



Region 6 - Enforcement & Compliance Assurance Division
INSPECTION REPORT

Inspection Date:	08/02/2023	
Media Program:	Air	
Regulatory Program(s)	CAA, TX SIP	
Company Name:	DFW Midstream, LLC	
Facility Name:	Dalworthington Gardens Gathering Station No. 1	
Facility Physical Location:	3018 W. Pioneer Parkway	
(city, state, zip code)	Dalworthington Gardens, Texas 76016	
Mailing address:	910 Louisiana Street, Suite 4200	
(city, state, zip code)	Houston, Texas 77002	
County/Parish:	Tarrant County	
Facility Phone Number	(832) 930-6524	
Facility Contact:	Jerry Castillo	Director of Regulatory Compliance
	Jerry.castillo@summitmidstream.com	
FRS Number:	N/A	
Identification/Permit Number:	TCEQ Regulated Entity Number ("RN") RN105828891 Air Permit No. 91291 & 166168	
Media Identifier Number:	ICIS-AIR TX0000004843901770	
NAICS:	211111	
SIC:	N/A	
Personnel participating in inspection:		
Uma Lad	EPA R6	Physical Scientist
Benjamin Donaldson	EPA R6	Environmental Engineer
Aimee Boss	EPA R6	Physical Scientist
Jerry Castillo	Summit/DFW Midstream	Director of Regulatory Affairs
Jarrold Stewart	Summit/DFW Midstream	Operations Manager
EPA Lead Inspector Signature/Date		
	Uma Lad	Date
Supervisor Signature/Date		
	Darrin Larson	Date

Section I – INTRODUCTION

PURPOSE OF THE INSPECTION

EPA Region 6 inspector, Aimee Boss, and inspectors-in-training, Ben Donaldson and I, Uma Lad (“We,” “Us”), arrived at Dalworthington Gardens Gathering Station No. 1 (“DWG”), located at 3018 West Pioneer Parkway, Dalworthington Gardens, Texas, 76016 at 8:30 AM on August 2, 2023, for an announced inspection. The facility is owned and operated by DFW Midstream, LLC (“DFW”), a subsidiary of Summit Midstream Partners, LP (“Summit”). We met with Summit/DFW representatives Mr. Jerry Castillo, Director of Regulatory Affairs, and Mr. Jarrod Stewart, Operations Manager. Aimee Boss presented her credentials to Mr. Castillo and Mr. Stewart, and I informed them that this was an EPA inspection to determine compliance with the facility’s permits and the Clean Air Act (“CAA”). The scope of the inspection was a partial compliance evaluation (“PCE”) and includes evaluation of the compliance with facility permits, the Texas State Implementation Plan (“SIP”), and federal CAA regulations. The facility currently operates under the Permit by Rule (“PBR”) for Oil and Gas Facilities No. 91291 and the Non-Rule Standard Permit (“NRSP”) Pollution Control Project (“PCP”) No 166168. The Texas Commission on Environmental Quality (“TCEQ”) was notified but did not participate in the inspection. The sign-in sheet for the opening conference is included as **Appendix 3**.

FACILITY DESCRIPTION

Natural gas enters the DWG facility through gathering lines and into a two-phase separator. Liquid from the separator is transferred to produced water storage vessels, while gas is routed to the compressors. Following compression, gas undergoes dehydration by passing through a triethylene glycol (“TEG”) contactor. Dry gas from the dehydration process is routed offsite via a sales pipeline. Rich TEG from the contactor is sent to a reboiler for separation. Lean glycol from the reboiler is sent back to the TEG dehydrator, while vapors from the reboiler are routed to a condenser and then a combustor for destruction. Vapors from the produced water storage vessels are controlled by a combustor too. Produced water is transferred off-site by trucks.

Section II – OBSERVATIONS

We began a facility walk-through with Mr. Stewart and Mr. Castillo at 8:50 AM. We examined the facility with a Forward Looking Infrared (“FLIR”) optical gas imaging (“OGI”) camera. Mr. Stewart stated that Summit/DFW personnel are at DWG daily to conduct maintenance for 2 to 3 hours. Summit/DFW shuts down the facility annually for certain operations and maintenance work.

Separator

Natural gas enters the facility through 16-inch and 20-inch gathering lines and into a two-phase separator. Liquid from the separator is routed to three (3) produced water tanks, while gas is routed to the compressors.

Compressors

Following separation, gas is routed to two (2), 2500 horsepower (“hp”) electric motor driven reciprocating compressors (“D-100” and “D-200,” see Photo 1 in **Appendix 1**) and a 6000 hp electric motor driven reciprocating compressor (“D-300,” see Photo 8 in **Appendix 1**). At the time of the inspection, only the D-100 compressor was operating. Mr. Stewart explained that regular maintenance of the engines includes replacing and rebuilding valves, which are based on shooting valve caps with a temperature gun daily. We examined the compressors with the FLIR camera and observed emissions and heat from the D-100 compressor (see MOV_0035 in **Appendix 2**, Area of Concern (“AOC”) #1). Mr. Stewart explained that the observed emissions were from a variable volume pocket.

DWG also operates a 400 hp electric compressor (“D-400,” see Photo 7 in **Appendix 1**), which provides gas compression for a well pad located offsite for another company. We examined the compressor with the FLIR camera and did not observe any emissions.

On August 14, 2023, Summit/DFW provided compressor and engine design specifications that show that the D-100 and D-200 compressors were manufactured in 2008 and have operated at the 2500 hp rating since 2010. The facility’s permits indicate that the compressor engines are not affected sources under the New Source Performance Standards (“NSPS”) Part 60, Subparts IIII, JJJJ, the National Emission Standards for Hazardous Air Pollutants (“NESHAP”) Part 63, Subpart ZZZZ, and 30 Texas Administrative Code (“TAC”) §106.512.

TEG Dehydration and Regeneration

Following compression, gas passes through a TEG contactor to remove water from gas, and the dry gas from this process is transferred offsite via the sales line. Rich glycol from the TEG contactor undergoes separation at the glycol reboiler (see Photo 4 in **Appendix 1**). From the glycol reboiler, lean glycol is sent back to the TEG dehydrator, while vapors containing benzene, toluene, ethylbenzene, and xylene (“BTEX”) pass through a condenser (“BTEX eliminator”) and then a combustor (“BTEX combustor”) for destruction. We observed emissions with the FLIR camera from the exhaust stack on the glycol reboiler (see MOV_0034 in **Appendix 2**, AOC #2).

On August 14, 2023, Summit/DFW provided emissions data, from March to August 2023 showing that the total annual volatile organic compound (“VOC”) emissions recorded at the TEG dehydrator was 16.46 tons. The NRSP-PCP permit authorizes 0.55 tons per year (“tpy”) VOCs from the TEG dehydrator (see AOC #6). Equipment emissions data from TEG dehydration are provided in **Appendix 6**.

Combustors

DWG operates two combustors (see Photos 2-3 in **Appendix 1**). The BTEX combustor controls vapors from the glycol reboiler, while the Vapor Combustion Unit (“VCU”) controls vapors from the produced water tanks. Mr. Stewart stated that Summit/DFW installed both combustors at DWG in 2022. With the FLIR camera, we observed emissions from the BTEX combustor and the VCU (see MOV_0034 in

Appendix 2, AOCs #3 and #4). In the NRSP-PCP permit, Summit/DFW claims a 98% VOC destruction efficiency at one combustor under emission point number ("EPN") VC-1.

In the NRSP-PCP permit application, Summit/DFW listed emissions from pilot gas, the still vent column of the glycol reboiler, and the produced water tanks under one combustor ("EPN VC-1"). The equipment inventory in the permit application identifies only one combustor at the facility (see AOC #5). Selected pages from the NRSP-PCP permit are provided in **Appendix 4**.

Emissions data from March to August 2023 provided by Summit/DFW on August 14, 2023, show that the total annual VOC emissions recorded at VCU was 0.12 tons. The NRSP-PCP permit authorizes 0.03 tpy VOCs from the VCU for produced water tanks (see AOC #6). See **Appendix 6** for VCU emissions data.

Storage Vessels

DWG has three produced water tanks (see Photo 6 in **Appendix 1**) that store liquids separated from gas at the separator and compressors. Mr. Stewart stated that the tanks share a common header and fill simultaneously. We did not observe emissions from the produced water tanks with the FLIR camera.

The facility's PBR permit indicates that emissions from the three produced water tanks are uncontrolled and can vent to the atmosphere, but in NRSP-PCP permit, the VCU controls produced water tank emissions. Both the PBR and NRSP-PCP are active permits (see AOC #5). Selected pages from the NRSP-PCP and PBR permits are provided in **Appendices 4 and 5**.

Blowdown Vent

DWG has a vent (see Photo 5 in **Appendix 1**) used for compressor blowdowns and maintenance activities. We did not observe any emissions from the vent with the FLIR camera.

Fugitive Emissions

Equipment emissions data provided by Summit/DFW on August 14, 2023, show that a total of 1.48 tons of VOC emissions were reported from fugitives sitewide from March to August 2023. DWG's PBR permit indicates that the facility has a 0.64 tpy VOC emission limit, as authorized under their permits (see AOC #6). Fugitive emissions data can be found in **Appendix 6**.

Section III – AREAS OF CONCERN

1. Emissions were observed from the D-100 compressor. Summit/DFW did not list the D-100 compressor as an emission source in DWG's permits. In an email on September 13, 2023, Summit/DFW stated that the emissions were part of normal operations from the compressor piston rod packing.
2. Emissions were observed from the reboiler exhaust stack on the glycol reboiler. On September 13, 2023, Summit/DFW provided a site diagram which shows that the exhaust stack is the only emission

point from the reboiler. In the PBR and NRSP-PCP permits, the glycol reboiler (EPN GLYREG) has an emission rate of 0.05 tpy VOC.

3. Emissions were observed from the VCU. Summit/DFW claims a 98% destruction efficiency at a combustor with EPN VC-1 in the NRSP-PCP permit and confirmed that the VCU has a 98% destruction efficiency on August 14, 2023.
4. Emissions were observed from the BTEX combustor. Summit/DFW claims a 98% destruction efficiency at the combustor with EPN VC-1 in the NRSP-PCP permit. Summit/DFW confirmed that the BTEX combustor has a 98% destruction efficiency on August 29, 2023. The emission trail observed from the BTEX combustor suggests that vapors are not adequately combusting, and the BTEX combustor may not be meeting the 98% control efficiency.
5. Permit representations do not match on-site conditions or have inconsistent information.
 - a. According to NRSP-PCP permit, a combustor controls vapors from the produced water tanks. In the PBR permit, the produced water tank vapors can emit to the atmosphere. Since both permits are active, Summit/DFW should consider updating the DWG's PBR permit to be consistent with the NRSP-PCP permit and represent on-site conditions.
 - b. In the NRSP-PCP permit, Summit/DFW has accounted for one combustor installed at DWG and has represented multiple emissions sources directed at a single emission point. During the inspection, we observed two combustors at the facility. The VCU controls vapors from the three produced water tanks and the BTEX combustor controls vapors from the sill vent column on the glycol reboiler and the BTEX eliminator. Summit/DFW should consider updating DWG's permit(s) to match on-site conditions with two separate combustion devices and specify the emission sources routed to each combustor.
6. Equipment emissions data provided by Summit/DFW on August 14, 2023, suggest that DWG exceeded authorized annual VOC emission limits under its permits from March to August 2023 for the VCU, the TEG dehydrator, and sitewide fugitives. In an email on September 13, 2023, Summit/DFW stated that the emissions calculations are based on a 12-month rolling average, and the data provided to EPA were identified in April/May 2023 as inconsistent with past emission values. Summit/DFW has conducted new gas sampling and analyses at DWG to use in the emission calculations and is investigating the cause of the inconsistent emissions data.

EPA Region 6 inspector, Aimee Boss, and inspectors-in-training, Benjamin Donaldson and I, Uma Lad, conducted a closing conference for the inspection at Summit/DFW's Dalworthington Gardens Gathering Station No. 1 at 10:50 AM on August 2, 2023. During the closing conference, I reviewed the AOCs #1 – 4 noted during the inspection. AOCs #5 and #6 were determined after the inspection and were not included in the closing conference. I informed the Summit/DFW representatives of EPA Region 6's procedures that follow the field inspection and that the inspection report would be made public on

EPA's website. We concluded the closing conference and departed the facility at 11:04 AM. The sign-in sheet for the closing conference is included as **Appendix 3**.

Section IV – FOLLOW UP

On August 7, 2023, I requested schematics, build and installation dates, standard operating procedures ("SOP"), maintenance procedures, monitoring data, and any documentation related to VCU, BTEX combustor, BTEX eliminator, glycol reboiler, and D-100 compressor. I also requested records of operation and maintenance, monitoring, and inspection records for the past six (6) months and current permit information. Mr. Castillo provided the requested information on August 14 and 18, 2023. I sent additional emails on August 21, 24, and 29 and September 7 and 12 to Mr. Castillo requesting clarification on the documents and permit information provided by Summit/DFW. Mr. Castillo responded to the additional emails.

Section V – LIST OF APPENDICES

Appendix 1 – Photo Log – 8 photos taken 08/02/23
Appendix 2 – Video Log – 2 FLIR videos taken 08/02/23
Appendix 3 – Opening and closing conference sign-in sheets
Appendix 4 – Permit No. 166168, selected pages
Appendix 5 – Permit No. 91291, selected pages
Appendix 6 – Equipment emissions data, selected pages

Appendix 1

Photograph Log



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 1

Location: DFW Midstream, LLC / Dalworthington Gardens Gathering Station No. 1		
City: Dalworthington Gardens	County: Tarrant County	State: Texas



Photo File Name: DSCN0652.JPG

Date of Photo: 08/02/2023 Time

of Photo: 8:58 AM

Photographer: Uma Lad

Description: D-100 compressor.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 2

Location: DFW Midstream, LLC / Dalworthington Gardens Gathering Station No. 1		
City: Dalworthington Gardens	County: Tarrant County	State: Texas



Photo File Name: DSCN0661.JPG

Date of Photo: 08/02/2023

Time of Photo: 9:30 AM

Photographer: Uma Lad

Description: BTEX combustor.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 3

Location: DFW Midstream, LLC / Dalworthington Gardens Gathering Station No. 1		
City: Dalworthington Gardens	County: Tarrant County	State: Texas



Photo File Name: DSCN0662.JPG

Date of Photo: 08/02/2023

Time of Photo: 9:31 AM

Photographer: Uma Lad

Description: Combustor for produced water tanks.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 4

Location: DFW Midstream, LLC / Dalworthington Gardens Gathering Station No. 1		
City: Dalworthington Gardens	County: Tarrant County	State: Texas



Photo File Name: DSCN0663.JPG

Date of Photo: 08/02/2023

Time of Photo: 9:32 AM

Photographer: Uma Lad

Description: Glycol reboiler.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 5

Location: DFW Midstream, LLC / Dalworthington Gardens Gathering Station No. 1		
City: Dalworthington Gardens	County: Tarrant County	State: Texas



Photo File Name: DSCN0669.JPG

Date of Photo: 08/02/2023

Time of Photo: 9:50 AM

Photographer: Uma Lad

Description: Blowdown vent.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 6

Location: DFW Midstream, LLC / Dalworthington Gardens Gathering Station No. 1		
City: Dalworthington Gardens	County: Tarrant County	State: Texas



Photo File Name: DSCN0670.JPG
Date of Photo: 08/02/2023
Time of Photo: 9:55 AM
Photographer: Uma Lad
Description: Produced water tanks.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 7

Location: DFW Midstream, LLC / Dalworthington Gardens Gathering Station No. 1		
City: Dalworthington Gardens	County: Tarrant County	State: Texas



Photo File Name: DSCN0672.JPG

Date of Photo: 08/02/2023

Time of Photo: 9:56 AM

Photographer: Uma Lad

Description: D-400 compressor.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 8

Location: DFW Midstream, LLC / Dalworthington Gardens Gathering Station No. 1		
City: Dalworthington Gardens	County: Tarrant County	State: Texas



Photo File Name: DSCN0674.JPG

Date of Photo: 08/02/2023

Time of Photo: 10:28 AM

Photographer: Uma Lad

Description: D-300 compressor.

Appendix 2

Video Log



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Video Log

Location: DFW Midstream, LLC / Dalworthington Gardens Gathering Station No. 1		
City: Dalworthington Gardens	County: Tarrant County	State: Texas



Video File Name: [MOV_0034](#)
 Facility Name: Dalworthington Gardens Gathering Station No. 1
 Date of Video: 08/02/2023
 Time of Video: 10:01 AM*
 Videographer: Aimee Boss
 Description: Emissions observed from the BTEX combustor, reboiler stack, and combustor for the produced water tanks.



Video File Name: [MOV_0035](#)
 Facility Name: Dalworthington Gardens Gathering Station No. 1
 Date of Video: 08/02/2023
 Time of Video: 10:12 AM*
 Videographer: Aimee Boss
 Description: Emissions and heat observed from the D-100 compressor.

*Metadata time is reported in Greenwich Mean Time and reflected in Central Standard Time here.

Appendix 3

Opening and Closing Conference Sign-In Sheets

FRS:

Company Name:

Page 3 of 24

Opening/Pre-Inspection Meeting

Commence opening/pre-inspection meeting..... Time: 8:30 am

Name	Title	Representing	Telephone No.
Kerry Castillo	Director of Reg. Affairs	Summit Midstream	932 930 6247
Frank Stewart	Manager Operations	DFW Midstream	304-932-9088
Ben Donaldson	Ben Donaldson	EPA - R06	
Aimee Boss	Inspector	EPA R4	214-665-7397
Uma Ladd	Physical Scientist	EPA R6	214-665-8563

Conclude opening/pre-inspection meeting Time: 8:50 am

Initials / Date: UL / 8/2/23

FRS: Company Name: DWG Gathering Station No. 1 Page 19 of 24

Exit interview / Out-briefing Meeting

Commenced meeting..... Time: 10:56

Name	Title	Representing	Telephone No.
JERRY CASHMAN	DIRECTOR, REGULATORY AFFAIRS	EPA Region ⁶ SUMMIT-DEN	832 930 6524 6524
Jarrod Stewart	Manager Operations	Summit-DEN	304 732-7088
Aimee BOSS	Inspector	EPA R6	214-665-7397
Uma Lad	Inspector - training - Physical Scientist	EPA R6	214-665-8563
Ben Donaldson	env. eng. - inspector	EPA R6	7426

Conclude meeting..... Time: 10:54Initials / Date: BD / 8/2/23

Appendix 4

Permit No. 166168, selected pages

Section 1 - Site/Project Information

Project Description

DFW Midstream Services LLC ("DFW Midstream") owns and operates the Dalworthington Gardens Gathering Station No. 1 ("the site") in Tarrant County, Texas. The site is an existing oil and gas site that consists of the emission sources listed in Table 1 of this Section. The purpose of this submittal is to register and certify an addition of a control device under the Non Rule Standard Permit PCP.

The revisions include adding a control device to the onsite storage tanks and glycol dehydrator and associated fugitives. Uncontrolled emission rates sent to the control device will maintain as previously registered and certified under the Permit by Rule ("PBR") Registration No. 91291. The attached application includes administrative documents, including required TCEQ forms, followed by the technical documents in support of this registration.

- Addition of the following emission source(s):
 - Control device for the glycol dehydrator and storage tanks (EPN: VC-1)
 - New fugitive emissions associated with the new control device (EPN: FUG)

The following emission source(s) remain unchanged under PBR 91291:

- Glycol Regenerator (EPN: GLYREG)
- Compressor Oil Tanks (EPNs: COMP-OIL-1 through COMP-OIL-3)
- TEG Slop Tanks (EPNs: TEG-1 and TEG-2)
- Methanol Storage Tank (EPN: METHANOL-1)
- Mineral Oil Tanks (EPN: MIN-OIL-1 and MIN-OIL-2)
- MSS Activities (EPNs: LEMSS, BLWDWN)
- Glycol Dehydrator (FIN: GLYCOL)
- Produced Water Tanks (FINs: TK-001, TK-002, and TK-003)
- Produced Water Loading (EPN: LOAD)
- Site-wide Fugitives (EPN: FUG)

The documentation included in this application demonstrates compliance with all applicable state and federal standards.

Process Description - Routine Operations

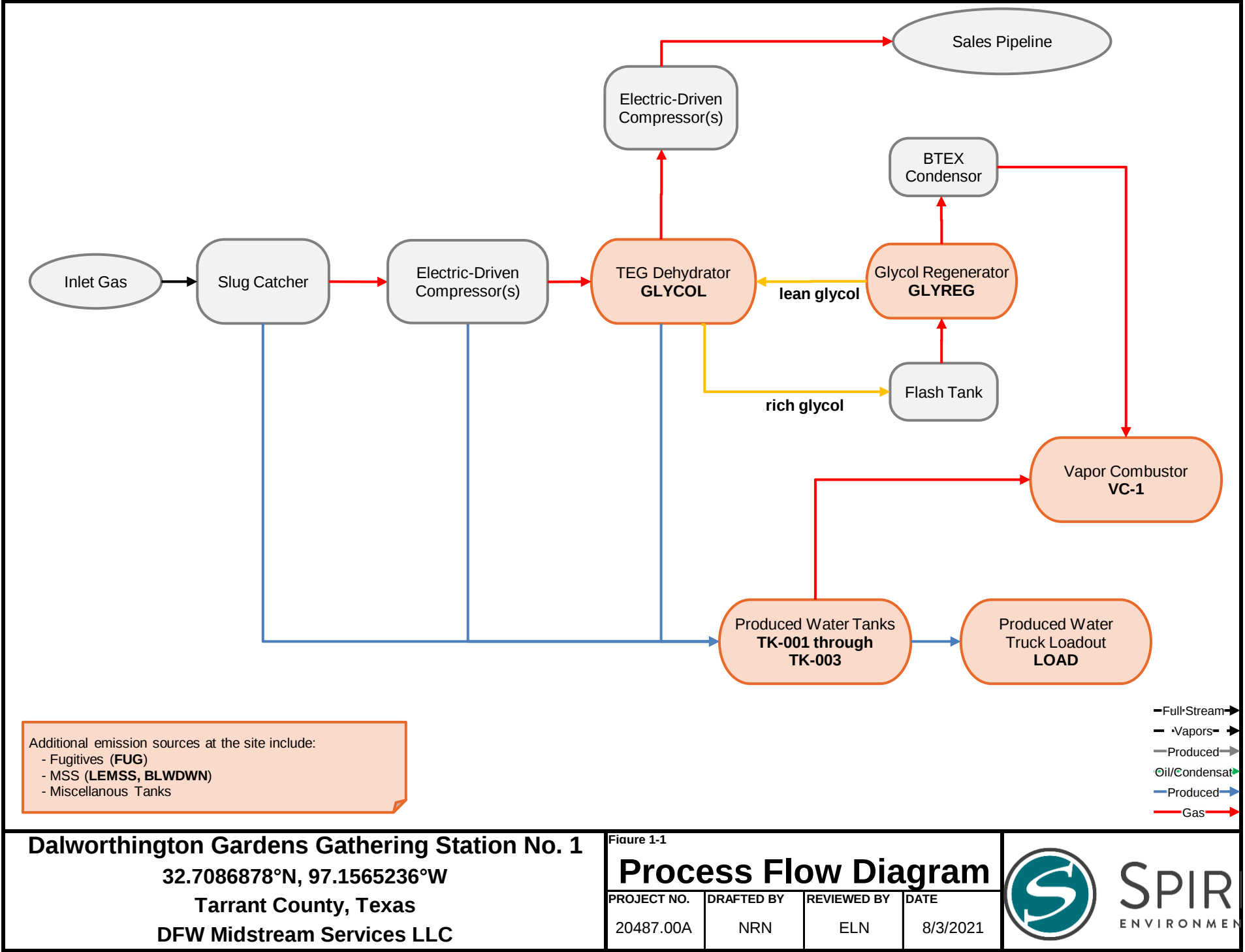
The Dalworthington Gardens Gathering Station No. 1 is primarily a dehydration treating and natural gas compressor station.

Sweet natural gas enters the facility through a slug catcher and a series of electric motor driven compressors (two (2) 2,500 hp, and one (1) 6,000 hp). The compressed gas then enters the TEG dehydrator (FIN: GLYCOL) to remove water from the gas stream. The dry dehydrated gas stream is sent to the sales line through a 200 hp electric driven compressor engine. The rich TEG is regenerated by a gas-fired glycol reboiler rated at 2.0 MMBtu/hr (EPN: GLYREG). Glycol flash tank vapors are controlled by the regenerator firebox, which reduces VOC emissions with a 50% control efficiency. The regenerator overhead vapors are routed to the BTEX eliminator and vapor combustor (EPN: VC-1) for a minimum of 98% destruction.

Produced water separated from the compression process and from the dehydration process is directed into one (1) of three (3) 300 bbl water tanks. The water tank emissions are manifolded and routed to a combustion device (EPN: VC-1) for a minimum of 98% destruction. Produced water is removed from the site by tank truck and all loading vapors are vented to atmosphere (EPN: LOAD).

Other sources of emissions at this site include fugitive component emissions (EPN: FUG), two (2) TEG storage tanks (EPNs: TEG-1 and TEG-2), three (3) compressor oil storage tanks (EPNs: COMP-OIL- 1 through COMP-OIL-3), a methanol storage tank (EPN: METHANOL-1), two (2) mineral oil tanks (EPNs: MIN-OIL-1 and MIN-OIL-2), and planned MSS activities, including compressor blowdowns (EPN: BLWDWN) and low emitting MSS (EPN: LEMSS).

Simplified process flow diagrams are provided in this section.



Section 1 - Site/Project Information

Table 1. Site Equipment/Processes

Equipment/Process	Quantity	FIN	EPN
Fugitives	yes	FUG	FUG
Heaters-Boiler(s)	1	GLYREG	GLYREG
Glycol Unit	1	GLYCOL	VC-1
		GLYCOL	GLYREG
Produced Water Storage Tanks	3	TK-001	VC-1
		TK-002	VC-1
		TK-003	VC-1
Miscellaneous Storage Tanks	8	COMP-OIL-1	COMP-OIL-1
		COMP-OIL-2	COMP-OIL-2
		COMP-OIL-3	COMP-OIL-3
		TEG-1	TEG-1
		TEG-2	TEG-2
		METHANOL-1	METHANOL-1
		MIN-OIL-1	MIN-OIL-1
		MIN-OIL-2	MIN-OIL-2
Loading Job(s)	1	LOAD	LOAD
Vapor Combustor(s)	1	VC-1	VC-1
Planned MSS Activity	yes	LEMSS	LEMSS
		BLWDWN	BLWDWN

Emissions Summary Table

EMISSION SOURCES			ESTIMATED EMISSION RATES															
EPN	FIN	Emission Source Name	Total VOC ^[1]		NOx		CO		PM ₁₀ /PM _{2.5}		SO ₂		H ₂ S		Benzene		Total HAPs ^[2]	
			lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
Project Sources: Added/Revised Emissions to be Authorized under Permit No. TBD																		
FUG	FUG	Fugitives (VC Addition Only)	0.03	0.13	--	--	--	--	--	--	--	--	<0.01	<0.01	--	--	<0.01	<0.01
VC-1	VC-1	Pilot (Field Gas)	<0.01	<0.01	<0.01	<0.01	0.01	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	--	--	--	--
	GLYCOL	Still Vent	<0.01	<0.01	0.01	0.05	0.10	0.44	<0.01	0.01	<0.01	0.01	<0.01	<0.01	--	--	--	--
	PW Tanks [3]	Controlled Produced Water Tanks	0.01	0.03	0.06	0.24	0.11	0.49	<0.01	0.01	--	--	--	--	<0.01	<0.01	<0.01	--
Sources Not Affected by the Project Authorized under Permit No. 91291																		
FUG	FUG	Existing Fugitives	0.15	0.64	--	--	--	--	--	--	--	--	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
GLYREG	GLYREG	Glycol Regenerator	0.01	0.05	0.20	0.90	0.17	0.75	0.02	0.07	<0.01	<0.01	--	--	--	--	--	--
COMP-OIL-1	COMP-OIL-1	Compressor Oil Tank	0.03	<0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--
COMP-OIL-2	COMP-OIL-2	Compressor Oil Tank	0.03	<0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--
COMP-OIL-3	COMP-OIL-3	Compressor Oil Tank	0.03	<0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEG-1	TEG-1	TEG Slop Tank	0.03	<0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEG-2	TEG-2	TEG Slop Tank	0.03	<0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--
METHANOL-1	METHANOL-1	Methanol Storage Tank	1.50	0.14	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MIN-OIL-1	MIN-OIL-1	Mineral Oil Tank	0.09	0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MIN-OIL-2	MIN-OIL-2	Mineral Oil Tank	0.01	<0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--
LEMSS	LEMSS	Low Emitting MSS	0.04	0.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BLWDWN	BLWDWN	Blowdowns	28.85	3.46	--	--	--	--	--	--	--	--	--	--	--	--	--	--
GLYREG	GLYCOL	Glycol Dehydrator (Flash Tank)	0.10	0.42	--	--	--	--	--	--	--	--	<0.01	<0.01	--	--	--	--
LOAD	LOAD	PW Loading	0.12	0.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Estimated Total Emissions			31.05	5.08	0.27	1.20	0.39	1.71	0.02	0.09	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Major Source Threshold		Total Emissions Limit		100.0		100.0		100.0		100.0		100.0		100.0		10.0		25.0
		Below major source threshold?		Yes		Yes		Yes		Yes		Yes		Yes		Yes		Yes

[1] Total VOC include HAPs.

[2] Total HAPs include benzene.

[3] Storage tanks controlled by VC-1: TK-001, TK-002, TK-003

Appendix 5

Permit No. 91291, selected pages

1.0 Introduction

1.1 Project Overview

DFW Midstream Services LLC (“DFW Midstream”), a subsidiary of Summit Midstream Partners, LP (“Summit”), owns and operates the Dalworthington Gardens Gathering Station No. 1 (“the site”) in Tarrant County, Texas. The site is primarily a natural gas compressor station located in the Barnett Shale formation that is currently authorized under 30 TAC §106.352(a)-(k) (PBR Registration No. 91291).

DFW Midstream is requesting to register and certify the updates outlined in the section under PBR Registration No. 91291 with this application. The proposed updates with this application include the addition of emissions from the following sources:

- Three (3) compressor oil storage tanks (FIN: COMP-OIL-1, COMP-OIL-2, COMP-OIL-3)
- One (1) methanol storage tank (FIN: METHANOL-1)
- Two (2) TEG slop tanks (FIN: TEG-1, TEG-2)
- Two (2) mineral oil storage tanks (FIN: MIN-OIL-1, MIN-OIL-2)

The purpose of this project is to authorize emissions from additional sources while emissions from the previously registered sources remain unchanged. Emission calculations for the following unchanged sources are not included in this registration:

- One (1) TEG dehydrator reboiler stabilizer heater
- Three (3) produced water storage tanks
- One (1) produced water loading job
- One (1) TEG dehydrator
- Compressor blowdowns
- Facility blowdowns
- Site-wide fugitive emissions
- Low-emitting MSS

The emissions summary Table 3-2 in Section 3.0 of this application includes site-wide emissions. The documentation included in this application demonstrates compliance with all applicable state and federal standards.

2.0 Site Process Information

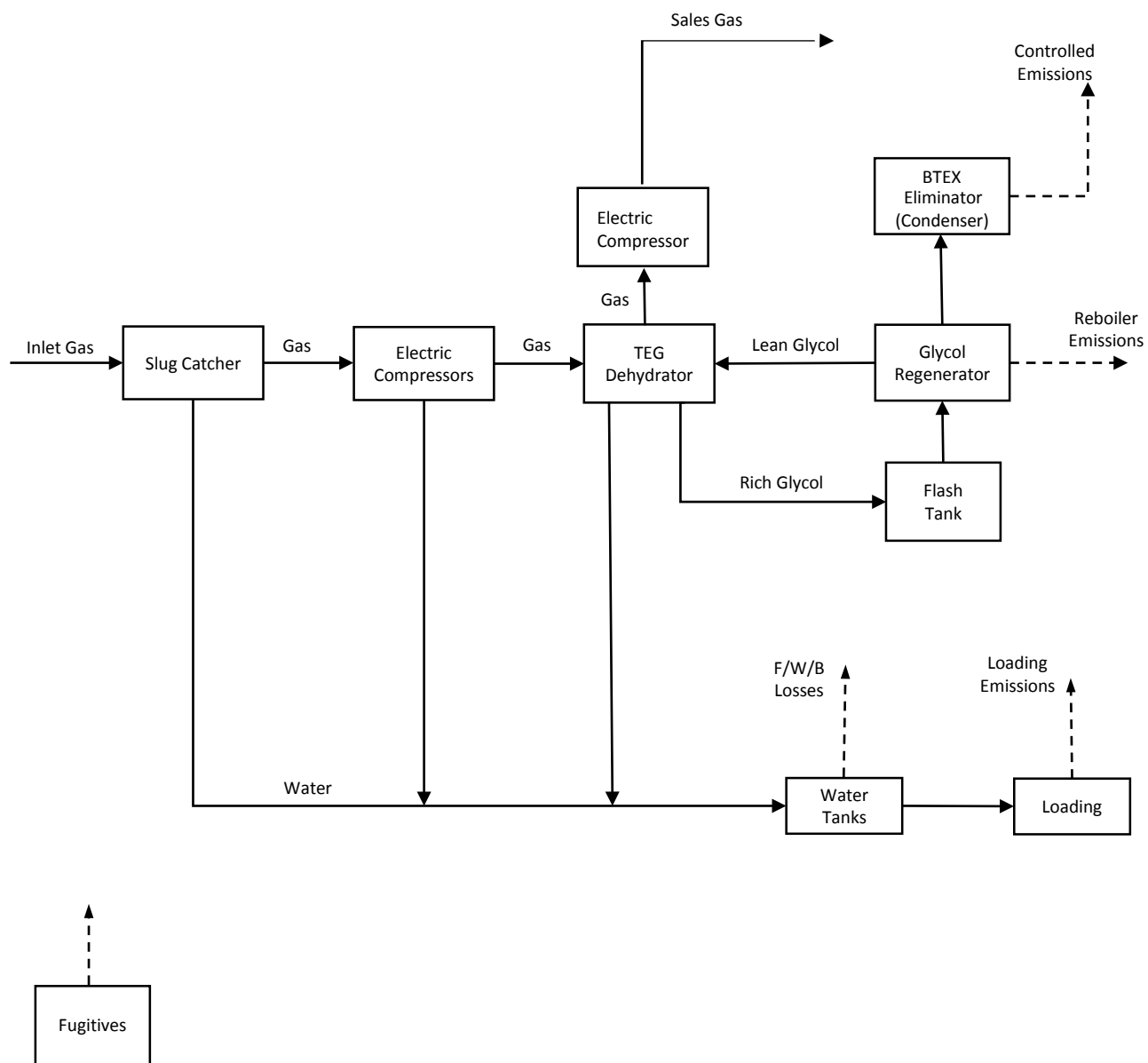
2.1 Process Description

The Dalworthington Gardens Gathering Station No. 1 is primarily a dehydration treating and natural gas compressor station. A simplified process flow diagram illustrating the site process at the Dalworthington Gardens Gathering Station No. 1 is provided as Figure 2-1 and a summary of EPNs, FINs, and a description of each new and updated source is presented in Table 3-1.

Sweet natural gas enters the facility through a slug catcher and a series of electric motor driven compressors (two (2) 2,500 hp, and one (1) 6,000 hp). The compressed gas then enters the TEG dehydrator (EPN: GLYCOL) to remove water from the gas stream. The dry dehydrated gas stream is sent to the sales line through a 200 hp electric driven compressor engine. The rich TEG is regenerated by a gas-fired glycol reboiler rated at 2.0 MMBtu/hr (EPN: GLYREG). Glycol flash tank vapors are controlled by the regenerator firebox, which reduces VOC emissions with a 50% control efficiency. The regenerator overhead vapors are routed to the BTEX eliminator for further control, which reduces the vent stream VOC emissions by 90%.

Produced water separated from the compression process and from the dehydration process is directed into one of three (3) 300 bbl water tanks. The water tanks vent to atmosphere through a common stack used for equipment blowdowns (EPN: BLWDWN). Produced water is removed from the site by tank truck and all loading vapors are vented to atmosphere (EPN: LOAD).

Other sources of emissions at this site include fugitive component emissions (EPN: FUG), two (2) TEG storage tanks (EPNs: TEG-1, TEG-2), three (3) compressor oil storage tanks (EPN: COMP-OIL-1 through COMP-OIL-3), a methanol storage tank (EPN: METHANOL-1), two (2) mineral oil tanks, and planned MSS activities, including compressor blowdowns (EPN: BLWDWN) and low-emitting MSS (EPN: LEMSS).



NOTE:

F/W/B – Flash, Working, & Breathing Losses

Process Flow Diagram
Air Quality Permit Registration
 Dalworthington, Tarrant County, Texas

DFW Midstream Services LLC
 Dalworthington Gardens Gathering Station No.1

DFW Midstream Services LLC
Dalworthington Gardens Gathering Station No. 1

Table 3-2 Emissions Summary Table

EPN	Emission Source Name	Total VOC		NOx		CO		PM ₁₀ /PM _{2.5}		SO ₂		H ₂ S		Benzene	
		lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
Authorized/Unchanged Emission Sources															
FUG	Sitewide Fugitives	0.15	0.64	--	--	--	--	--	--	--	--	<0.01	<0.01	<0.01	<0.01
GLYREG	Glycol Regenerator	0.01	0.05	0.20	0.90	0.17	0.75	0.02	0.07	<0.01	<0.01				
BLWDWN	Water Tank 1	0.11	0.48	--	--	--	--	--	--	--	--	--	--	<0.01	<0.01
BLWDWN	Water Tank 2	0.11	0.48	--	--	--	--	--	--	--	--	--	--	<0.01	<0.01
BLWDWN	Water Tank 3	0.11	0.48	--	--	--	--	--	--	--	--	--	--	<0.01	<0.01
LOAD	Produced Water Loading Emissions	0.12	0.02	--	--	--	--	--	--	--	--	--	--	--	--
GLYCOL	TEG Dehydrator	0.13	0.55	--	--	--	--	--	--	--	--	<0.01	0.01	--	--
BLWDWN	Blowdowns	28.85	3.46	--	--	--	--	--	--	--	--	0.05	0.01	--	--
Low Emitting MSS	LEMSS	0.04	0.16	--	--	--	--	--	--	--	--	--	--	--	--
Added Emissions Sources															
COMP-OIL-1	Compressor Oil Tank	0.03	<0.01	--	--	--	--	--	--	--	--	--	--	--	--
COMP-OIL-2	Compressor Oil Tank	0.03	<0.01	--	--	--	--	--	--	--	--	--	--	--	--
COMP-OIL-3	Compressor Oil Tank	0.03	<0.01	--	--	--	--	--	--	--	--	--	--	--	--
TEG-1	TEG Slop Tank	0.03	<0.01	--	--	--	--	--	--	--	--	--	--	--	--
TEG-2	TEG Slop Tank	0.03	<0.01	--	--	--	--	--	--	--	--	--	--	--	--
METHANOL-1	Methanol Storage Tank	1.50	0.14	--	--	--	--	--	--	--	--	--	--	--	--
MIN-OIL-1	Mineral Oil Tank	0.09	0.01	--	--	--	--	--	--	--	--	--	--	--	--
MIN-OIL-2	Mineral Oil Tank	0.01	<0.01	--	--	--	--	--	--	--	--	--	--	--	--
Estimated Emissions	Total emissions	31.37	6.47	0.20	0.90	0.17	0.75	0.02	0.07	<0.01	<0.01	0.05	0.01	<0.01	0.01
	Total emissions Project Sources	1.75	0.16	--		--		--		--		--		--	
	Steady-state	2.48	2.86	0.20	0.90	0.17	0.75	0.02	0.07	<0.01	<0.01	<0.01	0.01	<0.01	0.01
	< 30 psig periodic releases, up to 150 hrs per year	28.89	3.62	--	--	--	--	--	--	--	--	0.05	0.01	--	--
	≥ 30 psig periodic releases, up to 150 hrs per year	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Below permit limits?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
PBR-106.352(a)-(k), L1 Emission Limits	Total emissions		15.0		100.0		100.0		5.0		25.0		20.6		2.8
	Steady-state			43.2		45.0		10.0		47.0		4.7		2.0	
	< 30 psig periodic releases, up to 150 hrs per year									93.2		5.1		7.0	
	≥ 30 psig periodic releases, up to 150 hrs per year											9.8		15.4	

Appendix 6

Equipment Emissions Data

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[illegible]

Equipment Compliance Review

6-Month Period from Mar 2023 to Aug 2023

DFW Midstream Services LLC

Facility: DWG Compressor Station, Dehydrator: GLY1, TEG Dehy, (Active)

De Minimis: No

Report Date: 8/8/2023 11:59:59 PM

(Where applicable, red color indicates noncompliance with limit)

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Operational Data or Pollutant	Units	Monthly Limit	Mar 2023	Apr 2023	May 2023	Jun 2023	Jul 2023	Aug 2023	Annual Total	Annual Limit
<u>Operational Data</u>										
Gas Throughput	mmscf/month		1171.51	1114.68	1102.84	564.71	0.00	0.00	3953.74	
Runtime	hr/month		742.97	719.80	743.82	719.78	743.80	0.00	3670.17	
Stripping Gas	%		100.00	100.00	100.00	100.00	0.00	0.00	100.00	
<u>Emission Data</u>										
<i>Criteria Pollutants</i>										
VOC	ton		4.27	4.19	4.54	3.46	0.00	0.00	16.46	0.55
<i>HAPS</i>										
Benzene	lb		829.44	819.44	894.03	626.28	0.00	0.00	3169.19	
n-Hexane	lb		72.76	74.35	82.63	68.55	0.00	0.00	298.29	
Toluene	lb		1289.00	1263.91	1362.38	897.54	0.00	0.00	4812.83	
Xylenes	lb		2866.21	2775.48	2916.53	1751.65	0.00	0.00	10309.87	

Equipment Compliance Review

6-Month Period from Mar 2023 to Aug 2023

DFW Midstream Services LLC

Facility: DWG Compressor Station, Fugitive: FUG-1, , Sitewide Fugitives (Active)

De Minimis: No

Report Date: 8/8/2023 11:59:59 PM

(Where applicable, red color indicates noncompliance with limit)

Page 3 of 8

Operational Data or Pollutant	Units	Monthly Limit	Mar 2023	Apr 2023	May 2023	Jun 2023	Jul 2023	Aug 2023	Annual Total	Annual Limit
<u>Emission Data</u>										
<i>Criteria Pollutants</i>										
VOC	ton		0.25	0.24	0.25	0.24	0.25	0.25	1.48	0.64
<i>HAPS</i>										
2,2,4-Trimethylpentane	lb		0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Benzene	lb		20.43	19.77	20.43	19.77	20.43	20.43	121.26	20.00
Ethylbenzene	lb		0.00	0.00	0.00	0.00	0.00	0.00	0.00	
n-Hexane	lb		11.65	11.27	11.65	11.27	11.65	11.65	69.14	
Toluene	lb		24.96	24.16	24.96	24.16	24.96	24.96	148.16	
Xylenes	lb		34.65	33.53	34.65	33.53	34.65	34.65	205.66	