

April 26, 2022

Re: TC Energy - Rutledge Compressor Station Annual Leak Monitoring Survey Report

TC Energy's Columbia Pipeline Group operates the Rutledge Compressor Station in Fallston, Maryland. Per 26.11.41.03B(3)(a) the Rutledge Compressor Station conducted its annual leak detection monitoring survey on March 28, 2022. In accordance with COMAR 26.11.41.07, each leak monitoring survey is required to be posted on a publicly available website for a period of two years from the survey date.

## **TC Energy - Rutledge Compressor Station**

Leak Detection and Repair Report

District:       CPG North       Location:       39.561770 / -76.477239       End Date:       3/28/202       Technician:       Zachary Hudecek       Image: Technician:       Manadadory te													Ξ	MISS	SION DET	AIL RI	EPORT						_	_	_		_	
<table-container>          Image: state stat</table-container>	Company:	TC Eno		Facility		Putlodgo		Start Dato:	3/28/2022 Tochnig	ian:	Nicholae	Santmuor			LDAR Leak Count:	12	Vents									REPAIR S	STATUS	,
<table-container>  index index<th>sompany.</th><th>TO LITE</th><th>gy USA</th><th>racinty.</th><th></th><th>Kulleuge</th><th></th><th>Start Date.</th><th>5/20/2022 Technik</th><th>Jan.</th><th>Nicholas</th><th>Santinyer</th><th>المعا</th><th colspan="2"></th><th>0</th><th></th><th colspan="2"></th><th></th><th>Ronai</th><th>od:</th><th></th><th>Delay c</th><th>of Ronair</th><th>Unsuc</th><th colspan="2">Unsuccessful A</th></table-container>	sompany.	TO LITE	gy USA	racinty.		Kulleuge		Start Date.	5/20/2022 Technik	Jan.	Nicholas	Santinyer	المعا			0					Ronai	od:		Delay c	of Ronair	Unsuc	Unsuccessful A	
Action         Action<	District	CRC	North	Location		20 564770 / 76 47	7020	End Data:	2/29/2022 Teebnie	lan	Zaabara	Hudoook	Lean	.5	NOIPEDAR Leak Count.	Ŭ						Kepai	eu.		Delay	л керап.	Ulisuc	Jessiul A
Additional biology         Description of the biology         Addition of the	District.		North	Location.		39.301//0/-/0.4/	1239	Enu Date.	3/20/2022 Techina	adii.	Zacitary	Hudecek			Total Leak Count:	12	Emission rests											
best for the set of t			at Rutledge C	ompressor St	tation conduc	cted on 03-28-2022.	All Units are Dry S	Seal Centrifug	al Compressors and w	ere Stan	udby/ Press	urized. Statior	and Unit Blo	wdowns	are Combined. V	/PAC was li	nconclusive, HiFlov	w Rates Were Spli	t Between Blow	down Valves.		0				0		0
Lett         Last         Gale         Concert         Hand         Finance Concert         Finance Concert       F	mission ID #	Emission Type	Detection Date	Process Block	Equipment	Component	Sub Source	Operating Mode	Emission Descriptior	LEL +/or		Gas Type		Rate (cfm)	/ Quantification	N/A		Initial PPM Reading	LDAR Tag ID	Bubble Test	Repair Status		Attempt	Attempt			Final PPM Reading	Repair Confimation Method
Instal         Subscission         Subscindicitability fore stabing fore stability fore sta	85610103	Leak	03/28/2022		Unit 3	Connector - MDE	Flange Connection	Standby/Pressuriz ed	Flange on Cooling Gas Inlet Lin 3, Floor Level.		LOW	Sweet Gas		0.07				-		Yes	Delay of Repair	03/28/2022	-	04/27/2022			-	-
1 Set 1       0 00000       0 model marked	85610104	Leak	03/28/2022		Unit 3	Connector - MDE	Flange Connection		Level.	No	LOW	Sweet Gas		0.05				-		Yes	Delay of Repair	03/28/2022	-	04/27/2022			-	-
Base       List       D220202       Competed and pression       Unit 2       Consider ADD       Treaded Contraction       No       Low       Same diamond       Consider ADD       Same diamond       S	85610105	Leak	03/28/2022	Compressor Cent. Dry Seal	Unit 2	Connector - MDE	Threaded Connection				LOW	Sweet Gas		0.04	Optical Gas Imaging/ Optical Gas Imaging		Tighten connection	-	-	Yes	Delay of Repair	03/28/2022	-	04/27/2022			-	-
Best 0       Value       Value <t< td=""><td>85610106</td><td>Leak</td><td>03/28/2022</td><td></td><td>Unit 2</td><td>Connector - MDE</td><td>Threaded Connection</td><td>Standby/Pressuriz ed</td><td>Plug on Southwest Side of Unit:</td><td></td><td>LOW</td><td>Sweet Gas</td><td></td><td>0.06</td><td></td><td></td><td>Reseal connection and tighten</td><td>-</td><td>-</td><td>Yes</td><td>Delay of Repair</td><td>03/28/2022</td><td>-</td><td>04/27/2022</td><td></td><td></td><td>-</td><td>-</td></t<>	85610106	Leak	03/28/2022		Unit 2	Connector - MDE	Threaded Connection	Standby/Pressuriz ed	Plug on Southwest Side of Unit:		LOW	Sweet Gas		0.06			Reseal connection and tighten	-	-	Yes	Delay of Repair	03/28/2022	-	04/27/2022			-	-
Besit 108       Leak       03282022       SeparatorFile       Main suction       No.       No.       LOW       Sweet Gas       0.00       Optical Gas marging of genese concertion of spice       No.       LOW       Sweet Gas       0.00       Optical Gas marging of genese concertion of spice       No.       LOW       Sweet Gas       0.00       Optical Gas marging of genese concertion of spice       No.       LOW       Sweet Gas       0.00       Optical Gas marging of genese concertion of spice       No.       LOW       Sweet Gas       0.00       Optical Gas marging of genese concertion of spice       No.       LOW       Sweet Gas       0.00       Optical Gas marging of genese concertion of spice       No.       LOW       Sweet Gas       0.00       Optical Gas marging of genese concertion of spice       No.       LOW       Sweet Gas       0.00       Optical Gas marging of genese concertion of the spice       No.       LOW       Sweet Gas       0.00       Optical Gas marging of genese concertion of the spice       No.       Sweet Gas       No.       LOW       Sweet Gas       No.       Sweet Ga	85610107	Leak	03/28/2022	Separator/Filter		Connector - MDE	Threaded Connection	N/A	Valve on Level Switch, East of N		LOW	Sweet Gas		0.06				-	-	Yes	Delay of Repair	03/28/2022	-	04/27/2022			-	-
Absent to 1       Main stude       Main stude       Main stude       Main stude       Treaded Connection A       NA       LOW       Sweet Gas       0.00       Optical Gas maging       Treaded Connection A       NA       Name       NA       LOW       Sweet Gas       0.00       Optical Gas maging       Treaded Connection A       NA       Name       LOW       Sweet Gas       0.00       Optical Gas maging       Treaded Connection A       NA       Name       LOW       Sweet Gas       0.00       Optical Gas maging       Treaded Connection A       NA       Name       LOW       Sweet Gas       0.00       Optical Gas maging       Description A       Name       Nama       Name       Name	85610108	Leak	03/28/2022	Separator/Filter		Connector - MDE	Threaded Connection		Below South Transmitter, East of		LOW	Sweet Gas		0.08				-	-	Yes	Delay of Repair	03/28/2022	-	04/27/2022			-	-
Best 0110       Leak       03282022       SeparatorFilter       South cooling gas       Connector - MDE       Treaded Connection       NA       Value on Cooling Gas Strubber runi       No       LOW       Sweet Gas       0.06       Oplical Gas imaging       Reseal Connection and bighten       Image	85610109	Leak	03/28/2022	Separator/Filter		Connector - MDE	Threaded Connection	N/A	North Level Switch, East of Mair		LOW	Sweet Gas		0.09			Tighten connection	-	-	Yes	Delay of Repair	03/28/2022	-	04/27/2022			-	-
Select 1       Leak       03/28/20/2       SeparatorFile       Noth Cooling gas Strutter, unit 3       No       LOW       Sweet Gas       0.00       Optical Gas imaging Optical Gas imaging Delta Gas imaging       Types and Connection - MDE       Types and Connection of Level Required       No       LOW       Sweet Gas       0.00       Optical Gas imaging Optical Gas imaging       Types and Connection of Level Strutter, unit 3       No       LOW       Sweet Gas       0.00       Optical Gas imaging       Types and Connection of Level Strutter, unit 3       No       LOW       Sweet Gas       0.00       Optical Gas imaging       Types and Connection of Level Strutter, unit 3       No       LOW       Sweet Gas       0.00       Optical Gas imaging Optical Gas imaging       Types and Connection of Level Strutter, unit 3       No       LOW       Sweet Gas       0.00       Optical Gas imaging Optical Gas imaging       Types and Connection of Level Strutter, unit 3       No       LOW       Sweet Gas       0.00       Optical Gas imaging Optical Gas imaging       Resea connection of Level Strutter, unit 3       No       LOW       Sweet Gas       0.00       Optical Gas imaging       Resea connection of Level Strutter, unit 3       No       LOW       Sweet Gas       0.00       Optical Gas imaging       Resea connection of Level Strutter, unit 3       No       LOW       Sweet Gas       0.00       Optical Gas imaging <th< td=""><td>85610110</td><td>Leak</td><td>03/28/2022</td><td>Separator/Filter</td><td></td><td>Connector - MDE</td><td>Threaded Connection</td><td>N/A</td><td>Valve on Cooling Gas Scrubber</td><td></td><td>LOW</td><td>Sweet Gas</td><td></td><td>0.06</td><td></td><td></td><td>Reseal connection and tighten</td><td></td><td>-</td><td>Yes</td><td>Delay of Repair</td><td>03/28/2022</td><td>-</td><td>04/27/2022</td><td></td><td></td><td>-</td><td>-</td></th<>	85610110	Leak	03/28/2022	Separator/Filter		Connector - MDE	Threaded Connection	N/A	Valve on Cooling Gas Scrubber		LOW	Sweet Gas		0.06			Reseal connection and tighten		-	Yes	Delay of Repair	03/28/2022	-	04/27/2022			-	-
Best 0113         Leak         03/28/022         Separator,Filter         Main discharge souther         NA         Switch, South of Main Discharge Souther         NA         LOW         Sweet Gas         Object Gas         Researconceton and souther         Ne         LOW         Sweet Gas         Optical Gas         Researconceton and souther         Ne         Low         Sweet Gas         Ne         Description         Researconceton and souther         Researconceton and souther         Ne         Low         Sweet Gas         Ne         Description         Researconceton and souther         Researconceton and sou	85610112	Leak	03/28/2022	Separator/Filter		Connector - MDE	Threaded Connection	N/A			LOW	Sweet Gas		0.09	Optical Gas Imaging/ Optical Gas Imaging		Tighten connection	-		Yes	Delay of Repair	03/28/2022	-	04/27/2022			-	-
Sector in the interview of the sector of the	85610113	Leak	03/28/2022	Separator/Filter		Connector - MDE	Threaded Connection	N/A	Switch, South of Main Discharge		LOW	Sweet Gas		0.06			Reseal connection and tighten	-		Yes	Delay of Repair	03/28/2022	-	04/27/2022			-	-
	85610114	Leak	03/28/2022		Unit 1	Open-ended Line - MDE	Valve Seat	Standby/Pressuriz			MEDIUM	Sweet Gas		0.39			Replace seal(s)		-	No	Delay of Repair	03/28/2022	-	04/27/2022			-	-

LEL +/or Safety Hazard\*

The following risk matrix is used to used to risk rank any possible leak/vent safety hazards. The LEL/Safety Hazard Checkbox must be checked if a leak (or group of leaks) poses any significant hazard. Examples of this may be:

- Personal detector reads any LEL reading

- resonal detector relasi my LLF redang
   Personal detector relasis my LLF redang
   Personal detector relasis my LLF redang
   Personal detector relasis my LLF reason floatic. Now 02. etc.1
   Emission is found near any possible ignitions source (i.e. burner, electrical conduit, exposed wiring, etc.)
   Emission relasis on high that if boes a hazard
   Emission source location may cause inhalation hazard to facility personnel or public

The severity is primarily based on the LEL reading or ppm for any toxic gases (see fifth column under "Consequences"). The total leak rate is also taken into account on the severity.

≿			Probability								
Severity					LEL/Toxic	Α	В	С	D High		
Set	People	Assets	Environment	Reputation	Gas Level	Low	Slight	Mod.			
0	No injury or health effect	No Damage	No effect (<0.01 cfm)	No impact	0% LEL and Oppm Toxics within 0.5 m of source						
1	Slight inhalation/odor risk	Slight wear	Slight effect (0.01 - 0.05 cfm)	Slightimpact	0% LEL and Oppm Toxics within 0.5 m of source						
3	Minor fire/explosion injury risk or exposure risk	Minor Damage	Minor effect (0.05 – 1.0 cfm)	Minorimpact	1-5% LEL and below alarm level Toxics within 0.5 m of source						
4	Moderate fire/explosion injury risk or exposure risk	Moderate Damage	Moderate Effect (1.0 – 10 cfm)	Moderate impact (Regulator involvement)	Cause of LEL of 1-5% and alarm level Toxics in building						
5	Extreme firelexplosion or toxic exposure fatality risk	Major Damage	Major Effect (>10.0 cfm)	Major impact (Regulator enforcement)	Cause of LEL 10% and over and above alarm level Toxics in building						

LOW	The risk is not serious. It does not require immediate action, but should
RISK	be periodically revisited to ensure that risks remains acceptably low.
MODERATE	The risk is moderate. It requires further review of controlled responses to determine the potential for escalation and to ensure risk is within acceptable limits.
HIGH	The risk is high. It requires immediate action and prompt review of control
RISK	and mitigation measures.



April 26, 2021

Re: TC Energy - Rutledge Compressor Station Annual Leak Monitoring Survey Report

TC Energy's Columbia Pipeline Group operates the Rutledge Compressor Station in Fallston, Maryland. Per 26.11.41.03B(3)(a) the Rutledge Compressor Station conducted its initial leak detection monitoring survey on March 2, 2021. In accordance with COMAR 26.11.41.07, each leak monitoring survey is required to be posted on a publicly available website for a period of two years from the survey date. This posting fulfills TC Energy's obligation to meet that requirement.

TC Energy - Rutledge Compressor Station Leak Detection and Repair Report April 2021

														EMIS	SION I	DETAIL RI	PORT												
Company:	TC Ener	rgy USA	Facility:		Rutledge		Start Date:	3/2/2021 Technici	an:	Sebastian	Smith			LDAR Leak Count:	13	Vents	Repair Required: Total:	0									REPAIR	STATU	\$
District:	CPG	North	Location:		39.561770 / -76.47	77239	End Date:	3/2/2021 Technici	an:	Matthew	Fuller	Leak	s	Non-LDAR Leak Count:	0	Mandatory Emission Tests	Leak Tests: Vent Tests: No Emission Tests:	0			Repair	red:			Delay o	f Repair:			Unsuccessful Attempt:
								by Pressurized. Station	and Unit	Blowdown	are combin	od Station I	Plowdow	Total Leak Count:	13		Total Tests	0	(alwas: all		11					2			0
Comments:	Unit Blowdov	wns were Ide	ntified as leak	ling.	ory occar octiviting	jai oompicuuois ai	a were stand	sy riessanzea. Station	and on	Dioirdoini		ed. otation i	5.011001		icu: Acousti		to identify ideati	ig offic isolation i	urres, un										
Emission ID #	Emission Type	Detection Date	Process Block	Field Equipment Designation	Component	Sub Source	Operating Mode	Emission Description	EL +lor Safety Hazard	Emission Severity	Gas Type	Previous Leak (emission id)	Rate (cfm)	Detection Method / Quantification Method	N/A	Repair Recommendation	Initial PPM Reading	LDAR Tag ID	Bubble Test	Repair Status	Repair Status Date	First Attempt Due Date	Final Attempt Due Date	DOR Start Date	DOR End Date	DOR Reason	DOR Approver Name	Final PPM Reading	Repair Confirmation Method
35611076	Leak	03/02/2021	Separator/Filter	Main suction scrubber	Connector - MDE	Threaded Connection	NA	Bottom Threading to Pressure Transmitter, Suction Line to Inlet Scrubber.	No	LOW	Sweet Gas		0.02	Optical Gas Imaging/ Optical Gas Imaging		Tighten connection			Yes	Repaired	03/17/2021		04/01/2021		•	-			Bubble Test
35611077	Leak	03/02/2021	Separator/Filter	Main suction scrubber	Connector - MDE	Threaded Connection	NA	Top Thread to East Level Switch o Hydrocarbon Tark, Main Suction Scrubber.	n No	LOW	Sweet Gas		0.03	Optical Gas Imaging/ Optical Gas Imaging		Tighten connection	-	-	Yes	Repaired	03/17/2021	-	04/01/2021	-	-		-		Bubble Test
35611078	Leak	03/02/2021	Compressor Cent. Dry Seal	North cooling gas scrubber, unit 1	Connector - MDE	Threaded Connection	Standby/Pressuriz ed	South Threading to Union on Drain from North Cooling Gas Scrubber, 1.	Line Unit No	LOW	Sweet Gas		0.08	Optical Gas Imaging/ Optical Gas Imaging		Tighten connection	-	-	Yes	Repaired	03/17/2021	-	04/01/2021	-	-		-		Bubble Test
35611079	Leak	03/02/2021	Compressor Cent. Dry Seal	South cooling gas scrubber, unit 1	Connector - MDE	Flange Connection	Standby/Pressuriz ed	South Flange, Valve 108, Bottom Horizontal 3* Valve to South Coolin Gas Scrubber, Unit 1.	9 No	LOW	Sweet Gas		0.08	Optical Gas Imaging/ Optical Gas Imaging		Replace gasket/seal and tighten connection	-	-	Yes	Repaired	03/17/2021	-	04/01/2021	-	-		-		Bubble Test
35611080	Leak	03/02/2021	Compressor Cent. Dry Seal	South cooling gas scrubber, unit 1	Connector - MDE	Flange Connection	Standby/Pressuriz ed	West Threading to Differential Pressure Meter, South Cooling Ga Scrubber, Unit 1.	<sup>a</sup> No	LOW	Sweet Gas		0.05	Optical Gas Imaging/ Optical Gas Imaging		Tighten connection	-	-	Yes	Delay of Repair	04/01/2021	-	04/01/2021	04/01/2021	04/01/2022	Shutdown Required	Wayne Cook		-
35611081	Leak	03/02/2021	Compressor Cent. Dry Seal	North cooling gas scrubber, unit 2	Valve - MDE	Grease Fitting	Standby/Pressuriz ed	Grease Fitting, Unit 2 Cooling Gas Valve.	No	LOW	Sweet Gas		0.01	Optical Gas Imaging/ Optical Gas Imaging		Tighten valve packing	-	-	No	Repaired	03/02/2021	-	04/01/2021	-	-				OGI
35611082	Leak	03/02/2021	Compressor Cent. Dry Seal	Unit 2	Connector - MDE	Threaded Connection	Standby/Pressuriz ed	Top Tubing Union on Unit side of Pressure Differential Line over Suc Loading Valve, Unit 2.	tion No	LOW	Sweet Gas		0.01	Optical Gas Imaging/ Optical Gas Imaging		Tighten connection	-	-	Yes	Repaired	03/02/2021		04/01/2021	-	-				ogi
35611083	Leak	03/02/2021	Compressor Cent. Dry Seal	Unit 2	Connector - MDE	Threaded Connection	Standby/Pressuriz ed	Tubing Union to Elbow North of Pressure Differential Meter over Suction Loading Valve, Unit 2.	No	LOW	Sweet Gas		0.01	Optical Gas Imaging/ Optical Gas Imaging		Tighten connection	-	-	Yes	Repaired	03/02/2021		04/01/2021		-				OGI
35611084	Leak	03/02/2021	Compressor Cent. Dry Seal	Unit 2	Connector - MDE	Threaded Connection	Standby/Pressuriz ed	Tubing Union to Elbow Below of Pressure Differential Meter over Suction Loading Valve, Unit 2.	No	LOW	Sweet Gas		0.01	Optical Gas Imaging/ Optical Gas Imaging		Tighten connection	-	-	Yes	Repaired	03/02/2021		04/01/2021		-				OGI
35611085	Leak	03/02/2021	Compressor Cent. Dry Seal	Unit 3	Connector - MDE	Threaded Connection	Standby/Pressuriz ed	Top Union, Filter Dump, Cooling G System, Unit 3.	No	LOW	Sweet Gas		0.03	Optical Gas Imaging/ Optical Gas Imaging		Tighten connection	-	-	Yes	Repaired	03/17/2021		04/01/2021	-	-				Bubble Test
35611086	Leak	03/02/2021	Compressor Cent. Dry Seal	Unit 3	Valve - MDE	Valve Stem	Standby/Pressuriz ed	Packing, Discharge Valve, Unit 3.	No	MEDIUM	Sweet Gas		0.12	Optical Gas Imaging/ Optical Gas Imaging		Tighten valve packing	-	-	Yes	Delay of Repair	04/01/2021		04/01/2021	04/01/2021	04/01/2022	Shutdown Required	Wayne Cook		-
35611087	Leak	03/02/2021	Separator/Filter	Main discharge scrubber	Connector - MDE	Threaded Connection	NA	Top Threading Connection to Sout Level Switch, Hydrocarbon Tank, M Discharge Scrubber.	tain No	LOW	Sweet Gas		0.08	Optical Gas Imaging/ Optical Gas Imaging		Tighten connection	÷	-	Yes	Repaired	03/17/2021		04/01/2021						Bubble Test
35611088	Leak	03/02/2021	Separator/Filter	Unit 3	Connector - MDE	Threaded Connection	NA	Top Threading Connection to North Level Switch, Hydrocarbon Tank, M Discharge Scrubber.		LOW	Sweet Gas		0.08	Optical Gas Imaging/ Optical Gas Imaging		Tighten connection	-	-	Yes	Repaired	03/17/2021		04/01/2021			-			Bubble Test
					TOTAL								0.61																

The following risk matrix is used to used to risk rank any possible leak/vent safety hazards. The EL/Safety Hazard Deckbox must be checked if a leak (or group of heaks) poses any significant hazard. Examples of this may be:

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The severity is primarily based on the LEL reading or ppm for any toxic gases (see fifth column under "Consequences"). The total leak rate is also taken into account on the severity.

b				Probability								
Severity					LEL/Toxic	Α	В	С	D			
ŝ	People	Assets	Environment	Reputation	Gas Level	Low	Slight	Mod.	High			
0	No injury or health effect	No Damage	No effect (<0.01 cfm)	No impact	0% LEL and 0ppm Toxics within 0.5 m of source							
1	Stight inhalation/odor risk	Slight wear	Slight effect (0.01 – 0.05 cfm)	Slightimpact	0% LEL and Oppm Toxics within 0.5 m of source							
3	Minor fire/explosion injury risk or exposure risk	Minor Damage	Minor effect (0.05 – 1.0 c/m)	Minorimpact	1-5% LEL and below alarm level Toxics within 0.5 m of source							
4	Moderate fire/explosion injury risk or exposure risk	Moderate Damage	Moderate Effect (1.0 - 10 cfm)	Moderate impact (Regulator involvement)	Cause of LEL of 1-5% and alarm level Toxics in building							
5	Extreme fire/explosion or toxic exposure fatality risk	Major Damage	Major Effect (>10.0 cfm)	Major impact (Regulator enforcement)	Cause of LEL 10% and over and above alarm level Toxics in building							

RISK	The risk is not serious. It does not require immediate action, but should be periodically revisited to ensure that risks remains acceptably low.
MODERATE RISK	The risk is moderate. It requires further review of controlled responses to determine the potential for escalation and to ensure risk is within acceptable limits.
HIGH RISK	The risk is high. It requires immediate action and prompt review of control and mitigation measures.