shutdown operations, the permittee shall minimize emissions by:
- Operating and maintaining the engines (1S – 117S) and associated air pollution control devices (1C – 117C) in accordance with good combustion and air pollution control practices, safe operating practices, and protection of the facility. Good combustion and air pollution control practices shall mean proper operation and maintenance of the engine control systems and air pollution control equipment in accordance with manufacturer specifications. Additionally, it shall mean such practices that promote sufficient residence time of fuel in the combustion zone, thorough mixing of air and fuel, and proper combustion temperatures.
 - Implementing operations and maintenance practices comprised of maintaining a high level of steady state operation time and minimizing (as much as practicable) the frequency of startup and shutdown events.
- 4.1.8. **Fuel Throughput Parameters.** The engines (1S – 117S) are capable of firing natural gas with co-firing diesel or diesel fuel only. The following maximum hourly fuel consumptions apply to the engines:

Mode	Maximum NG Hourly Throughput (scf/hr per engine)	Maximum Diesel Hourly Throughput (gal/hr per engine) ¹
Speed Up	0	143.46
Fuel Changeover	13,994	1.43
Generator Switched On	27,459	2.35
Load Up Cold Control	33,993	2.61
Normal Operation	98,924	3.91
Compensation Mode	138,112	3.91
Ramp Down	52,882	3.13
Min Load	27,459	2.35
Spin Out	13,994	1.43
Emergency	0	798.13

¹ Sulfur content of ultra-low sulfur diesel (ULSD) fuel shall be less than 15 ppm.

4.1.9. Annual Operational Limitation.

- a. The operating hours of each engine (1S – 117S), the throughput of each type of fuel (natural gas/diesel), and operation mode (permit condition 4.1.3) will be continuously monitored and recorded. The permittee will keep records of the fuel consumption (natural gas/diesel), and operating hours (natural gas/diesel) for each engine. The 12-month rolling sum of emissions will be calculated monthly.
 - b. Natural gas and diesel fuel meters shall be installed on each engine (1S – 117S).
 - c. Operational hour meters shall be installed on each engine (1S – 117S).
- 4.1.10. In order to minimize NOx emissions, within 180 days of startup, the permittee shall determine the optimal injection rate of aqueous ammonia into the SCR. The permittee shall then operate the SCR at the determined optimal injection rate.
- 4.1.11. The permittee shall meet the following emission standards:
- a. For engines (1S – 117S) installed on or after January 1, 2016, limit the emissions of NOX in the stationary CI internal combustion engine exhaust to the following:
 - i. 3.4 g/KW-hr (2.5 g/HP-hr) when maximum engine speed is less than 130 rpm;
 - ii. Reduce particulate matter (PM) emissions by 60 percent or more, or limit the emissions of PM in the stationary CI internal combustion engine exhaust to 0.15 g/KW-hr (0.11 g/HP-hr).**[40CFR§60.4204(c)]**
- 4.1.12. The permittee must operate and maintain stationary CI ICE that achieve the emission standards as required in §§ 60.4204 and 60.4205 over the entire life of the engines (1S – 117S).
[40CFR§60.4206]
- 4.1.13. The permittee shall meet the following fuel requirements:
- a. Beginning June 1, 2012, owners and operators of stationary CI ICE subject to this subpart with a displacement of greater than or equal to 30 liters per cylinder must use diesel fuel that meets a maximum per-gallon sulfur content of 1,000 parts per million (ppm).
[40CFR§60.4207(d)]
- 4.1.14. The engines (1S – 117S) shall use the air pollution control devices (1C – 117C) specified in Section 1.0 and permit condition 4.1.6 and identified in Permit Application R13-3715 at all times when in operation except during periods of startup and shutdown when operating temperatures do not allow for proper use of the air pollution control devices.
- 4.1.15. The maximum annual throughput of diesel fuel to the storage tanks shall not exceed the following:

Storage Tank ID	Nominal Capacity (gal)	Product Stored	Maximum Annual Throughput (gal/yr)
TK1 – TK40	170,000 (each)	Diesel Fuel	3,907,000 (all tanks) Normal Operation

- 4.1.16. The storage tanks (TK1 – TK40) shall be designed and operated as specified in the paragraphs (a) through (c).
- a. The cover and all openings on the cover (e.g., access hatches, sampling ports, pressure relief valves and gauge wells) shall form a continuous impermeable barrier over the entire surface area of the liquid in the storage vessel.
 - b. Each cover opening shall be secured in a closed, sealed position (e.g., covered by a gasketed lid or cap) whenever material is in the unit on which the cover is installed except during those times when it is necessary to use an opening as follows:
 - (i) To add material to, or remove material from the unit (this includes openings necessary to equalize or balance the internal pressure of the unit following changes in the level of the material in the unit);
 - (ii) To inspect or sample the material in the unit; or
 - (iii) To inspect, maintain, repair, or replace equipment located inside the unit.
 - c. The storage tanks (TK1 – TK40) thief hatch shall be weighted and properly seated.
[45CSR§13-5.10]
- 4.1.17. The permittee shall comply with all applicable provisions of 45 CSR 17 to minimize fugitive particulate matter emissions on the haul roads.
- 4.1.18. **Operation and Maintenance of Air Pollution Control Equipment.** The permittee shall, to the extent practicable, install, maintain, and operate all pollution control equipment listed in Section 1.0 and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary.
[45CSR§13-5.10]
- 4.1.19. The permittee shall install, maintain, and operate all above-ground piping, valves, pumps, etc. that service lines in the transport of potential sources of regulated air pollutants to minimize any fugitive escape of regulated air pollutants (leak). Any above-ground piping, valves, pumps, etc. that shows signs of excess wear that have a reasonable potential for fugitive emissions of regulated air pollutants shall be repaired or replaced.
[45CSR§13-5.10]

4.2. Monitoring Requirements

- 4.2.1. To determine compliance with permit conditions 4.1.2, 4.1.3, 4.1.4, 4.1.5, 4.1.6, and 4.1.9, the permittee shall monitor the operation type (listed in permit condition 4.1.4), number of startup/shutdown events, and hours of operation in each operating mode (natural gas/diesel) on a daily basis.
- 4.2.2. To demonstrate compliance with permit condition 4.1.8, the permittee shall monitor fuel consumption (natural gas/diesel) on a daily basis.
- 4.2.3. To demonstrate compliance with permit conditions 4.1.10 and 4.1.14, the permittee shall monitor the operating times for the air pollution control devices on at least an hourly basis.
- 4.2.4. The permittee will install air pollution control devices on the engines (1S – 117S) to show compliance with permit condition 4.1.6.b. The air pollution control devices shall be continuously

monitored to verify proper operation. The permittee shall operate the air pollution control devices in accordance with manufacturer specifications. **[45CSR§13-5.10]**

- 4.2.5. To demonstrate compliance with permit condition 4.1.15, the permittee shall monitor diesel fuel unloading on a daily basis.
- 4.2.6. To demonstrate compliance with permit condition 4.1.17, the permittee shall conduct a visible inspection of the paved roads once each operating day to ensure no fugitive particulate matter emissions from diesel truck and employee traffic are generated. If necessary, roads will be swept and/or watered to minimize fugitive particulate matter.
- 4.2.7. The permittee shall, at the time of initial startup, maintain on-site and have readily available to be made available to the Director or his/her representative upon request, a copy of the all current vendor guarantees relevant to the air emissions associated with the facility. This includes information relating to the performance of both emission units and control devices.
- 4.2.8. The permittee shall meet all applicable requirements, including those not specified above, as given under 45 CSR 4, 45 CSR 13, 45 CSR 16, 45 CSR 17, 45 CSR 30, 45 CSR 34, 40 CFR 60, Subpart IIII, and 40 CFR 63 Subpart ZZZZ. Any final revisions made to the above rules will, where applicable, supercede those specifically cited in this permit.
- 4.2.9. **Record of Monitoring.** The permittee shall keep records of monitoring information that include the following:
 - a. The date, place as defined in this permit, and time of sampling or measurements;
 - b. The date(s) analyses were performed;
 - c. The company or entity that performed the analyses;
 - d. The analytical techniques or methods used;
 - e. The results of the analyses; and
 - f. The operating conditions existing at the time of sampling or measurement.

4.3. Testing Requirements

- 4.3.1. See Facility-Wide Testing Requirements Section 3.3.
- 4.3.2. The permittee shall meet the following testing requirements for the engines (1S – 117S):
 - a. Conduct an initial performance test to demonstrate initial compliance with the emission standards as specified in § 60.4213.
 - b. Establish operating parameters to be monitored continuously to ensure the stationary internal combustion engine continues to meet the emission standards. The owner or operator must petition the Administrator for approval of operating parameters to be monitored continuously. The petition must include the information described in paragraphs (d)(2)(i) through (v) of this section.
 - i. Identification of the specific parameters you propose to monitor continuously;
 - ii. A discussion of the relationship between these parameters and NOX and PM emissions, identifying how the emissions of these pollutants change with changes in these parameters, and how limitations on these parameters will serve to limit NOX and PM emissions;
 - iii. A discussion of how you will establish the upper and/or lower values for these parameters which will establish the limits on these parameters in the operating limitations;

- iv. A discussion identifying the methods and the instruments you will use to monitor these parameters, as well as the relative accuracy and precision of these methods and instruments; and
 - v. A discussion identifying the frequency and methods for recalibrating the instruments you will use for monitoring these parameters.
- c. For non-emergency engines with a displacement of greater than or equal to 30 liters per cylinder, conduct annual performance tests to demonstrate continuous compliance with the emission standards as specified in § 60.4213.
- [40CFR§4211(d)]**

4.4. Recordkeeping Requirements

- 4.4.1. To determine compliance with permit conditions 4.1.5, 4.1.8, and 4.1.9, the permittee shall keep records of the operating hours of each engine, the throughput of each type of fuel (natural gas/diesel), and operation type (as outlined in permit condition 4.1.4) on a daily basis. The permittee shall multiply the hourly operation type emissions in permit condition 4.1.4 by the number of hours operated in that operational mode. The permittee shall calculate the emissions monthly and on a twelve-month rolling total. A twelve-month rolling total shall mean the sum of operating hours at any given time during the previous twelve consecutive calendar months.
 - 4.4.2. To determine compliance with permit condition 4.2.7, the permittee shall keep records of the daily road particulate matter fugitive inspections and any corrective actions taken.
 - 4.4.3. To determine compliance with permit conditions 4.1.15 and 4.2.6, the permittee shall keep records of the diesel unloading on a daily basis. Compliance with the throughput limit shall be determined on a 12 month rolling total basis.
 - 4.4.4. To demonstrate compliance with permit condition 4.1.19, the permittee shall keep records of the fugitive emissions components repairs and replacements.
 - 4.4.5. The permittee shall keep the following engine (1S – 117S) records:
 - a. All notifications submitted to comply with this subpart and all documentation supporting any notification.
 - b. Maintenance conducted on the engine.
 - c. If the stationary CI internal combustion is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards.
 - d. If the stationary CI internal combustion is not a certified engine, documentation that the engine meets the emission standards.
- [40CFR§4214(a)(2)]**

4.5. Reporting Requirements

- 4.5.1. See Facility-Wide Reporting Requirements Section 3.5.
- 4.5.2. The permittee shall submit notifications of the date construction commences, the actual date of initial startup as required under §60.7. The notification must include the information below. Beginning on February 26, 2025, submit the notification electronically according to paragraph (g) of this section.

- a. Name and address of the owner or operator;
- b. The address of the affected source;
- c. Engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement;
- d. Emission control equipment; and
- e. Fuel used.
[40CFR§4214(a)(1)]

DRAFT

CERTIFICATION OF DATA ACCURACY

I, the undersigned, hereby certify that, based on information and belief formed after reasonable inquiry, all information contained in the attached _____, representing the period beginning _____ and ending _____, and any supporting documents appended hereto, is true, accurate, and complete.

Signature¹

(please use blue ink)

Responsible Official or Authorized Representative

Date

Name & Title

(please print or type)

Name

Title

Telephone No. _____

Fax No. _____

¹ This form shall be signed by a "Responsible Official." "Responsible Official" means one of the following:

- a. For a corporation: The president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and either:
 - (i) the facilities employ more than 250 persons or have a gross annual sales or expenditures exceeding \$25 million (in second quarter 1980 dollars), or
 - (ii) the delegation of authority to such representative is approved in advance by the Director;
- b. For a partnership or sole proprietorship: a general partner or the proprietor, respectively;
- c. For a municipality, State, Federal, or other public entity: either a principal executive officer or ranking elected official. For the purposes of this part, a principal executive officer of a Federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., a Regional Administrator of U.S. EPA); or
- d. The designated representative delegated with such authority and approved in advance by the Director.

AIR QUALITY PERMIT NOTICE

Notice of Intent to Approve

On March 26, 2025, TransGas Development Systems, LLC applied to the WV Department of Environmental Protection, Division of Air Quality (DAQ) for a permit to construct an off grid power generation facility (Adams Fork Data Center Energy Campus) located at 2002 Twisted Gun Road, Wharncliffe, Mingo County WV at latitude 37.59372 and longitude -81.95491. A preliminary evaluation has determined that all State and Federal air quality requirements will be met by the proposed facility. The DAQ is providing notice to the public of its preliminary determination to issue the permit as R13-3715.

The following potential emissions will be authorized by this permit action: Volatile Organic Compounds, 117.93 tons per year (TPY); Nitrogen Oxides, 194.30 TPY; Carbon Monoxide, 205.62 TPY; Sulfur Dioxide, 9.93 TPY; Total Particulate Matter, 215.17 TPY; Particulate Matter less than 10 microns in diameter, 192.26 TPY; Particulate Matter less than 2.5 microns in diameter, 188.03 TPY; Total Hazardous Air Pollutants, 0.87 TPY.

Written comments or requests for a public meeting must be received by the DAQ before 5:00 p.m. on Friday, August 8, 2025. A public meeting may be held if the Director of the DAQ determines that significant public interest has been expressed, in writing, or when the Director deems it appropriate.

The purpose of the DAQ's permitting process is to make a preliminary determination if the proposed construction will meet all state and federal air quality requirements. The purpose of the public review process is to accept public comments on air quality issues relevant to this determination. Only written comments received at the address noted below within the specified time frame, or comments presented orally at a scheduled public meeting, will be considered prior to final action on the permit. All such comments will become part of the public record.

Jerry Williams
WV Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
Telephone: 304-926-0499, ext. 41214
Email: jerry.williams@wv.gov

Additional information, including copies of the draft permit, application and all other supporting materials relevant to the permit decision may be obtained by contacting the engineer listed above. The draft permit and engineering evaluation can be downloaded at:

<https://dep.wv.gov/daq/permitting/Pages/NSR-Permit-Applications.aspx>



Williams, Jerry <jerry.williams@wv.gov>

DAQ Public Notice

1 message

Mink, Stephanie R <stephanie.r.mink@wv.gov>

Wed, Jul 9, 2025 at 7:59 AM

To: Terry A Fletcher <terry.a.fletcher@wv.gov>

Cc: Jerry Williams <jerry.williams@wv.gov>, DEP Legal Notices <DEPLegalNotices@wv.gov>

Please find attached the Public Notice for Draft Permit R13-3715 for TransGas Development Systems, LLC's Adams Fork Data Center Energy Campus located in Mingo County.

The public notice will be published in *The Williamson Daily News* on Wednesday, July 9, 2025 and the thirty day comment period will end on Friday, August 8, 2025.

A PDF is attached for DEP Legal Notices to be posted through Friday, August 8, 2025.

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Stephanie Mink

Environmental Resources Associate

West Virginia Department of Environmental Protection

Division of Air Quality, Title V & NSR Permitting

601 57th Street SE

Charleston, WV 25304

Phone: 304-926-0499 x41281

AIR QUALITY PERMIT NOTICE**Notice of Intent to Approve**

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601 57th Street, SE
Charleston, WV 25304
Telephone: 304-926-0499, ext. 41214
Email: jerry.williams@wv.gov

Additional information, including copies of the draft permit, application and all other supporting materials relevant to the permit decision may be obtained by contacting the engineer listed above. The draft permit and engineering evaluation can be downloaded at:

<https://dep.wv.gov/daq/permitting/Pages/NSR-Permit-Applications.aspx>



R13-3715_AirQualityPermitNotice.pdf
71K

Ad Number 298264

Received
July 21, 2025
WV DEP/Div of Air Quality

Affidavit of Legal Publication and Posting**STATE OF WEST VIRGINIA****COUNTY OF Mingo, TO-WIT**I Elidia Queen Classified Advertising

Representative of the The Williamson Daily News, a newspaper
published in the county of Mingo, West Virginia, hereby
certify that the annexed publication was inserted in said
newspaper _____


The cost of publishing said annexed advertisement
as aforesaid was \$ 64.50

Commencing On: 07/09/2025

Ending On: 07/09/2025

Given under my hand this day 07/09/2025

Sworn to and subscribed before me 07/09/2025
at Williamson, Mingo County, West Virginia


Notary Public of, in and for Mingo County, West Virginia

MY COMMISSION EXPIRES: 4-8-30





**AIR QUALITY PERMIT
NOTICE****Notice of Intent
to Approve**

On March 26, 2025, TransGas Development Systems, LLC applied to the WV Department of Environmental Protection, Division of Air Quality (DAQ) for a permit to construct an off grid power generation facility (Adams Fork Data Center Energy Campus) located at 2002 Twisted Gun Road, Wharmcliffe, Mingo County WV at latitude 37.59372 and longitude 81.95491. A preliminary evaluation has determined that all State and Federal air quality requirements will be met by the proposed facility. The DAQ is providing notice to the public of its preliminary determination to issue the permit as R133715.

The following potential emissions will be authorized by this permit action: Volatile Organic Compounds, 117.93 tons per year (TPY); Nitrogen Oxides, 194.30 TPY; Carbon Monoxide, 205.62 TPY; Sulfur Dioxide, 9.93 TPY; Total Particulate Matter, 215.17 TPY; Particulate Matter less than 10 microns in diameter, 192.26 TPY; Particulate Matter less than 2.5 microns in diameter, 188.03 TPY; Total Hazardous Air Pollutants, 0.87 TPY.

Written comments or requests for a public meeting must be received by the DAQ before 5:00 p.m. on Friday, August 8, 2025. A public meeting may be held if the Director of the DAQ determines that significant public interest has been expressed, in writing, or when the Director deems it appropriate.

The purpose of the DAQ's permitting process is to make a preliminary determination if the proposed construction will meet all state and federal air quality requirements. The purpose of the public review process is to accept public comments on air quality issues relevant to this determination. Only written comments received at this public meeting

Acc.Id: 69164
 Name: AIR QUALITY--WV
 DEP
 Phone: 304-926-0499
 Address: 601 57TH ST SE
 City: CHARLESTON
 State: WV
 Postcode: 25304
 Class: 9010 Legal
 Notices
 Edition: WDN
 Start: 07/09/2025
 Stop: 07/09/2025
 Issues: 1
 Units: 130.0
 Order ID: HC 298264
 TFN: C
 TFN cycle:
 Rep: EQUEEN
 Status: CF
 Source: EM
 Paytype: BI
 Rate: LG
 Cost EXC
 GST: 64.50
 Tax: 0.00
 Total Charge: 64.50
 Printed on: 06/30/2025 10:46:06
 Printed by: EQUEEN

or at address noted below within the specified time frame, or comments presented orally at a scheduled public meeting, will be considered prior to final action on the permit. All such comments will become part of the public record.

Jerry Williams
WV Department of
Environmental
Protection
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
Telephone:
304 926 0499,
ext. 41214
Email: jerry.williams@wv.gov

Additional information, including copies of the draft permit, application and all other supporting materials relevant to the permit decision may be obtained by contacting the engineer listed above. The draft permit and engineering evaluation can be downloaded at:

<https://dep.wv.gov/daq/permitting/Pages/NSR-Permit-Applications.aspx>

LH-298264
07-09;2025



Williams, Jerry <jerry.williams@wv.gov>

WV Draft Permit R13-3714 for TransGas Development Systems, LLC; Adams Fork Harless Data Center Energy Campus

1 message

Whapham, Joseph <Whapham.Joseph@epa.gov>
To: "Williams, Jerry" <jerry.williams@wv.gov>
Cc: "Supplee, Gwendolyn" <Supplee.Gwendolyn@epa.gov>

Tue, Jul 22, 2025 at 2:53 PM

Microsoft Teams [Need help?](#)

Join the meeting now

Meeting ID: 255 477 651 988 5

Passcode: wf2KP3zb

Dial in by phone

+1 202-991-0477,,51263874# United States, Washington

[Find a local number](#)

Phone conference ID: 512 638 74#

Join on a video conferencing device

Tenant key: <sip:teams@video.epa.gov>

Video ID: 112 658 879 9

[More info](#)For organizers: [Meeting options](#) | [Reset dial-in PIN](#)

This meeting may be recorded. If the meeting is recorded, it will be announced via a banner showing "this meeting is being recorded." Participation in a recorded meeting will be deemed as consent to be recorded. Meeting recordings may be official agency records subject to appropriate policy, rules and regulations.

From: Williams, Jerry <jerry.williams@wv.gov>

Sent: Tuesday, July 22, 2025 10:06 AM

To: Whapham, Joseph <Whapham.Joseph@epa.gov>

Subject: Re: WV Draft Permit R13-3714 for TransGas Development Systems, LLC; Adams Fork Harless Data Center Energy Campus

Caution: This email originated from outside EPA, please exercise additional caution when deciding whether to open attachments or click on provided links.

Adam,

Both days work for me. How about any time between 10 am and 2 pm on either day?

Thank you,
Jerry

On Tue, Jul 22, 2025 at 9:01 AM Whapham, Joseph <Whapham.Joseph@epa.gov> wrote:

Hi Jerry,

As we talked about when going over the Fundamental Data permit, we have a few suggestions with the TransGas permits (R13-3714 & R13-3715). Do you have availability next Thursday (7/31) or Friday (8/1) for a call? My schedule is clear for both days so I can make any time work.

Thank you,
Adam



J. Adam Whapham

Environmental Engineer

Region 3, Air Permits Branch

US EPA Mid-Atlantic Region

Phone 215-814-2160

Email whapham.joseph@epa.gov

From: Mink, Stephanie R <stephanie.r.mink@wv.gov>

Sent: Wednesday, July 9, 2025 7:59 AM

To: Supplee, Gwendolyn <Supplee.Gwendolyn@epa.gov>; Whapham, Joseph <Whapham.Joseph@epa.gov>; Adam Victor <adam@tgds.com>; avj@adamsforkenergy.com; Patrick E. Ward <PEWard@potesta.com>

Cc: Crowder, Laura M <Laura.M.Crowder@wv.gov>; McCumbers, Carrie <Carrie.McCumbers@wv.gov>; Joseph R Kessler <joseph.r.kessler@wv.gov>; Nicole D Ernest <nicole.d.ernest@wv.gov>; Williams, Jerry <jerry.williams@wv.gov>; Johnson, Rebecca H <Rebecca.H.Johnson@wv.gov>

Subject: WV Draft Permit R13-3714 for TransGas Development Systems, LLC; Adams Fork Harless Data Center Energy Campus

Caution: This email originated from outside EPA, please exercise additional caution when deciding whether to open attachments or click on provided links.

Please find attached the Draft Permit R13-3714, Engineering Evaluation and Public Notice for TransGas Development Systems, LLC's Adams Fork Harless Data Center Energy Campus located in Mingo County.

The public notice will be published in *The Williamson Daily News* on Wednesday, July 9, 2025 and the thirty day comment period will end on Friday, August 8, 2025.

Should you have any questions or comments, please contact the permit writer, Jerry Williams, at 304-926-0499 ext. 41214 or Jerry.Williams@wv.gov.

--

Stephanie Mink

Environmental Resources Associate

West Virginia Department of Environmental Protection

Division of Air Quality, Title V & NSR Permitting

601 57th Street SE

Charleston, WV 25304

Phone: 304-926-0499 x41281

--

Jerry Williams, P.E.

Engineer, Division of Air Quality

WV Department of Environmental Protection

601 57th Street SE, Charleston, WV 25304

Phone 304-414-1214

Web dep.wv.gov **Email** jerry.williams@wv.gov



invite.ics

9K



Williams, Jerry <jerry.williams@wv.gov>

Publication of Class I Legal Ad for the WV Division of Air Quality

Mink, Stephanie R <stephanie.r.mink@wv.gov>

Thu, Jul 31, 2025 at 7:55 AM

To: Southern WV Legals <swvlegals@hdmediallc.com>

Cc: Jerry Williams <jerry.williams@wv.gov>, Nicole D Ernest <nicole.d.ernest@wv.gov>

Please publish the information below as a Class I legal advertisement (one time only) in the Wednesday, August 6, 2025 issue of the *The Williamson Daily News*. Please let me know that this has been received and will be published as requested. Thank you.

Send the invoice for payment and affidavit of publication to:

Stephanie MinkStephanie.R.Mink@wv.gov ****WV Department of Environmental Protection****DIVISION OF AIR QUALITY**[601- 57th Street](#)[Charleston, WV 25304](#)

****To expedite payments for legal notices we are asking that all invoices and affidavits be emailed to the requestor. Any invoices which are mailed to the office are subject to delays. Thank you for your assistance.**

DEP to Hold Virtual Public Meeting and Extend Public Comment Period

On March 26, 2025, TransGas Development Systems LLC applied to the WV Department of Environmental Protection (WVDEP), Division of Air Quality (DAQ) for two separate permits to construct an off-grid power generation facility at two distinct locations in Mingo County. TransGas Development Systems LLC's Adams Fork Harless Data Center Energy Campus is to be located off of 22 Mine Road, near Holden at latitude 37.75302 and longitude -82.11905. TransGas Development Systems LLC's Adams Fork Data Energy Center is to be located at [2002 Twisted Gun Road](#), in Wharncliffe at latitude 37.59372 and longitude -81.95491. A preliminary evaluation has determined that all State and Federal air quality requirements will be met by the two facilities.

The following potential emissions will be authorized by each permitting action: Volatile Organic Compounds, 117.93 tons per year (TPY); Nitrogen Oxides, 194.30 TPY; Carbon Monoxide, 205.62 TPY; Sulfur Dioxide, 9.93 TPY; Total Particulate Matter, 215.17 TPY; Particulate Matter less than 10 microns in diameter, 192.26 TPY; Particulate Matter less than 2.5 microns in diameter, 188.03 TPY; Total Hazardous Air Pollutants, 0.87 TPY.

The West Virginia Department of Environmental Protection's Division of Air Quality (DAQ) will hold a virtual public meeting at 6:00 p.m. on Monday, August 18, 2025 to provide information on both

facilities. DAQ staff members will be available to provide a presentation and answer questions before taking comments from the public about TransGas Development Systems LLC's Adams Fork Harless Data Center Energy Campus (Draft Permit R13-3714), and TransGas Development Systems LLC's Adams Fork Data Center Energy Campus (Draft Permit R13-3715). Instructions to register for the public meeting and to provide a comment are below.

Registration for the public meeting is required by 4:00 p.m. on Monday, August 18, 2025. To register, please complete the registration form at: <https://forms.gle/H4VUfdWDrpxKv9qx7>. To register to ask questions and/or provide oral comments, please indicate "yes" you want to ask a question and/or provide oral comments on the record when you register. A confirmation email will be sent with your responses when you register. A separate email with information on how to join the public meeting will be sent after registration closes at 4:00 p.m. on Monday, August 18, 2025. If you do not have internet access and want to register to participate via telephone, please contact Nicole Ernest at (304) 926-0499 x41256. Oral comments are limited to five (5) minutes. Video demonstrations and screen sharing by commenters is not permitted.

The purpose of the DAQ's permitting process is to make a preliminary determination if the proposed permits will meet all state and federal requirements. The purpose of the public review process is to provide information and accept public comments on air quality issues relevant to this determination. Only written comments received at the addresses noted below within the specified time frame, or comments presented orally at the public meeting, will be considered prior to final action on the permit. All such comments will become part of the public record.

The public comment period has been extended to 5:00 p.m. on Friday, August 22, 2025. Written comments may be submitted by:

- Email: Jerry Williams at Jerry.Williams@WV.gov with "TransGas Development Comments" as the subject line, or
- Mail: WVDEP - Air Quality, Attention: Jerry Williams, [601 57th Street SE, Charleston, WV 25304](#).

Instructions for downloading additional information, including copies of the draft permit, application, and all other supporting materials relevant to the permit decision is available at: <https://dep.wv.gov/daq/permitting/Pages/NSR-Permit-Applications.aspx>.

Ad Number 324554

Received
August 6, 2025
WV DEP/Div of Air Quality

Affidavit of Legal Publication and Posting**STATE OF WEST VIRGINIA****COUNTY OF Mingo, TO-WIT**I Elisha Queen, Classified Advertising

Representative of the The Williamson Daily News, a newspaper

published in the county of Mingo, West Virginia, hereby

certify that the annexed publication was inserted in said

newspaper _____

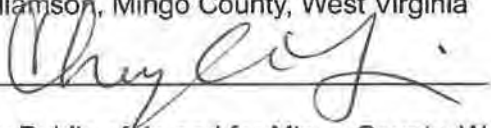
The cost of publishing said annexed advertisement

as aforesaid was \$ 94.50

Commencing On: 08/06/2025

Ending On: 08/06/2025

Given under my hand this day 08/06/2025

Sworn to and subscribed before me 08/06/2025
at Williamson, Mingo County, West Virginia

Notary Public of, in and for Mingo County, West VirginiaMY COMMISSION EXPIRES: 4-8-30
_____

**DEP to Hold
Virtual Public Meeting
and Extend Public
Comment Period**

On March 26, 2025, TransGas Development Systems LLC applied to the WV Department of Environmental Protection (WVDEP), Division of Air Quality (DAQ) for two separate permits to construct an off grid power generation facility at two distinct locations in Mingo County. TransGas Development Systems LLC's Adams Fork Harless Data Center Energy Campus is to be located off of 22 Mine Road, near Holden at latitude 37.75302 and longitude 82.11905. TransGas Development Systems LLC's Adams Fork Data Energy Center is to be located at 2002 Twisted Gun Road, in Wharmcliffe at latitude 37.59372 and longitude 81.95491. A preliminary evaluation has determined that all State and Federal air quality requirements will be met by the two facilities.

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Acc.Id: 69164
Name: AIR QUALITY-WV
 DEP
Phone: 304-926-0499
Address: 601 57TH ST SE
City: CHARLESTON
State: WV
Postcode: 25304
Class: 9010 Legal
 Notices
Edition: WDN
Start: 08/06/2025
Stop: 08/06/2025
Issues: 1
Units: 190.0
Order ID: HC 324554
TFN: C
TFN cycle:
Rep: EQUEEN
Status: CF
Source: EM
Paytype: BI
Rate: LG
Cost EXC: 94.50
GST:
Tax: 0.00
Total Charge: 94.50
Printed on: 07/31/2025 10:39:19
Printed by: EQUEEN

to register for the public meeting and to provide a comment are below.

Registration for the public meeting is required by 4:00 p.m. on Monday, August 18, 2025. To register, please complete the registration form at: <https://forms.gle/H4VUfdWDrpxKv9qx7>. To register to ask questions and/or provide oral comments, please indicate 'yes' you want to ask a question and/or provide oral comments on the record when you register. A confirmation email will be sent with your responses when you register. A separate email with information on how to join the public meeting will be sent after registration closes at 4:00 p.m. on Monday, August 18, 2025. If you do not have internet access and want to register to participate via telephone, please contact Nicole Ernest at (304) 926-0499 x41256. Oral comments are limited to five (5) minutes. Video demonstrations and screen sharing by commenters is not permitted.

The purpose of the DAQ's permitting process is to make a preliminary determination if the proposed permits will meet all state and federal requirements. The purpose of the public review process is to provide information and accept public comments on air quality issues relevant to this determination. Only written comments received at the addresses noted below within the specified time frame, or comments presented orally at the public meeting, will be considered prior to final action on the permit. All such comments will be come part of the public record.

Williams, 601 57th
Street SE, Charleston,
WV 25304.

The public comment period has been extended to 5:00 p.m. on Friday, August 22, 2025. Written comments may be submitted by:

* Email: Jerry Williams at Jerry.Williams@WV.gov with "Trans Gas Development Comments" as the subject line, or

* Mail: WVDEP Air Quality, Attention: Jerry

instructions for downloading additional information, including copies of the draft permit, application, and all other supporting materials relevant to the permit decision is available at: <https://dep.wv.gov/daq/permitting/Page%2FNSR-Permit-Applications.aspx>.

LH-324554
08-06;2025

CORP/Nonprofit Form 990 2014 304790-7250 Perma-Axis 53016



Williams, Jerry <jerry.williams@wv.gov>

Request for a copy of received comments on Applications/Draft Permits for R13-3714 and R13-3715

2 messages

Patrick E. Ward <PEWard@potesta.com>
To: "Williams, Jerry" <jerry.williams@wv.gov>
Cc: "Rhonda L. Henson" <rlhenson@potesta.com>

Mon, Aug 11, 2025 at 3:47 PM

Please send us a copy of all the comments that have been submitted regarding the two air permit applications (R13-3714 and R13-3715).

Let me know if you need anything other than this email to provide the requested documents.

Regards,

Patrick Ward

Potesta & Associates, Inc.

[7012 MacCorkle Avenue, S.E.](#)

[Charleston, West Virginia 25304](#)

Ph: (304) 342-1400

Direct: (304) 414-4751

Fax: (304) 343-9031

This electronic communication and its attachments contain confidential information. The recommendations and/or design data included herein are provided as a matter of convenience and should not be used for final design or ultimate decision making. Rely only on the final hardcopy materials bearing the consultant's original signature and seal. If you have received this information in error, please notify the sender immediately.

From: Williams, Jerry <jerry.williams@wv.gov>
Sent: Tuesday, July 22, 2025 10:18 AM
To: Patrick E. Ward <PEWard@potesta.com>
Subject: Fwd: Public Meeting Request - Adams Fork Data Center Permits

This is a sample of the public meeting requests that we have received.

----- Forwarded message -----

From: **Robin Blakeman** <rblakeman@everyactioncustom.com>
Date: Wed, Jul 16, 2025 at 7:56 AM

Subject: Public Meeting Request - Adams Fork Data Center Permits

To: <jerry.williams@wv.gov>

Dear Division of Air Quality Jerry Williams,

I urge you to host two public hearings on the Adams Fork Harless Data Center Energy Campus and Adams Fork Data Center Energy Campus permits. These proposals are unique, especially for this area, and are part of a broad vision. Therefore, I request that you hold one meeting in the City of Logan and another in the Town of Gilbert. Each meeting should cover both permits.

My main concern is that NO additional fees or costs should be passed on to existing rate payers - residential or business - because of this proposed facility. Rate payers in WV are already heavily burdened with utility costs; many residential customers are being forced to choose between paying their electric bill or paying for other necessities - like food and medicine.

This should be a priority because the impacts of these permits span from Whitman Creek to Ben Creek. We need an opportunity to learn more from WVDEP, speak with the developer, and voice our concerns regarding these permits.

Sincerely,

Robin Blakeman

32 Nedra Dr Barboursville, WV 25504-1023

rbrobinjh@gmail.com

--



Jerry Williams, P.E.

Engineer, Division of Air Quality

WV Department of Environmental Protection

601 57th Street SE, Charleston, WV 25304

Phone 304-414-1214

Web dep.wv.gov Email jerry.williams@wv.gov

Williams, Jerry <jerry.williams@wv.gov>

To: "Patrick E. Ward" <PEWard@potesta.com>

Cc: "Rhonda L. Henson" <rlhenson@potesta.com>

Tue, Aug 12, 2025 at 10:37 AM

Patrick,

Thank you for your email. Could you please submit this request through the DEP FOIA process? The link is below:

<https://dep.wv.gov/pio/Pages/FOIA.aspx>

Please let me know if you have any questions.

Thank you,

Jerry

[Quoted text hidden]

MINGO MESSENGER

PO BOX 802
PIKEVILLE, KY 41502
606-437-4054



ADVERTISING INVOICE

West Virginia Dept. of Environmental Protection
DIVISION OF AIR QUALITY
601 – 57th Street
Charleston, WV 25304
ATTN: Stephanie Mink

BILLING DATED: 8/27/2025
ACCOUNT NO. #13064

DATE	Description	RATE	UNITS	TOTAL
9/5	Public Meeting Air Quality	6.00	29	\$174.00

AMOUNT DUE: \$174.00

REMIT TO:
Mingo Messenger
PO Box 802
Pikeville KY 41502

Acct. Name: WVDEP – Division of Air Quality
Billed Acct No: #13064
Amount Due: \$174.00
Application No: Public Meeting

Mingo MESSENGER

YOUR SOURCE FOR ALL THINGS MINGO

NEWSPAPER AFFIDAVIT

APPLICATION NO: TRANS GAS Development Systems LLC

I, Beth McPeck, Administrative Assistant of the Mingo Messenger newspaper, a newspaper in Mingo County, West Virginia, do hereby certify that from my own knowledge and a check of the files of this newspaper that the advertisement of IN-person public meeting, Extended comment Period for WVDEP Division of Air Quality was inserted in the Mingo Messenger on the following dates:

DATE <u>9/5</u>	PAGE NO. <u>4B + 7B</u>
DATE _____	PAGE NO. _____
DATE _____	PAGE NO. _____
DATE _____	PAGE NO. _____

SIGNATURE Beth McPeck DATE 9-8-25

Subscribed and Sworn to before me by Beth McPeck

This 8th day of September, 2025.

NOTARY PUBLIC Deborah Chambers

ID No Kyrp11291 State Ky

My commission expires: July 28, 2028



Mingo MESSENGER CLASSIFIED

PHONE: (800) 539-4054

EMAIL: classads@mingomessenger.com

MAIL: P.O. Box 802 • Pikeville, KY 41502

FAX: (606) 437-4246

**Deadline is
Wednesday
@ 5 PM**

Pre-Pay

All major credit



September 5-11, 2025 • Page 4B • Mingo Messenger

To Our Readers

To Our Readers

LEGALS

PLEASE CHECK YOUR AD

Please read your ad the first day it appears in the paper. Report any errors immediately and we will gladly correct any errors published. Credit will be issued for one (1) day only. After the first day the ad can be corrected for the remaining number of days, but credit will not be issued for days ad is incorrectly.

POLICIES

The Mingo Messenger reserves the right to edit, properly classify, cancel or decline any ad. We will not knowingly accept advertising that discriminates on the basis of sex, age, religion, race, national origin or physical disability.

illegal to advertise "any preference, limitation or discrimination based on race, color, religion, sex, handicap, familial status or national origin, or an intention to make any such preference, limitation or discrimination." Familial includes children under the age of 18 living with parents or legal custodians, pregnant women and people securing custody of children under 18.

This newspaper will not knowingly accept any advertising for real estate which is in violation of the law. Our readers are hereby informed that all dwellings advertised in this newspaper are available on an equal opportunity basis. To complain of discrimination, call HUD toll-free at 1-800-669-9777. The toll-free number for the hearing impaired is 1-800-927-9275.



DEP to Hold In-Person Public Meeting and Extend Public Comment Period

On March 26, 2025, TransGas Development Systems LLC applied to the WV Department of Environmental Protection (WVDEP), Division of Air Quality (DAQ) for two separate permits (R13-3714 and R13-3715) to construct an off-grid power generation facility at two distinct locations in Mingo County. TransGas Development Systems LLCs Adams Fork Harless Data Center Energy Campus is proposed to be located off of 22 Mine Road, near Holden, at latitude 37.75302 and longitude -82.11905. TransGas Development Systems LLCs Adams Fork Data Energy Center is proposed to be located at 2002 Twisted Gun Road, in Wharncliffe, at latitude 37.59372 and longitude -81.95491. On July 9, 2025,



E-File
Min

ORDER OF PUBLICATION IN THE CIRCUIT COURT OF MINGO COUNTY, WEST VIRGINIA

State of West Virginia,
Petitioner,

AND

Ariel Nicole Carver,
Co-Petitioner,

Vs.

Juvenile Case Nos.

Derrick Brewer,
Respondents,

IN THE INTEREST OF THESE MINOR CHILDREN

C.B.
O.B.
D.B.

DOB: 08-14-2017
DOB: 03-01-2019
DOB: 08-28-2020

The object of the above entitled action is to terminate the parental and or other custodians of the above named children and to place permanent custody with West Virginia Department of Human Services.

To: Derrick Brewer

It appearing that the above named Respondent, Derrick Brewer, resides in Mingo County, West Virginia, and it is hereby Ordered that the said Derrick Brewer be advised by this Publication to appear in the Circuit Court of Mingo County, in October 8, 2025, at 9:30 a.m., for a preliminary/adjudicatory/dispositional hearing. The result in the termination of his parental/custodial rights in and to the above named children.

Jim Pajartko, Attorney at Law, whose address is P.O. Box 1082, Williamstown, KY 40380, Number (304) 928-3037, has been appointed to represent the Respondent. He may be contacted at the address and telephone number listed.

Should said Respondent, Derrick Brewer, fail to appear on October 8, 2025, and trial he is hereby notified and advised that his parental/custodial rights may be terminated.

A copy of the Petition giving rise to the aforesaid court proceedings is being furnished to the undersigned Clerk at his office.

Entered by the Clerk of said Court on this the 22nd day of August, 2025

PUBLIC NOTICE • LEGAL NOTICE

LEGAL

LEGAL

LEGAL

PUBLIC NOTICE • LEGAL NOTICE

PUBLIC NO

The DAQ notified the public that a preliminary evaluation has determined that all state and Federal permit quality requirements will be met by the two facilities and made available a draft permit and engineering evaluation for each facility. A virtual public meeting to discuss these permitting actions is held by the DAQ on August 13, 2025. Now, upon request, the DAQ will hold an additional in-person public meeting to provide information, answer questions, and accept oral comments for the record for both permitting actions. The meeting will be held at the Larry Joe Harless Community Center, 202 Larry Joe Harless Drive, Gilbert, WV 25621, on Thursday, September 18, 2025, at 4:30 p.m. Doors will open at 4:00 p.m. to register attendees. If you plan to attend the in-person public meeting, to save time and ensure all participants in attendance are registered, please fill out the pre-registration form <<https://forms.g/16EakUxukcvkMY9>> by 5:00

p.m. on Wednesday, September 17, 2025. While pre-registration is not required, it is encouraged to save time and ensure all participants in attendance are registered. To register to ask questions and/or provide oral comments, please indicate yes that you want to ask a question and/or provide oral comments for the record when you register. A confirmation email will be sent with your responses when you register. If you do not have internet access and want to register via telephone, please contact Nicole Ernest at (304) 926-0499 x41256. Oral comments are limited to five. The purpose of the DAQs permitting process is to determine if the proposed facilities will meet all state and federal requirements. The purpose of the public review process is to provide information and accept public comments on air quality issues relevant to these determinations. Only written comments received at the addresses noted below within the specified time frame, or comments presented orally at the pub-

lic meeting, will be considered prior to final action on the permits. All such comments will become part of the public record. The public comment period has been extended to 5:00 p.m. on Friday, September 19, 2025. Written comments may be submitted by:

- Email: Jerry Williams at Jerry.Williams@WV.gov with "TransGas Development Comments" as the subject line, or
- Mail: WVDEP - Air Quality, Attention: Jerry Williams, 601 57th Street SE, Charleston, WV 25304.

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REAL ESTATE FOR RENT

FOR RENT:
Commercial and Residential Property in Williamson, WV. Call 304-235-5395 or 304-687-0410.

West Virginia State Auditor's Office
County Collections Division 1900 Kanawha Boulevard East
Building 1, Room W-114
Charleston, West Virginia 25305

(2024-C-0000141-MINGO COUNTY-WVTB LLC)
The Mingo Messenger
PO Box 802
Pikeville KY 41502

To: TODD JENKINS, KARRIE JENKINS, TODD JENKINS, KARRIE JENKINS, TODD JENKINS, KARRIE JENKINS, OCCUPANT, IRS, ATTN: ADVISORY CONSOLIDATED RECEIPTS, WV STATE TAX DEPARTMENT, or heirs at law, devisees, creditors, representatives, successors, assigns, all known heirs, guardians, conservators, fiduciaries, administrators, lienholders, co-owners, other parties having an undivided interest in the delinquent property, and other parties that may have any interest in the subject property.

DISTRICT LEE MAP 366 PARCEL 0023 0000 0000

You will take notice that WVTB LLC, the purchaser of the following real estate, Cert. No. 2024-C-000141, located in LEE District, .77 FEE PIGEON CR which was returned delinquent or nonentered in the name of JENKINS TODD ET UX, and was sold by the deputy commissioner of delinquent and nonentered lands of MINGO County at the sale for the delinquent taxes on June 17, 2025. WVTB LLC requests that you be notified that a deed for such real estate will be made on or after February 1, 2026, as provided by law, unless before that day you redeem such real estate. The amount needed to redeem on or before January 31, 2026, will be as follows:

- Amount equal to the taxes and charges due on the date of the certification, with interest, for tax year ticket number 2023 - 8623 ... \$930.82
- Back tax tickets, with interest, and charges due on the date of certification for ticket number ... \$0.00
- Subsequent of taxes paid on the property, with interest to for tax year 2024 - 8611 ... \$824.69
- Additional taxes with interest ... \$0.00
- Auditor's Certification, Publication, and Redemption fee plus interest ... \$210.20
- Amount paid for Title Examination, notice to redeem, publication, personal service, Secretary of State with interest ... \$904.74
- Additional Statutory Fees with Interest ... \$0.00
- Total Amount Due and Payable to WV State Auditor - cashier check, money order, certified or personal check ... \$2,870.45

You may redeem at any time before January 31, 2026, by paying the above total less any unearned interest.

If the above real estate is your primary residence, you may petition the Auditor to redeem the real estate in not more than three incremental payments that equal the total amount required to redeem the real estate prior to the issuance of the deed described above.

Given under my hand August 13, 2025.

Christal G. Perry
Christal G. Perry
Deputy Commissioner of Delinquent and Nonentered Lands of MINGO County, State of West Virginia

Please Return this letter and payment to the
West Virginia State Auditor's Office,
County Collections Division,
1900 Kanawha Boulevard East, Building 1, Room W-114
Charleston, West Virginia, 25305.
Questions please call 1-888-509-6568

West Virginia State Auditor
County Collections Division
Building 1, Room W-114
Charleston, West Virginia 2

(2024-C-0000204-MINGO
The Mingo Messenger
PO Box 802
Pikeville KY 41502

To: IRS, ATTN: ADVISORY DEPARTMENT, EMMA MOU or heirs at law, devisees, or known heirs, guardians, co-owners, other parties having an undivided interest in the delinquent property, and other parties that may have any interest in the subject property.

DISTRICT MAGNOLIA MAP 1

You will take notice that V estate, Cert. No. 2024-C-01 (2 TRS) TUG RIVER which name of MOUNTS EMMA, a delinquent and nonentered delinquent taxes on June 17, 2024 a deed for such real estate provided by law, unless before that day you redeem such real estate. The amount needed to redeem on or before January 31, 2026, will be as follows:

- Amount equal to the taxes and charges due on the date of the certification, with interest ... \$183.48
- Back tax tickets, with interest, and charges due on the date of certification for ticket number ... \$0.00
- Subsequent of taxes paid on the property, with interest to for tax year 2024 - 12131 ... \$135.70
- Additional taxes with interest ... \$0.00
- Auditor's Certification, Publication, and Redemption fee plus interest ... \$210.20
- Amount paid for Title Examination, notice to redeem, publication, personal service, Secretary of State with interest ... \$904.74
- Additional Statutory Fees with Interest ... \$0.00
- Total Amount Due and Payable to WV State Auditor - cashier check, money order, certified or personal check ... \$2,870.45

You may redeem at any time before January 31, 2026, by paying the above total less any unearned interest.

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Given under my hand August 13, 2025.

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Christal G. Perry
Deputy Commissioner of Delinquent and Nonentered Lands of MINGO County, State of West Virginia

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West Virginia State Auditor's Office,
County Collections Division,
1900 Kanawha Boulevard East, Building 1, Room W-114
Charleston, West Virginia, 25305.
Questions please call 1-888-509-6568



Ad Number 340359

Affidavit of Legal Publication and Posting

STATE OF WEST VIRGINIA

COUNTY OF Logan, TO-WIT

I Eliza Queen, Classified Advertising

Representative of The Logan Banner, a newspaper published in the county of Logan, West Virginia, hereby

certify that the annexed publication was inserted in said newspaper _____

The cost of publishing said annexed advertisement

as aforesaid was \$ 86.50

Commencing On: 09/03/2025

Ending On: 09/03/2025

Given under my hand this day 09/03/2025

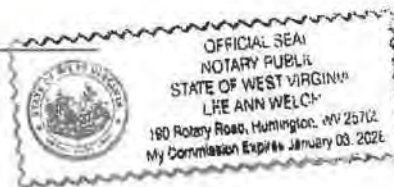
Sworn to and subscribed before me 09/03/2025
at Logan, Logan County, West Virginia

Lie Ann Welch

Notary Public of, in and for Logan County, West Virginia

MY COMMISSION EXPIRES: Jan. 3, 2028

Eliza Queen



**DEP to Hold
In-Person Public
Meeting and Extend
Public Comment
Period**

On March 26, 2025, TransGas Development Systems LLC applied to the WV Department of Environmental Protection (WVDEP), Division of Air Quality (DAQ) for two separate permits (R13.3714 and R13.3715) to construct an off-grid power generation facility at two distinct locations in Mingo County. TransGas Development Systems LLC's Adams Fork Harless Data Center Energy Campus is proposed to be located off of 22 Mine Road, near Holden, at altitude 37.75302 and longitude 82.11905. TransGas Development Systems LLC's Adams Fork Data Energy Center is proposed to be located at 2002 Twisted Gun Road, in Whamcliffe, at altitude 37.59372 and longitude 81.95491. On July 9, 2025, the DAQ notified the public that a preliminary evaluation has determined that all State and Federal air quality requirements will be met by the two facilities and made available a draft permit and engineering evaluation for each facility. A virtual public meeting to discuss these permitting actions was held by the DAQ on August 18, 2025.

Now, upon request, the DAQ will hold an additional in-person public meeting to provide information, answer questions, and accept oral comments for the record for both permitting actions. The meeting will be held at the Larry Joe Harless Community Center, 202 Larry Joe Harless Drive, Gilbert, WV 25621, on Thursday, September 18, 2025, at 4:30 p.m. Doors will open at 4:00 p.m. to register attendees.

If you plan to attend the in-person public meeting, to save time and ensure all participants in attendance are registered, please fill out the pre-registration form at <https://forms.gle/16EakUxukcv12kMY9> by 5:00 p.m. on Wednesday, September 17, 2025.

Acc.Id: 69164
Name: AIR QUALITY--WV
DEP
Phone: 304-926-0499
Address: 601 57TH ST SE
City: CHARLESTON
State: WV
Postcode: 25304
Class: 9010 Legal
Notices
Edition: LOG
Start: 09/03/2025
Stop: 09/03/2025
Issues: 1
Units: 174.0
Order ID: HC 340359
TFN: C
TFN cycle:
Rep: EQUEEN
Status: CF
Source: EM
Paytype: BI
Rate: LG
Cost EXC
GST: 86.50
Tax: 0.00
Total Charge: 86.50
Printed on: 08/27/2025 13:53:27
Printed by: EQUEEN



registration is not required, it is encouraged to save time and ensure all participants in attendance are registered. To register to ask questions and/or provide oral comments, please indicate 'yes' that you want to ask a question and/or provide oral comments for the record when you register. A confirmation email will be sent with your responses when you register. If you do not have internet access and want to register via telephone, please contact Nicole Ernest at (304) 926-0499 x41256. Oral comments are limited to five (5) minutes.

The purpose of the DAQ's permitting process is to determine if the proposed facilities will meet all state and federal requirements. The purpose of the public review process is to provide information and accept public comments on air quality issues relevant to these determinations. Only written comments received at the addresses noted below within the specified time frame, or comments presented orally at the public meeting, will be considered prior to final action on the permits. All such comments will become part of the public record.

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LH-340359
09-03;2025

Colleges struggle amid Trump policies

BY LUCIA RODRIGUEZ-
FEDUZZA, MANU
BENNETT and COLLIN
BINKLEY

The Associated Press

One international student after another told the University of Central Missouri this summer that they couldn't pay a visa and more struggled to even land an interview for one.

Even though Hispanic was just as high as ever, half as many new international graduate students showed up for fall classes compared to last year.

The decline represents a hit to the bottom line for Central Missouri, a small public university that operates on a tight budget with an endowment of only \$65 million. International students typically account for nearly a quarter of its million revenue.

"We aren't able to subsidize these students as much when we have fewer international students who are bringing revenue to us," said Roger Best, the university's president.

Signs of a decline in international students have been noticed at colleges around the U.S. Colleges with large numbers of foreign students and small endowments have the financial cushion to protect them from steep



The Central Missouri State University campus in Warrenton, Ore., is shown Friday, May 10, 2023.

losses in tuition income. International students represent at least 25% of enrollment at more than 100 colleges with endowments of less than \$50 million per student, according to an Associated Press analysis. Many are small Christian colleges, but the group also includes large universities such as North-western and Carnegie Mellon.

The extent of the decline in enrollment will not be clear until the fall. Some groups have forecast a decline of as much as 40%, with a huge impact on college budgets and the wider U.S. economy.

International students face uncertain future

As part of a broader effort to get people to pay attention, President Donald Trump has

numbers of international students and heightened scrutiny of student visas. His administration has moved to deport foreign students involved in pro-Palestinian activities, and new student visa appointments were put on hold for weeks as it ramped up vetting of applicants.

On Wednesday, the Department of Homeland Security said it would propose a rule that would put new limits on the time foreign students can stay in the U.S.

The policies have drawn sharp criticism from foreign universities, which said they are able to track students' whereabouts.

Foreign payments are not eligible for federal financial aid, and often pay full price for tuition — double the price

Wage the U.S. make paid by domestic students at public universities.

"To put it more bluntly and concisely, if an international student comes in and pays \$50,000 a year in tuition, that gives universities the flexibility to offer lower fees and more scholarship money to American students," Gestel said.

Students struggle to pay

Ahmed Ahmed, a Sudanese student, nearly didn't make it to the U.S. for his freshman year at the University of Rochester.

The Trump administration in June announced a travel ban on 12 countries, including Sudan. Ahmed said he couldn't enter the U.S. because his visa was issued before the ban. But when he asked to renew a flight to leave for the U.S. from Uganda, where he stayed with family during the summer, he was turned away and advised to contact an embassy about his status.

With the help of the University of Rochester's international office, Ahmed was able to track another flight. At Rochester, where he received a scholarship to study electrical engineering, Ahmed, 19, said he feels supported by the staff. But he

also finds himself on edge and understands why other students might not want to subject themselves to the scrutiny in the U.S., particularly those who are not paying their own way.

"I feel like I made it through, but I'm one of the last people to make it through," he said.

Colleges are taking steps to blunt the impact

In recent years, international students have made up about 30% of enrollment at Central Missouri, which has a total of around 12,000 students. In anticipation of the hit to international enrollment, Central Missouri cut a post of living wage for employees. It has pushed off infrastructure improvements planned for its campus and has been looking for other ways to cut costs.

Several schools — typically classified as class with no more than 5,000 students — tend to have less financial flexibility and will be especially vulnerable, said Dick Scarra, an economics professor at the University of California, Santa Barbara.

Los Angeles, a Christian institution with 3,500 students in 2022, is expecting 50 to 60 international students enrolled this fall, down from 82 the previous school year, representing a

significant drop in revenue for the school and Roy E. Chan, the university's director of graduate studies.

The school already has increased tuition by 20% over the past five years to account for a decrease in overall enrollment, he said.

"Since we're a smaller liberal arts campus, tuition isn't our main, primary revenue," Chan said, as opposed to government funding for research.

The strain on international enrollment only adds to pressure for schools already on the financial brink.

Colleges around the country have been doing as they can to offset declines in some revenue streams, a consequence of changing demographics and the effects of the pandemic. Nationwide, private colleges have been looking at a rate of about new per month, according to the State Higher Education Executive Officers Association.

The number of high school graduates in the U.S. is expected to decline through 2041 when there will be 10% fewer compared to 2024, according to projections from the Western Interstate Commission for Higher Education.

"That means that if you have participation from international students, it's even worse," Scarra said.

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THE LOGAN BANNER

CLASSIFIEDS

FOCUS GROUP PARTICIPANT'S

Attorney and LMS associated with Hunt & Hunt, LLC is conducting focus groups and looking for participants to give opinions on court rules in Logan County, WV. The groups will be held on January 1, 2024, at 10:00 a.m. and 2:00 p.m. We will receive \$150.00 in cash for participating. Focus groups will be held on January 1, 2024, at 10:00 a.m. and 2:00 p.m. We will receive \$150.00 in cash for participating. Focus groups will be held on January 1, 2024, at 10:00 a.m. and 2:00 p.m. We will receive \$150.00 in cash for participating.

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Ad Number 340361**Affidavit of Legal Publication and Posting****STATE OF WEST VIRGINIA****COUNTY OF Mingo, TO-WIT**I Linda Queen Classified Advertising

Representative of the The Williamson Daily News, a newspaper

published in the county of Mingo, West Virginia, hereby

certify that the annexed publication was inserted in said

newspaper _____

The cost of publishing said annexed advertisement

as aforesaid was \$ 86.50

Commencing On: 09/03/2025

Ending On: 09/03/2025

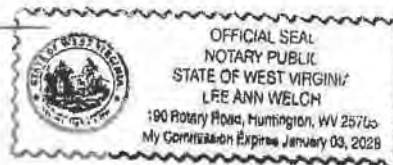
Given under my hand this day 09/03/2025

Sworn to and subscribed before me 09/03/2025

at Williamson, Mingo County, West Virginia

Lie Ann Welch

Notary Public of, in and for Mingo County, West Virginia

MY COMMISSION EXPIRES: Jan. 3, 2028Linda Queen

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Meeting and Extend
Public Comment
Period**

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Acc.Id: 69164
Name: AIR QUALITY-WV DEP
Phone: 304-926-0499
Address: 601 57TH ST SE
City: CHARLESTON
State: WV
Postcode: 25304
Class: 9010 Legal Notices
Edition: WDN
Start: 09/03/2025
Stop: 09/03/2025
Issues: 1
Units: 174.0
Order ID: HC 340361
TFN: C
TFN cycle:
Rep: EQUEEN
Status: CF
Source: EM
Paytype: BI
Rate: LG
Cost EXC: 86.50
GST:
Tax: 0.00
Total Charge: 86.50
Printed on: 08/27/2025 13:56:20
Printed by: EQUEEN



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LH-340361
09-03-2025



west virginia department of environmental protection

WVDEP - Air Quality In-Person Public Meeting for TransGas Development's Proposed Air Quality Permits R13-3714 and R13-3715
Thursday, September 18, 2025, at 4:30 PM : Larry Joe Harless Community Center, 202 Larry Joe Harless Drive, Gilbert, WV 25621

Page ____ of ____

PRE-REGISTRATION SIGN-IN SHEET

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The information you voluntarily provide on this sheet becomes part of the public record related to this topic and may be released if requested under the Freedom of Information Act.

Last Name, First Name	Group or Organization	Signature	Question (Y/N)	Comment (Y/N)
Bias, Mitchell			No	Yes
Perry, Roger	self	Roger S. Perry	Yes	Yes
Powers, Tommy	Citizen	Tommy J Powers	Yes	Yes
Turnbull, Greta			Yes	Yes



west virginia department of environmental protection

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Page 1 of 1

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Name (First and Last)	Group or Organization	Email Address (Preferred) - OR- Address: PLEASE PRINT NEATLY	Question (Y/N)	Comment (Y/N)
Damon Morgan	C.C.O.G.	62 Winger Ave. Kistler WV		
Ernest Mole	A.S.K. A OG	62 Winger Ave Kistler WV		
CAITLIN WARE	FROM BELOW	6616 PARKERSBURG RD SANDYVILLE, WV 25275		
Annmarie Sue Benbow	From Ben Creek	1493 Right Fork Road Wv 25651		
Regina Cline	Ben Creek	21 Family Lane, Wharncliffe, WV 25651		
ARRED Cline	Ben Creek	21 Family Lane, Wharncliffe, WV 25651		
Barbara Myers	Charleston	125 Clubview Dr. S Charleston		
Bridgett Adkins	Kenova	1018 Brook St. Kenova WV 25530		
Russell Flaherty		227 Whitten Spring Road Peytona WV		
Michael Whitten	CCL		✓	✓




west virginia department of environmental protection

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Name (First and Last)	Group or Organization	Email Address (Preferred) - OR- Address: PLEASE PRINT NEATLY	Question (Y/N)	Comment (Y/N)
Robert Fields	WVOW Radio	robert.j.fields@wvowradio.com		
Rita Mitchell				
Kunden Simpson	Private Citiz			
Kenle Kest		kenle.kest@proton.me kenle.k42@proton.me	✓	✓
Irene Toler	—	irenetoler@icloud.com	2	
Treva Hatfield	—	trevahatfield@outlook.com	✓	✓
Brandon Giff	—	giffbrandon@yale.com	N	N
Denim Tola		thetolers@gmail.com	✓	M
				
Britta Aguirre	Appalachians for Change	britta@britforwv.com	N	N



west virginia department of environmental protection

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Name (First and Last)	Group or Organization	Email Address (Preferred) - OR- Address: PLEASE PRINT NEATLY	Question (Y/N)	Comment (Y/N)
Brenda Wilson	Gilbert			
Donald Compton	WHARF CLIFFE WVA			
Shana Nelson	WVOW Radio	shananelson@wvowradio.com	Y	
Sheila Miller	Resident of Wharfe WV 46 Melba Blossom Lane		N	N
James Goette	citizen	Box 177 Amherstdale WV 25607	Y	Y
Keretta Hatfield	Citizen	kerettahatfield@hotmail.com	N	N
Mr. Brad Jain	FROM BELOW	BRADGDAVIST1@GMAIL.COM	N	N
Mike Beckett	Logan	mikebeckett@hotmail.com	M	M
Kyle Adams	Cora VFD	CoraVFD@gmail.com	N	N
Bill Gilkerson		B. Gilkerson 1203 @ Gmail. Com		
Herman Teatt				



west virginia department of environmental protection

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Name (First and Last)	Group or Organization	Email Address (Preferred) - OR- Address: PLEASE PRINT NEATLY	Question (Y/N)	Comment (Y/N)
Tige Harless	Gilbert CVB	tige.harless@gilbertcvb.com		
Ron Smith	Citizen	rdsmithpower@yahoo.com		
Raymond Ellis	Gilbert			
Barbara Ellis	Gilbert			
Susan Perry	Logan	perrychick112@aol.com	✓	
Paul Harless	Logan			
Michael Harless	n	harlessleasinginc@hotmail.com		
Dana V. Queen		vqueen1950@yahoo.com		
Tonya Mounts	Citizen	tmounts@hotmail.com 304-784-6651	✓	
Joseph DiCristofaro	WCHS	jdicristofaro@sbgtn.com		



west virginia department of environmental protection

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Name (First and Last)	Group or Organization	Email Address (Preferred) - OR- Address: PLEASE PRINT NEATLY	Question (Y/N)	Comment (Y/N)
Carol Stinson			N	
Dusty Nagle			N	
Carter Woyal				
Ernest Gibson		44 Rader Drive Wharncleff WV 25631-2600	N	
Maure May		44 P.O. Box 86 Wharncleff 26000 25651	N	
Baker May		"		
Debbie Pofford		599 Rt 7k Ben Creek Wharncleff WV	N	
Craig Pofford		"		
Justin Grimmer		919 Left Fork Ben Creek Rd Wharncleff WV	Y	
Kelsey Grimmer		919 Left Fork Ben Creek Rd Wharncleff WV	Y	



west virginia department of environmental protection

WVDEP - Air Quality In-Person Public Meeting for TransGas Development's Proposed Air Quality Permits R13-3714 and R13-3715
Thursday, September 18, 2025, at 4:30 PM : Larry Joe Harless Community Center, 202 Larry Joe Harless Drive, Gilbert, WV 25621

Page 6 of

SIGN-IN SHEET

The Department of Environmental Protection requests the information below so that agency staff can provide responses and information to you.
The information you voluntarily provide on this sheet becomes part of the public record related to this topic and may be released if requested under the Freedom of Information Act.

Name (First and Last)	Group or Organization	Email Address (Preferred) - OR- Address: PLEASE PRINT NEATLY	Question (Y/N)	Comment (Y/N)
Turner Adornetto		adornetto@mit.edu	N	N
Eric Burgess		dominoprintingwv@gmail.com	Y	Y
Tyler Cannon		tyler@wvcag.org		
Chelsea Sammons		chelsea sammons 5@gmail.com		
Timothy Smith				
Lindsay Gine		LKSURBER@GMAIL.COM	N	N
Pam Surber		proudmom-lk@yahoo.com	Y	Y
Monica Davis		-0-	N	N
Doug Surber			N	N
Joe Dugan				N



west virginia department of environmental protection

WVDEP - Air Quality In-Person Public Meeting for TransGas Development's Proposed Air Quality Permits R13-3714 and R13-3715
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Page 7 of

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Name (First and Last)	Group or Organization	Email Address (Preferred) - OR- Address: PLEASE PRINT NEATLY	Question (Y/N)	Comment (Y/N)
Preston Berry		preston.berry@K12.wv.us		
Denver Stacy				✓
Lori Stacy				✓
M. Kay Fay				
Mariah Clay		mclay@wrrivers.org		
Wilma Mullins		P.O. Box 13 wharnccliffe, WV 25651		
Kyle Surber		kylesurber20@gmail.com		
Barbara Maunick		P.O. Box 1522 Gilbert WV. 25621		
Lisa McDonald		16 Limestone lane Delbarton WV 25670	✓	
Wayne McDonald		76 Limestone lane Delbarton WV 25670		



west virginia department of environmental protection

WVDEP - Air Quality In-Person Public Meeting for TransGas Development's Proposed Air Quality Permits R13-3714 and R13-3715
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Page 8 of

SIGN-IN SHEET

The Department of Environmental Protection requests the information below so that agency staff can provide responses and information to you.
The information you voluntarily provide on this sheet becomes part of the public record related to this topic and may be released if requested under the Freedom of Information Act.

Name (First and Last)	Group or Organization	Email Address (Preferred) - OR- Address: PLEASE PRINT NEATLY	Question (Y/N)	Comment (Y/N)
* Mounts	Learmon			
* Nolents	See			
* Sammons	Scotty			
* Ernest Sammons		ERNEST.SAMMONS@GMAIL.COM		X
- Janet Gibson		janetgibson0811@hotmail.com		
- Pamela French		Claricaflowers75@hotmail.com		
- Audrey Smith				
- Kathleen				

17. TransGas Correspondence R13-3714
and R13-3715

**Williams, Jerry** <jerry.williams@wv.gov>

Applications R13-3714 and R13-3715

2 messages

Patrick E. Ward <PEWard@potesta.com>

Thu, Apr 3, 2025 at 2:10 PM

To: "Jerry.Williams@wv.gov" <Jerry.Williams@wv.gov>

Cc: Adam Victor <adam@tgds.com>, "Adam Victor, Jr." <avj@adamsforkenergy.com>, "Ronald R. Potesta" <RRPotesta@potesta.com>, "Rhonda L. Henson" <rlhenson@potesta.com>

This email is to let you know the status of the fee payments and legal advertisements for the above applications. The application fees (\$2,000 each) were paid yesterday. The legal advertisements have been sent to the Williamson Daily Mail and will be published on April 9th. We will submit the affidavits of publications when we receive them from the newspaper.

Regards,

Patrick Ward

Potesta & Associates, Inc.

[7012 MacCorkle Avenue, S.E.](#)[Charleston, West Virginia 25304](#)

Ph: (304) 342-1400

Direct: (304) 414-4751

Fax: (304) 343-9031

This electronic communication and its attachments contain confidential information. The recommendations and/or design data included herein are provided as a matter of convenience and should not be used for final design or ultimate decision making. Rely only on the final hardcopy materials bearing the consultant's original signature and seal. If you have received this information in error, please notify the sender immediately.

Williams, Jerry <jerry.williams@wv.gov>

Thu, Apr 3, 2025 at 2:44 PM

To: "Patrick E. Ward" <PEWard@potesta.com>

Cc: Adam Victor <adam@tgds.com>, "Adam Victor, Jr." <avj@adamsforkenergy.com>, "Ronald R. Potesta" <RRPotesta@potesta.com>, "Rhonda L. Henson" <rlhenson@potesta.com>

Patrick,

Thank you for the update. I did receive confirmation earlier today of the fee payments. I will be on the lookout for the affidavits.

Thanks again,
Jerry

[Quoted text hidden]



Jerry Williams, P.E.

Engineer, Division of Air Quality

WV Department of Environmental Protection

601 57th Street SE, Charleston, WV 25304

Phone 304-926-0499, ext. 41214

Web dep.wv.gov **Email** jerry.williams@wv.gov



Williams, Jerry <jerry.williams@wv.gov>

Fwd: Receipts

Mink, Stephanie R <stephanie.r.mink@wv.gov>
To: Jerry Williams <jerry.williams@wv.gov>

Thu, Apr 3, 2025 at 9:40 AM

Both TransGas payments have been entered in Airtrax.

Thanks
Stephanie

----- Forwarded message -----

From: **Sullivan, Kathy M** <kathy.m.sullivan@wv.gov>

Date: Wed, Apr 2, 2025 at 3:31 PM

Subject: Receipts

To: adam@tgds.com <adam@tgds.com>, Ronya@tgds.com <Ronya@tgds.com>, Stephanie R Mink <stephanie.r.mink@wv.gov>

Attached
CR number is 2500074979

--

Thanks,

Kathy Sullivan

Accounts Receivable

WVDEP

Room 3084

601 57th Street

Charleston, WV 25304

304-926-0499 ext. **41940**

Promoting a Healthy Environment



R13-3714 & R13-3715 \$2000.00 each.pdf
127K



Miles, Barbara A <barbara.a.miles@wv.gov>

WV DAQ Permit Application Status for TransGas Development Systems LLC; Adams Fork Harless Data Center Energy Campus

1 message

Mink, Stephanie R <stephanie.r.mink@wv.gov>

Thu, Mar 27, 2025 at 12:26 PM

To: Adam Victor <adam@tgds.com>, avj@adamsforkenergy.com, "Patrick E. Ward" <PEWard@potesta.com>

Cc: Joseph R Kessler <joseph.r.kessler@wv.gov>, Jerry Williams <jerry.williams@wv.gov>, Casey M Samples

<casey.m.samples@wv.gov>, Gregory L Null <gregory.l.null@wv.gov>, Barbara A Miles <barbara.a.miles@wv.gov>, Kathy M Sullivan <kathy.m.sullivan@wv.gov>

Application Status

TransGas Development Systems LLC; Adams Fork Harless Data Center Energy Campus

Facility ID: 059-00133

Application No. R13-3714

Mr. Victor:

Your application for
March 16, 2025, atIt is noted in the Pa
due. Once you have
ext. 41195. The DE

Adam fork
059-00133
R13-3714 200000
R13-3715
adam@TGDS.com
kathy@TGDS.com
917-816-3701

ata Center Energy C

The permit engineer
contact the Account

Please have the Facility ID and Appli

WV Dept of Env. Prot.
601 57th St SE
Charleston, WV 25304
304-926-0499

SALE

TID: 00E30710 REF#: 00000040
Bank ID: 000000
Batch #: 1165 RRN: 592649655370
04/02/25 15:22:51
AVS: Z CVC: M
Invoice #: R13714

APPR CODE: 07530D
VISA
*****8867

Manual CP
/

Within 30 days, you should receive notification from Jerry Williams stating the status of the permit. An estimated time frame for the agency's final action on the permit.

AMOUNT \$2,000.00

APPROVED

Any determination of completeness shall not relieve the permit applicant of the requirement to provide, in any additional or corrected information deemed necessary for a final permit decision.

Should you have any questions, please contact the assigned engineer, Jerry Williams, at 304-9-

Stephanie Mink

Environmental Resources Associate

West Virginia Department of Environmental Protection

Division of Air Quality, Title V & NSR Permitting

601 57th Street SE

SIGNATURE NOT REQUIRED

I AGREE TO PAY ABOVE TOTAL AMOUNT
IN ACCORDANCE WITH CARD ISSUER'S
AGREEMENT
(MERCHANT AGREEMENT IF CREDIT VOUCHER)
RETAIN THIS COPY FOR STATEMENT
VERIFICATION

Thank You
Please Come Again

MERCHANT COPY

4/2/25, 3:21 PM

State of West Virginia Mail - WV DAQ Permit Application Status for TransGas Development Systems LLC; Adams Fork Harless Data ...

Charleston, WV 25304

Phone: 304-926-0499 x41281



Miles, Barbara A <barbara.a.miles@wv.gov>

Re: WV DAQ Permit Application Status for TransGas Development Systems LLC; Adams Fork Harless Data Center Energy Campus

1 message

Mink, Stephanie R <stephanie.r.mink@wv.gov>

Thu, Mar 27, 2025 at 3:00 PM

To: Adam Victor <adam@tgds.com>

Cc: avj@adamsforkenergy.com, "Patrick E. Ward" <PEWard@potesta.com>, Joseph R Kessler <joseph.r.kessler@wv.gov>, Jerry Williams <jerry.williams@wv.gov>, Casey M Samples <casey.m.samples@wv.gov>, Gregory L Null <gregory.l.null@wv.gov>, Barbara A Miles <barbara.a.miles@wv.gov>, Kathy M Sullivan <kathy.m.sullivan@wv.gov>

Adam,

My apologies, I sent the email to our staff and failed to add your addresses. Here is the information you need:

Application Status**TransGas Development Systems LLC; Adams Fork Data Center Energy Campus****Facility ID: 059-00134****Application No. R13-3715**

Mr. Victor:

Your application for a Construction Permit for the Adams Fork Harless Data Center Energy Campus was received on March 16, 2025, and was assigned to Jerry Williams.

WV Dept of Env. Prot.
601 57th St SE
Charleston, WV 25304
304-926-0499**SALE**TID: 00E30710 REF#: 00000041
Bank ID: 000000
Batch #: 1165 RRN: 092761655512
04/02/25 15:25:12
AVS: ? CVC: U
Invoice #: R133715APPR CODE: 05383D
VISA Manual CP
*****8867 ***

It is noted in the Payment Report that payment will be received via phone. The permit engineer due. Once you have the amount that you owe from the engineer, you may contact the Account ext. 41195. The DEP accepts Visa and MasterCard only. Please have the Facility ID and A

AMOUNT \$2,000.00**APPROVED**

Within 30 days, you should receive notification from Jerry Williams stating the status of the permit and an estimated time frame for the agency's final action on the permit.

SIGNATURE NOT REQUIREDI AGREE TO PAY ABOVE TOTAL AMOUNT
IN ACCORDANCE WITH CARD ISSUER'S
AGREEMENT
(MERCHANT AGREEMENT IF CREDIT VOUCHER)
RETAIN THIS COPY FOR STATEMENT
VERIFICATION

Any determination of completeness shall not relieve the permit applicant of the requirement to provide, in any additional or corrected information deemed necessary for a final permit decision.

Thank You
Please Come Again

Should you have any questions, please contact the assigned engineer, Jerry Williams, at 304-926-0499.

MERCHANT COPY

On Thu, Mar 27, 2025 at 2:56 PM Adam Victor <adam@tgds.com> wrote:

Hi Stephanie

Do you have the application number for the Adams Fork Energy Application as well.

Thank you

Regards

Adam

On Thu, Mar 27, 2025 at 12:26 PM Mink, Stephanie R <stephanie.r.mink@wv.gov> wrote:

Application Status

TransGas Development Systems LLC; Adams Fork Harless Data Center Energy Campus

Facility ID: 059-00133

Application No. R13-3714

Mr. Victor:

Your application for a Construction Permit for the Adams Fork Harless Data Center Energy Campus was received by this division on March 16, 2025, and was assigned to Jerry Williams.

It is noted in the Payment Report that payment will be received via phone. The permit engineer will contact you regarding the amount due. Once you have the amount that you owe from the engineer, you may contact the Accounts Receivable section at 304-926-0499 ext. 41195. The DEP accepts Visa and MasterCard only. Please have the Facility ID and Application Number available when calling.

Within 30 days, you should receive notification from Jerry Williams stating the status of the permit application and, if complete, given an estimated time frame for the agency's final action on the permit.

Any determination of completeness shall not relieve the permit applicant of the requirement to subsequently submit, in a timely manner, any additional or corrected information deemed necessary for a final permit decision.

Should you have any questions, please contact the assigned engineer, Jerry Williams, at 304-926-0499, extension 41214.

--

Stephanie Mink

Environmental Resources Associate

West Virginia Department of Environmental Protection

Division of Air Quality, Title V & NSR Permitting

601 57th Street SE

Charleston, WV 25304

Phone: 304-926-0499 x41281

**Williams, Jerry** <jerry.williams@wv.gov>

TransGas

3 messages

Williams, Jerry <jerry.williams@wv.gov>
To: "Patrick E. Ward" <PEWard@potesta.com>

Thu, Apr 10, 2025 at 10:28 AM

Patrick,

As we discussed last week, I have some comments on the application. I would also like to discuss a path forward on how the draft permit can be written based upon the large amount of CBI. Do you have time later today or tomorrow for a call? If not, we can connect next week. I would prefer a virtual call, which I can setup, so that I can share screens.

Thank you,
Jerry



Jerry Williams, P.E.
Engineer, Division of Air Quality

WV Department of Environmental Protection
601 57th Street SE, Charleston, WV 25304
Phone 304-926-0499, ext. 41214
Web dep.wv.gov **Email** jerry.williams@wv.gov

Patrick E. Ward <PEWard@potesta.com>
To: "Williams, Jerry" <jerry.williams@wv.gov>

Thu, Apr 10, 2025 at 10:31 AM

Anytime tomorrow would be fine.

Regards,

Patrick Ward

Potesta & Associates, Inc.

[7012 MacCorkle Avenue, S.E.](#)

[Charleston, West Virginia 25304](#)

Ph: (304) 342-1400

Direct: (304) 414-4751

Fax: (304) 343-9031

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From: Williams, Jerry <jerry.williams@wv.gov>
Sent: Thursday, April 10, 2025 10:29 AM
To: Patrick E. Ward <PEWard@potesta.com>
Subject: TransGas

You don't often get email from jerry.williams@wv.gov. [Learn why this is important](#)

[Quoted text hidden]

Williams, Jerry <jerry.williams@wv.gov>
To: "Patrick E. Ward" <PEWard@potesta.com>

Thu, Apr 10, 2025 at 10:40 AM



TransGas

Apr 11, 2025, 10:00am – Apr 11, 2025, 11:00am
(GMT-04:00) Eastern Time - New York

[Quoted text hidden]



Williams, Jerry <jerry.williams@wv.gov>

Accepted: TransGas

1 message

Patrick E. Ward <PEWard@potesta.com>
To: Jerry Williams <jerry.williams@wv.gov>

Thu, Apr 10, 2025 at 10:40 AM

 **invite.ics**
2K



Williams, Jerry <jerry.williams@wv.gov>

Accepted: TransGas @ Fri Apr 11, 2025 10am - 11am (EDT) (jerry.williams@wv.gov)

1 message

Patrick Ward (Google Calendar) <calendar-notification@google.com>

Thu, Apr 10, 2025 at 10:41 AM

Reply-To: Patrick Ward <peward@potesta.com>

To: jerry.williams@wv.gov

Patrick Ward has accepted this invitation.**Join with Google Meet****Meeting link**

meet.google.com/dci-jpbm-djv

Join by phone

(US) +1 781-570-3009

PIN: 629766832

[More phone numbers](#)**When**

Friday Apr 11, 2025 · 10am – 11am (Eastern Time - New York)

Guests

jerry.williams@wv.gov - organizer

Patrick Ward

[View all guest info](#)Invitation from [Google Calendar](#)

You are receiving this email because you are subscribed to calendar notifications. To stop receiving these emails, go to [Calendar settings](#), select this calendar, and change "Other notifications".

Forwarding this invitation could allow any recipient to send a response to the organizer, be added to the guest list, invite others regardless of their own invitation status, or modify your RSVP. [Learn more](#)

**invite.ics**
2K



Williams, Jerry <jerry.williams@wv.gov>

Engines Requirements under 40CFR60, Subpart IIII1 message

Patrick E. Ward <PEWard@potesta.com>

Thu, Apr 17, 2025 at 10:29 AM

To: "Jerry.Williams@wv.gov" <Jerry.Williams@wv.gov>

Cc: Adam Victor <adam@tgds.com>, "Rhonda L. Henson" <rlhenson@potesta.com>

Per your request we are providing the following information regarding the proposed engines at the two TransGas facilities (Facility IDs. 059-00133 and 059-00134). We believe that this information will allow for the identification of the specific sections of 40CFR60, Subpart IIII that apply to the proposed engines.

The engines are greater than 30 liters per cylinder, less than 130 rpm, not reducing PM by 60%, and do not have diesel particulate filters.

Let us know if you have any other questions.

Regards,

Patrick Ward

Potesta & Associates, Inc.

[7012 MacCorkle Avenue, S.E.](#)

[Charleston, West Virginia 25304](#)

Ph: (304) 342-1400

Direct: (304) 414-4751

Fax: (304) 343-9031

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Williams, Jerry <jerry.williams@wv.gov>

WV DAQ Permit Application Incomplete for TransGas Development Systems, LLC - Harless

2 messages

Williams, Jerry <jerry.williams@wv.gov>

Mon, Apr 21, 2025 at 10:59 AM

To: Adam Victor <adam@tgds.com>, "Adam Victor, Jr." <avj@adamsforkenergy.com>, "Patrick E. Ward" <PEWard@potesta.com>

Cc: Joseph R Kessler <joseph.r.kessler@wv.gov>

**RE: Application Status: Incomplete
TransGas Development Systems, LLC - Harless
Permit Application R13-3714
Plant ID No. 059-00133**

Dear Adam,

Your application for a 45 CSR 13 construction permit for a data center energy campus was received by this Division on March 26, 2025, and assigned to the writer for review. Upon initial review of said application, it has been determined that the application as submitted is incomplete based on the following items:

1. Page 5 of the pdf has the incorrect facility name and physical address.
2. Submit affidavit of publication for Class I legal advertisement.

Please address the above deficiencies in writing within fifteen (15) days of the receipt of this email. Application review will not commence until the application has been deemed to be technically complete. Failure to respond to this request in a timely manner may result in the denial of the application.

Should you have any questions, please reply to this email.

Thank you,
Jerry

**Jerry Williams, P.E.***Engineer, Division of Air Quality*

WV Department of Environmental Protection

601 57th Street SE, Charleston, WV 25304

Phone 304-926-0499, ext. 41214**Web** dep.wv.gov **Email** jerry.williams@wv.gov

Patrick E. Ward <PEWard@potesta.com>

Tue, Apr 22, 2025 at 9:47 AM

To: "Williams, Jerry" <jerry.williams@wv.gov>

Cc: Joseph R Kessler <joseph.r.kessler@wv.gov>, Adam Victor <adam@tgds.com>, "Adam Victor, Jr." <avj@adamsforkenergy.com>, "Ronald R. Potesta" <RRPotesta@potesta.com>, "Rhonda L. Henson" <rlhenson@potesta.com>

Attached are the two items requested in the below email: the affidavit of publication and the corrected PDF
Page 5.

Regards,

Patrick Ward

Potesta & Associates, Inc.

[7012 MacCorkle Avenue, S.E.](#)

[Charleston, West Virginia 25304](#)

Ph: (304) 342-1400

Direct: (304) 414-4751

Fax: (304) 343-9031

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[Quoted text hidden]

2 attachments



235088.pdf
244K



Revised Application for NSR Permit (Page 1) (22-0132-003B).pdf
213K

Ad Number 235088

Affidavit of Legal Publication and Posting

STATE OF WEST VIRGINIA

COUNTY OF Mingo, TO-WIT

I Elisha Queen, Classified Advertising

Representative of the The Williamson Daily News, a newspaper
published in the county of Mingo, West Virginia, hereby
certify that the annexed publication was inserted in said
newspaper _____

The cost of publishing said annexed advertisement
as aforesaid was \$ 42.50

Commencing On: 04/09/2025

Ending On: 04/09/2025

Given under my hand this day 04/09/2025

Sworn to and subscribed before me 04/09/2025
at Williamson, Mingo County, West Virginia



Notary Public of, in and for Mingo County, West Virginia

MY COMMISSION EXPIRES: May 12, 2027

Elisha Queen



**AIR QUALITY
PERMIT NOTICE****Notice of Application**

Notice is given that TransGas Development Systems, LLC has applied to the West Virginia Department of Environmental Protection, Division of Air Quality, for a Construction Permit for the Adams Fork Harless Data Center Energy Campus located on 22 Mine Road near Holden in Mingo County, West Virginia. The latitude and longitude coordinates are: 37.753020 and 82.119050.

The applicant estimates the potential to discharge the following Regulated Air Pollutants will be: NOx of 194.30 tons per year (tpy), SO2 of 9.93 tpy, CO of 205.62 tpy, VOC of 117.66 which includes fugitives of 0.31 tpy, PM of 193.69 tpy which includes fugitives of 7.16 tpy, PM10 of 187.96 which includes fugitives of 1.43 tpy, PM2.5 of 186.91 tpy which includes fugitives of 0.38 tpy, and total HAPS of 0.87 tpy.

Startup of operations is planned to begin on or about the 1st day of January 2027. Written comments will be received by the West Virginia Department of Environmental Protection, Division of Air Quality, 601 57th Street, SE, Charleston, WV 25304, for at least 30 calendar days from the date of publication of this notice. Written comments will also be received via email at DEP@AirQualityPermitting@WV.gov.

Any questions regarding this permit application should be directed to the DAQ at (304) 926-0499, Extension 41281, during normal business hours.

Dated this the 9th day of April 2025.

By:
TransGas Development
Systems, LLC
Adam Victor
President
630 First Avenue,
Suite 300
New York, New York
10016 3799

**LH-235088
04-09:2025**

Acc.Id: 66275
Name: POTESA &
ASSOCIATES
Phone: 304-342-1400
Address: 7012 MACCORKLE AVE
SE
City: CHARLESTON
State: WV
Postcode: 25304
Class: 9010 Legal Notices
Edition: WDN
Start: 04/09/2025
Stop: 04/09/2025
Issues: 1
Units: 86.0
Order ID: HC 235088
TFN: C
TFN cycle:
Rep: EQUEEN
Status: CF
Source: EM
Paytype: BI
Rate: LG
Cost EXC
GST: 42.50
Tax: 0.00
Total Charge: 42.50
Printed on: 04/02/2025 16:31:44
Printed by: EQUEEN



WEST VIRGINIA DEPARTMENT OF
ENVIRONMENTAL PROTECTION
DIVISION OF AIR QUALITY

601 57th Street, SE
Charleston, WV 25304
(304) 926-0475
www.dep.wv.gov/daq

**APPLICATION FOR NSR PERMIT
AND
TITLE V PERMIT REVISION
(OPTIONAL)**

PLEASE CHECK ALL THAT APPLY TO **NSR (45CSR13)** (IF KNOWN):

- ☒ **CONSTRUCTION** ☐ **MODIFICATION** ☐ **RELOCATION**
☐ **CLASS I ADMINISTRATIVE UPDATE** ☐ **TEMPORARY**
☐ **CLASS II ADMINISTRATIVE UPDATE** ☐ **AFTER-THE-FACT**

PLEASE CHECK TYPE OF **45CSR30 (TITLE V)** REVISION (IF ANY):

- ☐ **ADMINISTRATIVE AMENDMENT** ☐ **MINOR MODIFICATION**
☐ **SIGNIFICANT MODIFICATION**

IF ANY BOX ABOVE IS CHECKED, INCLUDE TITLE V REVISION
INFORMATION AS **ATTACHMENT S** TO THIS APPLICATION

FOR TITLE V FACILITIES ONLY: Please refer to "Title V Revision Guidance" in order to determine your Title V Revision options
(Appendix A, "Title V Permit Revision Flowchart") and ability to operate with the changes requested in this Permit Application.

Section I. General

1. Name of applicant (as registered with the WV Secretary of State's Office): TransGas Development Systems, LLC		2. Federal Employer ID No. (FEIN): 20343110	
3. Name of facility (if different from above): Adams Fork Harless Data Center Energy Campus		4. The applicant is the: <input type="checkbox"/> OWNER <input type="checkbox"/> OPERATOR <input checked="" type="checkbox"/> BOTH	
5A. Applicant's mailing address: 630 First Avenue, Suite 30C New York, New York 10016-3799		5B. Facility's present physical address: 22 Mine Road Holden, WV 25670	
6. West Virginia Business Registration. Is the applicant a resident of the State of West Virginia? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO ⇒ If YES , provide a copy of the Certificate of Incorporation/Organization/Limited Partnership (one page) including any name change amendments or other Business Registration Certificate as Attachment A . ⇒ If NO , provide a copy of the Certificate of Authority/Authority of L.L.C./Registration (one page) including any name change amendments or other Business Certificate as Attachment A .			
7. If applicant is a subsidiary corporation, please provide the name of parent corporation: No			
8. Does the applicant own, lease, have an option to buy or otherwise have control of the <i>proposed site</i> ? <input type="checkbox"/> YES <input type="checkbox"/> NO ⇒ If YES , please explain: Applicant has an option on the site with the current owner. ⇒ If NO , you are not eligible for a permit for this source.			
9. Type of plant or facility (stationary source) to be constructed, modified, relocated, administratively updated or temporarily permitted (e.g., coal preparation plant, primary crusher, etc.): Off-grid Power Generation		10. North American Industry Classification System (NAICS) code for the facility: 221112	
11A. DAQ Plant ID No. (for existing facilities only): New Facility		11B. List all current 45CSR13 and 45CSR30 (Title V) permit numbers associated with this process (for existing facilities only): New Facility	

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.



Williams, Jerry <jerry.williams@wv.gov>

WV DAQ Permit Application Incomplete for TransGas Development Systems, LLC - Adams Fork

2 messages

Williams, Jerry <jerry.williams@wv.gov>

Mon, Apr 21, 2025 at 10:59 AM

To: Adam Victor <adam@tgds.com>, "Adam Victor, Jr." <avj@adamsforkenergy.com>, "Patrick E. Ward" <PEWard@potesta.com>

Cc: Joseph R Kessler <joseph.r.kessler@wv.gov>

**RE: Application Status: Incomplete
TransGas Development Systems, LLC - Adams Fork
Permit Application R13-3715
Plant ID No. 059-00134**

Dear Adam,

Your application for a 45 CSR 13 construction permit for a data center energy campus was received by this Division on March 26, 2025, and assigned to the writer for review. Upon initial review of said application, it has been determined that the application as submitted is incomplete based on the following items:

1. Submit affidavit of publication for Class I legal advertisement.

Please address the above deficiencies in writing within fifteen (15) days of the receipt of this email. Application review will not commence until the application has been deemed to be technically complete. Failure to respond to this request in a timely manner may result in the denial of the application.

Should you have any questions, please reply to this email.

**Jerry Williams, P.E.***Engineer, Division of Air Quality*

WV Department of Environmental Protection

601 57th Street SE, Charleston, WV 25304

Phone 304-926-0499, ext. 41214**Web** dep.wv.gov **Email** jerry.williams@wv.gov

Patrick E. Ward <PEWard@potesta.com>

Tue, Apr 22, 2025 at 9:50 AM

To: "Williams, Jerry" <jerry.williams@wv.gov>

Cc: Joseph R Kessler <joseph.r.kessler@wv.gov>, Adam Victor <adam@tgds.com>, "Adam Victor, Jr." <avj@adamsforkenergy.com>, "Ronald R. Potesta" <RRPotesta@potesta.com>, "Rhonda L. Henson" <rlhenson@potesta.com>

Attached is the affidavit of publication as requested below.

Regards,

Patrick Ward

Potesta & Associates, Inc.

7012 MacCorkle Avenue, S.E.

Charleston, West Virginia 25304

Ph: (304) 342-1400

Direct: (304) 414-4751

Fax: (304) 343-9031

This electronic communication and its attachments contain confidential information. The recommendations and/or design data included herein are provided as a matter of convenience and should not be used for final design or ultimate decision making. Rely only on the final hardcopy materials bearing the consultant's original signature and seal. If you have received this information in error, please notify the sender immediately.

[Quoted text hidden]



235082.pdf
243K

Ad Number 235082

Affidavit of Legal Publication and Posting

STATE OF WEST VIRGINIA

COUNTY OF Mingo, TO-WIT

I Elisha Queen, Classified Advertising

Representative of the The Williamson Daily News, a newspaper
published in the county of Mingo, West Virginia, hereby
certify that the annexed publication was inserted in said
newspaper _____

The cost of publishing said annexed advertisement
as aforesaid was \$ 43.00

Commencing On: 04/09/2025

Ending On: 04/09/2025

Given under my hand this day 04/09/2025

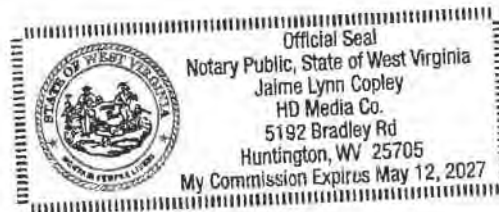
Sworn to and subscribed before me 04/09/2025
at Williamson, Mingo County, West Virginia

[Signature]

Notary Public of, in and for Mingo County, West Virginia

MY COMMISSION EXPIRES: May 12, 2027

Elisha Queen



**AIR QUALITY
PERMIT NOTICE****Notice of Application**

Notice is given that TransGas Development Systems, LLC has applied to the West Virginia Department of Environmental Protection, Division of Air Quality, for a Construction Permit for the Adams Fork Data Center Energy Campus located on Twisted Gun Road near Wharnciffe in Mingo County, West Virginia. The latitude and longitude coordinates are: 37.593717 and 81.954906.

The applicant estimates the potential to discharge the following Regulated Air Pollutants will be: NOx of 194.30 tons per year (tpy), SO2 of 9.93 tpy, CO of 205.62 tpy, VOC of 117.66 which includes fugitives of 0.31 tpy, PM of 215.17 tpy which includes fugitives of 28.64 tpy, PM10 of 192.26 which includes fugitives of 5.73 tpy, PM2.5 of 188.03 tpy which includes fugitives of 1.50 tpy, and total HAPs of 0.87 tpy.

Startup of operations is planned to begin on or about the 1st day of January 2027. Written comments will be received by the West Virginia Department of Environmental Protection, Division of Air Quality, 601 57th Street, SE, Charleston, WV 25304, for at least 30 calendar days from the date of publication of this notice. Written comments will also be received via email at DEPAirQualityPermitting@WV.gov.

Any questions regarding this permit application should be directed to the DAQ at (304) 926-0499, Extension 41281, during normal business hours.

Dated this the 9th day of April 2025,

By:
TransGas Development
Systems, LLC
Adam Victor
President
630 First Avenue,
Suite 300
New York, New York
10016-3799

LH-235082

04-09-2025

Acc.Id: 66275
Name: POTESA &
ASSOCIATES
Phone: 304-342-1400
Address: 7012 MACCORKLE AVE
SE
City: CHARLESTON
State: WV
Postcode: 25304
Class: 9010 Legal Notices
Edition: WDN
Start: 04/09/2025
Stop: 04/09/2025
Issues: 1
Units: 87.0
Order ID: HC 235082
TFN: C
TFN cycle:
Rep: EQUEEN
Status: CF
Source: EM
Paytype: BI
Rate: LG
Cost EXC
GST: 43.00
Tax: 0.00
Total Charge: 43.00
Printed on: 04/02/2025 16:26:35
Printed by: EQUEEN



Williams, Jerry <jerry.williams@wv.gov>

Comment Letter

1 message

Williams, Jerry <jerry.williams@wv.gov>
To: "Patrick E. Ward" <PEWard@potesta.com>
Bcc: Joseph R Kessler <joseph.r.kessler@wv.gov>

Fri, Apr 25, 2025 at 9:48 AM

Patrick,

Good morning. Attached to this email is the letter from the Sierra Club (WV Chapter) regarding the two (2) TransGas permit applications.

Thank you,
Jerry



Jerry Williams, P.E.
Engineer, Division of Air Quality

WV Department of Environmental Protection
601 57th Street SE, Charleston, WV 25304
Phone 304-926-0499, ext. 41214
Web dep.wv.gov **Email** jerry.williams@wv.gov



04.16.2025 Sierra Club WV Letter.pdf
113K



Sierra Club

West Virginia Chapter

P.O. Box 4142
Morgantown, WV 26504

April 16, 2025

Laura Crowder, Director
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304

Via e-mail to: Laura.M.Crowder@wv.gov

Dear Director Crowder:

On behalf of the approximately 2,000 members of the West Virginia Chapter of Sierra Club, we are writing to express our concern over application for air permits for proposed power plants. Facilities in Logan, Mingo and Tucker Counties (Adams Fork Harless Data Center Energy Campus; Adams Fork Data Center Energy Campus, and Fundamental Data, LLC) have recently applied for construction permits for very large gas-fired power plants, but the publicly available application is so heavily redacted that basic information is not available to the public. Critical information such as the number and type of turbines, the air pollution control devices, and sources and quality of fuel are not available.

I personally have never seen an application that has been so heavily redacted. We are concerned about the precedent that would be set by moving forward without adequately informing the public. Most importantly, this appears to violate the fundamental intent of the public notice requirements of West Virginia Code 22-5-10 (a) which states:

“All air quality data, **emission data** (emphasis added), permits, compliance schedules, orders of the director, board orders and any other information required by a federal implementation program (all for convenience hereinafter referred to in this section as "records, reports, data or information") obtained under this article shall be available to the public, except that upon a showing satisfactory to the director, by any person, that records, reports, data or information or any particular part thereof, to which the director has access under this article if made public, would divulge methods or processes entitled to protection as trade secrets ”

Under the federal Clean Air Act, claims of trade secret status are required under 40-CFR-2.208 (e) (1) to show that:

“disclosure of the information is likely to cause substantial harm to the business's competitive position”.

Furthermore, 40-CFR-2.301 (a) (2) (i) defines “Emission data” as:

“***Emission data*** means, with reference to any source of emission of any substance into the air—

(A) Information necessary to determine the identity, amount, frequency, concentration, or other characteristics (to the extent related to air quality) of any

emission which has been emitted by the source (or of any pollutant resulting from any emission by the source), or any combination of the foregoing;

(B) Information necessary to determine the identity, amount, frequency, concentration, or other characteristics (to the extent related to air quality) of the emissions which, under an applicable standard or limitation, the source was authorized to emit (including, to the extent necessary for such purposes, a description of the manner or rate of operation of the source); and

(C) A general description of the location and/or nature of the source to the extent necessary to identify the source and to distinguish it from other sources (including, to the extent necessary for such purposes, a description of the device, installation, or operation constituting the source). ”

Based on these definitions, we believe that redacting such information in the air permit application is clearly in violation of the requirement in WV Code 22-5-10 for release of that information to the public. While we recognize the requirement for appropriate protection of trade secrets, the attempt to redact basic information such as the number and model of turbines defies the logic of a free market, and interferes with the ability of citizens to assist WV-DAQ in preparing appropriate permits. Manufacturers clearly want to advertise their equipment model and attributes, claiming that such basic information is a trade secret is obviously contrary to any logical business marketing plan. The claim that this is a trade secret is, instead, quite obviously a transparent attempt to deny public involvement required by law.

We are also concerned about the reply given to one of our members that the application by Fundamental Data. LLC in Tucker County “has been deemed administratively complete...”. It appears that such a determination has been made without adequate opportunity for public comment, especially since so much information has been redacted.

We request that WV-DAQ reject the three applications, return them to the applicants, and require the applicants to resubmit and re-advertise the applications in a form that complies with public notice requirements. All three of these applications indicate exceptionally large electric generating facilities, as these apparently would be among the largest in the State of West Virginia. WV-DAQ would benefit from public comments informed by the details that should be released.

Please contact us to discuss how to best resolve this situation.

Sincerely,



James Kotcon, Chair
West Virginia Chapter of Sierra Club
jkotcon@gmail.com
304-594-3322 (cell)

Cc:

Jerry Williams, WV-DAQ, Jerry.Williams@wv.gov

MaryCate Opila, US-EPA Region 3 Air Permitting Branch Chief, Opila.MaryCate@epa.gov

Gwen Supplee, US-EPA Region 3 Title V permitting, Supplee.Gwendolyn@epa.gov

J. Adam Whapham, US-EPA Region 3 NSR permitting, Whapham.Joseph@epa.gov

**Williams, Jerry** <jerry.williams@wv.gov>

TransGas CBI

2 messages

Mink, Stephanie R <stephanie.r.mink@wv.gov>

Tue, Apr 29, 2025 at 2:40 PM

To: Adam Victor <adam@tgds.com>, avj@adamsforkenergy.com, "Patrick E. Ward" <PEWard@potesta.com>

Cc: Laura M Crowder <Laura.M.Crowder@wv.gov>, Joseph R Kessler <joseph.r.kessler@wv.gov>, Jerry Williams <jerry.williams@wv.gov>, Jason E Wandling <jason.e.wandling@wv.gov>

Attached is a letter from the General Counsel of the WVDEP concerning the claims of CBI in the following:

TransGas Development Systems LLC
Facility IDs: 059-00133, 059-00134
Applications No. R13-3714, R13-3715

Thank you,
Stephanie Mink

--

Stephanie Mink

Environmental Resources Associate

West Virginia Department of Environmental Protection

Division of Air Quality, Title V & NSR Permitting

601 57th Street SE

Charleston, WV 25304

Phone: 304-926-0499 x41281

**Ltr Wandling to Victor.pdf**

82K

Adam Victor <adam@tgds.com>

Fri, May 2, 2025 at 5:43 PM

To: Stephanie R Mink <stephanie.r.mink@wv.gov>

Cc: JUNIOR VICTOR <avj@adamsforkenergy.com>, "E. Ward Patrick" <PEWard@potesta.com>, Laura M Crowder <Laura.M.Crowder@wv.gov>, Joseph R Kessler <joseph.r.kessler@wv.gov>, Jerry Williams <jerry.williams@wv.gov>, Jason E Wandling <jason.e.wandling@wv.gov>

Dear Stephanie

Please see our response to your letter, giving you permission to release all information except the names of our Engine manufacturer add proprietary environmental technology consultant. Please confirm that thsi is acceptable.

Regards

Adam Victor
(917) 816-3700

On Apr 29, 2025, at 2:40 PM, Mink, Stephanie R <stephanie.r.mink@wv.gov> wrote:

Attached is a letter from the General Counsel of the WVDEP concerning the claims of CBI in the following:

TransGas Development Systems LLC
Facility IDs: 059-00133, 059-00134
Applications No. R13-3714, R13-3715

Thank you,
Stephanie Mink

—

Stephanie Mink

Environmental Resources Associate

West Virginia Department of Environmental Protection

Division of Air Quality, Title V & NSR Permitting

601 57th Street SE

Charleston, WV 25304

Phone: 304-926-0499 x41281

<Ltr Wandling to Victor.pdf>

2 attachments



Image 3-21-23 at 5.24 AM.jpg
14K



WV DEP May 2, 2025.pdf
455K



west virginia department of environmental protection

Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
(304) 926-0475

Harold D. Ward, Cabinet Secretary
dep.wv.gov

April 28, 2025

Mr. Adam Victor
President
TransGas Development Systems, LLC
adam@tgds.com

Re: Confidential Business Information
TransGas Development Systems, LLC
Permit Numbers: R13-3714, 3715
Facility ID Numbers: 059-00133, 059-00134

Mr. Victor:

On March 26, 2025, TransGas Development Systems, LLC (TransGas) submitted air permit applications (R13-3714 and 3715) that contained information claimed as confidential business information (CBI). Redacted copies of the permit application were provided that have been made available for public review. As you are aware, the Division of Air Quality (DAQ) has received a public comment concerning the proposed project, which has specifically requested release of the information that has been redacted in the public version of the applications. This written request for release of information currently redacted has triggered a review of the CBI claims by the DEP's Office of the General Counsel (OGC). This review is governed by the applicable WV Legislative Rules 45CSR31, 31a, and 31b. At this time, the review has determined that some of the information claimed as CBI, specifically data concerning the RICE units and associated control devices, may not qualify for such designation as it falls under the definition of "Types and Amounts of Air Pollutants Discharged" as excluded under §45-31-6 and defined under §45-31-2.4 (and further defined under 45CSR31b). There is also some concern that the claimed CBI may not meet the eligibility requirements under §45-31-4.1(b) and 4.1(c).

At this time the OGC is requesting further justification (beyond that which is given on the CBI cover document) that the information noted above and claimed as CBI is not defined as "Types and Amounts of Air Pollutants Discharged" and also does not conflict with the eligibility requirements under §45-31-4.1(b) and 4.1(c). Please note that no information will be released without both TransGas having a full opportunity to justify the claims of CBI and the opportunity to have a full consultation with the WVDEP over this matter.

Please provide a written response within fifteen (15) days of receipt of this request to facilitate the continued review of Permit Applications R13-3714 and 3715.

Sincerely,

A handwritten signature in blue ink that reads "Jason Wandling". The signature is written in a cursive, flowing style.

Jason Wandling
WVDEP General Counsel

cc: Adam Victor, Jr., avj@adamsforkewvergy.com
Patrick Ward, peward@potesta.com

**Williams, Jerry** <jerry.williams@wv.gov>

TransGas CBI

Adam Victor <adam@tgds.com>

Fri, May 2, 2025 at 5:43 PM

To: Stephanie R Mink <stephanie.r.mink@wv.gov>

Cc: JUNIOR VICTOR <avj@adamsforkenergy.com>, "E. Ward Patrick" <PEWard@potesta.com>, Laura M Crowder <Laura.M.Crowder@wv.gov>, Joseph R Kessler <joseph.r.kessler@wv.gov>, Jerry Williams <jerry.williams@wv.gov>, Jason E Wandling <jason.e.wandling@wv.gov>

Dear Stephanie

Please see our response to your letter, giving you permission to release all information except the names of our Engine manufacturer add proprietary environmental technology consultant. Please confirm that thsi is acceptable.

Regards

Adam Victor
(917) 816-3700

On Apr 29, 2025, at 2:40 PM, Mink, Stephanie R <stephanie.r.mink@wv.gov> wrote:

Attached is a letter from the General Counsel of the WVDEP concerning the claims of CBI in the following:

TransGas Development Systems LLC
Facility IDs: 059-00133, 059-00134
Applications No. R13-3714, R13-3715

Thank you,
Stephanie Mink

—

Stephanie Mink

Environmental Resources Associate

West Virginia Department of Environmental Protection

Division of Air Quality, Title V & NSR Permitting

601 57th Street SE

Charleston, WV 25304

Phone: 304-926-0499 x41281

<Ltr Wandling to Victor.pdf>

2 attachments



Image 3-21-23 at 5.24 AM.jpg
14K



WV DEP May 2, 2025.pdf
455K



May 2, 2025

Mr. Jason Wandling, General Counsel
WV Department of Environmental Protection Office of General Counsel
601 57th Street, SE
Charleston, West Virginia 25304

RE: Confidential Business Information
TransGas Development Systems, LLC
Facility I.D. Numbers 059-00133 and 059-00134

Dear Mr. Wandling:

TransGas Development Systems, LLC (TransGas) offers the following response to your agency's request dated April 28, 2025. The agency's letter requests that we further address the confidential business information (CBI) claim contained in the permit applications for the above sites.

To facilitate the review of the permit applications, TransGas is proposing to revise the CBI claim to cover the company names for the engine and control systems designers and manufacturers. This will include the engine model number which would identify the engine company. The remaining, currently claimed CBI, will be removed from our CBI request.

We hope that this revised CBI request is acceptable. If it is acceptable, we will submit another set of permit applications (confidential and redacted) reflecting this change.

Sincerely,

TRANSGAS DEVELOPMENT SYSTEMS, LLC

A handwritten signature in blue ink, appearing to read "Adam Victor", written over the printed name.

Adam Victor
President

cc: Patrick Ward, Potesta & Associates, Inc.



Williams, Jerry <jerry.williams@wv.gov>

TransGas CBI Determination

Williams, Jerry <jerry.williams@wv.gov>

Fri, May 9, 2025 at 2:57 PM

To: Adam Victor <adam@tgds.com>

Cc: "Adam Victor, Jr." <avj@adamsforkenergy.com>, "Patrick E. Ward" <PEWard@potesta.com>

Bcc: Laura M Crowder <laura.m.crowder@wv.gov>, Joseph R Kessler <joseph.r.kessler@wv.gov>

Mr. Victor,

Please find the response to your letter received on May 2, 2025 regarding the CBI decision for Permit Numbers R13-3713 and R13-3714. As you review, please let me know if you have any questions.

Thank you,
Jerry

**Jerry Williams, P.E.***Engineer, Division of Air Quality*

WV Department of Environmental Protection

601 57th Street SE, Charleston, WV 25304

Phone 304-926-0499, ext. 41214**Web** dep.wv.gov **Email** jerry.williams@wv.gov**05.09.2025 CBI response to TG.pdf**

198K



west virginia department of environmental protection

Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
(304) 926-0475

Harold D. Ward, Cabinet Secretary
dep.wv.gov

May 9, 2025

Mr. Adam Victor
President
TransGas Development Systems, LLC
adam@tgds.com

Re: Confidential Business Information
TransGas Development Systems, LLC
Permit Numbers: R13-3714, 3715
Facility ID Numbers: 059-00133, 059-00134

Mr. Victor:

On May 2, 2025, the Office of the General Counsel (OGC) received from TransGas Development Systems, LLC (TransGas) a letter proposing that TransGas revise its CBI claim in Permit Applications R13-3714/3715 to cover only the company names for the engine and control systems designers and manufacturers, including the engine model number which would identify the engine company. The remaining, currently claimed CBI, would be removed from the CBI request.

The Office of Legal Services has determined that a permit application so submitted would be in compliance with the requirements governing the submission of CBI under 45CSR31 and 45CSR31b.

Sincerely,

Laura M. Crowder

Digitaly signed by: Laura M. Crowder
DN: CN = Laura M. Crowder email = Laura.M.
Crowder@wv.gov C = US O = WV DEP OU =
DAQ
Date: 2025.05.09 12:31:00 -04'00'

Laura M. Crowder
Director, Division of Air Quality

cc: Adam Victor, Jr., avj@adamsforkewvergy.com
Patrick Ward, peward@potesta.com



Williams, Jerry <jerry.williams@wv.gov>

Revised Redacted Application for Adams Fork R13-3715/ID 059-00134

Patrick E. Ward <PEWard@potesta.com>

Wed, May 14, 2025 at 4:25 PM

To: "Jerry.Williams@wv.gov" <Jerry.Williams@wv.gov>

Cc: Adam Victor <adam@tgds.com>, "Adam Victor, Jr." <avj@adamsforkenergy.com>, "Ronald R. Potesta" <RRPotesta@potesta.com>, "Rhonda L. Henson" <rlhenson@potesta.com>

Attached is the revised redacted version of the permit application. We will deliver the revised confidential version to the office.

Regards,

Patrick Ward

Potesta & Associates, Inc.

[7012 MacCorkle Avenue, S.E.](#)

[Charleston, West Virginia 25304](#)

Ph: (304) 342-1400

Direct: (304) 414-4751

Fax: (304) 343-9031

This electronic communication and its attachments contain confidential information. The recommendations and/or design data included herein are provided as a matter of convenience and should not be used for final design or ultimate decision making. Rely only on the final hardcopy materials bearing the consultant's original signature and seal. If you have received this information in error, please notify the sender immediately.



REVISED REDACTED R13 Permit Application Adams Fork (22-0132-003A).pdf

8879K

Division of Air Quality Permit Application Submittal

Please find attached a permit application for :

[Company Name; Facility Location]

- DAQ Facility ID (for existing facilities only):
- Current 45CSR13 and 45CSR30 (Title V) permits associated with this process (for existing facilities only):

- Type of NSR Application (check all that apply):

- ☒ Construction
- ☐ Modification
- ☐ Class I Administrative Update
- ☐ Class II Administrative Update
- ☐ Relocation
- ☐ Temporary
- ☐ Permit Determination

- Type of 45CSR30 (TITLE V) Application:

- ☐ Title V Initial
- ☐ Title V Renewal
- ☐ Administrative Amendment**
- ☐ Minor Modification**
- ☐ Significant Modification**
- ☐ Off Permit Change

****If the box above is checked, include the Title V revision information as ATTACHMENT S to the combined NSR/Title V application.**

- Payment Type:

- ☒ Credit Card (Instructions to pay by credit card will be sent in the Application Status email.)

- ☐ Check (Make checks payable to: WVDEP – Division of Air Quality)

Mail checks to:

WVDEP – DAQ – Permitting

Attn: NSR Permitting Secretary

601 57th Street, SE

Charleston, WV 25304

Please wait until DAQ emails you the Facility ID Number and Permit Application Number. Please add these identifiers to your check or cover letter with your check.

- If the permit writer has any questions, please contact (all that apply):

- ☒ Responsible Official/Authorized Representative

- Name:
- Email:
- Phone Number:

- ☒ Company Contact

- Name:
- Email:
- Phone Number:

- ☒ Consultant

- Name:
- Email:
- Phone Number:

**REGULATION 13 PERMIT APPLICATION FOR
THE CONSTRUCTION OF ADAMS FORK
DATA CENTER ENERGY CAMPUS
MINGO COUNTY, WEST VIRGINIA**

REDACTED VERSION

Prepared for:

TransGas Development Systems, LLC

630 First Avenue, Suite 30C
New York, New York 10016-3799

Prepared by:

Potesta & Associates, Inc.

7012 MacCorkle Avenue, SE
Charleston, West Virginia 25304
Phone: (304) 342-1400 Fax: (304) 343-9031
Email: potesta@potesta.com

Project No. 0101-22-0132-003A

March 24, 2025

POTESTA

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Emission Points Data Summary Sheet.....	ATTACHMENT J
Fugitive Emissions Data Summary Sheet.....	ATTACHMENT K
Emissions Unit Data Sheet(s)	ATTACHMENT L
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Attachments not applicable to this submission: Attachment R, Authority Forms and Attachment S, Title V Permit Revision Information.

SECTION I - III

APPLICATION FOR NSR PERMIT



WEST VIRGINIA DEPARTMENT OF
ENVIRONMENTAL PROTECTION
DIVISION OF AIR QUALITY

601 57th Street, SE
Charleston, WV 25304
(304) 926-0475
www.dep.wv.gov/daq

**APPLICATION FOR NSR PERMIT
AND
TITLE V PERMIT REVISION
(OPTIONAL)**

PLEASE CHECK ALL THAT APPLY TO **NSR (45CSR13)** (IF KNOWN):

- ☒ **CONSTRUCTION** ☐ **MODIFICATION** ☐ **RELOCATION**
☐ **CLASS I ADMINISTRATIVE UPDATE** ☐ **TEMPORARY**
☐ **CLASS II ADMINISTRATIVE UPDATE** ☐ **AFTER-THE-FACT**

PLEASE CHECK TYPE OF **45CSR30 (TITLE V)** REVISION (IF ANY):

- ☐ **ADMINISTRATIVE AMENDMENT** ☐ **MINOR MODIFICATION**
☐ **SIGNIFICANT MODIFICATION**

IF ANY BOX ABOVE IS CHECKED, INCLUDE TITLE V REVISION
INFORMATION AS **ATTACHMENT S** TO THIS APPLICATION

FOR TITLE V FACILITIES ONLY: Please refer to "Title V Revision Guidance" in order to determine your Title V Revision options
(Appendix A, "Title V Permit Revision Flowchart") and ability to operate with the changes requested in this Permit Application.

Section I. General

1. Name of applicant (as registered with the WV Secretary of State's Office): TransGas Development Systems, LLC		2. Federal Employer ID No. (FEIN): 20343110	
3. Name of facility (if different from above): Adams Fork Data Center Energy Campus		4. The applicant is the: <input type="checkbox"/> OWNER <input type="checkbox"/> OPERATOR <input checked="" type="checkbox"/> BOTH	
5A. Applicant's mailing address: 630 First Avenue, Suite 30C New York, New York 10016-3799		5B. Facility's present physical address: 2002 Twisted Gun Road Wharnccliffe, WV 25651	
6. West Virginia Business Registration. Is the applicant a resident of the State of West Virginia? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO ⇒ If YES , provide a copy of the Certificate of Incorporation/Organization/Limited Partnership (one page) including any name change amendments or other Business Registration Certificate as Attachment A . ⇒ If NO , provide a copy of the Certificate of Authority/Authority of L.L.C./Registration (one page) including any name change amendments or other Business Certificate as Attachment A .			
7. If applicant is a subsidiary corporation, please provide the name of parent corporation: No			
8. Does the applicant own, lease, have an option to buy or otherwise have control of the <i>proposed site</i> ? <input type="checkbox"/> YES <input type="checkbox"/> NO ⇒ If YES , please explain: Applicant has an option on the site with the current owner. ⇒ If NO , you are not eligible for a permit for this source.			
9. Type of plant or facility (stationary source) to be constructed, modified, relocated, administratively updated or temporarily permitted (e.g., coal preparation plant, primary crusher, etc.): Off-grid Power Generation		10. North American Industry Classification System (NAICS) code for the facility: 221112	
11A. DAQ Plant ID No. (for existing facilities only): New Facility		11B. List all current 45CSR13 and 45CSR30 (Title V) permit numbers associated with this process (for existing facilities only): New Facility	

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

12A. ⇨ For Modifications, Administrative Updates or Temporary permits at an existing facility, please provide directions to the <i>present location</i> of the facility from the nearest state road; ⇨ For Construction or Relocation permits , please provide directions to the <i>proposed new site location</i> from the nearest state road. Include a MAP as Attachment B . The facility will be located on the property currently occupied by the Twisted Gun Golf Course near Wharncliffe, West Virginia. The site can be accessed from WV Route 52 headed toward Gilbert. Turn right onto Gilbert Creek Road, then right onto Right Fork Bens Creek Road to Twisted Gun Road. Proceed to the end of Twisted Gun Road for the site.		
12.B. New site address (if applicable): Not Applicable	12C. Nearest city or town: Wharncliffe	12D. County: Mingo
12.E. UTM Northing (KM): 4,161.72229	12F. UTM Easting (KM): 415.70631	12G. UTM Zone: 17
13. Briefly describe the proposed change(s) at the facility: This application is for the construction of the facility.		
14A. Provide the date of anticipated installation or change: 01/01/2026 ⇨ If this is an After-The-Fact permit application, provide the date upon which the proposed change did happen: / /		14B. Date of anticipated Start-Up if a permit is granted: 01/01/2027
14C. Provide a Schedule of the planned Installation of/Change to and Start-Up of each of the units proposed in this permit application as Attachment C (if more than one unit is involved).		
15. Provide maximum projected Operating Schedule of activity/activities outlined in this application: 24 Hours Per Day 7 Days Per Week Weeks Per Year 52		
16. Is demolition or physical renovation at an existing facility involved? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
17. Risk Management Plans. If this facility is subject to 112(r) of the 1990 CAAA, or will become subject due to proposed changes (for applicability help see www.epa.gov/ceppo), submit your Risk Management Plan (RMP) to U. S. EPA Region III.		
18. Regulatory Discussion. List all Federal and State air pollution control regulations that you believe are applicable to the proposed process (<i>if known</i>). A list of possible applicable requirements is also included in Attachment S of this application (Title V Permit Revision Information). Discuss applicability and proposed demonstration(s) of compliance (<i>if known</i>). Provide this information as Attachment D .		
Section II. Additional attachments and supporting documents.		
19. Include a check payable to WVDEP – Division of Air Quality with the appropriate application fee (per 45CSR22 and 45CSR13).		
20. Include a Table of Contents as the first page of your application package.		
21. Provide a Plot Plan , e.g. scaled map(s) and/or sketch(es) showing the location of the property on which the stationary source(s) is or is to be located as Attachment E (Refer to Plot Plan Guidance) . ⇨ Indicate the location of the nearest occupied structure (e.g. church, school, business, residence).		
22. Provide a Detailed Process Flow Diagram(s) showing each proposed or modified emissions unit, emission point and control device as Attachment F .		
23. Provide a Process Description as Attachment G . ⇨ Also describe and quantify to the extent possible all changes made to the facility since the last permit review (if applicable).		
All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.		

24. Provide **Material Safety Data Sheets (MSDS)** for all materials processed, used or produced as **Attachment H**.
 ⇨ For chemical processes, provide a MSDS for each compound emitted to the air.

25. Fill out the **Emission Units Table** and provide it as **Attachment I**.

26. Fill out the **Emission Points Data Summary Sheet (Table 1 and Table 2)** and provide it as **Attachment J**.

27. Fill out the **Fugitive Emissions Data Summary Sheet** and provide it as **Attachment K**.

28. Check all applicable **Emissions Unit Data Sheets** listed below:

<input type="checkbox"/> Bulk Liquid Transfer Operations	<input type="checkbox"/> Haul Road Emissions	<input type="checkbox"/> Quarry
<input type="checkbox"/> Chemical Processes	<input type="checkbox"/> Hot Mix Asphalt Plant	<input type="checkbox"/> Solid Materials Sizing, Handling and Storage Facilities
<input type="checkbox"/> Concrete Batch Plant	<input type="checkbox"/> Incinerator	<input checked="" type="checkbox"/> Storage Tanks
<input type="checkbox"/> Grey Iron and Steel Foundry	<input type="checkbox"/> Indirect Heat Exchanger	

☒ General Emission Unit, specify Engines 1 through 117.

Fill out and provide the **Emissions Unit Data Sheet(s)** as **Attachment L**.

29. Check all applicable **Air Pollution Control Device Sheets** listed below:

<input type="checkbox"/> Absorption Systems	<input type="checkbox"/> Baghouse	<input checked="" type="checkbox"/> Flare
<input type="checkbox"/> Adsorption Systems	<input type="checkbox"/> Condenser	<input type="checkbox"/> Mechanical Collector
<input type="checkbox"/> Afterburner	<input type="checkbox"/> Electrostatic Precipitator	<input type="checkbox"/> Wet Collecting System

☒ Other Collectors, specify Control System

Fill out and provide the **Air Pollution Control Device Sheet(s)** as **Attachment M**.

30. Provide all **Supporting Emissions Calculations** as **Attachment N**, or attach the calculations directly to the forms listed in Items 28 through 31.

31. **Monitoring, Recordkeeping, Reporting and Testing Plans.** Attach proposed monitoring, recordkeeping, reporting and testing plans in order to demonstrate compliance with the proposed emissions limits and operating parameters in this permit application. Provide this information as **Attachment O**.
 ➤ Please be aware that all permits must be practically enforceable whether or not the applicant chooses to propose such measures. Additionally, the DAQ may not be able to accept all measures proposed by the applicant. If none of these plans are proposed by the applicant, DAQ will develop such plans and include them in the permit.

32. **Public Notice.** At the time that the application is submitted, place a **Class I Legal Advertisement** in a newspaper of general circulation in the area where the source is or will be located (See 45CSR§13-8.3 through 45CSR§13-8.5 and **Example Legal Advertisement** for details). Please submit the **Affidavit of Publication** as **Attachment P** immediately upon receipt.

33. **Business Confidentiality Claims.** Does this application include confidential information (per 45CSR31)?
☒ YES ☐ NO
 ➤ If **YES**, identify each segment of information on each page that is submitted as confidential and provide justification for each segment claimed confidential, including the criteria under 45CSR§31-4.1, and in accordance with the DAQ's **"Precautionary Notice – Claims of Confidentiality"** guidance found in the **General Instructions** as **Attachment Q**.

Section III. Certification of Information

34. **Authority/Delegation of Authority.** Only required when someone other than the responsible official signs the application. Check applicable **Authority Form** below: Not Required

<input type="checkbox"/> Authority of Corporation or Other Business Entity	<input type="checkbox"/> Authority of Partnership
<input type="checkbox"/> Authority of Governmental Agency	<input type="checkbox"/> Authority of Limited Partnership

Submit completed and signed **Authority Form** as **Attachment R**.

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

35A. Certification of Information. To certify this permit application, a Responsible Official (per 45CSR§13-2.22 and 45CSR§30-2.28) or Authorized Representative shall check the appropriate box and sign below.

Certification of Truth, Accuracy, and Completeness

I, the undersigned ☒ **Responsible Official** / ☐ **Authorized Representative**, hereby certify that all information contained in this application and any supporting documents appended hereto, is true, accurate, and complete based on information and belief after reasonable inquiry I further agree to assume responsibility for the construction, modification and/or relocation and operation of the stationary source described herein in accordance with this application and any amendments thereto, as well as the Department of Environmental Protection, Division of Air Quality permit issued in accordance with this application, along with all applicable rules and regulations of the West Virginia Division of Air Quality and W.Va. Code § 22-5-1 et seq. (State Air Pollution Control Act). If the business or agency changes its Responsible Official or Authorized Representative, the Director of the Division of Air Quality will be notified in writing within 30 days of the official change.

Compliance Certification

Except for requirements identified in the Title V Application for which compliance is not achieved, I, the undersigned hereby certify that, based on information and belief formed after reasonable inquiry, all air contaminant sources identified in this application are in compliance with all applicable requirements.

SIGNATURE _____

(Please use blue ink)

DATE: _____

(Please use blue ink)

35B. Printed name of signee: Adam Victor

35C. Title: President

35D. E-mail: adam@tgds.com

36E. Phone: (917) 816-3700

36F. FAX: Use Email

36A. Printed name of contact person (if different from above): Same as above

36B. Title:

36C. E-mail:

36D. Phone:

36E. FAX:

PLEASE CHECK ALL APPLICABLE ATTACHMENTS INCLUDED WITH THIS PERMIT APPLICATION:

- | | |
|--|--|
| <input checked="" type="checkbox"/> Attachment A: Business Certificate | <input checked="" type="checkbox"/> Attachment K: Fugitive Emissions Data Summary Sheet |
| <input checked="" type="checkbox"/> Attachment B: Map(s) | <input checked="" type="checkbox"/> Attachment L: Emissions Unit Data Sheet(s) |
| <input checked="" type="checkbox"/> Attachment C: Installation and Start Up Schedule | <input checked="" type="checkbox"/> Attachment M: Air Pollution Control Device Sheet(s) |
| <input checked="" type="checkbox"/> Attachment D: Regulatory Discussion | <input checked="" type="checkbox"/> Attachment N: Supporting Emissions Calculations |
| <input checked="" type="checkbox"/> Attachment E: Plot Plan | <input checked="" type="checkbox"/> Attachment O: Monitoring/Recordkeeping/Reporting/Testing Plans |
| <input checked="" type="checkbox"/> Attachment F: Detailed Process Flow Diagram(s) | <input checked="" type="checkbox"/> Attachment P: Public Notice |
| <input checked="" type="checkbox"/> Attachment G: Process Description | <input checked="" type="checkbox"/> Attachment Q: Business Confidential Claims |
| <input checked="" type="checkbox"/> Attachment H: Material Safety Data Sheets (MSDS) | <input type="checkbox"/> Attachment R: Authority Forms |
| <input checked="" type="checkbox"/> Attachment I: Emission Units Table | <input type="checkbox"/> Attachment S: Title V Permit Revision Information |
| <input checked="" type="checkbox"/> Attachment J: Emission Points Data Summary Sheet | <input checked="" type="checkbox"/> Application Fee |

Please mail an original and three (3) copies of the complete permit application with the signature(s) to the DAQ, Permitting Section, at the address listed on the first page of this application. Please DO NOT fax permit applications.

FOR AGENCY USE ONLY – IF THIS IS A TITLE V SOURCE:

- ☐ Forward 1 copy of the application to the Title V Permitting Group and:
- ☐ For Title V Administrative Amendments:
- ☐ NSR permit writer should notify Title V permit writer of draft permit,
- ☐ For Title V Minor Modifications:
- ☐ Title V permit writer should send appropriate notification to EPA and affected states within 5 days of receipt,
- ☐ NSR permit writer should notify Title V permit writer of draft permit.
- ☐ For Title V Significant Modifications processed in parallel with NSR Permit revision:
- ☐ NSR permit writer should notify a Title V permit writer of draft permit,
- ☐ Public notice should reference both 45CSR13 and Title V permits,
- ☐ EPA has 45 day review period of a draft permit.

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

ATTACHMENT A

BUSINESS CERTIFICATE

**WEST VIRGINIA
STATE TAX DEPARTMENT
BUSINESS REGISTRATION
CERTIFICATE**

ISSUED TO:
**TRANSGAS DEVELOPMENT SYSTEMS, LLC
630 1ST AVE APT 30G
NEW YORK, NY 10016-3799**

BUSINESS REGISTRATION ACCOUNT NUMBER: **2218-0756**

This certificate is issued on: **06/29/2010**

*This certificate is issued by
the West Virginia State Tax Commissioner
in accordance with W.Va. Code § 11-12.*

*The person or organization identified on this certificate is registered
to conduct business in the State of West Virginia at the location above.*

This certificate is not transferrable and must be displayed at the location for which issued.

This certificate shall be permanent until cessation of the business for which the certificate of registration was granted or until it is suspended, revoked or cancelled by the Tax Commissioner.

Change in name or change of location shall be considered a cessation of the business and a new certificate shall be required.

TRAVELING/STREET VENDORS: Must carry a copy of this certificate in every vehicle operated by them.
CONTRACTORS, DRILLING OPERATORS, TIMBER/LOGGING OPERATIONS: Must have a copy of this certificate displayed at every job site within West Virginia.

atL006 v.1
L1333508864

ATTACHMENT B

SITE LOCATION MAP



Potesta & Associates, Inc.

7012 MacCorkle Avenue, SE, Charleston, WV 25304
Phone: (304) 342-1400 Fax: (304) 343-9031
E-Mail: potesta@potesta.com

TransGas Development Systems, LLC

Adams Fork Data Center Energy Campus
Wharnccliffe, West Virginia
Project No. 0101-22-0132-003A

ATTACHMENT C

**INSTALLATION AND
STARTUP SCHEDULE**

ATTACHMENT C

INSTALLATION AND START UP SCHEDULE

Construction of the facility will begin after receipt of Construction Permit from West Virginia Department of Environmental Protection, Division of Air Quality, and other necessary regulatory approvals on or near January 1, 2026. Operations will commence approximately 12 months after the beginning of construction.

ATTACHMENT D

REGULATORY DISCUSSION

ATTACHMENT D

REGULATORY DISCUSSION

The facility proposed herein, or portions of the facility, may be subject to the following regulations based on a review of potential air quality regulations (see No. 1 and 2). Additionally, there are a few regulations which the source may not be subject to which are also listed below in No. 3.

1. State Regulations

- A. 45CSR4 – “To Prevent and Control the Discharge of Air Pollutants into the Open Air Which Causes or Contributes to an Objectionable Odor or Odors”
- B. 45CSR13 – “Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits, and Procedures for Evaluation”
- C. 45CSR16 – “Standards of Performance for New Stationary Sources”
- D. 45CSR20 – “Good Engineering Practice as Applies to Stack Heights”
- E. 45SCR30 – “Requirements for Operation Permits”
- F. 45CSR31 – “Confidential Information”
This application contains confidential information. This claim of confidentiality is made in accordance with the requirements of 45CSR31.
- G. 45CSR34 – “Emission Standards for Hazardous Air Pollutants”

2. Federal Regulations

- A. 40CFR60 Subpart A – General Provisions
- B. 40CFR60 Subpart IIII - Standard of Performance for Stationary Compression Ignition Internal Combustion Engines
- C. 40CFR63, Subpart ZZZZ – National Emissions Standard for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

3. Non-Applicable Regulations or Exemptions Apply

A. 45CSR40 – Control of Ozone Season Nitrogen Oxide Emissions

The reciprocating internal combustion engines proposed for this facility do not appear to be considered as a unit per the definition contained in section 2.30 where a unit is defined as a stationary fossil fuel-fired boiler, combustion turbine, or combined cycle system. The engines also have a maximum heat input of less than 250 MMBtu/hr as stated in Section 4.1. Furthermore, the units do not appear to be subject to 40CFR97.

B. 40CFR97, Subpart DDDDD - CSAPR SO₂ Group 2 Trading Program and Subpart EEEEE – CSAPR Nox Ozone Season Group 2 Trading Program. The nameplate capacity of the generators attached to each unit is 25 MWe. Also, the units (reciprocating internal combustion engines) do not appear to be regulated by the rule.

C. 45CSR33 – Acid Rain Provisions and Permits

This rule does not appear to apply due to the New Unit Exemption in 40CFR72.

D. 40CFR72, Acid Rain Program, Subpart A, Section 72.7, New Unit Exemption, appears to exempt the units from applicability based on serving a generator of 25 MWe or less, not burning coal or coal-derived fuel, and burns fuel with sulfur of 0.05 percent or less by weight.

E. 40CFR60 Subpart Kc – Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for which Construction, Reconstruction, or Modification Commenced After October 4, 2023. Does not apply due to low vapor pressure of diesel.

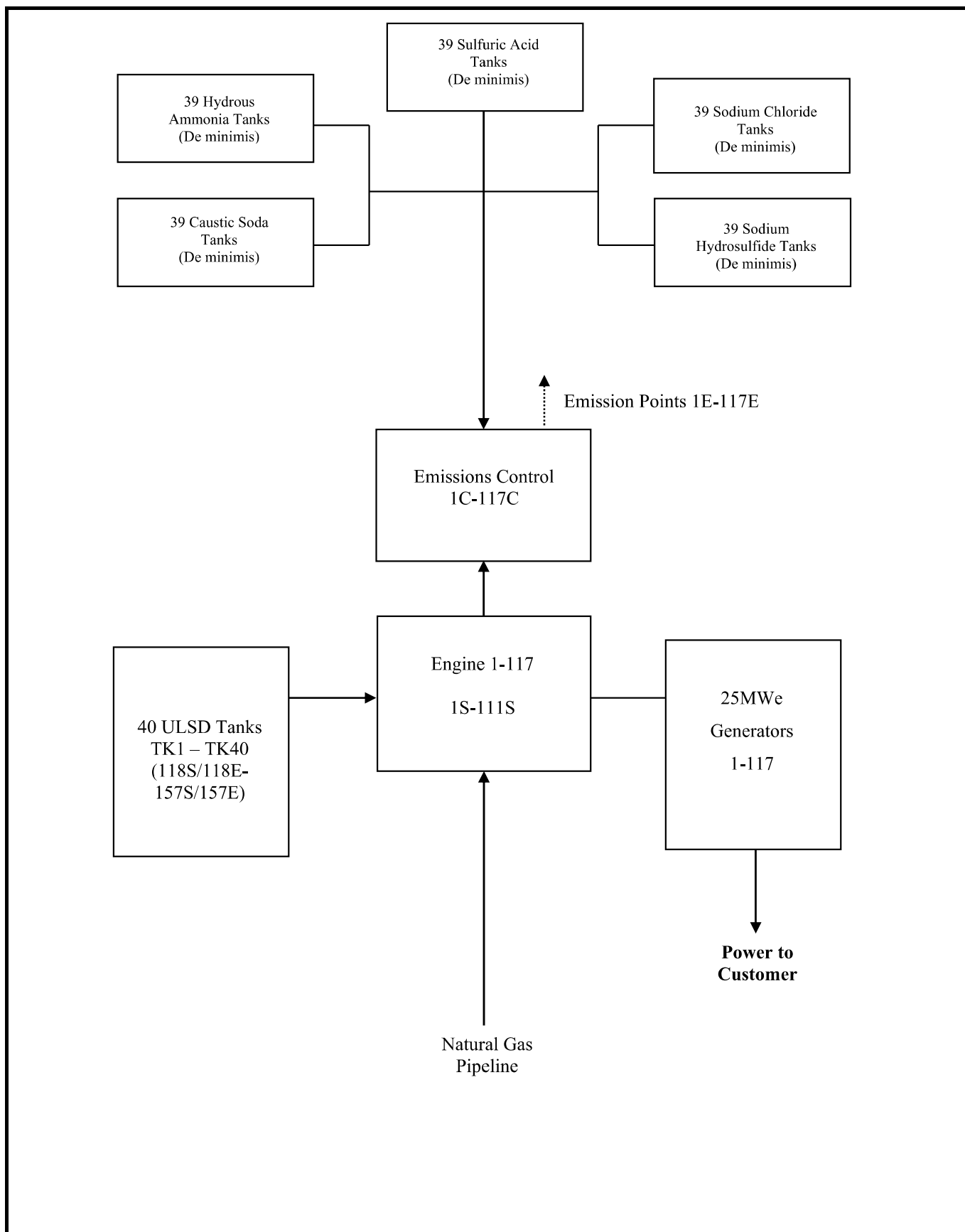
ATTACHMENT E

PLOT PLANS



ATTACHMENT F

PROCESS FLOW DIAGRAM(S)



Potesta & Associates, Inc.

7012 MacCorkle Avenue, SE, Charleston, WV 25304
 Phone: (304) 342-1400 Fax: (304) 343-9031
 E-Mail: potesta@potesta.com

TransGas Development Systems, LLC

Adams Fork Data Center Energy Campus
 Wharncliffe, West Virginia
 Project No. 0101-22-0132-003A

ATTACHMENT G

PROCESS DESCRIPTION

ATTACHMENT G

PROCESS DESCRIPTION

The facility proposed herein is a unique, off-grid, electric generating facility designed to provide power to adjacent data center operations. The facility encompasses 117 engines (Source Numbers 1S through 117S) with 114 engines operating full-time and 3 engines in reserve. Each engine has a proposed control strategy (Control Numbers 1C through 117C) and vent through their own exhaust stack (Emissions Point 1E through 117E). The facility will contain 39 powerhouses with each containing 3 generator setups with each generator having a nameplate capacity of 25 MWe. Actual power generation will depend on the operating mode of the engines. The operating modes of the engines are more fully described in Attachment L. The control systems for each engine are described in Attachment M.

The engines will operate on ultra-low sulfur diesel and natural gas depending on the operating status. Ultra-low sulfur diesel will be stored in 40 tanks (TK1 through TK40, 118S-157S, 118E-157E) on the property. Natural gas will be delivered via pipeline. Tanks for control device liquids will be located at each powerhouse so there will be 39 tanks of each of hydrous ammonia, caustic soda, sulfuric acid, sodium chlorite, and sodium hydrosulfide. These tanks are considered de minimis. Liquids and supplies will be trucked to the site.

There is no steam-power production at the site. Cooling will be provided by mine pool water as needed; therefore, there is no requirement for cooling towers.

ATTACHMENT H

MATERIAL SAFETY DATA SHEETS



Material Safety Data Sheet

Sodium hydrosulfide solution

MSDS Number 8000TDC (Revised: 1/23/04)

6 Pages

Section 1: CHEMICAL PRODUCT and COMPANY IDENTIFICATION

- 1.1 Product Name**Sodium hydrosulfide solution
Chemical Family Inorganic salt solution
Synonyms KI-300 depressant, NaHS, sodium hydrogen sulfide
Formula NaHS
- 1.2 Manufacturer**Tessenderlo Davison Chemicals, LLC.
1916 Farmerville Highway
Ruston, Louisiana 71270
Information (318) 242-5305
- 1.3 Emergency Contact** (800) 877-1737 (Tessenderlo Kerley)
(800) 424-9300 (CHEMTREC)

Section 2: COMPOSITION, INFORMATION ON INGREDIENTS

- 2.1 Chemical Ingredients (% by wt.)**
- | | | |
|---------------------|------------------|--------|
| Sodium hydrosulfide | CAS #:16721-80-5 | 20-45% |
| Water | CAS #:7732-18-5 | 55-80% |

(See Section 8 for exposure guidelines)

Section 3: HAZARDS IDENTIFICATION
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NFPA: **Health - 3** **Flammability - 2** **Reactivity - 1**

EMERGENCY OVERVIEW

Warning: Solution is highly alkaline
Contains hydrogen sulfide , a highly toxic gas.
Eye contact will cause marked eye irritation and possibly severe corneal damage.
Skin contact will result in irritation and possible corrosion of the skin. Ingestion will irritate/burn mouth, throat and gastrointestinal tract. Contact with stomach acid will cause hydrogen sulfide vapors to be released. Heating or acid will cause hydrogen sulfide gas to evolve. Dilution of NaHS with water will also cause increased evolution of hydrogen sulfide.

Section	3: HAZARDS IDENTIFICATION, Cont.
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3.1 POTENTIAL HEALTH EFFECTS

EYE: Contact with the eyes will cause marked eye irritation and possibly severe corneal damage.

SKIN CONTACT: Contact with the skin will cause skin irritation or burning sensation. Prolonged contact will result in corrosion of the skin.

SKIN ABSORPTION: Absorption is unlikely to occur.

INGESTION: Ingestion will result in severe burning and corrosion of mouth, throat and the gastrointestinal tract. If the ingested material contacts stomach acid, highly toxic hydrogen sulfide gas will be evolved.

INHALATION: Product solution and vapors contain highly toxic hydrogen sulfide gas. Exposure to this gas causes, headaches, nausea, dizziness and vomiting. Continued exposure can lead to loss of consciousness and death..

CHRONIC EFFECTS/CARCINOGENICITY: Not listed as a carcinogen by NTP, IARC or OSHA.

Section	4: FIRST AID MEASURES
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4.1 EYES: Immediately flush with large quantities of water for 15 minutes. Hold eyelids apart during irrigation to insure thorough flushing of the entire area of the eye. Obtain immediate medical attention.

4.2 SKIN: Immediately flush with large quantities of water. Remove contaminated clothing under a safety shower. Obtain immediate medical attention

4.3 INGESTION: DO NOT INDUCE VOMITING. If victim is conscious, immediately give 2 to 4 glasses of water. If vomiting does occur, repeat fluid administration. Obtain immediate medical attention.

4.4 INHALATION: Remove victim from contaminated atmosphere. If breathing is labored, administer oxygen. If breathing has ceased, clear airway and start mouth to mouth resuscitation. If heart has stopped beating, external heart massage should be applied. Obtain immediate medical attention.

Section	5: FIRE FIGHTING MEASURES
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5.1 FLAMMABLE PROPERTIES

FLASH POINT: Not flammable

METHOD USED: NA

5.2 FLAMMABLE LIMITS

Hydrogen sulfide

LFL: 4%

UFL: 44%

5.3 EXTINGUISHING MEDIA: Water spray or foam or as appropriate for combustibles involved in fire.

5.4 FIRE & EXPLOSIVE HAZARDS: Solution is non-flammable. However if these solutions are exposed to heat or acids, hydrogen sulfide will be released and may form explosive mixtures with air (see above).

Keep containers/storage vessels in fire area cooled with water spray. Heating may cause the release of hydrogen sulfide vapors.

Section	5:	FIRE FIGHTING MEASURES (Cont.)
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5.5 FIRE FIGHTING EQUIPMENT: Because of the possible presence of toxic gases and the corrosive nature of the product, wear self-contained breathing apparatus, pressure demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Section	6:	ACCIDENTAL RELEASE MEASURES
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6.1 Small releases: Confine and absorb small releases on sand earth or other inert absorbent. Oxidize residual reactive sulfides with a weak (3-5%) hydrogen peroxide solution.

6.2 Large releases: Wear proper protective equipment. Confine area to qualified personnel. Shut off release if safe to do so. Dike spill area to prevent runoff into sewers, drains (potential explosive mixtures of hydrogen sulfide in confined spaces) or surface waterways (potential aquatic toxicity). Recover as much of the solution as possible. Treat remaining material as a small release (above).

Section	7:	HANDLING and STORAGE
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7.1 Handling: Wear proper protective equipment (See Section 8). Avoid breathing product vapors. Avoid contact with skin and eyes. Use only in a well ventilated area. Dilute product only in enclosed containers. Wash thoroughly after handling.

7.2 Storage: Store in well ventilated areas. Do not store combustibles in the area of storage vessels. Keep away from any sources of heat or flame. Store tote and smaller containers out of direct sunlight at moderate temperatures [$<80^{\circ}\text{F}$ (27°C)]. (See Section 10.4 for materials of construction)

Section	8:	EXPOSURE CONTROLS, PERSONAL PROTECTION
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8.1 RESPIRATORY PROTECTION: If working near open container or storage vessel opening or open tank truck dome cover, wear self-contained breathing apparatus, pressure demand, MSHA/NIOSH (approved or equivalent).

8.2 SKIN PROTECTION: Neoprene rubber gloves, chemical suit and boots should be worn to prevent contact with the liquid. Wash contaminated clothing prior to reuse. Contaminated leather shoes cannot be cleaned and should be discarded.

8.3 EYE PROTECTION: Chemical goggles and a full face shield.

8.4 EXPOSURE GUIDELINES:

	OSHA		ACGIH	
	<u>TWA</u>	<u>STEL</u>	<u>TLV</u>	<u>STEL</u>
Hydrogen sulfide	20 ppm (ceiling)		10 ppm (ceiling)	

8.5 ENGINEERING CONTROLS: Use adequate exhaust ventilation to prevent inhalation of product vapors. Where feasible scrub process or storage vessel vapors with caustic solution. Maintain eyewash/safety shower in areas where chemical is handled.

Section	9: PHYSICAL and CHEMICAL PROPERTIES
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9.1 APPEARANCE:	Yellow to dark green liquid.
9.2 ODOR:	Strong hydrogen sulfide (rotten egg) odor.
9.3 BOILING POINT:	253 °F(122.8 °C) - 269 °F (131.7 °C)
9.4 VAPOR PRESSURE:	17 mm Hg @ 68 °F (20 °C)
9.5 VAPOR DENSITY: (Air = 1.0)	1.17
9.6 SOLUBILITY IN WATER:	Complete
9.7 SPECIFIC GRAVITY:	1.152 - 1.303 (9.6 - 10.9 lbs/gal)
9.8 FREEZING POINT:	0° F (-17.8° C) - 20%
	56° F (13.3° C) - 45%
9.9 pH:	11.5 - 12.5
9.10 VOLATILE:	Not applicable

Section	10: STABILITY and REACTIVITY
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10.1 STABILITY: This is a stable material

10.2 HAZARDOUS POLYMERIZATION: Will not occur.

10.3 HAZARDOUS DECOMPOSITION PRODUCTS: Heating this product will evolve hydrogen sulfide. Fire conditions will also cause the production of sulfur dioxide. Hydrogen sulfide (4-44%) may form flammable mixtures with air.

10.4 INCOMPATIBILITY: Acids will cause the release of highly toxic hydrogen sulfide. Sodium hydrosulfide solution is not compatible with copper, zinc, aluminum or their alloys (i.e. bronze, brass, galvanized metals, etc.). Corrosive to steel above 150° F (65.5° C). These materials of construction should not be used in handling systems or storage containers for this product (SEE Section 7.2, Storage). Dilution of NaHS with water will increase the evolution of hydrogen sulfide. Dilution should be done in an enclosed container.

Section	11: TOXICOLOGICAL INFORMATION
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11.1 ORAL: Data not available

11.2 DERMAL: Data not available

11.3 INHALATION: INH-RAT LC₅₀: 444 ppm (hydrogen sulfide)
 INH-MOUSE LC₅₀: 1,500 mg/m³ 18 minutes
 INH-RAT LC₅₀: 1,500 mg/m³ 14 minutes

11.4 CHRONIC/CARCINOGENICITY: No evidence available

11.5 TERATOLOGY: Data not available

11.6 REPRODUCTION: Data not available

11.7 MUTAGENICITY: Data not available

Section	12: ECOLOGICAL INFORMATION
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Static acute 96 hour-LC₅₀ for mosquito fish is 206 mg/L. (TL_m - fresh water)
 LC₅₀ fly inhalation 1,500 mg/m³, 7 minutes
 TL_m Gammarus 0.84 mg/L, 96 hours (hydrogen sulfide)
 TL_m Ephemera 0.316 mg/L, 96 hours (hydrogen sulfide)
 TL_m Flathead minnow 0.071 – 0.55 mg/L @ 6-24°C, 96 hour flow through bioassay (hydrogen sulfide)
 TL_m Bluegill 0.0090 – 0.0140 mg/L @ 20-22°C, 96 hour flow through bioassay (hydrogen sulfide)
 TL_m Brook trout 0.0216 – 0.0308 mg/L @ 8-12.5°C, 96 hour flow through bioassay (hydrogen sulfide)

Section	13: DISPOSAL CONSIDERATIONS
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If released to the environment for other than its intended purpose, this product contains some reactive sulfides which may be in sufficient quantity to meet the definition of a D003, hazardous waste.

Section	14: TRANSPORT INFORMATION
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14.1 DOT Shipping Name: Corrosive liquids, toxic, n.o.s.
14.2 DOT Hazard Class: 8
14.3 UN/NA Number: UN2922
 UN2949 (IMDG - over water)
14.4 Packing Group: II
14.5 DOT Placard: Corrosive
14.6 DOT Label(s): Corrosive
 Toxic
14.7 IMO Shipping Name: Sodium hydrosulphide solution
14.8 RQ (Reportable Quantity): 5,000 lbs (2268 Kg) 100% basis
 [2,604 gal (20%) 1,019 gal (45%)]
14.9 RR STCC Number: 28-123-33/49-352-04 (international)

Section	15: REGULATORY INFORMATION
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15.1 OSHA: This product is listed as a hazardous material under criteria of the Federal OSHA Hazard Communication Standard, 29 CFR 1910.1200.
15.2 SARA TITLE III: a. **EHS (Extremely Hazardous Substance) List:** No

Section	15: REGULATORY INFORMATION (Cont.)
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b.	Section 311/312, (Tier I,II) Categories:	Immediate (acute)	Yes
		Fire	Yes
		Sudden release	No
		Reactivity	Yes
		Delayed (chronic)	No
c.	Section 313 (Toxic Release Report-Form R):		No
d.	TPQ (Threshold Planning Quantity):		No
15.3 CERCLA/SUPERFUND:	RQ (Reportable Quantity)		5,000 lbs (2270 Kg)
15.4 TSCA (Toxic Substance Control Act) Inventory List:			Yes
15.5 RCRA (Resource Conservation and Recovery Act) Status:			D003 (See Section 13)
15.6 WHMIS (Canada) Hazard Classification:			E, D1
15.7 DOT Hazardous Material: (See Section 14)			Yes
15.8 CAA Hazardous Air Pollutant (HAP)			No

Section	16: OTHER INFORMATION
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REVISIONS: The entire MSDS was reformatted to comply to ANSI Standard Z400.1-1993.

Revised Sections 1.1, 8.3, 11, 12, 5/7/02

Revised pH range in Section 8, 6/19/02

Revised shipping info & RQ data, 1/15/03

Revised Section 3, Emergency Overview & Section 10.4 to include dilution caution. 1/23/04

<p>THE INFORMATION PUBLISHED IN THIS MATERIAL SAFETY DATA SHEET HAS BEEN COMPILED FROM OUR EXPERIENCE AND OSHA, ANSI, NFPA, DOT, ERG, AND CHRIS. IT IS THE USER'S RESPONSIBILITY TO DETERMINE THE SUITABILITY OF THIS INFORMATION FOR THE ADOPTION OF NECESSARY SAFETY PRECAUTIONS. WE RESERVE THE RIGHT TO REVISE MATERIAL SAFETY DATA SHEETS PERIODICALLY AS NEW INFORMATION BECOMES AVAILABLE.</p>

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Version 7.11

Revision Date 15.10.2024

Print Date 16.10.2024

GENERIC EU MSDS - NO COUNTRY SPECIFIC DATA - NO OEL DATA

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifiers**

Product name : Sodium chlorite (25% solution in water) for synthesis

Product Number : 8.14815

Catalogue No. : 814815

Brand : Millipore

UFI : CW60-J6H9-Q99X-S01A

REACH No. : This product is a mixture. REACH Registration Number see section 3.

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Chemical for synthesis

1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich Chemical Pvt Limited
Industrial Area, Anekal Taluka
Plot No 12,
12 Bommasandra - Jigani Link Road
560100 BANGALORE
INDIA

1.4 Emergency telephone

Emergency Phone # : 000 800 1007 141 (CHEMTREC)

SECTION 2: Hazards identification**2.1 Classification of the substance or mixture**

Corrosive to Metals, (Category 1) H290: May be corrosive to metals.

Acute toxicity, (Category 4) H302: Harmful if swallowed.

Acute toxicity, (Category 3) H311: Toxic in contact with skin.

Skin corrosion, (Category 1) H314: Causes severe skin burns and eye damage.

Serious eye damage, (Category) H318: Causes serious eye damage.



1)

Specific target organ toxicity - repeated exposure, (Category 2), spleen

H373: May cause damage to organs through prolonged or repeated exposure.

Short-term (acute) aquatic hazard, (Category 1)

H400: Very toxic to aquatic life.

Long-term (chronic) aquatic hazard, (Category 1)

H410: Very toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram



Signal Word

Danger

Hazard Statements

H290

May be corrosive to metals.

H302

Harmful if swallowed.

H311

Toxic in contact with skin.

H314

Causes severe skin burns and eye damage.

H373

May cause damage to organs (spleen) through prolonged or repeated exposure.

H410

Very toxic to aquatic life with long lasting effects.

Precautionary Statements

P273

Avoid release to the environment.

P280

Wear protective gloves/ protective clothing/ eye protection/ face protection.

P301 + P312

IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell.

P303 + P361 + P353

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.

P305 + P351 + P338

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P314

Get medical advice/ attention if you feel unwell.

Supplemental Hazard information (EU)

EUH032

Contact with acids liberates very toxic gas.

EUH071

Corrosive to the respiratory tract.

Reduced Labeling (<= 125 ml)

Pictogram



Signal Word

Danger

Hazard Statements

H311

Toxic in contact with skin.

H314

Causes severe skin burns and eye damage.

Precautionary Statements

P280

Wear protective gloves/ protective clothing/ eye protection/ face



protection.

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Supplemental Hazard information (EU)

EUH032 Contact with acids liberates very toxic gas.

EUH071 Corrosive to the respiratory tract.

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information:

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information:

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Component		Classification	Concentration
sodium chlorite			
CAS-No.	7758-19-2	Ox. Sol. 1; Acute Tox. 3; Acute Tox. 2; Skin Corr. 1B; Eye Dam. 1; STOT RE 2; Aquatic Acute 1; Aquatic Chronic 1; H271, H301, H310, H314, H318, H373, H400, H410	>= 25 - < 30 %
EC-No.	231-836-6		
	*		

*A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, or the annual tonnage does not require a registration.

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice

First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air. Call in physician.



In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

In case of eye contact

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

If swallowed

After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralise.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures**5.1 Extinguishing media****Suitable extinguishing media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Hydrogen chloride gas

Sodium oxides

Not combustible.

Fire may cause evolution of:

Hydrogen chloride gas

Ambient fire may liberate hazardous vapours.

5.3 Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

5.4 Further information

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains.



6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

No metal containers. No metal containers.

Protected from light. Tightly closed. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons.

Do not store near acids.

Recommended storage temperature see product label.

Storage class

Storage class (TRGS 510): 6.1D: Non-combustible, acute toxic Cat.3 / toxic hazardous materials or hazardous materials causing chronic effects

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with workplace control parameters

8.2 Exposure controls

Personal protective equipment

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles

Skin protection

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).



Full contact
Material: Nitrile rubber
Minimum layer thickness: 0,11 mm
Break through time: 480 min
Material tested:KCL 741 Dermatril® L

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Splash contact
Material: Nitrile rubber
Minimum layer thickness: 0,11 mm
Break through time: 480 min
Material tested:KCL 741 Dermatril® L

Body Protection

protective clothing

Respiratory protection

Recommended Filter type: Filter B-(P3)

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Control of environmental exposure

Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- | | |
|---|---------------------------|
| a) Physical state | liquid |
| b) Color | colorless |
| c) Odor | weak |
| d) Melting point/freezing point | Melting point: < -3 °C |
| e) Initial boiling point and boiling range | ca.>= 100 °C at 1.013 hPa |
| f) Flammability (solid, gas) | No data available |
| g) Upper/lower flammability or explosive limits | No data available |
| h) Flash point | Not applicable |
| i) Autoignition temperature | Not applicable |
| j) Decomposition temperature | No data available |
| k) pH | ca.12 - 13 at 20 °C |



- | | |
|--|--|
| l) Viscosity | Viscosity, kinematic: No data available
Viscosity, dynamic: No data available |
| m) Water solubility | at 20 °C soluble |
| n) Partition coefficient:
n-octanol/water | Not applicable |
| o) Vapor pressure | ca.20 hPa at 20 °C |
| p) Density | ca.1,2 g/cm ³ at 20 °C |
| Relative density | No data available |
| q) Relative vapor
density | No data available |
| r) Particle
characteristics | No data available |
| | |
| s) Explosive properties | Not classified as explosive. |
| t) Oxidizing properties | Oxidizing potential |

9.2 Other safety information

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

explosible after loss of solvent content.
Contact with acids liberates very toxic gas.

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

10.3 Possibility of hazardous reactions

Generates dangerous gases or fumes in contact with:

Acids

Release of:

chlorine dioxide

Violent reactions possible with:

combustible substances

Cyanides

sulfur

ammonium compounds

phosphorus

Organic Substances

oxidisable substances

Chlorine

Metals

in powder form

Violent reactions possible with:

Generates dangerous gases or fumes in contact with:

Acids

The generally known reaction partners of water.



10.4 Conditions to avoid

no information available

10.5 Incompatible materials

Contact with metals liberates hydrogen gas. Metals

10.6 Hazardous decomposition products

In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Mixture

Acute toxicity

Acute toxicity estimate Oral - 1.114 mg/kg

(Calculation method)

Symptoms: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach.

Symptoms: Possible symptoms: mucosal irritations, Cough, Shortness of breath, Possible damages: damage of respiratory tract

Acute toxicity estimate Dermal - 525,49 mg/kg

(Calculation method)

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

Remarks: Mixture causes serious eye damage.

Risk of blindness!

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

Mixture may cause damage to organs through prolonged or repeated exposure.

- spleen

Aspiration hazard

No data available

11.2 Additional Information

Endocrine disrupting properties

Product:

Assessment

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article



57(f) or Commission Delegated regulation (EU)
2017/2100 or Commission Regulation (EU)
2018/605 at levels of 0.1% or higher.

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

Components

sodium chlorite

Acute toxicity

LD50 Oral - Rat - male and female - 284 mg/kg
(OECD Test Guideline 401)

Acute toxicity estimate Oral - 284 mg/kg
(ATE value derived from LD50/LC50 value)

Inhalation: No data available

LD50 Dermal - Rabbit - male and female - 134 mg/kg
(US-EPA)

Acute toxicity estimate Dermal - 134 mg/kg
(ATE value derived from LD50/LC50 value)

Skin corrosion/irritation

Skin - Rabbit

Result: Corrosive after 3 minutes to 1 hour of exposure - 4 h
(US-EPA)

Serious eye damage/eye irritation

Eyes - Rabbit

Result: Irreversible effects on the eye

Remarks: Aqueous solution
(ECHA)

Respiratory or skin sensitization

Maximization Test - Guinea pig

Result: Does not cause skin sensitization.
(OECD Test Guideline 406)

Germ cell mutagenicity

Method: OECD Test Guideline 475

Species: Mouse - male and female - Bone marrow

Result: negative

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

May cause damage to organs through prolonged or repeated exposure.

- spleen

Aspiration hazard

No data available



SECTION 12: Ecological information

12.1 Toxicity

Mixture

No data available

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects

No data available

Components

sodium chlorite

Toxicity to fish	flow-through test LC50 - Cyprinodon variegatus (sheepshead minnow) - 105 mg/l - 96 h (US-EPA)
Toxicity to daphnia and other aquatic invertebrates	static test EC50 - Daphnia magna (Water flea) - < 1 mg/l - 48 h (OECD Test Guideline 202)
Toxicity to algae	static test ErC50 - Pseudokirchneriella subcapitata (green algae) - 21,5 mg/l - 72 h (OECD Test Guideline 201) static test EC10 - Pseudokirchneriella subcapitata (green algae) - 4,8 mg/l - 72 h (OECD Test Guideline 201)
Toxicity to bacteria	Respiration inhibition EC50 - activated sludge - > 100 mg/l - 3 h (OECD Test Guideline 209)



SECTION 13: Disposal considerations

13.1 Waste treatment methods

No data available

SECTION 14: Transport information

14.1 UN number

ADR/RID: 1908

IMDG: 1908

IATA: 1908

14.2 UN proper shipping name

ADR/RID: CHLORITE SOLUTION

IMDG: CHLORITE SOLUTION

IATA: Chlorite solution

14.3 Transport hazard class(es)

ADR/RID: 8

IMDG: 8

IATA: 8

14.4 Packaging group

ADR/RID: II

IMDG: II

IATA: II

14.5 Environmental hazards

ADR/RID: no

IMDG Marine pollutant: no

IATA: no

14.6 Special precautions for user

Tunnel restriction code : (E)

Further information : No data available

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

National legislation

Seveso III: Directive 2012/18/EU of the E1 ENVIRONMENTAL HAZARDS
European Parliament and of the Council
on the control of major-accident hazards
involving dangerous substances.

Other regulations

Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.

Take note of Dir 94/33/EC on the protection of young people at work.

15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

SECTION 16: Other information

Full text of H-Statements

H271 May cause fire or explosion; strong oxidizer.

H301 Toxic if swallowed.



H310	Fatal in contact with skin.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
EUH032	Contact with acids liberates very toxic gas.
EUH071	Corrosive to the respiratory tract.

Full text of other abbreviations

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Classification of the mixture

Met. Corr.1	H290
Acute Tox.4	H302
Acute Tox.3	H311
Skin Corr.1	H314
Eye Dam.1	H318

Classification procedure:

Based on product data or assessment
Calculation method
Calculation method
Based on product data or assessment
Based on product data or assessment



STOT RE2	H373	Calculation method
Aquatic Acute1	H400	Calculation method
Aquatic Chronic1	H410	Calculation method

Further information

The information is believed to be correct but is not exhaustive and will be used solely as a guideline, which is based on current knowledge of the chemical substance or mixture and is applicable to appropriate safety precautions for the product. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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Safety Data Sheet

Sulfuric Acid 36-37% (w/w)

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Sulfuric Acid 36-37% (w/w)

Synonyms/Generic Names: Battery Acid, Dihydrogen Sulfate, Oil of Vitriol

Product Number: 9624

Product Use: Industrial, Manufacturing or Laboratory use

Manufacturer: Columbus Chemical Industries, Inc.
N4335 Temkin Rd.
Columbus, WI. 53925

For More Information: 920-623-2140 (Monday-Friday 8:00-4:30)
www.columbuschemical.com

In Case of Emergency Call: CHEMTREC - 800-424-9300 or 703-527-3887 (24 Hours/Day, 7 Days/Week)

2. HAZARDS IDENTIFICATION

Hazard Not Otherwise Classified (HNOC): None

Signal Words: Danger

Pictograms:



GHS Classification:

Skin corrosion	Category 1A
Serious eye damage	Category 1
Acute aquatic toxicity	Category 3

GHS Label Elements, including precautionary statements:

Hazard Statements:

H314	Causes severe skin burns and eye damage.
H402	Harmful to aquatic life.

Precautionary Statements:

P260	Do not breathe mists.
P264	Wash hands thoroughly after handling.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do not induce vomiting.

P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER/doctor/physician.
P363	Wash contaminated clothing before reuse.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local regulations.

Potential Health Effects

Eyes	Causes severe eye burns.
Inhalation	May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
Skin	Causes skin burns.
Ingestion	May be harmful if swallowed.

NFPA Ratings

Health	3
Flammability	0
Reactivity	2
Specific hazard	W

HMIS Ratings

Health	3
Fire	0
Reactivity	2

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	Weight %	CAS #	EINECS# / ELINCS#	Formula	Molecular Weight
Sulfuric Acid	36-37	7664-93-9	231-939-5	H ₂ SO ₄	98.08 g/mol
Water	Balance	7732-18-5	231-791-2	H ₂ O	18.00 g/mol

4. FIRST-AID MEASURES

Eyes	Immediately rinse with plenty of water for at least 15 minutes and get medical attention immediately.
Inhalation	Move casualty to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention immediately.
Skin	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and wash using soap. Get medical attention immediately.
Ingestion	Do Not Induce Vomiting! Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention immediately.

5. FIRE-FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media	Product is not flammable. Use appropriate media for adjacent fire. Cool unopened containers with water.
Special protective equipment and precautions for firefighters	Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots.
Specific hazards arising from the chemical	Emits toxic fumes (sulfur oxides, hydrogen sulfide gas) under fire conditions. (See also Stability and Reactivity section).

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	See section 8 for recommendations on the use of personal protective equipment.
Environmental precautions	Prevent spillage from entering drains. Any release to the environment may be subject to federal/national or local reporting requirements.
Methods and materials for containment and cleaning up	Neutralize spill with sodium bicarbonate or lime. Absorb spill with noncombustible absorbent material, then place in a suitable container for disposal. Clean surfaces thoroughly with water to remove residual contamination. Dispose of all waste and cleanup materials in accordance with regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

See section 8 for recommendations on the use of personal protective equipment. Use with adequate ventilation. Wash thoroughly after using. Keep container closed when not in use. Avoid formation of aerosols.

Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well ventilated area. Keep away from incompatible materials (see section 10 for incompatibilities).

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure controls:

Component	Exposure Limits	Basis	Entity
Sulfuric Acid	0.2 mg/m ³	TLV	ACGIH
	1 mg/m ³	PEL	OSHA
	1 mg/m ³	REL	NIOSH
	15 mg/m ³	IDLH	OSHA

TWA: Time Weighted Average over 8 hours of work.

TLV: Threshold Limit Value over 8 hours of work.

REL: Recommended Exposure Limit

PEL: Permissible Exposure Limit

STEL: Short Term Exposure Limit during x minutes.

IDLH: Immediately Dangerous to Life or Health

WEEL: Workplace Environmental Exposure Levels

CEIL: Ceiling

Personal Protection

Eyes	Wear chemical safety glasses or goggles, and face shield.
Inhalation	Provide local exhaust, preferably mechanical. If exposure levels are excessive, use an approved respirator.
Skin	Wear nitrile or rubber gloves, and full body suit. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Other	Not Available

Other Recommendations

Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.)	Clear, colorless liquid.
Odor	Odorless.
Odor threshold	Not Available
pH	~1
Melting point/freezing point	Not Available
Initial boiling point and boiling range	Not Available
Flash point	Not Flammable
Evaporation rate	Not Available
Flammability (solid, gas)	Not Flammable
Upper/lower flammability or explosive limit	Not Explosive
Vapor pressure	Not Available
Vapor density	Not Available
Specific gravity	1.2720
Solubility (ies)	Soluble in water.
Partition coefficient: n-octanol/water	Not Available
Auto-ignition temperature	Not Available
Decomposition temperature	Not Available

10. STABILITY AND REACTIVITY

Chemical Stability	Stable
Possibility of Hazardous Reactions	Will not occur.
Conditions to Avoid	Moisture.
Incompatible Materials	Bases, halides, organic material, carbides, chlorates, fulminates, nitrates, picrates, cyanides, cyclopentadiene, cyclopentanone oxime, nitroaryl amines, hexalithium disilicide, phosphorus (III) oxide, powdered metals.
Hazardous Decomposition Products	Sulfur oxides, hydrogen sulfide gas.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Skin	Not Available
Eyes	Not Available
Respiratory	Not Available
Ingestion	Not Available

Carcinogenicity

IARC	1: Carcinogenic to humans (sulfuric acid aerosol).
ACGIH	A2: Suspected human carcinogen (sulfuric acid aerosol).
NTP	No components of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA	No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Signs & Symptoms of Exposure

Skin	Burning, itching, redness, inflammation upon exposed tissue.
Eyes	Eye burns, watering eyes.
Respiratory	Burning, choking, coughing, shortness of breath.
Ingestion	Nausea, vomiting, diarrhea, burning, severe pain.

Chronic Toxicity	May cause bleeding of nose and gums, nasal and oral mucosal ulceration, conjunctivitis, yellowing of teeth and erosion of tooth enamel.
Teratogenicity	Not Available
Mutagenicity	Not Available
Embryotoxicity	Not Available
Target Organ(s)	Teeth, Lungs
Reproductive Toxicity	Not Available
Respiratory/Skin Sensitization	Not Available

12. ECOLOGICAL INFORMATION

Ecotoxicity

Aquatic Vertebrate	Not Available
Aquatic Invertebrate	Not Available
Terrestrial	Not Available

Persistence and Degradability	Not Available
Bioaccumulative Potential	Does not accumulate.
Mobility in Soil	Not Available
PBT and vPvB Assessment	Not Available
Other Adverse Effects	Not Available

13. DISPOSAL CONSIDERATIONS

Waste Product or Residues	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product or residue.
Product Containers	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product container.

The information offered in section 13 is for the product as shipped. Use and/or alterations to the product may significantly change the characteristics of the material and alter the waste classification and proper disposal methods.

14. TRANSPORTATION INFORMATION

US DOT	UN2796, Sulfuric acid, 8, pg II
TDG	UN2796, SULFURIC ACID, 8, PG II
IMDG	UN2796, SULFURIC ACID, 8, PG II
Marine Pollutant	No
IATA/ICAO	UN2796, Sulfuric acid, 8, pg II

15. REGULATORY INFORMATION

TSCA Inventory Status	All ingredients are listed on the TSCA Active inventory.
DSL / NDSL	All ingredients are listed on the DSL inventory.
California Proposition 65	Not Listed
Rhode Island: Hazardous Substance List	Listed: Sulfuric Acid

Massachusetts: Toxic or Hazardous Substance List, Right to Know	Not Listed
Pennsylvania: Hazardous Substance List	Listed: Sulfuric Acid
New Jersey: Right to Know Hazardous Substance List	Listed: Sulfuric Acid
SARA 302	Listed: Sulfuric Acid
SARA 304	Listed: Sulfuric Acid
SARA 311	Acute Health Hazard.
SARA 312	Acute Health Hazard.
SARA 313	Listed: Sulfuric Acid (aerosol forms only)
WHMIS Canada	Class D1A: Poisonous and infectious material – Immediate and serious effects – Very toxic. Class E: Corrosive material.

16. OTHER INFORMATION

Revision	Date
Original	03/27/2013
Revision 1	12/13/2016
Revision 2	11/29/2021

Disclaimer: The information provided in this Safety Data Sheet ("SDS") is correct to the best of our knowledge, information, and belief at the date of publication. The information in this SDS relates only to the specific Product identified under Section 1, and does not relate to its use in combination with other materials or products, or its use as to any particular process. Those handling, storing, or using the Product should satisfy themselves that they have current information regarding the particular way the Product is handled, stored or used and that the same is done in accordance with federal, state and local law. WE DO NOT MAKE ANY WARRANTY, EXPRESS OR IMPLIED, INCLUDING (WITHOUT LIMITATION) WARRANTIES WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN OR WITH RESPECT TO FITNESS FOR ANY PARTICULAR USE. WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, INJURY, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT.



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SODIUM HYDROXIDE, 50%

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SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Manufacturer:	Shintech Louisiana, LLC 3 Greenway Plaza, Suite 1150 Houston, TX 77046 (713) 965-0713
PRODUCT NAME:	Sodium Hydroxide Solution, 50%
CAS#:	1310-73-2
CHEMICAL FORMULA:	NaOH(50)
Synonyms	Caustic Soda Liquid 50%, Soda Lye, Lye, Liquid Caustic, Sodium Hydrate
Product Use:	Neutralizing agent, industrial cleaner, pulping and bleaching, soap manufacturing

For information regarding a chemical emergency involving a spill or leak, call:

24 — Hour Emergency Contact:

U.S.: 1-800-424-9300 — CHEMTREC

SECTION 2 — HAZARDS IDENTIFICATION

Global Harmonization System (GHS) Classification:

- Category 1** Corrosive to metals
- Category 1** Skin corrosion/irritation
- Category 1** Serious eye damage/eye irritation
- Category 3** Hazardous to the aquatic environment, long-term (chronic) hazard
- Category 4** Acute toxicity, inhalation
- Category 4** Acute toxicity, oral



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National Fire Protection Association (NFPA) Rating Hazardous Materials Identification Systems (HMIS) Rating

	NFPA	HMIS
Health	3	3
Fire	0	0
Reactivity	1	1

4 = Extreme/Severe W – Water Reactive
3 = High/Serious
2 = Moderate
1 = Slight
0 = Minimum

DANGER! Causes severe eye burns. Causes severe skin burns. Avoid contact with skin and eyes. Causes burns of the mouth and throat. Causes respiratory tract irritation. Avoid breathing vapors or mist. Aspiration hazard. Can enter lungs and cause damage. May react with water. Keep upwind of spill and use in adequate ventilation.

Emergency Overview:

Color:	Colorless
Odor:	Odorless
Physical State	Liquid above freezing point
Signal Word	DANGER

GHS Label Elements:



GHS Hazard Statements:

H290 - May be corrosive to metals
H314 – Causes severe skin burns and eye
H318 – Causes serious eye damage
H412 – Harmful to aquatic life with long lasting effects
H332 – Harmful if inhaled
H302 – Harmful if swallowed



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GHS Precautionary Statements:

Storage: Keep container closed.
Keep in original container.
Store in a secure manner.

Ventilation Controls: Do not breathe (dust, vapor or spray mist).

Hygiene Measures: When using, do not smoke, eat, or drink.
Wash thoroughly after handling.
Avoid contact with skin and eyes.

Personal Protective Equipment: Wear suitable protective clothing, gloves, and eye/face protection.

Spills: **NEVER** direct water jet on liquid.
Dike the area to contain the spill.
Collect in suitable and properly labeled containers.
Attempt to neutralize by adding material such as Acetic acid.

First Aid
(See Section 4): In case of accident by inhalation, move person to fresh air.
If swallowed, do not induce vomiting: seek medical advice immediately and show label to doctor.
After contact with skin, immediately take off all contaminated clothing and wash immediately with plenty of water.
In case of contact with eyes, rinse immediately with plenty of water.
In all cases, if irritation develops and persists, get medical attention.
In all cases, call a poison control center or doctor for further treatment advice.

Environmental Protection: Use appropriate containment to avoid environmental contamination.

Disposal: Dispose of contents and container in accordance with applicable local, regional, national, and/or international regulations.



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POTENTIAL HEALTH EFFECTS:

EYE CONTACT

May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur. Mist may cause eye irritation.

Short Term Exposure

Long Term Exposure:

SKIN CONTACT

Brief contact may cause severe skin burns. Symptoms may include pain, severe local redness and tissue damage.

SKIN ABSORPTION

Prolonged skin contact is unlikely to result in absorption of harmful amounts.

INHALATION:

Mist may cause severe irritation of upper respiratory tract (nose and throat). May cause chemical burns to the respiratory tract.

INGESTION

Swallowing may result in burns of the mouth and throat. Swallowing may result in gastrointestinal irritation, ulceration, nausea and/or vomiting. Aspiration into the lungs may occur during ingestion or vomiting, causing tissue damage or lung injury.

CONDITIONS AGGRAVATED BY EXPOSURE

Respiratory disorders, pre-existing skin disorders, eye/vision disorders.

TARGET ORGANS EFFECTED:

Skin, Eyes, Respiratory System.

SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous ingredients (specific)	Typical %	CAS Number	EC Number
Water	50	7732-18-5	7732-18-5
Sodium Hydroxide	50	1310-73-2	7732-18-5
Sodium Chloride	< 1	7647-14-5	231-598-3

Common Names/Synonyms:

Caustic Soda Liquid 50%, Soda Lye, Lye, Liquid Caustic, Sodium Hydrate



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SECTION 4 – FIRST AID MEASURES

Eye Contact:

Immediately flush eyes with water for at least 30 minutes, and up to 60 minutes if necessary. Hold eyelids open during flushing. If irritation persists, repeat flushing. Obtain medical attention IMMEDIATELY. Do not transport victim until the recommended flushing period is completed unless flushing can be continued during transport.

Skin Contact:

Immediately flush skin with water for at least 30 minutes, and up to 60 minutes if necessary. Under water remove contaminated clothing, jewelry, and shoes. If irritation persists, repeat flushing. Obtain medical attention immediately. Handle contaminated clothing and shoes in a manner which limits further exposure.

Ingestion:

DO NOT INDUCE VOMITING. If victim is alert and not convulsing, rinse mouth and give as much water as possible to dilute material (8 to 10 oz. or 240 to 300 mL). If spontaneous vomiting occurs, have victim lean forward with head down, rinse mouth and administer more water. IMMEDIATELY transport victim to an emergency facility. Do not give anything to an unconscious person.

Inhalation:

Move victim to fresh air. If breathing is difficult, oxygen may be beneficial if administered by trained personnel, preferably on a doctor's advice. Give artificial respiration ONLY if breathing has stopped. Do not use mouth-to-mouth method if victim ingested or inhaled the substance: induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Obtain medical attention IMMEDIATELY. Symptoms of pulmonary edema can be delayed up to 48 hours after exposure.

SECTION 5 – FIRE FIGHTING MEASURES

Extinguishing Media:

This material does not burn. If exposed to fire from another source, use suitable extinguishing agent for that fire. Do not use water jet.

Fire Fighting Procedures:

Keep people away. Isolate fire and deny unnecessary entry. Remove containers from fire, if possible, and cool containers with water. When material comes in contact with water, large amounts of heat may be generated and ignite adjacent combustible materials. **This material does not burn.** Fight fire for other material that is burning.



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**Special
Protective
Equipment for
Firefighters:**

Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

**Unusual Fire and
Explosion
Hazards:**

Product reacts with water. Reaction may produce heat and/or gases. This reaction may be violent. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids.

**Hazardous
Combustion
Products:**

Not applicable.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

**Steps to be
taken if material
is released or
spilled:**

Contain spilled material if possible. Small spills: Dilute with water and neutralize with dilute acid; absorb and collect. Large spills: Dike the area to contain the spill. Collect in suitable and properly labeled containers. Attempt to neutralize by adding material such as Acetic acid. See Section 13, Disposal Considerations, for additional information.

**Personnel
Precautions:**

Evacuate area. Only trained and properly protected personnel must be involved in clean-up operations. Refer to Section 7, Handling, for additional precautionary measures. Keep upwind of spill. Ventilate area of leak or spill. See Section 10 for more specific information. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

**Environmental
Precautions:**

Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.



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SECTION 7 – HANDLING AND STORAGE

Handling:

Do not get in eyes. Do not get on skin or clothing. Do not swallow. Avoid breathing mist. Keep container closed. Use with adequate ventilation.

1. ALWAYS add caustic soda solution to water with constant agitation. NEVER add water to the caustic soda solution.
2. The water should be lukewarm (27°-38°C or 80°-100°F). NEVER start with hot or cold water. The addition of the caustic soda to liquid will cause a rise in temperature. If caustic soda becomes concentrated in one area, is added too rapidly, or is added to hot or cold liquid, a rapid temperature increase can result in DANGEROUS mists, boiling or spattering which may cause an immediate VIOLENT ERUPTION. See Section 8, Exposure Controls and Personal Protection.

Storage:

Keep container closed. Do not store in: Zinc, Aluminum, Brass, or Tin. See Section 10 for more specific information.

Storage temperature: >16°C

Shelf life: Use within 24 months

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Preventive Measures:

Recommendations listed in this section indicate the type of equipment which will provide protection against over exposure to this product. Conditions of use, adequacy of engineering or other control measures, and actual exposures will dictate the need for specific protective devices at your workplace.

Engineering Controls:

Local exhaust ventilation should be applied wherever there is an incidence of point source emissions or dispersion of regulated contaminants in the work area. Ventilation control of the contaminant as close to its point of generation is both the most economical and safest method to minimize personnel exposure to airborne contaminants. The most effective measures are the total enclosure of processes and the mechanization of handling procedures to prevent all personal contact.



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Personal Protective Equipment:

Maintain eye wash station and safety shower facilities in work area. Detailed requirements for personal protective equipment should be established on a site-specific basis.

Eye/Face Protection:

Wear full face-shield and chemical safety goggles when there is potential for contact.

Skin/Body Protection:

Wear appropriate personal protective clothing to prevent skin contact that is chemically resistant to this material. Wear rubber boots and chemical resistant gloves. Remove contaminated clothing immediately, wash skin area with soap and water and launder clothing before reuse or dispose of properly.

Respiratory Protection:

Up to 10mg/m³: Supplied Air Respirator (SAR) operated in a continuous-flow mode, eye protection needed; or full face-piece respirator with high-efficiency particulate filter(s); or powered air-purifying respirator with dust and mist filter(s), eye protection needed; or full face-piece Self-Contained Breathing Apparatus (SCBA); or full face-piece SAR.

Emergency or Planned Entry into Unknown Concentrations of IDLH Conditions: Positive pressure, full face-piece SAR; or positive pressure, full face-piece SAR with an auxiliary positive pressure SAR.

Guidelines for Sodium Hydroxide Solutions, 30- 70%:

RECOMMENDED (resistance to breakthrough longer than 8 hours): Butyl rubber; natural rubber, neoprene rubber, nitrile rubber, polyethylene, polyvinyl chloride, Teflon(TM), Viton(TM), Saranex(TM), 4H(TM), Barricade(TM), CPF 3(TM), Responder(TM), Trelchem HPS(TM), Tychem 10000(TM).

NOT RECOMMENDED for use (resistance to breakthrough less than 1 hour): Polyvinyl alcohol.

Escape:

Full face-piece respirator with high-efficiency particulate filter(s); or escape-type SCBA.

Exposure Guidelines:

PRODUCT: Sodium hydroxide

ACGIH Ceiling Exposure Limit (TLV-C): 2mg/m³

OSHA PEL-TWA & PEL-C: 2mg/m³

NIOSH IDLH: 10mg/m³

NIOSH REL-C: 2mg/m³



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SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid above freezing point
Physical Form	Liquid
Color	Colorless
Odor	Odorless
Odor Threshold	No data available
Flash Point – Closed Cup	None
Flammable Limits in Air	Lower: Not applicable Upper: Not applicable
Autoignition Temperature	Not applicable
Vapor pressure	1.5 mmHg @ 20°C <i>Literature</i>
Boiling Point (760 mmHg)	145°C (293°F) <i>Literature</i>
Vapor Density (air=1)	Not applicable
Specific Gravity (H2O=1)	1.52 <i>Literature</i>
Liquid Density	1.5 g/cm ³ @ 20°C <i>Literature</i>
Freezing Point	14°C (57°F) <i>Literature</i>
Melting Point	14°C (57°F) <i>Literature</i>
Solubility in Water (by weight)	Water solution
pH	Strong Basic
Evaporation Rate	No data available
Partition Coefficient n-octanol/water	No data available
Decomposition Temperature	No data available
Molecular Weight	40 g/mol
Volatility	No data available
Kinematic Viscosity	0.35 St @ 25° <i>Calculated</i>

* This data is based on 50% Caustic

SECTION 10 – STABILITY AND REACTIVITY

Stability/Instability:

Stable under recommended storage conditions. See Storage, Section 7.

Conditions to avoid:

Avoid moisture. Product absorbs carbon dioxide from the air. Avoid mixing with water, strong acids, or other incompatible materials. Will react with some metals and create a flammable hydrogen gas.

Incompatible Materials:

Heat is generated when mixed with water. Spattering and boiling can occur. Caustic soda solution reacts readily with various reducing sugars (i.e. fructose, galactose, maltose, dry whey solids) to produce CO. Take precautions including monitoring the tank atmosphere for CO to ensure safety of personnel before vessel entry. Avoid contact with:



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acids, glycols and halogenated organics. Organic nitro compounds. Flammable hydrogen may be generated from contact with metals such as: Zinc, Aluminum, Tin, or Brass.

Hazardous Polymerization:

Will not occur.

Thermal Decomposition:

Does not decompose.

SECTION 11 – TOXICOLOGICAL INFORMATION

Acute Toxicity:

Ingestion: Single dose oral LD50 has not been determined.

Skin Absorption:

The dermal LD50 has not been determined.

The severity of injury depends on the concentration and duration of exposure to the substance. This material is toxic to the skin, eyes, and mucous membranes. It may cause destructive effects on tissues that it contacts. Inhalation will cause irritation to the respiratory tract and difficulty breathing. Eye contact will cause irritation and may cause severe burns and possible blindness. Contact with skin will cause irritation and may cause corrosion of the tissue.

Repeated Dose Toxicity:

Based on available data, repeated exposures are not anticipated to cause additional significant adverse effects.

Genetic Toxicology:

For the major component(s): In vitro genetic toxicity studies were negative.

Carcinogenicity:

Not a known carcinogen.

SECTION 12 – ECOLOGICAL INFORMATION

Fate and Transport:

Sodium Hydroxide:

Movement

No bioconcentration is expected because of the relatively high water solubility. Potential for mobility in soil is very high (Koc between 0 and 50).



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Persistence and Degradability

Biodegradation is not applicable.

Sodium Chloride:**Movement**

No bioconcentration is expected because of the relatively high water solubility. Potential for mobility in soil is very high (Koc between 0 and 50).

Persistence and Degradability

Biodegradation is not applicable.

Ecotoxicity:

Sodium Hydroxide:

Material is slightly toxic to aquatic organisms on an acute basis (LC50/EC50 between 10 and 100 mg/L in the most sensitive species tested). May increase pH of aquatic systems to >pH 10 which may be toxic to aquatic organisms.

**Fish Acute & Prolonged
Toxicity**

LC50, rainbow trout (*Oncorhynchus mykiss*), 96h: 45.5 mg/L

**Aquatic Invertebrate Acute
Toxicity**

LC50, water flea *Daphnia magna*: 40-240 mg/L

Sodium Chloride:

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50 > 100 mg/L in the most sensitive species tested).

**Fish Acute & Prolonged
Toxicity**

LC50, fathead minnow (*Pimephales promelas*): 10,610 mg/L

**Aquatic Invertebrate Acute
Toxicity**

LC50, water flea *Daphnia magna*: 4,571 mg/L

SECTION 13 – DISPOSAL CONSIDERATIONS

Dispose in accordance with all applicable Federal, State/Provincial and local laws and regulations. Waste characterization and compliance with applicable laws and regulations are the responsibility of the waste generator. Do not dispose of waste with normal garbage, or to sewer systems.

SHINTECH LOUISIANA, LLC HAS NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR



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USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN SDS SECTION.

SECTION 14 – TRANSPORT INFORMATION

U.S. DOT 49 CFR 172.101:

	BULK / NON BULK
Shipping Name	SODIUM HYDROXIDE SOLUTION
Hazard Class/Division	8
Identification No.	UN1824
Packing Group	PG II
DOT RQ (lbs)	RQ 1000 lbs. (Sodium Hydroxide)

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

SECTION 15 – REGULATORY INFORMATION

USA Classification

OSHA Hazard Communication Standard:

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312

Immediate (Acute) Health Hazard	Yes
Delayed (Chronic) Health Hazard	No
Fire Hazard	No
Reactive Hazard	Yes
Sudden Release of Pressure Hazard	No
OSHA Process Safety (29CFR1910.119)	No
CERCLA Section 103 (40CFR302.4)	Yes



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Reportable Quantity (RQ) under CERCLA	1,000 lbs. (454kg)
TSCA Inventory Status	Yes

This product does not contain nor is it manufactured with ozone depleting substances

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313:

To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

Pennsylvania (Worker and Community Right-To-Know Act): Pennsylvania Hazardous Substances List and/or Pennsylvania Environmental Hazardous Substance List:

The following product components are cited in the Pennsylvania Hazardous Substance List and/or the Pennsylvania Environmental Substance List, and are present at levels which require reporting.

Component	CAS #	Amount
Sodium Hydroxide	1310-73-2	<=51.0%

Pennsylvania (Worker and Community Right-To-Know Act): Pennsylvania Hazardous Substances List:

To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986):

This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

US Toxic Substances Control Act:

All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements under 40 CFR 710.30.

CEPA – Domestic Substances List (DSL):



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All substances contained in this product are listed on the Canadian Domestic Substances List (DSL) or are not required to be listed.

Immediate (Acute) Health Hazard	Yes
Delayed (Chronic) Health Hazard	No
Fire Hazard	No
Reactive Hazard	Yes
Sudden Release of Pressure Hazard	No
OSHA Process Safety (29CFR1910.119)	No
CERCLA Section 103 (40CFR302.4)	Yes
Reportable Quantity (RQ) under CERCLA	1,000 lbs. (454kg)
TSCA Inventory Status	Yes

This product does not contain nor is it manufactured with ozone depleting substances.

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313:

To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

The following product components are cited in the Pennsylvania Hazardous Substance List and/or the Pennsylvania Environmental Substance List, and are present at levels which require reporting.

Component	CAS #	Amount
Sodium Hydroxide	1310-73-2	<=51.0%

Pennsylvania (Worker and Community Right-To-Know Act): Pennsylvania Hazardous Substances List:

To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986):



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This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

US Toxic Substances Control Act:

All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements under 40 CFR 710.30

CEPA – Domestic Substances List (DSL):

All substances contained in this product are listed on the Canadian Domestic Substances List (DSL) or are not required to be listed.

SECTION 16 – OTHER INFORMATION

IMPORTANT: The information presented herein, while not guaranteed, was prepared by competent technical personnel and is true and accurate to the best of our knowledge. NO WARRANTY OF MERCHANT ABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE, OR WARRANTY OR GUARANTY OF ANY OTHER KIND, EXPRESS OR IMPLIED, IS MADE REGARDING PERFORMANCE, SUITABILITY, STABILITY OR OTHERWISE. The information included herein is not intended to be all-inclusive as to the appropriate manner and/or conditions of use, handling and/or storage. Factors pertaining to certain conditions of storage, handling, or use of this product may involve other or additional safety or performance considerations. While our technical personnel will be happy to respond to questions regarding safe handling and use procedures, safe handling and use remains the responsibility of the customer. No suggestions for use are intended to, and nothing herein shall be construed as a recommendation to, infringe any existing patents or violate any laws, rules, regulations or ordinances of any governmental entity.

Shintech Louisiana, LLC urges each customer or recipient of this SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as to the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product.



SAFETY DATA SHEET

SODIUM HYDROXIDE, 50%

Issue Date: 01/10/2011

Reviewed Date: 1/25/2023

Page 16 of 16

Revisions:

- January 2011 - no information changed in this MSDS. This MSDS was reviewed for accuracy.
- April 2014 – The MSDS was updated to follow new Global Harmonization Guidelines. The MSDS are now called Safety Data Sheets (SDS).
- January 2016 – Corrections to improve nomenclature and technical data.
- February 2020 – No information changed in this SDS. This SDS was reviewed for accuracy.
- July 2022 – Section 2 was updated to include the GHS Classification Category 1 – Corrosive to Metals and Category 4 – Acute toxicity - inhalation. Section 2 - GHS Hazard Statements have been revised to indicate that this material is harmful if inhaled.
- November 2022 – Section 2 GHS Classifications and Hazard Statements updated.
- January 2023 – Removal of health hazard pictogram based on updated hazard statements.

SDS Status:

Revision Date:

1/25/2023

Supersedes:

11/15/2022



Aqua Ammonia 19%

Safety Data Sheet

Classified according to the UN-GHS as adopted in the US Hazard Communication Standard (HCS 2012), the Canada Hazardous Products Regulations (WHMIS 2015) and Mexico NOM-018-STPS-2015.

Revision Date: 4 June 2024

Date of issue: 4 June 2024

Supersedes Date: 23 June 2023

Version: 3.1

SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Name: Aqua Ammonia 19%

CAS No: 1336-21-6

Synonyms: Ammonia water, Aqueous ammonia, Household ammonia, Ammonium hydrate, Ammonium hydroxide

STCC: 4935280

1.2. Intended Use of the Product

Uses of the substance/mixture: Fertilizer

Uses advised against: Consumer use

1.3. Name, Address, and Telephone of the Responsible Party

Company

CF Industries

2375 Waterview Drive

Northbrook, Illinois, USA

847-405-2400

www.cfindustries.com

1.4. Emergency Telephone Number

Emergency : 800-424-9300

Number For Chemical Emergency, Spill, Leak, Fire, Exposure, or Accident, call CHEMTREC – Day or Night

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

Classification (GHS-US)

Acute Tox. 4 (Oral) H302

Acute Tox. 4 (Inhalation:gas) H332

Skin Corr. 1A H314

Eye Dam. 1 H318

STOT SE 3 H335

Aquatic Acute 1 H400

Aquatic Chronic 3 H412

Full text of H-phrases: see section 16

2.2. Label Elements

GHS-US Labeling

Hazard Pictograms (GHS-US) :



GHS05



GHS07



GHS09

Signal Word (GHS-US) : Danger

Hazard Statements (GHS-US) : H302+H332 - Harmful if swallowed or if inhaled.
H314 - Causes severe skin burns and eye damage.
H318 - Causes serious eye damage.
H335 - May cause respiratory irritation.
H400 - Very toxic to aquatic life.
H412 - Harmful to aquatic life with long lasting effects.

Precautionary Statements (GHS-US) : P260 - Do not breathe mist, spray, vapors, gas.
P261 - Avoid breathing vapors, mist, or spray.
P264 - Wash hands, forearms, and exposed areas thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P271 - Use only outdoors or in a well-ventilated area.
P273 - Avoid release to the environment.
P280 - Wear eye protection, protective clothing, protective gloves, face protection.

Aqua Ammonia 19%

Safety Data Sheet

Classified according to the UN-GHS as adopted in the US Hazard Communication Standard (HCS 2012), the Canada Hazardous Products Regulations (WHMIS 2015) and Mexico NOM-018-STPS-2015.

P301+P330+P331+P310 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a poison center or doctor.
P303+P361+P353+P310 - IF ON SKIN (OR HAIR): Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a poison center or doctor.
P304+P340+P310 - IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing. Immediately call a poison center or doctor.
P305+P351+P338+P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor.
P363 - Wash contaminated clothing before reuse.
P391 - Collect spillage.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up.
P501 - Dispose of contents/container in accordance with local, regional, provincial, territorial, national, and international regulations.

2.3. Other Hazards

Ammonium hydroxide is very volatile and may release ammonia as a gas. Ammonia vapor, in concentrations of 16-25% volume by weight in air, is flammable, toxic by inhalation and corrosive. Take all appropriate precautions.

2.4. Unknown Acute Toxicity (GHS-US)

No data available.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Not applicable

3.2. Mixture

Name	Product Identifier	% (w/w)	Classification (GHS-US)
Ammonium hydroxide	(CAS No) 1336-21-6	100	Acute Tox. 4 (Oral), H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 Aquatic Acute 1, H400
Contains	Product Identifier	% (w/w)	Classification (GHS-US)
Water	(CAS No) 7732-18-5	80.5-81.5	Not classified
Ammonia	(CAS No) 7664-41-7	18.5-19.5	Flam. Gas 2, H221 Compressed gas, H280 Acute Tox. 3 (Inhalation:gas), H331 Skin Corr. 1B, H314 Eye Dam. 1, H318 Aquatic Acute 1, H400 Aquatic Chronic 2, H411

Full text of H-phrases: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of First Aid Measures

General: Never give anything by mouth to an unconscious person. Seek medical attention immediately. Show label if possible.

Inhalation: When symptoms occur: go into open air and ventilate suspected area. Immediately call a POISON CENTER or doctor/physician.

Skin Contact: Immediately flush skin with plenty of water for at least 60 minutes. Remove/Take off immediately all contaminated clothing. Immediately call a POISON CENTER or doctor/physician. Wash contaminated clothing before reuse.

Eye Contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing for at least 60 minutes. Immediately call a POISON CENTER or doctor/physician.

Ingestion: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.

4.2. Most Important Symptoms and Effects Both Acute and Delayed

General: Harmful if swallowed. Corrosive to eyes, respiratory system and skin. Harmful if inhaled.

Aqua Ammonia 19%

Safety Data Sheet

Classified according to the UN-GHS as adopted in the US Hazard Communication Standard (HCS 2012), the Canada Hazardous Products Regulations (WHMIS 2015) and Mexico NOM-018-STPS-2015.

Inhalation: Symptoms may include: Sneezing, coughing, burning sensation of throat with constricting sensation of the larynx and difficulty in breathing. Damage to lungs. Harmful if inhaled.

Skin Contact: Corrosive. Causes burns. Symptoms may include: Redness. Pain. Serious skin burns. Blisters.

Eye Contact: Causes serious eye damage. Symptoms may include: Redness. Pain. Blurred vision. Severe burns. Causes permanent damage to the cornea, iris, or conjunctiva.

Ingestion: Harmful if swallowed. May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract.

Chronic Symptoms: None known.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media: Water spray, fog.

Unsuitable Extinguishing Media: Do not use a heavy water stream. Use of heavy stream of water may spread fire.

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: Ammonia vapor concentrations in the range of 16-25% by volume in air can be ignited if heated to the auto-ignition temperature. Oil or other combustible materials increases the fire hazard. Emits toxic fumes under fire conditions.

Explosion Hazard: Forms explosive compounds with calcium hypochlorite, bleaches, gold, mercury, silver, chlorine and other halogens. Contact with strong oxidizers can result in fires and explosions.

Reactivity: Corrosive to copper, brass, silver, zinc and galvanized steel.

5.3. Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.

Firefighting Instructions: Stop leak if safe to do so. Use water spray or fog for cooling exposed containers. In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.

Protection During Firefighting: Firefighters must use full bunker gear including NIOSH-approved positive-pressure self-contained breathing apparatus to protect against potential hazardous combustion and decomposition products.

Hazardous Combustion Products: Nitrogen oxides. Ammonia.

Reference to Other Sections

Refer to section 9 for flammability properties.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Keep away from open flames, hot surfaces and sources of ignition. No smoking. Avoid all contact with skin, eyes, or clothing. Do NOT breathe vapor, mist, spray.

6.1.1. For Non-Emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel. Eliminate ignition sources.

6.1.2. For Emergency Personnel

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Stop leak if safe to do so. Ventilate area.

6.2. Environmental Precautions

Prevent entry to sewers and public waters. Notify authorities if product enters sewers or public waters.

6.3. Methods and Material for Containment and Cleaning Up

For Containment: Stop the flow of material, if this is without risk. Ventilate area. Contain any spills with dikes or absorbents.

Methods for Cleaning Up: Clear up spills immediately and dispose of waste safely. Never neutralize spill with acid. Absorb and/or contain spill with inert material, then place in suitable container. Use only non-sparking tools. After cleaning, flush traces away with water.

6.4. Reference to Other Sections

See heading 8, Exposure Controls and Personal Protection. See Section 13, Disposal Considerations.

Aqua Ammonia 19%

Safety Data Sheet

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SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Additional Hazards When Processed: Do NOT enter (storage areas, confined spaces) unless adequately ventilated. Emits ammonia vapors. Flammable gas. Ammonium hydroxide reacts with many heavy metals and their salts forming explosive compounds. It may attack metals forming flammable/explosive gas. The solution in water is a strong base, it reacts violently with acids.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Any proposed use of this product in elevated-temperature processes should be thoroughly evaluated to assure that safe operating conditions are established and maintained. Ensure adequate ventilation. Comply with applicable regulations.

Storage Conditions: Store in a dry, cool and well-ventilated place. Detached outside storage is preferable. Keep in fireproof place. Store away from oxidizers, combustible materials, and all ignition sources. Store in corrosive resistant container with a resistant inner liner. Storage containers should have safety relief valves. Store locked up.

Incompatible Materials: Forms explosive compounds with calcium hypochlorite, bleaches, gold, mercury, silver, chlorine and other halogens. Contact with strong oxidizers can result in fires and explosions. Corrosive to copper, brass, silver, zinc and galvanized steel.

Storage Area: Post readily visible warning signs in the storage area listing emergency measures. Water hoses should be readily available to disperse vapors in case of a spill.

7.3. Specific End Use(s)

Fertilizer

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

For substances listed in section 3 that are not listed here, there are no established Exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), NIOSH (REL), OSHA (PEL), Canadian provincial governments, or the Mexican government.

Ammonia (7664-41-7)		
Mexico	OEL TWA (mg/m ³)	18 mg/m ³
Mexico	OEL TWA (ppm)	25 ppm
Mexico	OEL STEL (mg/m ³)	27 mg/m ³
Mexico	OEL STEL (ppm)	35 ppm
USA ACGIH	ACGIH TWA (ppm)	25 ppm
USA ACGIH	ACGIH STEL (ppm)	35 ppm
USA OSHA	OSHA PEL (TWA) (mg/m ³)	35 mg/m ³
USA OSHA	OSHA PEL (TWA) (ppm)	50 ppm
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	18 mg/m ³
USA NIOSH	NIOSH REL (TWA) (ppm)	25 ppm
USA NIOSH	NIOSH REL (STEL) (mg/m ³)	27 mg/m ³
USA NIOSH	NIOSH REL (STEL) (ppm)	35 ppm
USA IDLH	US IDLH (ppm)	300 ppm
Alberta	OEL STEL (mg/m ³)	24 mg/m ³
Alberta	OEL STEL (ppm)	35 ppm
Alberta	OEL TWA (mg/m ³)	17 mg/m ³
Alberta	OEL TWA (ppm)	25 ppm
British Columbia	OEL STEL (ppm)	35 ppm
British Columbia	OEL TWA (ppm)	25 ppm
Manitoba	OEL STEL (ppm)	35 ppm
Manitoba	OEL TWA (ppm)	25 ppm
New Brunswick	OEL STEL (mg/m ³)	24 mg/m ³
New Brunswick	OEL STEL (ppm)	35 ppm
New Brunswick	OEL TWA (mg/m ³)	17 mg/m ³
New Brunswick	OEL TWA (ppm)	25 ppm
Newfoundland &	OEL STEL (ppm)	35 ppm

Aqua Ammonia 19%

Safety Data Sheet

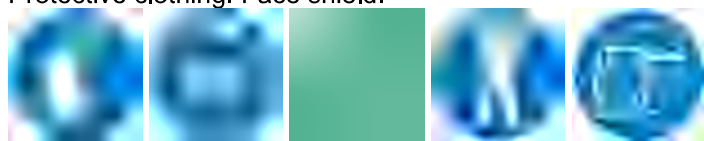
Classified according to the UN-GHS as adopted in the US Hazard Communication Standard (HCS 2012), the Canada Hazardous Products Regulations (WHMIS 2015) and Mexico NOM-018-STPS-2015.

Labrador		
Newfoundland & Labrador	OEL TWA (ppm)	25 ppm
Nova Scotia	OEL STEL (ppm)	35 ppm
Nova Scotia	OEL TWA (ppm)	25 ppm
Nunavut	OEL STEL (mg/m ³)	24 mg/m ³
Nunavut	OEL STEL (ppm)	35 ppm
Nunavut	OEL TWA (mg/m ³)	17 mg/m ³
Nunavut	OEL TWA (ppm)	25 ppm
Northwest Territories	OEL STEL (mg/m ³)	24 mg/m ³
Northwest Territories	OEL STEL (ppm)	35 ppm
Northwest Territories	OEL TWA (mg/m ³)	17 mg/m ³
Northwest Territories	OEL TWA (ppm)	25 ppm
Ontario	OEL STEL (ppm)	35 ppm
Ontario	OEL TWA (ppm)	25 ppm
Prince Edward Island	OEL STEL (ppm)	35 ppm
Prince Edward Island	OEL TWA (ppm)	25 ppm
Québec	VECD (mg/m ³)	24 mg/m ³
Québec	VECD (ppm)	35 ppm
Québec	VEMP (mg/m ³)	17 mg/m ³
Québec	VEMP (ppm)	25 ppm
Saskatchewan	OEL STEL (ppm)	35 ppm
Saskatchewan	OEL TWA (ppm)	25 ppm
Yukon	OEL STEL (mg/m ³)	30 mg/m ³
Yukon	OEL STEL (ppm)	40 ppm
Yukon	OEL TWA (mg/m ³)	18 mg/m ³
Yukon	OEL TWA (ppm)	25 ppm

8.2. Exposure Controls

Appropriate Engineering Controls: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Gas detectors should be used when toxic gases may be released. Use explosion-proof equipment.

Personal Protective Equipment: Gloves. Protective goggles. Insufficient ventilation: wear respiratory protection. Protective clothing. Face shield.



Materials for Protective Clothing: Chemically resistant materials and fabrics.

Hand Protection: Wear chemically resistant protective gloves.

Eye Protection: Chemical safety goggles and face shield.

Skin and Body Protection: Wear suitable protective clothing.

Respiratory Protection: If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn.

Other Information: When using, do not eat, drink, or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

Physical State	: Liquid
Appearance	: Colorless
Odor	: Pungent
Odor Threshold	: 1 - 50 ppm
pH	: 10.6 - 11.6 (0.02-1.7% aqueous ammonia solution)
Evaporation Rate	: Not available
Melting Point	: - 77 °C (-106 °F) (< 44% NH ₃)

Aqua Ammonia 19%

Safety Data Sheet

Classified according to the UN-GHS as adopted in the US Hazard Communication Standard (HCS 2012), the Canada Hazardous Products Regulations (WHMIS 2015) and Mexico NOM-018-STPS-2015.

Freezing Point	: -38 °C (-36 °F)
Boiling Point	: 37.4 °C (99.3°F) (25% NH ₃)
Flash Point	: Not available
Auto-ignition Temperature	: 651 °C (1,204°F) (ammonia vapor)
Decomposition Temperature	: Not available
Flammability (solid, gas)	: Not available
Lower Flammable Limit	: 16 % (ammonia vapor)
Upper Flammable Limit	: 25 % (ammonia vapor)
Vapor Pressure	: 49642.2 Pa at 68°F (20°C)
Relative Vapor Density at 20 °C	: 0.6 (for ammonia vapor over aqua ammonia at 0°C and 760 mm Hg)
Relative Density	: Not available
Specific Gravity	: 0.90 at 60 °F (19% NH ₃)
Solubility	: Soluble in water.
Partition Coefficient: N-Octanol/Water	: -1.14 at 25° C
Viscosity	: Not available
Explosion Data – Sensitivity to Mechanical Impact	: Not expected to present an explosion hazard due to mechanical impact.
Explosion Data – Sensitivity to Static Discharge	: Not expected to present an explosion hazard due to static discharge.

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

Forms explosive compounds with calcium hypochlorite, bleaches, gold, mercury, silver, chlorine and other halogens. Contact with strong oxidizers can result in fires and explosions. Corrosive to copper, brass, silver, zinc and galvanized steel.

10.2. Chemical Stability

Stable under recommended handling and storage conditions (see section 7).

10.3. Possibility of Hazardous Reactions

Hazardous polymerization will not occur.

10.4. Conditions to Avoid

Direct sunlight. Extremely high or low temperatures. Heat. Sources of ignition.

10.5. Incompatible Materials

Strong acids. Strong bases. Strong oxidizers. Hypochlorites.

10.6. Hazardous Decomposition Products

Thermal decomposition generates: Carbon oxides (CO, CO₂). Nitrogen oxides. Emits ammonia vapors.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on Toxicological Effects - Product

Acute Toxicity: Oral: Harmful if swallowed. Inhalation:gas: Harmful if inhaled.

LD50 and LC50 Data:

Ammonium hydroxide 1336-21-6	
ATE US (oral)	350.00 mg/kg body weight
ATE US (gases)	10,256.41 ppmV/4h

Skin Corrosion/Irritation: Causes severe skin burns and eye damage.

pH: 10.6 - 11.6 (0.02-1.7% aqueous ammonia solution)

Serious Eye Damage/Irritation: Causes serious eye damage.

pH: 10.6 - 11.6 (0.02-1.7% aqueous ammonia solution)

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: Not classified

Teratogenicity: Not available

Carcinogenicity: Not classified

Specific Target Organ Toxicity (Repeated Exposure): Not classified

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): May cause respiratory irritation.

Aqua Ammonia 19%

Safety Data Sheet

Classified according to the UN-GHS as adopted in the US Hazard Communication Standard (HCS 2012), the Canada Hazardous Products Regulations (WHMIS 2015) and Mexico NOM-018-STPS-2015.

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: Symptoms may include: Sneezing, coughing, burning sensation of throat with constricting sensation of the larynx and difficulty in breathing. Damage to lungs. Harmful if inhaled.

Symptoms/Injuries After Skin Contact: Corrosive. Causes burns. Symptoms may include: Redness. Pain. Serious skin burns. Blisters.

Symptoms/Injuries After Eye Contact: Causes serious eye damage. Symptoms may include: Redness. Pain. Blurred vision. Severe burns. Causes permanent damage to the cornea, iris, or conjunctiva.

Symptoms/Injuries After Ingestion: Harmful if swallowed. May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract.

Chronic Symptoms: None known.

11.2. Information on Toxicological Effects - Ingredient(s)

LD50 and LC50 Data:

Ammonia (7664-41-7)	
LC50 Inhalation Rat	5.1 mg/l (Exposure time: 1 h)
LC50 Inhalation Rat	2000 ppm/4h (Exposure time: 4 h)
Water (7732-18-5)	
LD50 Oral Rat	> 90000 mg/kg
Ammonium hydroxide (1336-21-6)	
LD50 Oral Rat	350 mg/kg

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecology - General: Toxic to aquatic life. Harmful to aquatic life with long lasting effects.

Ammonia (7664-41-7)	
LC50 Fish 1	0.44 mg/l (Exposure time: 96 h - Species: Cyprinus carpio)
EC50 Daphnia 1	25.4 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC 50 Fish 2	0.26 - 4.6 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus)
Ammonium hydroxide (1336-21-6)	
LC50 Fish 1	8.2 mg/l (Exposure time: 96 h - Species: Pimephales promelas)
EC50 Daphnia 1	0.66 mg/l (Exposure time: 48 h - Species: water flea)
EC50 Daphnia 2	0.66 mg/l (Exposure time: 48 h - Species: Daphnia pulex)

12.2. Persistence and Degradability

Ammonium hydroxide (1336-21-6)	
Persistence and Degradability	Biodegradation of ammonia occurs in water under aerobic conditions.

12.3. Bioaccumulative Potential

Ammonium hydroxide (1336-21-6)	
Log Pow	-1.14
Bioaccumulative Potential	Not established.
Ammonia (7664-41-7)	
Log Pow	-1.14 (at 25 °C)

12.4. Mobility in Soil

Not available

12.5. Other Adverse Effects

Other Information: Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Sewage Disposal Recommendations: Do not empty into drains; dispose of this material and its container in a safe way.

Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, provincial, territorial and international regulations.

Additional Information: Prevent runoff from entering drains, sewers or waterways.

Ecology – Waste Materials: This material is hazardous to the aquatic environment. Keep out of sewers and waterways.

Aqua Ammonia 19%

Safety Data Sheet

Classified according to the UN-GHS as adopted in the US Hazard Communication Standard (HCS 2012), the Canada Hazardous Products Regulations (WHMIS 2015) and Mexico NOM-018-STPS-2015.

SECTION 14: TRANSPORT INFORMATION

14.1. In Accordance with DOT

Proper Shipping Name : AMMONIA SOLUTION (with more than 10% but not more than 35% ammonia)
Hazard Class : 8
Identification Number : UN2672
Label Codes : 8
Packing Group : III
ERG Number : 154
CERCLA RQ : Ammonium Hydroxide = 1,000 lbs
Additional Information : Marine Pollutant



14.2. In Accordance with IMDG

Proper Shipping Name : AMMONIA SOLUTION (with more than 10% but not more than 35% ammonia)
Hazard Class : 8
Identification Number : UN2672
Packing Group : III
Label Codes : 8 + MP(P)
EmS-No. (Fire) : F-A
EmS-No. (Spillage) : S-B
Additional Information : Marine Pollutant, Classified as HME per MARPOL Annex V



14.3. In Accordance with IATA

Proper Shipping Name : AMMONIA SOLUTION (with more than 10% but not more than 35% ammonia)
Hazard Class : 8
Identification Number : UN2672
Label Codes : 8
Packing Group : III
ERG Code (IATA) : 8L



14.4. In Accordance with TDG

Proper Shipping Name : AMMONIA SOLUTION (with more than 10% but not more than 35% ammonia)
Hazard Class : 8
Identification Number : UN2672
Label Codes : 8
Packing Group : III
Additional Information : Marine Pollutant



14.5. Classified in Accordance with MX-SCT

Proper Shipping Name : AMMONIA SOLUTION (with more than 10% but not more than 35% ammonia)
Hazard Class : 8
Identification Number : UN2672
Label Codes : 8
Additional Information : Marine Pollutant



SECTION 15: REGULATORY INFORMATION

15.1. US Federal Regulations

Ammonium hydroxide (1336-21-6)	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard
Ammonia (7664-41-7)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Listed on the United States SARA Section 302	
Listed on United States SARA Section 313	
SARA Section 302 Threshold Planning Quantity (TPQ)	500
SARA Section 311/312 Hazard Classes	Fire hazard Immediate (acute) health hazard Sudden release of pressure hazard

Aqua Ammonia 19%

Safety Data Sheet

Classified according to the UN-GHS as adopted in the US Hazard Communication Standard (HCS 2012), the Canada Hazardous Products Regulations (WHMIS 2015) and Mexico NOM-018-STPS-2015.

SARA Section 313 - Emission Reporting	1.0 % (includes anhydrous Ammonia and aqueous Ammonia from water dissociable Ammonium salts and other sources, 10% of total aqueous Ammonia is reportable under this listing)
--	---

Water (7732-18-5)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Ammonium hydroxide (1336-21-6)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. US State Regulations

Ammonia (7664-41-7)

U.S. - California - SCAQMD - Toxic Air Contaminants - Non-Cancer Acute
U.S. - California - SCAQMD - Toxic Air Contaminants - Non-Cancer Chronic
U.S. - California - Toxic Air Contaminant List (AB 1807, AB 2728)
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (30 min)
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (8 hr)
U.S. - Connecticut - Water Quality Standards - Acute Freshwater Aquatic Life Criteria
U.S. - Connecticut - Water Quality Standards - Acute Saltwater Aquatic Life Criteria
U.S. - Connecticut - Water Quality Standards - Chronic Freshwater Aquatic Life Criteria
U.S. - Connecticut - Water Quality Standards - Chronic Saltwater Aquatic Life Criteria
U.S. - Delaware - Accidental Release Prevention Regulations - Sufficient Quantities
U.S. - Delaware - Accidental Release Prevention Regulations - Threshold Quantities
U.S. - Delaware - Accidental Release Prevention Regulations - Toxic Endpoints
U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities
U.S. - Florida - Essential Chemicals List
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Emission Levels (ELs)
U.S. - Idaho - Occupational Exposure Limits - TWAs
U.S. - Louisiana - Reportable Quantity List for Pollutants
U.S. - Maine - Air Pollutants - Criteria Pollutants
U.S. - Massachusetts - Allowable Ambient Limits (AALs)
U.S. - Massachusetts - Allowable Threshold Concentrations (ATCs)
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 2
U.S. - Massachusetts - Oil & Hazardous Material List - Reportable Quantity
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 2
RTK - U.S. - Massachusetts - Right To Know List
U.S. - Massachusetts - Threshold Effects Exposure Limits (TELs)
U.S. - Massachusetts - Toxics Use Reduction Act
U.S. - Michigan - Occupational Exposure Limits - STELs
U.S. - Michigan - Polluting Materials List
U.S. - Michigan - Process Safety Management Highly Hazardous Chemicals
U.S. - Minnesota - Chemicals of High Concern
U.S. - Minnesota - Hazardous Substance List
U.S. - Minnesota - Permissible Exposure Limits - STELs
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - 24-Hour
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - Annual
U.S. - New Jersey - Discharge Prevention - List of Hazardous Substances
U.S. - New Jersey - Environmental Hazardous Substances List
RTK - U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - New Jersey - Special Health Hazards Substances List
U.S. - New Jersey - TCPA - Extraordinarily Hazardous Substances (EHS)
U.S. - New Jersey - Water Quality - Ground Water Quality Criteria
U.S. - New Jersey - Water Quality - Practical Quantitation Levels (PQLs)
U.S. - New Mexico - Precursor Chemicals
U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances

Aqua Ammonia 19%

Safety Data Sheet

Classified according to the UN-GHS as adopted in the US Hazard Communication Standard (HCS 2012), the Canada Hazardous Products Regulations (WHMIS 2015) and Mexico NOM-018-STPS-2015.

U.S. - North Carolina - Control of Toxic Air Pollutants
U.S. - North Dakota - Air Pollutants - Guideline Concentrations - 1-Hour
U.S. - North Dakota - Air Pollutants - Guideline Concentrations - 8-Hour
U.S. - Ohio - Accidental Release Prevention - Threshold Quantities
U.S. - Ohio - Extremely Hazardous Substances - Threshold Quantities
U.S. - Oregon - Permissible Exposure Limits - TWAs
U.S. - Oregon - Precursor Chemicals
RTK - U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
RTK - U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Rhode Island - Air Toxics - Acceptable Ambient Levels - 1-Hour
U.S. - Rhode Island - Air Toxics - Acceptable Ambient Levels - 24-Hour
U.S. - Rhode Island - Air Toxics - Acceptable Ambient Levels - Annual
U.S. - Rhode Island - Water Quality Standards - Acute Freshwater Aquatic Life Criteria
U.S. - Rhode Island - Water Quality Standards - Acute Saltwater Aquatic Life Criteria
U.S. - Rhode Island - Water Quality Standards - Chronic Freshwater Aquatic Life Criteria
U.S. - Rhode Island - Water Quality Standards - Chronic Saltwater Aquatic Life Criteria
U.S. - Tennessee - Occupational Exposure Limits - STELs
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term
U.S. - Vermont - Permissible Exposure Limits - STELs
U.S. - Virginia - Water Quality Standards - Acute Freshwater Aquatic Life
U.S. - Virginia - Water Quality Standards - Acute Saltwater Aquatic Life
U.S. - Virginia - Water Quality Standards - Chronic Freshwater Aquatic Life
U.S. - Virginia - Water Quality Standards - Chronic Saltwater Aquatic Life
U.S. - Virginia - Water Quality Standards - Public Water Supply Effluent Limits
U.S. - Virginia - Water Quality Standards - Surface Waters Not Used for the Public Water Supply Effluent Limits
U.S. - Washington - Permissible Exposure Limits - STELs
U.S. - Washington - Permissible Exposure Limits - TWAs
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 25 Feet to Less Than 40 Feet
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 40 Feet to Less Than 75 Feet
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 75 Feet or Greater
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights Less Than 25 Feet
U.S. - Wyoming - Process Safety Management - Highly Hazardous Chemicals
U.S. - Alaska - Water Quality Standards - Acute Aquatic Life Criteria for Fresh Water
U.S. - Alaska - Water Quality Standards - Chronic Aquatic Life Criteria for Fresh Water
U.S. - Alaska - Water Quality Standards - Acute Aquatic Life Criteria for Marine Water
U.S. - Alaska - Water Quality Standards - Chronic Aquatic Life Criteria for Marine Water
U.S. - Alaska - Ambient Air Quality Standards

Ammonium hydroxide (1336-21-6)

U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities
U.S. - Louisiana - Reportable Quantity List for Pollutants
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 2
U.S. - Massachusetts - Oil & Hazardous Material List - Reportable Quantity
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 2
RTK - U.S. - Massachusetts - Right To Know List
U.S. - Massachusetts - Toxics Use Reduction Act
U.S. - Michigan - Polluting Materials List
U.S. - New Jersey - Discharge Prevention - List of Hazardous Substances
RTK - U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - New Jersey - Special Health Hazards Substances List
U.S. - New Jersey - TCPA - Extraordinarily Hazardous Substances (EHS)
U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances

Aqua Ammonia 19%

Safety Data Sheet

Classified according to the UN-GHS as adopted in the US Hazard Communication Standard (HCS 2012), the Canada Hazardous Products Regulations (WHMIS 2015) and Mexico NOM-018-STPS-2015.

RTK - U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
RTK - U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term

15.3. Canadian Regulations

Ammonium hydroxide (1336-21-6)

WHMIS Classification	Class E - Corrosive Material Class D Division 1 Subdivision A - Very toxic material causing immediate and serious toxic effects
----------------------	--



Ammonia (7664-41-7)

Listed on the Canadian DSL (Domestic Substances List)

Listed on the Canadian IDL (Ingredient Disclosure List)

IDL Concentration 1 %

WHMIS Classification	Class A - Compressed Gas Class B Division 1 - Flammable Gas Class D Division 1 Subdivision A - Very toxic material causing immediate and serious toxic effects Class E - Corrosive Material
----------------------	--

Water (7732-18-5)

Listed on the Canadian DSL (Domestic Substances List)

WHMIS Classification	Uncontrolled product according to WHMIS classification criteria
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Ammonium hydroxide (1336-21-6)

Listed on the Canadian DSL (Domestic Substances List)

Listed on the Canadian IDL (Ingredient Disclosure List)

IDL Concentration 1 %

WHMIS Classification	Class E - Corrosive Material Class D Division 1 Subdivision B - Toxic material causing immediate and serious toxic effects
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This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all of the information required by CPR.

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Revision Date : 4 June 2024

Revision Comments : This version contains updates/revisions to the following sections:

- Updated company address

GHS Full Text Phrases:

Acute Tox. 3 (Inhalation:gas)	Acute toxicity (inhalation:gas) Category 3
Acute Tox. 4 (Inhalation:gas)	Acute toxicity (inhalation:gas) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Aquatic Chronic 2	Hazardous to the aquatic environment - Chronic Hazard Category 2
Aquatic Chronic 3	Hazardous to the aquatic environment - Chronic Hazard Category 3
Compressed gas	Gases under pressure Compressed gas

Aqua Ammonia 19%

Safety Data Sheet

Classified according to the UN-GHS as adopted in the US Hazard Communication Standard (HCS 2012), the Canada Hazardous Products Regulations (WHMIS 2015) and Mexico NOM-018-STPS-2015.

Eye Dam. 1	Serious eye damage/eye irritation Category 1
Flam. Gas 2	Flammable gases Category 2
Skin Corr. 1A	Skin corrosion/irritation Category 1A
Skin Corr. 1B	Skin corrosion/irritation Category 1B
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H221	Flammable gas
H280	Contains gas under pressure; may explode if heated
H302	Harmful if swallowed
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage
H331	Toxic if inhaled
H332	Harmful if inhaled
H335	May cause respiratory irritation
H400	Very toxic to aquatic life
H411	Toxic to aquatic life with long lasting effects
H412	Harmful to aquatic life with long lasting effects

NFPA Rating

Health Hazard

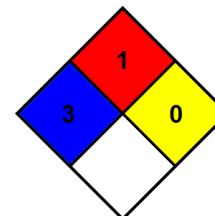
: 3 - Short exposure could cause serious temporary or residual injury even though prompt medical attention was given.

Fire Hazard

: 1 - Must be moderately heated or exposed to relatively high temperature before ignition can occur.

Reactivity

: 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



HMIS III Rating

Health

: 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given

Flammability

: 1 Slight Hazard

Physical

: 0 Minimal Hazard

Party Responsible for the Preparation of This Document

CF Industries, Corporate EHS Department, 847-405-2400

Aqua Ammonia 19%

Safety Data Sheet

Classified according to the UN-GHS as adopted in the US Hazard Communication Standard (HCS 2012), the Canada Hazardous Products Regulations (WHMIS 2015) and Mexico NOM-018-STPS-2015.

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

CF believes the information contained herein is accurate; however, CF makes no guarantees or warranties with respect to such accuracy and assumes no liability in connection with the use of the information contained herein by any party. The provision of the information contained herein by CF is not intended to be and should not be construed as legal advice or as ensuring compliance by other parties. Judgments as to the suitability of the information contained herein for the party's own use or purposes are solely the responsibility of that party. Any party handling, transferring, transporting, storing, applying or otherwise using this product should review thoroughly all applicable laws, rules, regulations, standards and good engineering practices. Such thorough review should occur before the party handles, transfers, transports, stores, applies or otherwise uses this product.

North America GHS US 2012 & WHMIS 2

ATTACHMENT I

EMISSION UNITS TABLE

Attachment I

Emission Units Table

(includes all emission units and air pollution control devices
that will be part of this permit application review, regardless of permitting status)

Emission Unit ID ¹	Emission Point ID ²	Emission Unit Description	Year Installed/Modified	Design Capacity	Type ³ and Date of Change	Control Device ⁴
1S-117S	1E-117E	Engine 1 through Engine 117	2026	28,194 HP	New	1C-117C
118S-157S	118E-157E	ULSD Tank TK1-TK40	2026	170,000 gal	New	NA
De minimis	De minimis	Hydrous Ammonia Tanks 1-39	2026	4,600 gal	New	NA
De minimis	De minimis	Caustic Soda Tanks 1-39	2026	4,600 gal	New	NA
De minimis	De minimis	Sulfuric Acid Tanks 1-39	2026	4,600 gal	New	NA
De minimis	De minimis	Sodium Chlorite Tanks 1-39	2026	4,600 gal	New	NA
De minimis	De minimis	Sodium Hydrosulfide Tanks 1-39	2026	4,600 gal	New	NA

¹ For Emission Units (or Sources) use the following numbering system: 1S, 2S, 3S, or other appropriate designation.

² For Emission Points use the following numbering system: 1E, 2E, 3E, or other appropriate designation.

³ New, modification, removal

⁴ For Control Devices use the following numbering system: 1C, 2C, 3C, or other appropriate designation.

ATTACHMENT J

EMISSION POINTS DATA
SUMMARY SHEET

Attachment J

EMISSION POINTS DATA SUMMARY SHEET

Table 1: Emissions Data

Emission Point ID No. (Must match Emission Units Table & Plot Plan)	Emission Point Type ¹	Emission Unit Vented Through This Point (Must match Emission Units Table & Plot Plan)		Air Pollution Control Device (Must match Emission Units Table & Plot Plan)	Vent Time for Emission Unit (chemical processes only)		All Regulated Pollutants - Chemical Name/CAS ³ (Speciate VOCs & HAPS)	Maximum Potential Uncontrolled Emissions ⁴		Maximum Potential Controlled Emissions ⁵		Emission Form or Phase (At exit conditions, Solid, Liquid or Gas/Vapor)	Est. Method Used ⁶	Emission Concentration ⁷ (ppmv or mg/m ³)
		ID No.	Source		ID No.	Device Type		Short Term ²	Max (hr/yr)	lb/hr	ton/yr			
Worst case yearly emissions all engines (with 5 startups and shutdowns)														
1E-117E	Vertical	1S to 117S	Engines 1 to 117	1C to 117C	Control System	NA	PM/PM10/PM2.5 NOx CO VOC SO2 Total HAPS	NA	13,494	NA	194.30	Gas	Manufacturer	NA
								NA	248.69	NA	186.53	Solid		NA
								NA	11,174	NA	205.62	Gas		NA
								NA	11,517	NA	116.59	Gas		NA
								NA	495	NA	9.93	Gas		NA
							Total HAPS	NA	85.77	NA	0.86	Gas		NA
Normal Operations Single Engine (See emission discussion in Attachment L for different operating scenarios)														
E to 117E	Vertical	1S to 117S	Engine 1 to 117	1C to 117C	Control System	NA	PM/PM10/PM2.5 NOx CO VOC SO2 Total HAPS	13.89	60.83	0.14	0.61	Gas	Manufacturer	NA
								0.45	1.99	0.34	1.49	Solid		NA
								22.36	97.92	0.34	1.47	Gas		NA
								22.63	99.12	0.23	0.99	Gas		NA
								0.74	3.25	0.01	0.03	Gas		NA
							Total HAPS	1.31	0.75	0.54	0.01	Gas		NA

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See Emissions Discussion in Attachment L and Emissions Estimate in Attachment N for other emissions scenarios.

See Emissions Discussion in Attachment L and Emissions Estimate in Attachment N for other emissions scenarios.

The EMISSION POINTS DATA SUMMARY SHEET provides a summation of emissions by emission unit. Note that uncaptured process emission unit emissions are not typically considered to be fugitive and must be accounted for on the appropriate EMISSIONS UNIT DATA SHEET and on the EMISSION POINTS DATA SUMMARY SHEET. Please note that total emissions from the source are equal to all vented emissions, all fugitive emissions, plus all other emissions (e.g. uncaptured emissions). Please complete the FUGITIVE EMISSIONS DATA SUMMARY SHEET for fugitive emission activities.

¹ Please add descriptors such as upward vertical stack, downward vertical stack, horizontal stack, relief vent, rain cap, etc.

² Indicate by "C" if venting is continuous. Otherwise, specify the average short-term venting rate with units, for intermittent venting (ie., 15 min/hr). Indicate as many rates as needed to clarify frequency of venting (e.g., 5 min/day, 2 days/wk).

³ List all regulated air pollutants. Speciate VOCs, including all HAPs. Follow chemical name with Chemical Abstracts Service (CAS) number. **LIST** Acids, CO, CS₂, VOCs, H₂S, Inorganics, Lead, Organics, O₃, NO, NO₂, SO₂, SO₃, all applicable Greenhouse Gases (including CO₂ and methane), etc. **DO NOT LIST** H₂, H₂O, N₂, O₂, and Noble Gases.

⁴ Give maximum potential emission rate with no control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).

⁵ Give maximum potential emission rate with proposed control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).

⁶ Indicate method used to determine emission rate as follows: MB = material balance; ST = stack test (give date of test); EE = engineering estimate; O = other (specify).

⁷ Provide for all pollutant emissions. Typically, the units of parts per million by volume (ppmv) are used. If the emission is a mineral acid (sulfuric, nitric, hydrochloric or phosphoric) use units of milligram per dry cubic meter (mg/m³) at standard conditions (68 °F and 29.92 inches Hg) (see 45CSR7). If the pollutant is SO₂, use units of ppmv (See 45CSR10).

Attachment J

EMISSION POINTS DATA SUMMARY SHEET

Table 1: Emissions Data

Emission Point ID No. (Must match Emission Units Table & Plot Plan)	Emission Point Type ¹	Emission Unit Vented (Must match Emission Units Table & Plot Plan)		Air Pollution Control Device (Must match Emission Units Table & Plot Plan)		Vent Time for Emission Unit (chemical processes only)		All Regulated Pollutants - Chemical Name/CAS ³ (Speciate VOCs & HAPS)	Maximum Potential Uncontrolled Emissions ⁴		Maximum Potential Controlled Emissions ⁵		Emission Form or Phase (At exit conditions, Solid, Liquid or Gas/Vapor)	Est. Method Used ⁶	Emission Concentration ⁷ (ppmv or mg/m ⁴)
		ID No.	Source	ID No.	Device Type	Short Term ²	Max (hr/yr)		lb/hr	ton/yr	lb/hr	ton/yr			
118E to 157E	Vertical	118S to 157S	ULSD Tanks 1-40	None	None	NA	NA	VOC (per tank)	0.18	0.02	0.18	0.02	Gas	Tanks 4.09,d	

The EMISSION POINTS DATA SUMMARY SHEET provides a summation of emissions by emission unit. Note that uncaptured process emission unit emissions are not typically considered to be fugitive and must be accounted for on the appropriate EMISSIONS UNIT DATA SHEET and on the EMISSION POINTS DATA SUMMARY SHEET. Please note that total emissions from the source are equal to all vented emissions, all fugitive emissions, plus all other emissions (e.g. uncaptured emissions). Please complete the FUGITIVE EMISSIONS DATA SUMMARY SHEET for fugitive emission activities.

¹ Please add descriptors such as upward vertical stack, downward vertical stack, horizontal stack, relief vent, rain cap, etc.

² Indicate by "C" if venting is continuous. Otherwise, specify the average short-term venting rate with units, for intermittent venting (ie., 15 min/hr). Indicate as many rates as needed to clarify frequency of venting (e.g., 5 min/day, 2 days/wk).

³ List all regulated air pollutants. Speciate VOCs, including all HAPs. Follow chemical name with Chemical Abstracts Service (CAS) number. **LIST** Acids, CO, CS₂, VOCs, H₂S, Inorganics, Lead, Organics, O₃, NO, NO₂, SO₂, SO₃, all applicable Greenhouse Gases (including CO₂ and methane), etc. **DO NOT LIST** H₂, H₂O, N₂, O₂, and Noble Gases.

⁴ Give maximum potential emission rate with no control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).

⁵ Give maximum potential emission rate with proposed control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).

⁶ Indicate method used to determine emission rate as follows: MB = material balance; ST = stack test (give date of test); EE = engineering estimate; O = other (specify).

⁷ Provide for all pollutant emissions. Typically, the units of parts per million by volume (ppmv) are used. If the emission is a mineral acid (sulfuric, nitric, hydrochloric or phosphoric) use units of milligram per dry cubic meter (mg/m³) at standard conditions (68 °F and 29.92 inches Hg) (see 45CSR7). If the pollutant is SO₂, use units of ppmv (See 45CSR10).

Attachment J

Table 2: Release Parameter Data

[illegible]² Release height of emissions above ground level.

ATTACHMENT K

FUGITIVE EMISSIONS DATA
SUMMARY SHEET

FUGITIVE EMISSIONS DATA SUMMARY SHEET

The FUGITIVE EMISSIONS SUMMARY SHEET provides a summation of fugitive emissions. Fugitive emissions are those emissions, which could not reasonably pass through a stack, chimney, vent or other functionally equivalent opening. Note that uncaptured process emissions are not typically considered to be fugitive, and must be accounted for on the appropriate EMISSIONS UNIT DATA SHEET and on the EMISSION POINTS DATA SUMMARY SHEET.

Please note that total emissions from the source are equal to all vented emissions, all fugitive emissions, plus all other emissions (e.g. uncaptured emissions).

APPLICATION FORMS CHECKLIST - FUGITIVE EMISSIONS
<p>1.) Will there be haul road activities?</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input checked="" type="checkbox"/> If YES, then complete the HAUL ROAD EMISSIONS UNIT DATA SHEET.</p>
<p>2.) Will there be Storage Piles?</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p><input type="checkbox"/> If YES, complete Table 1 of the NONMETALLIC MINERALS PROCESSING EMISSIONS UNIT DATA SHEET.</p>
<p>3.) Will there be Liquid Loading/Unloading Operations?</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p><input type="checkbox"/> If YES, complete the BULK LIQUID TRANSFER OPERATIONS EMISSIONS UNIT DATA SHEET.</p>
<p>4.) Will there be emissions of air pollutants from Wastewater Treatment Evaporation?</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p><input type="checkbox"/> If YES, complete the GENERAL EMISSIONS UNIT DATA SHEET.</p>
<p>5.) Will there be Equipment Leaks (e.g. leaks from pumps, compressors, in-line process valves, pressure relief devices, open-ended valves, sampling connections, flanges, agitators, cooling towers, etc.)?</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Leak Source Count is in Attachment N.</p> <p><input checked="" type="checkbox"/> If YES, complete the LEAK SOURCE DATA SHEET section of the CHEMICAL PROCESSES EMISSIONS UNIT DATA SHEET.</p>
<p>6.) Will there be General Clean-up VOC Operations?</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p><input type="checkbox"/> If YES, complete the GENERAL EMISSIONS UNIT DATA SHEET.</p>
<p>7.) Will there be any other activities that generate fugitive emissions?</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p><input type="checkbox"/> If YES, complete the GENERAL EMISSIONS UNIT DATA SHEET or the most appropriate form.</p>
<p>If you answered "NO" to all of the items above, it is not necessary to complete the following table, "Fugitive Emissions Summary."</p>

FUGITIVE EMISSIONS SUMMARY		All Regulated Pollutants - Chemical Name/CAS ¹	Maximum Potential Uncontrolled Emissions ²		Maximum Potential Controlled Emissions ³		Est. Method Used ⁴
			lb/hr	ton/yr	lb/hr	ton/yr	
Haul Road/Road Dust Emissions Paved Haul Roads		PM/PM10/PM2.5	11.50/2.30/0.60	28.64/5.73/1.50	11.50/2.30/0.60	28.64/5.73/1.50	AP-42
Unpaved Haul Roads							
Storage Pile Emissions							
Loading/Unloading Operations							
Wastewater Treatment Evaporation & Operations							
Equipment Leaks (See fittings count in Attachment N)		VOC Hexane (C6+)	Does Not Apply	0.3120 0.0053	Does Not Apply	0.3120 0.0053	EE
General Clean-up VOC Emissions							
Other							

¹ List all regulated air pollutants. Speciate VOCs, including all HAPs. Follow chemical name with Chemical Abstracts Service (CAS) number. LIST Acids, CO, CS₂, VOCs, H₂S, Inorganics, Lead, Organics, O₃, NO, NO₂, SO₂, SO₃, etc. DO NOT LIST CO₂, H₂, H₂O, N₂, O₂, and Noble Gases.

² Give rate with no control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).

³ Give rate with proposed control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).

⁴ Indicate method used to determine emission rate as follows: MB = material balance; ST = stack test (give date of test); EE = engineering estimate; O = other (specify).

ATTACHMENT L

EMISSION UNIT DATA SHEET(S)

Attachment L
EMISSIONS UNIT DATA SHEET
GENERAL

REDACTED
Information Claimed Confidential by
TransGas Development Systems, LLC
March 24, 2025

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): 1S-117S

<p>1. Name or type and model of proposed affected source:</p> <p>[REDACTED] 28,194 Horsepower Compression Ignition Engines. See attached engine details and emissions.</p>
<p>2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.</p>
<p>1. Name(s) and maximum amount of proposed process material(s) charged per hour:</p> <p>Dual Fuel Modes</p> <ul style="list-style-type: none">1. Natural Gas at 98% with Diesel at 2%.2. Diesel at 100%. <p>Engine can be retrofit to burn other fuels.</p>
<p>4. Name(s) and maximum amount of proposed material(s) produced per hour:</p> <p>25 MWe Generators</p>
<p>5. Give chemical reactions, if applicable, that will be involved in the generation of air Pollutants:</p> <p>Not Applicable</p>

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable):			
(a) Type and amount in appropriate units of fuel(s) to be burned:			
See fuel use during different operating modes in the attached document and in Attachment N.			
(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:			
Natural gas will be pipeline quality natural gas. Diesel fuel will be ultra-low sulfur diesel.			
(c) Theoretical combustion air requirement (ACF/unit of fuel): NA			
@		°F and	psia.
(d) Percent excess air: NA			
(e) Type and BTU/hr of burners and all other firing equipment planned to be used:			
Compression Ignition Engines			
(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:			
NA			
(g) Proposed maximum design heat input:		135.44 (Maximum)	× 10 ⁶ BTU/hr.
7. Projected operating schedule:			
Hours/Day	24	Days/Week	7
		Weeks/Year	52

See fuel use during different operating modes in the attached document and in Attachment N.

Natural gas will be pipeline quality natural gas.
Diesel fuel will be ultra-low sulfur diesel.

@ °F and psia.

(e) Type and BTU/hr of burners and all other firing equipment planned to be used:

NA

(g) Proposed maximum design heat input: 135.44 (Maximum) $\times 10^6$ BTU/hr.

Hours/Day	24	Days/Week	7	Weeks/Year	52
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8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used:

See the attached document and Attachment N.

a. NO _x		lb/hr		Ton/yr
b. SO ₂		lb/hr		Ton/yr
c. CO		lb/hr		Ton/yr
d. PM ₁₀	See Attached and Attachment N	lb/hr	See Attached and Attachment N	Ton/yr
e. Hydrocarbons		lb/hr		Ton/yr
f. VOCs (Ethane & Methane)		lb/hr		Ton/yr
g. Pb		lb/hr		Ton/yr
h. Specify other(s)				
Total HAPS	See Attached and Attachment N	lb/hr	See Attached and Attachment N	Ton/yr
		lb/hr		Ton/yr
		lb/hr		Ton/yr
		lb/hr		Ton/yr

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.

(2) Complete the Emission Points Data Sheet.

<p>9. Proposed Monitoring, Recordkeeping, Reporting, and Testing Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.</p>	
<p>MONITORING Monitoring as required by 40CFR60, Subpart IIII.</p>	<p>RECORDKEEPING Recordkeeping as required by 40CFR60, Subpart IIII.</p>
<p>REPORTING Reporting as required by 40CFR60, Subpart IIII.</p>	<p>TESTING Testing as required by 40CFR60, Subpart IIII.</p>
<p>MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.</p> <p>RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.</p> <p>REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.</p> <p>TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.</p>	
<p>10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty The engines are designed to run as proposed. Procedures will be provided upon delivery of the engines.</p>	

Engine Model and Manufacturer

The engines deployed will be [REDACTED]. These are [REDACTED] dual fuel engines. The engines will be built in license by the following engine builders:

[REDACTED]

Performance Data

The [REDACTED] offers very high, single-cycle efficiency. In the selected configuration and rating, one engine will produce a maximum 21,000 kW (or 28,194 HP) mechanical power at the shaft. The engines are Dual-Fuel capable, for maximum flexibility. The advantage of these engines among high efficiency and reliability is that they can be upgraded to ammonia engines, increasing the power output to 26,000 kW each, and minimizing the CO₂ per kWh to 66 g, once the fuel is available.



Figure 1: Picture of an [REDACTED]

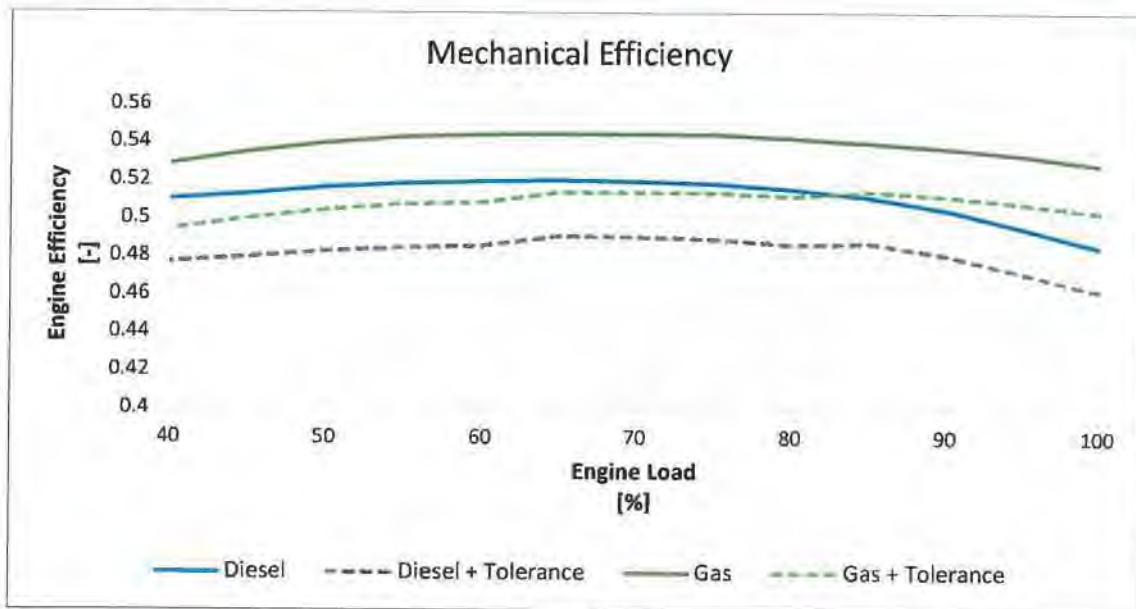


Figure 2: Efficiency of the engine as a function of the load

Power

On the permitting site there will be a total of 117 engines. With the maximum power output of 21 MW per engine, the installed theoretical power output is 2,457 MW. The effective and continuously delivered power output will be 1,795 MW, for 8,760 hours per year.

Fuel Types

In their Dual-Fuel configuration, the engines operate on natural gas and on diesel fuels or can be operated on diesel fuel only, in backup mode. Under normal operation the engines consume gas as their primary fuel with a pilot injection of Ultra-Low Sulfur Diesel. For this application the gas has the following properties (lower heat rate 976.94 BTU/ft³):

Date	BTU	SG	CO2	N2	Methane	Ethane	Propane	I-Butane	N-Butane	I-Pentane	N-Pentane	c6+
Average	1082.2	0.61	0.20	0.44	90.33	8.44	0.52	0.02	0.03	0.01	0.00	0.01
STD in % of average	0.66	0.78	11.09	5.04	0.85	8.17	57.48	20.82	24.96	33.90	55.06	63.08

Under gas operation, 2% of the energy comes from the pilot fuel, which can be increased to 100% for emergency operation. The fuel used in this application will be Ultra-Low Sulfur Diesel (ULSD), with a sulfur Content: ≤ 15 parts per million (ppm) and a heat rate of 130,613 BTU/gal.

Operational profiles

Normal Operation

To ensure peak operation conditions, the engines will be regularly serviced. With 1-2 weeks of downtime per engine per year, 3 engines are going to be off-line at any time of the year. Under normal operations, the engines will be run at 75% power only. Therefore, the continuously delivered power will be 1,796 MW.

Compensation Mode

In case of one or – in the unrealistic, but foreseen case of - up to 29 engines out of service, the rest of the field will compensate, increasing their power output to 100%. For the calculation of the yearly emissions the worst case is assumed, when 29 engines go offline and the remaining 85 are operated at 100%.

Emergency Mode

In case the pipeline is down, or the gas cannot be delivered for any other reason, the engines can switch to *diesel fuel mode* immediately and are then operated on diesel fuel only. Apart from the different fuel type, the engines are controlled in the same way as in *Normal Operation*.

Startup Mode

To start an engine and bring power production online, several steps are necessary. In the first phase the emission control system is not operational temperature, therefore the control rate is not optimal. The following is a simplification and a representation of the worst case for emissions emission-wise. The different steps can be reduced to four main sub-modes:

- Speed up
- Fuel Switch
- Generator switched on
- Load up cold control

Speed up

Bring the engine from stand still to nominal speed (89 rpm). This is done in diesel mode. The emission control system is still offline at this point, as it is not at optimal temperature. Once nominal speed is set and the minimum load for a fuel switch is reached (less than 5 minutes), the system initiates the next sub mode: Fuel Changeover

Fuel Changeover

For about two minutes the load is kept constant, and the fuel is changed from 100% diesel to 98% gas & 2% diesel.

Generator switched on

On gas operation, the load is further increased until the generator can be energized and synchronized with the rest of the engine fleet. This takes no more than 5 minutes. For the emissions calculation of all these steps the emission control system is looked at as non-operational, even though the exhaust gases will have heated it already and some abatement is taking place, even at a reduced level.

Load up cold control

Once the generator is online and synchronized, then the engine is powered up to its set point (75% in normal operation mode). For reasons of simplicity and to ensure a conservative view on the problem, during engine load up the control system is looked at as cold and operational at 25% only. This even though in reality the system was heated up constantly by the exhaust gases and reaching operational condition during the load up.

Shut Down

The shut down procedure consists of three phases:

- Ramp down
- Min Load
- Spin out

Ramp down

The load is constantly reduced to a minimum load.

Min Load

At minimum load the generator is decoupled from the grid and the engine's load and speed setting are zero.

Spin out

Due to the zero-load setting the injection systems are turned off and the engine is spun out until full stop. In this entire sequence the emission control system is still operational due to its thermal inertia. Therefore, until the injection is stopped the emissions are treated.

All these steps are represented in Figure 3.

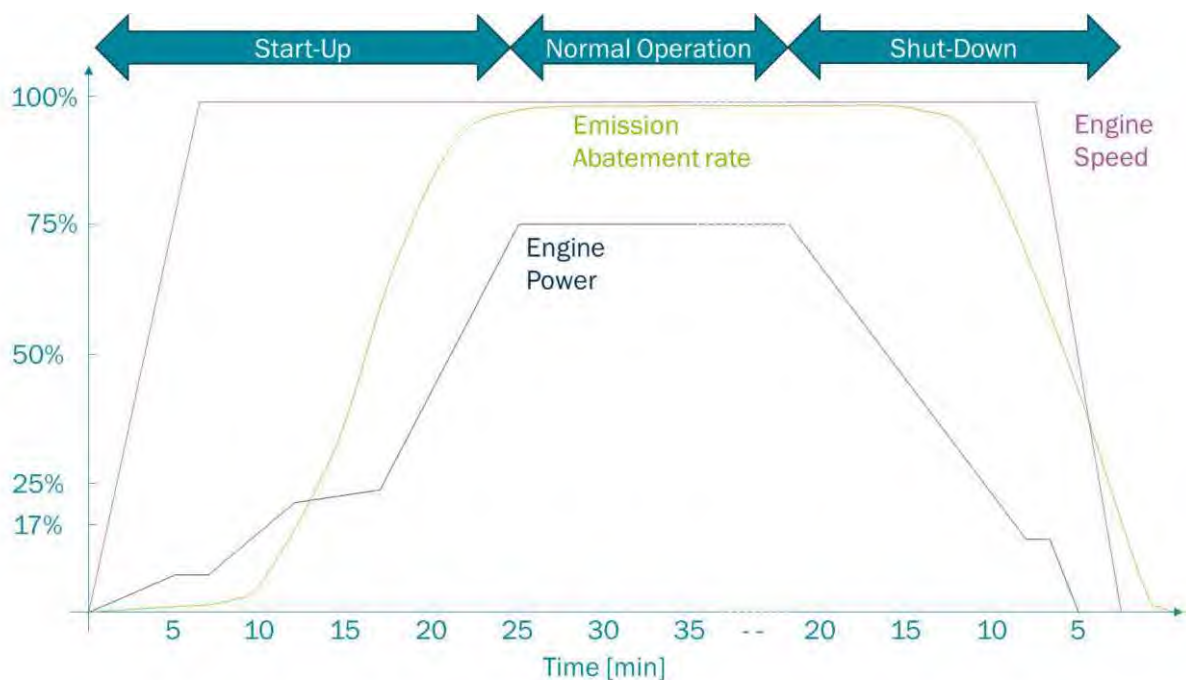


Figure 3: Simplified representation of the Start-Up and Shut-Down phases. Purple: Speed, dark blue: Power and green the efficiency of the emission control system

Emission Levels

For this application the engines are operated in two fuel modes, *Gas mode*, and *Diesel mode*, where 100% of the energy come from diesel. In *Gas mode*, where 98% of the energy comes from Natural Gas and 2% from diesel fuel injection (Ultra Low Sulfur Diesel), the engine's raw emissions going into the emission control system are listed in Table 1.

Gas mode		100	75	50	25	20	10
NOx	g/kWh	1.0	0.4	0.4	0.8	0.9	1.0
PM (Filterable)	mg/Nm3	5.7	4.2	5.3	8.6	9.3	10.6
PM10 (Filterable + Condensable)	mg/Nm3	5.4	4.1	5.1	8.1	8.8	10.1
PM2.5 (Filterable + Condensable)	mg/Nm3	5.4	4.1	5.1	8.1	8.8	10.1
CO	ppm	180	166	178	154	149	139
VOC	ppm	79	76	78	88	90	94
N2O	ppm	2	1	1	1	1	1
CH4	ppm	644	616	638	732	750	788
CO2	g/kWh	383	373	377	400	405	416
SO2	g/kWh	0.025	0.023	0.021	0.021	0.021	0.022

Table 1: Engine raw emissions in Gas mode

For redundancy the engine can switch to *Diesel mode* as a backup, with 100% of the energy coming from diesel fuel (ULSD), in case there is a problem with the gas supply system. The corresponding emissions are listed in Table 2.

Diesel mode		100	75	50	25	20	10
NOx	g/kWh	11.6	14.9	17.1	18.5	18.8	19.3
PM (Filterable)	mg/Nm3	8.4	12.1	11.6	8.6	8.0	6.8
PM10 (Filterable + Condensable)	mg/Nm3	8.4	12.1	11.6	8.6	8.0	6.8
PM2.5 (Filterable + Condensable)	mg/Nm3	8.0	11.7	11.3	8.1	7.6	6.5
CO	ppm	83	36	36	39	40	41
VOC	ppm	91	103	119	171	181	202
N2O	ppm	4	2	1	1	1	1
CO2	g/kWh	439	426	430	454	460	471
SO2	g/kWh	0.353	0.330	0.330	0.336	0.401	0.440

Table 2: Engine raw emissions in Diesel mode

Emission Control System

A detailed description of the system can be found in document *21801.24.0.TGT-PL TGT Process description.pdf*

On a high level the emission abatement, or control system, consists of two main systems, the dry system on the high pressure side of the engine (before the turbocharger) and the wet system on the low pressure side, downstream the turbocharger.

The dry system consists of an oxydation catalyst and an SCR catalyst. The catalytic reduction of **CO** has an **efficiency** of over **99%**. The same system oxidises **VOC** emission with a conversion **efficiency** of **99%**. The de-NOx unit is a classic, urea-based **SCR**-technology, the **efficiency** is expected to be higher than **90%**. Doing so the dry system **consumes 13.2 l/h of NH₃ (aq)**.

The wet system consists of 4 stages, which take further care of the **NOx with 90.9%** efficiency and the **SOx with 70% efficiency**. The four stages consume the following chemicals:

Chemical	%w	lb/gal	[gal/h]	[lb/h]
NH ₃ (aq.)	19%	7.51	3.49	26.2
NaOH	50%	12.52	29.91	374.5
NaHS (reducing agent)	45%	10.85	0.11	1.1
NaClO ₂ (oxidizing agent)	25%	10.01	0.40	4.0
H ₂ SO ₄	36%	10.68	0.10	1.1

Table 3: Use of chemicals for the emission control system

Normal Operation

Under normal circumstances the engines operate on gas at 75% load, at their peak efficiency, hence with lowest specific fuel consumption. They are stopped once a year for servicing, while another engine takes up this load. In *Normal Operation* mode one single engine consumes 4,574.1 lb/h of gas (98,924 ft³/h) and 27.8 lb/h (3.91 gal/h) of ULSD.

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TransGas Development Systems, LLC
March 24, 2025

Doing so, it produces the following raw emissions:

NOx	PM	CO	VOC	SO2	CO2	Methane	N2O	CO2_eq
[lb/h]	[lb/h]	[lb/h]	[lb/h]	[lb/h]	[lb/h]	[lb/h]	[lb/h]	[lb/h]
13.89	0.45	22.36	22.63	0.74	12,634	47.60	0.25	14,035

Table 4: Emissions of a single engine in Normal Operation

* with Global Warming Potential of 28 for Methane and 265 for laughing gas

While one individual engine never sees a total run time of 8760 hours per year, there are 114 engines that do experience this as a collective. One single engine of the operated collective therefore consumes 20,035 short tons of gas per year (866,574,112 ft³/a) and 122 tons (34,273 gal/a) of ULSD per year and produces the following raw emissions:

NOx	PM	CO	VOC	SOx	CO2	Methane	N2O	CO2_eq
[t/a]	[t/a]	[t/a]	[t/a]	[t/a]	[t/a]	[t/a]	[t/a]	[t/a]
60.83	1.99	97.92	99.12	3.25	55,339	208	1.1	61,472

Table 5: Emissions of 1 engine under Normal Operation (8760 hours)

The abatement system reduces the emissions the following:

	NOx	PM	CO	VOC	SO2
	[%]	[%]	[%]	[%]	[%]
Speed up	0%	0%	0%	0%	95%
Fuel Changeover	0%	0%	0%	0%	99%
Generator switched on	0%	0%	0%	0%	99%
Load up cold control	25%	0%	25%	25%	99%
Normal Operation	99%	25%	99%	99%	99%
Compensation Mode	99%	25%	95%	99%	99%
Ramp down	99%	25%	94%	99%	99%
Min load	70%	0%	50%	70%	70%
Spin out	40%	0%	35%	40%	40%
Emergency Mode	98%	25%	91%	99%	99%

Table 6: Emission abatement efficiency for each individual emission type

Resulting in the total yearly emissions per engine of:

NOx	PM	CO	VOC	SOx	CO2	Methane	N2O	CO2_eq
[t/a]	[t/a]	[t/a]	[t/a]	[t/a]	[t/a]	[t/a]	[t/a]	[t/a]
0.61	1.49	1.47	0.99	0.03	55,339	208	1.1	61,472

Table 7: Total yearly emissions of a single engine after emission treatment

Start up and Shut down operation

Additionally, one start up and shut down is foreseen. During the individual sequences one engine produces the following emissions:

	Load [%]	Abat.* [%]	NOx [lb/h]	PM [lb/h]	CO [lb/h]	VOC [lb/h]	SO2 [lb/h]	CO2 [lb/h]	Methane [lb/h]	N2O [lb/h]	CO2_eq [lb/h]
Speed up	10%	0.00%	89.54	0.34	2.50	19.49	0.10	3,217	0	0.12	3,274
Fuel Switch	10%	0.00%	4.81	0.53	8.65	13.07	0.00	1,807	28.03	0.12	2,740
Generator on	20%	0.00%	8.15	0.46	9.25	12.48	0.00	3,535	26.7	0.12	4,529
Load up	25%	25%	9.26	0.43	9.54	12.19	0.00	4,370	26.03	0.12	5,386
Ramp down	40%	100%	10.37	0.32	13.79	14.95	0.00	6,777	31.74	0.15	8,063
Min load	20%	70%	8.15	0.46	9.25	12.48	0.07	3,535	26.7	0.12	4,529
Spin out	10%	40%	4.81	0.53	8.65	13.07	0.07	1,807	28.03	0.12	2,740

Table 8: Emission during the different stages of Startup and Shut down phase
*of the efficiencies mentioned above in Table 6.

In total during one startup and a shutdown sequence one single engine emits the following:

NOx [t]	PM [t]	CO [t]	VOC [t]	SOx [t]	CO2 [t]	Methane [t]	N2O [t]	CO2_eq [t]
0.0049	0.0002	0.0016	0.0026	0.0000	1.9675	0.0104	0.0001	2.2724
[lb]	[lb]	[lb]	[lb]	[lb]	[lb]	[lb]	[lb]	[lb]
9.74	0.31	3.22	5.12	0.02	3,935	20.77	0.11	4,545

Table 9: Emissions during a startup and shutdown sequence for one single engine.

Normal Operation Scenario

Therefore, under normal circumstances the 117 engines emit the following over one year, including one startup and shutdown sequence, each:

NOx [t/a]	PM [t/a]	CO [t/a]	VOC [t/a]	SOx [t/a]	CO2 [t/a]	Methane [t/a]	N2O [t/a]	CO2_eq [t/a]
69.9	169.9	167.6	113.3	3.7	6,308,872	23,768	127.1	7,008,055

Table 10: Entire yearly emissions for the entire plant und normal circumstances.

To do so, the entire plant consumes 2,284,014.5 tons of natural gas (98,792,705,589 ft³) coming in a pipeline and 13,876 tons of diesel (3,908,687 gal) which will be shipped on site.

Emergency Mode

In case when no gas is available, the engines can be operated in so called emergency mode and the power comes from diesel. In this mode a single engine consumes 5666.8 lb/h (798 gal/h) and emits the following:

NOx [lb/h]	PM [lb/h]	CO [lb/h]	VOC [lb/h]	SO2 [lb/h]	CO2 [lb/h]	Methane [lb/h]	N2O [lb/h]	CO2_eq [lb/h]
10.35	1.29	0.58	0.29	0.11	17,896	0.00	0.67	18,073

Table 11: Controlled hourly emissions per engine in Emergency Mode

Compensation Mode

In case some engines should for any reason fail, the remaining engines will compensate for the loss of power, by increasing their power output. Here the worst case, of each engine ramping up to 100% load, is looked at. Under such conditions the engines consume 6,386 lb of natural gas per hour (138,112 ft³) and 27.8 lb/h of ULSD (3.91 gal/h). The following emissions result from this kind of operation:

NOx [lb/h]	PM [lb/h]	CO [lb/h]	VOC [lb/h]	SO2 [lb/h]	CO2 [lb/h]	Methane [lb/h]	N2O [lb/h]	CO2_eq [lb/h]
0.46	0.20	1.41	0.27	0.01	17,605	57.73	0.59	19,378

Table 12: Controlled hourly emissions per engine in Compensation Mode

Worst case scenario

As shown earlier, under Normal Operation conditions the engines stay well below the 250 t/year limit for all the regulated emissions. But to ensure that the power plant can be operated under worst case conditions, the following, unrealistic but not impossible scenario was looked at:

The pipeline is out for 8 days (192 hours); hence the power plant is operated on diesel. In the same year an unforeseeable event takes down 31 engines (26% of the entire plant) and the remaining 86 engines will compensate for by delivering the full power, increasing their output to 99.4% load. This situation lasts 24 days (567 hours). Additionally, the engines have to be started up and shut down 5 times, instead of once per year.

The engines are therefore for the following number of hours operated in the corresponding mode:

Speed up	0.42
Fuel Switch	0.17
Generator switched on	0.42
Load up cold control	0.83
Normal Operation	7996.80
Compensation Mode	567.20
Ramp down	1.67
Min load	0.42
Spin out	0.08
Emergency Mode	192.00
Total operational time	8760

Table 13: Operational time in hours for each engine mode under worst case scenario

Under this scenario and the consequent operational profiles, the entire plant will emit the following emissions per year:

	Gas [t/a]	Diesel [t/a]	NOx [t/a]	PM [t/a]	CO [t/a]	VOC [t/a]	SO2 [t/a]	CO2_e [t/a]
Speed up	0.00	24.19	2.13	0.01	0.06	0.46	0.00	77
Fuel Switch	6.56	0.10	0.05	0.01	0.08	0.12	0.00	25
Generator switched on	32.02	0.40	0.19	0.01	0.22	0.30	0.00	102
Load up cold control	79.11	0.88	0.33	0.02	0.34	0.43	0.00	244
Normal Operation	213,6163	12,661	63.31	155.11	152.86	103.15	3.38	6397261
Compensation Mode	208,133	898	14.97	17.22	45.53	8.84	0.33	626484
Ramp down	244.63	2.11	0.01	0.03	0.08	0.01	0.00	732
Min load	32.02	0.40	0.06	0.01	0.11	0.09	0.00	102
Spin out	3.28	0.05	0.01	0.00	0.03	0.04	0.00	12
Emergency Mode	0.00	61,751	113.24	14.11	6.31	3.15	6.22	197796
Total	2,291,799	75,605	194	187	206	117	10	7,222,837

Table 14: Total yearly emissions of the entire power plant under worst case scenario

Hazardous emissions

The hazardous emissions are calculated based on the distribution described in EPA AP-42, Table 3.2-1, 3.2-3 and 3.2-4.

The emissions are calculated as a percentage of the VOC (NMHC) emissions.

NMHC	Benzene	Toluene	Xylenes	Formaldehyde	Acrolein	Acetaldehyde	Naphthalene
0.2	0.000776	0.000281	0.000193	0.0000789	0.00000788	0.0000225	0.00013
100%	0.388%	0.141%	0.097%	0.039%	0.004%	0.011%	0.065%

Table 15: Hazardous emission according to EPA AP-42 in lb/MMBtu and as a percentage of the Non-Methane Hydrocarbons

With a reduction factor of 99% the Benzene emissions on an hourly basis per engine, and on a yearly basis for the entire plant are the following:

Benzene, 0.388% of NMHC

Mode	Time	NMHC	Uncontrolled		Abatement	Controlled	
[-]	[h/a]	[lb/h]	[lb/h]	[t/a]	[%]	[lb/h]	[t/a]
Speed up	0.08	19.49	0.07564	0.00036	0.0%	0.07564	0.00036
Fuel Switch	0.03	13.07	0.05070	0.00010	0.0%	0.05070	0.00010
Generator switched	0.08	12.48	0.04844	0.00023	0.0%	0.04844	0.00023
Load up cold control	0.17	12.19	0.04731	0.00045	25.0%	0.03548	0.00034
Normal Operation	8000	22.63	0.08780	40.03794	99.0%	0.00088	0.40038
Compensation Mode	567	27.34	0.10608	3.42968	99.0%	0.00106	0.03430
Ramp down	0.33	14.95	0.05802	0.00110	99.0%	0.00058	0.00001
Min load	0.08	12.48	0.04844	0.00023	70.0%	0.01453	0.00007
Spin out	0.02	13.07	0.05070	0.00005	0.0%	0.05070	0.00005
Emergency Mode	192	28.75	0.11156	1.22087	99.0%	0.00112	0.01221

Table 16: Calculation of the Benzene hourly emissions for each engine and yearly basis for the entire plant per operation mode

Toluene, 0.141% of NMHC

Mode	Time	NMHC	Uncontrolled		Abatement	Controlled	
[-]	[h/a]	[lb/h]	[lb/h]	[t/a]	[%]	[lb/h]	[t/a]
Speed up	0.08	19.49	0.02739	0.00013	0.0%	0.02739	0.00013
Fuel Switch	0.03	13.07	0.01836	0.00003	0.0%	0.01836	0.00003
Generator switched	0.08	12.48	0.01754	0.00008	0.0%	0.01754	0.00008
Load up cold control	0.17	12.19	0.01713	0.00016	25.0%	0.01285	0.00012
Normal Operation	8000	22.63	0.03179	14.49827	99.0%	0.00032	0.14498
Compensation Mode	567	27.34	0.03841	1.24193	99.0%	0.00038	0.01242
Ramp down	0.33	14.95	0.02101	0.00040	99.0%	0.00021	0.00000
Min load	0.08	12.48	0.01754	0.00008	70.0%	0.00526	0.00002
Spin out	0.02	13.07	0.01836	0.00002	0.0%	0.01836	0.00002
Emergency Mode	192	28.75	0.04040	0.44209	99.0%	0.00040	0.00442

Table 17: Calculation of the Toluene hourly emissions for each engine and yearly basis for the entire plant per operation mode

Resulting in Toluene emissions of 325 pounds per year.

Xylenes, 0.097% of NMHC

Mode	Time	NMHC	Uncontrolled		Abatement	Controlled	
[-]	[h/a]	[lb/h]	[lb/h]	[t/a]	[%]	[lb/h]	[t/a]
Speed up	0.08	19.49	0.01881	0.00009	0.0%	0.01881	0.00009
Fuel Switch	0.03	13.07	0.01261	0.00002	0.0%	0.01261	0.00002
Generator switched	0.08	12.48	0.01205	0.00006	0.0%	0.01205	0.00006
Load up cold control	0.17	12.19	0.01177	0.00011	25.0%	0.00882	0.00008
Normal Operation	8000	22.63	0.02184	9.95789	99.0%	0.00022	0.09958
Compensation Mode	567	27.34	0.02638	0.85300	99.0%	0.00026	0.00853
Ramp down	0.33	14.95	0.01443	0.00027	99.0%	0.00014	0.00000
Min load	0.08	12.48	0.01205	0.00006	70.0%	0.00361	0.00002
Spin out	0.02	13.07	0.01261	0.00001	0.0%	0.01261	0.00001
Emergency Mode	192	28.75	0.02775	0.30364	99.0%	0.00028	0.00304

Table 18: Calculation of the formaldehyde hourly emissions for each engine and yearly basis for the entire plant per operation mode

Resulting in Xylenes emissions of 223 pounds per year.

Formaldehyde, 0.039% of NMHC

Mode	Time	NMHC	Uncontrolled		Abatement	Controlled	
[-]	[h/a]	[lb/h]	[lb/h]	[t/a]	[%]	[lb/h]	[t/a]
Speed up	0.08	19.49	0.00769	0.00004	0.0%	0.00769	0.00004
Fuel Switch	0.03	13.07	0.00515	0.00001	0.0%	0.00515	0.00001
Generator switched	0.08	12.48	0.00492	0.00002	0.0%	0.00492	0.00002
Load up cold control	0.17	12.19	0.00481	0.00005	25.0%	0.00361	0.00003
Normal Operation	8000	22.63	0.00893	4.07087	99.0%	0.00009	0.04071
Compensation Mode	567	27.34	0.01079	0.34871	99.0%	0.00011	0.00349
Ramp down	0.33	14.95	0.00590	0.00011	99.0%	0.00006	0.00000
Min load	0.08	12.48	0.00492	0.00002	70.0%	0.00148	0.00001
Spin out	0.02	13.07	0.00515	0.00000	0.0%	0.00515	0.00000
Emergency Mode	192	28.75	0.01134	0.12413	99.0%	0.00011	0.00124

Table 19: Calculation of the formaldehyde hourly emissions for each engine and yearly basis for the entire plant per operation mode

Resulting in Formaldehyde emissions of 92 pounds per year.

Acrolein, 0.004% of NMHC

Mode	Time	NMHC	Uncontrolled		Abatement	Controlled	
[-]	[h/a]	[lb/h]	[lb/h]	[t/a]	[%]	[lb/h]	[t/a]
Speed up	0.08	19.49	0.00077	0.000004	0.0%	0.00077	0.000004
Fuel Switch	0.03	13.07	0.00051	0.000001	0.0%	0.00051	0.000001
Generator switched	0.08	12.48	0.00049	0.000002	0.0%	0.00049	0.000002
Load up cold control	0.17	12.19	0.00048	0.000005	25.0%	0.00036	0.000003
Normal Operation	8000	22.63	0.00089	0.406571	99.0%	0.00001	0.004066
Compensation Mode	567	27.34	0.00108	0.034827	99.0%	0.00001	0.000348
Ramp down	0.33	14.95	0.00059	0.000011	99.0%	0.00001	0.000000
Min load	0.08	12.48	0.00049	0.000002	70.0%	0.00015	0.000001
Spin out	0.02	13.07	0.00051	0.000000	0.0%	0.00051	0.000000
Emergency Mode	192	28.75	0.00113	0.012397	99.0%	0.00001	0.000124

Table 20: Calculation of the formaldehyde hourly emissions for each engine and yearly basis for the entire plant per operation mode

Resulting in Acrolein emissions of 9 pounds per year.

Acetaldehyde, 0.011% of NMHC

Mode	Time	NMHC	Uncontrolled		Abatement	Controlled	
[-]	[h/a]	[lb/h]	[lb/h]	[t/a]	[%]	[lb/h]	[t/a]
Speed up	0.08	19.49	0.00219	0.000010	0.0%	0.00219	0.000010
Fuel Switch	0.03	13.07	0.00147	0.000003	0.0%	0.00147	0.000003
Generator switched	0.08	12.48	0.00140	0.000007	0.0%	0.00140	0.000007
Load up cold control	0.17	12.19	0.00137	0.000013	25.0%	0.00103	0.000010
Normal Operation	8000	22.63	0.00255	1.160894	99.0%	0.00003	0.011609
Compensation Mode	567	27.34	0.00308	0.099443	99.0%	0.00003	0.000994
Ramp down	0.33	14.95	0.00168	0.000032	99.0%	0.00002	0.000000
Min load	0.08	12.48	0.00140	0.000007	70.0%	0.00042	0.000002
Spin out	0.02	13.07	0.00147	0.000001	0.0%	0.00147	0.000001
Emergency Mode	192	28.75	0.00323	0.035399	99.0%	0.00003	0.000354

Table 21: Calculation of the Acetaldehyde hourly emissions for each engine and yearly basis for the entire plant per operation mode

Resulting in Acetaldehyde emissions below 26 pounds per year.

Naphthalene, 0.065% of NMHC

Mode	Time	NMHC	Uncontrolled		Abatement	Controlled	
[-]	[h/a]	[lb/h]	[lb/h]	[t/a]	[%]	[lb/h]	[t/a]
Speed up	0.08	19.49	0.01267	0.00006	0.0%	0.01267	0.00006
Fuel Switch	0.03	13.07	0.00849	0.00002	0.0%	0.00849	0.00002
Generator switched	0.08	12.48	0.00811	0.00004	0.0%	0.00811	0.00004
Load up cold control	0.17	12.19	0.00793	0.00008	25.0%	0.00594	0.00006
Normal Operation	8000	22.63	0.01471	6.70739	99.0%	0.00015	0.06707
Compensation Mode	567	27.34	0.01777	0.57456	99.0%	0.00018	0.00575
Ramp down	0.33	14.95	0.00972	0.00018	99.0%	0.00010	0.00000
Min load	0.08	12.48	0.00811	0.00004	70.0%	0.00243	0.00001
Spin out	0.02	13.07	0.00849	0.00001	0.0%	0.00849	0.00001
Emergency Mode	192	28.75	0.01869	0.20453	99.0%	0.00019	0.00205

Table 22: Calculation of the Acetaldehyde hourly emissions for each engine and yearly basis for the entire plant per operation mode

Resulting in Acetaldehyde emissions below 150 pounds per year.

Liquid and fuel handling



Figure 4: Liquid Storage in front of a set of power houses:

Yellow: Diesel tanks,

Greenish: Water tanks

White: Oil and component tanks

On-site Water Storage

For fire protection and supplementary cooling, the facility maintains an on-site water storage capacity of 2,641,721 gallons, distributed over the entire plant in 14 tanks with 26 feet in diameter and 44 feet in height.

Ultra Low Sulfur Diesel

The engines consume 13,876 tons of ULSD per year (10,704 gal/day) which will be transported on site. To ensure fire safety and to protect the valuable hardware within the data center, the volume of flammable liquids stored on-site will be minimized. For emergency preparedness, a three-day supply of 25,000 tons will be maintained in multiple smaller storage tanks. The rest will be in strategic locations nearby.

The diesel will be stored in 40 tanks distributed across the entire plant, 26 feet in diameter and 44 feet in height.

Lubrication Oil

The engines consume about 2,025 tons of lubrication oil per year (1563 gal/day), which will be shipped on site. Additionally, about 20 tons will be stored on site, in tanks of 160 gallon in each power house.

Natural Gas

The gaseous fuel will be transported by pipeline.

Emission Control Components

For the emission abatement system liquids are transported to the site. A 3-day storage will be kept on site.

Component	Consumption		Storage
	[t/a]	[gal/h]	[t]
-	13'078	3.49	108
NH₃ (aq)	186'984	29.91	1537
NaOH	572	0.11	5
NaHS (reducing agent)	1'995	0.40	17
NaClO₂ (oxidizing agent)	535	0.10	5
H₂SO₄			

Table 23: List of chemicals yearly used, and amount stored on site

The Storage will be in the corresponding standard tanks for these liquids, horizontally arranged tanks of 16 feet length and 7 feet diameter.

Chemicals in Use

- Hydrous Ammonia
- Caustic Soda NaOH
- Sulfuric Acid H₂SO₄
- NaClO₂ (oxidizing agent)
- NaHS (reducing agent)

ANNEX

The 117 engines will be arranged according to the plan on Figure 5. It shows the map of the site, with 7 pods. Every pod holds two large buildings on the outer side, housing the data centers and 6 power houses in the middle (magenta/pink). A powerhouse holds three engine-generator setups (genset), auxiliaries and parts of the emission control systems. This gives theoretically space for $7 \times 6 \times 3 = 126$ gensets. The remaining three buildings will be used for logistical and storage purposes though (spare parts, fluid preparation etc.)



Figure 5: Site plan showing the 7 pods