TECHNICAL REVIEW: SCREENING

Permit No.:	98825	***Company Name:***	Burlington Resources Oil & Gas Company LP	***APD Reviewer:***	Mr. Jonathan Wilmoth, P.E.
Project No.:	254522	***Unit Name:***	Sugarloaf Stabilization Facility (revision registration)	***PBR No(s).:***	6002 - NON RULE 2012-NOV-08

GENERAL INFORMATION			
Regulated Entity No.:	RN106241391	**Project Type:**	Standard Permit Application
Customer Reference No.:	CN602989436	**Date Received by TCEQ:**	June 17, 2016
Account No.:	none	**Date Received by Reviewer:**	July 18, 2016
City/County:	Whitsett, Live Oak County	**Physical Location:**	from the intersection of fm 99 and us alt s in whitsett go ne on fm 99 and travel 4.9 mi continue on fm 1091 and go 2 mi continue on cr 245 and go 5.6 mi turn l on fm 882 and go 5.4 mi turn r on unkown rd and go 0.2 mi to the site on r

CONTACT INFORMATION					
Responsible Official/ Primary Contact Name and Title:	Mr. Randy Black Manager of Production Operations GCBU	**Phone No.:** **Fax No.:**	(832) 486-2514 (832) 486-6431	**Email:**	RANDY.C.BLACK@CONOCOPHILLIPS.COM
Technical Contact/ Consultant Name and Title:	Mr. Jim Dobson Environmental Engineer	**Phone No.:** **Fax No.:**	(832) 486-2514 (832) 486-6431	**Email:**	JIM.DOBSON@CONOCOPHILLIPS.COM

PROJECT INFORMATION

Process description:
The incoming liquids at the site are conservatively represented at 51,250 barrels per day and will flow to four 3-phase separators. Flash gas is not expected at the inlet separators. If flashing does occur, gas will be sent to the site compressor suction header.

Water from the separators will be sent to the gunbarrel tank where flash emissions occur due to the pressure drop. After flashing, the water flows to storage tanks. The gunbarrel tank and water storage tank vents will be routed to a VRU with 99% capture efficiency and 98% uptime. Some water may also flow into a slop oil tank on site which is primarily used for skip dumps and compressor skid liquids. In order to conservatively represent this tank, the tank contents are assumed to be slop oil, rather than mostly water. Water and slop oil are periodically hauled off site via tanker truck.

In case the water tanks reach their capacity, any overflow will be sent to the contingency water tank, which will emit small working and breathing losses. The contingency water tank vents to a VRU with a capture efficiency of 99% and 98% uptime.

Incoming condensate will flow to the contingency condensate storage tanks during flow surges, which is only anticipated to occur for no more than 30 min/day on average. Flashing, working, and breathing loses have been quantified from the two condensate contingency storage tanks.

In addition, the contingency condensate storage tanks may also receive liquids from atmospheric trucks. It is conservatively estimated that about 50 trucks/day will be unloading to the contingency condensate storage tanks, and each truck is anticipated to haul 185 bbl of liquids. Since the liquid in the atmospheric tanks would have already flashed, working and breathing emissions are estimated for the ruck unloading operations. The emissions from the contingency condensate storage tanks will be sent to flare with a 98% capture and control efficiency.

The contingency condensate storage tanks will be equipped with a gas blanketing system to avoid oxygen intrusion in the tanks during inbreathing. It is conservatively estimated that 2,000 scf/hr of natural gas will be routed to the flare due to out breathing from the contingency condensate storage tanks.

Condensate from the separators will be sent to one of the six stabilizer units through a common inlet header. Condensate is heated in on of the six unit heaters before entering the stabilizer column. Stabilized condensate is then sent to one of the two on-spec product tanks where it is stored until it is piped off-site. Working and breathing emissions from the on-spec storage tanks are routed to the flare with a 98% capture and control efficiency.

For every stabilizer, there is an electric-driven two-stage compressor unit. Overhead gas from each stabilizer column is sent to compression via a common suction heater. Compressed gas will be routed to the high pressure sale lines and sent off-site. Any liquids produced during the compressions stages are sent through the NGL heater. Gas from the NGL stabilizer column is sent off site via a low pressure sales line. Liquids from the NGL stabilizer column will primarily be used as reflux to the condensate stabilizer column and any excess will be shipped to pressurized NGL storage. NGL storage is periodically trucked off site via pressurized loading.

Normal operations also include two diesel firewater pumped engines, emissions associated with piping component equipment leaks, and pilot gas and assist gas combustion at the emergency flare. Flare FL-2 is the emergency flare. Based on company representations, site has total of two flares.

For planned MSS:
Compressor blowdowns are routed to the flare with 98% destruction efficiency.

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Plant blowdown is expected to occur one day per year and will be routed to the flare.

Periodic tank cleanouts and associated emissions are accounted for with the on-spec condensate, slop oil, produced water storage, gunbarrel, condensate contingency, and produced water contingency storage tanks. Cleanout emissions from the on-spec condensate tanks and contingency condensate tanks are routed to the flare for destruction. All other tank cleanout emissions are released to atmosphere.

Other MSS events include, but are not limited to, pigging of liquid lines and associated flash emissions in the receiving bucket. Additionally, emissions associated with miscellaneous MSS emissions are also calculated and quantified. All combustion emissions associated with the flare for these MSS events are included in the emissions estimates.

Emissions from blasting and coating MSS are claimed under PBR 106.263.

Project description:
Company submitted revision to update emissions from:

- The contingency condensate storage tank unloading operations and associated out breathing
- The on-spec condensate storage tank*

*Based on reviewer's evaluation of the changes under project 254522, reviewer's interpretation for the two bullet items:

- Loading means flow to/from the two contingency condensate storage tanks, not truck loading; company updated uncontrolled working and breathing emissions from the two contingency condensate storage tanks; no updates to flash emissions from the two contingency condensate storage tanks, and reviewer had no issues given company's process description above, flash portion of emissions not steady-state
- Company updated working and breathing emissions from the two on-spec condensate storage tanks (i.e., the two stabilizer condensate storage tanks on company's process flow diagram)
- Company updated emissions from flare EPN FL-1

Based on comparison to the emissions table in previous project 243311, reviewer had no issues. See notes for the emissions table below for summary of changes under project 254522.

See the end of this technical review for the emissions table including notes that summarize changes under project 254522.

Noted Highlights From Project	**Yes**	**No**	**N/A**	**Comments**
Are emissions certified?	X			PI-1S via hardcopy submittal
Are Calculations for Each EPN provided?	X			Reviewer answered this question yes for only the changes under project 254522. Reviewer did not check for emissions calculations for EPNs with no changes to emissions.
Storage Tanks: Are VOC emissions from each tank < 6 tpy?		X		No before controls. Tank emissions are controlled by flare.
Does NOx meet NAAQS?			X	Net increase of 0.27 lb/hr NOx under project 254522; 0.27 lb/hr is less than the 4 lb/hr impacts trigger emission rate for NOx, so, therefore, NOx impacts not needed for the review. Based on comparison to the technical reviewer for the previous project, reviewer had no issues.
Is HCHO included in VOC total?	X			Yes as per company.
MSS: Are emissions included?	X			
BSh only: Is Benzene < 0.039 lb/hr?		X		Company submitted sitewide impacts demonstration for benzene with the following results: • 1.78 lb/hr maximum allowable benzene emissions • 7.74 tpy maximum allowable benzene emissions
Federal/State Rule Applicability Represented or Acknowledged	**Yes**	**No**	**N/A**	**Comments**
Chapter 115	X			Reviewer had no CH 115 issues.
NSPS IIII	X			
MACT ZZZZ	X			
NSPS OOOO	X			Tank emissions are controlled by flare.

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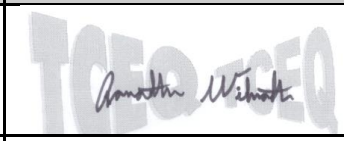
NSPS OOOOa	X			Yes as per company
Other:	Net increase of <0.01 lb/hr H2S under project 254522; <0.01 lb/hr is less than the 0.025 lb/hr impacts trigger emission rate for H2S, so, therefore, H2S impacts not needed for the review. Net decrease of 0.12 lb/hr SO2 under project 254522; decrease of 0.12 lb/hr is less than the 2 lb/hr impacts trigger emission rate for SO2, so, therefore, SO2 impacts not needed for the review. Based on comparison to the technical review for the previous project, reviewer had no issues with H2S and SO2 impacts. Reviewer had no issues with Paragraph (h)(3) sitewide emissions limits.			

COMMUNICATION LOG			
Date	**Time**	**Name/Company**	**Subject of Communication**
08/03/2016	About 10:10 AM	Mr. Jim Dobson / Burlington Resources Oil & Gas Company LP	Reviewer called and said: • Reviewer is sending this project through for approval, no additional information needed • Informational bullet items will be listed in the technical review; can discuss now, or can wait till the final technical review is available via the TCEQ website search engine Mr. Dobson said will wait till the final technical review is available. (The informational bullet items: • Reviewer reads fuel gas to six compressor engines and associated EPN COMP-01-04 on the process flow diagram to be typos • Reviewer is treating the following testing report as submitted in error, not relevant to the Sugarloaf Stabilization Facility site including given no dehydration units represented at Sugarloaf site: o ID: Cuero West Dehy o AREA: Eagleford o METER: Outlet of Dehy o Conoco Phillips • Reviewer's interpretation HYSIS process simulation printouts are based on previously submitted testing results, re-submittal of those testing results not needed for reviewer to complete review • HYSIS speciations for contingency tank flash gas is used for emissions calculations for emissions from the two contingency condensate storage tanks, but the emissions from those two tanks are mostly working and breathing emissions; reviewer has no issues including reviewer's judgment requesting updated emissions calculations and associated updated impacts demonstration for benzene would not change outcome of review given represented 1,294 feet to nearest receptor and given relevant benzene emissions are emitted from a flare)

	TECHNICAL REVIEWER	PEER REVIEWER	FINAL REVIEWER
SIGNATURE:			
PRINTED NAME:	Mr. Jonathan Wilmoth, P.E.	Mr. Joe Shine	Mr. Samuel Short, Manager
DATE:	08/03/2016	08/03/2016	08/05/2016

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			Hourly and Annual Potential to Emit															
			VOC		NO_X		CO		$PM/PM_{10}/PM_{2.5}$		SO_2		H_2S		CH_2O		Benzene	
EPN	FIN	Description	Hourly (lb/hr)	Annual (T/yr)	Hourly (lb/hr)	Annual (T/yr)	Hourly (lb/hr)	Annual (T/yr)	Hourly (lb/hr)	Annual (T/yr)	Hourly (lb/hr)	Annual (T/yr)	Hourly (lb/hr)	Annual (T/yr)	Hourly (lb/hr)	Annual (T/yr)	Hourly (lb/hr)	Annual (T/yr)
Updated Emission Rates																		
FL-1	T22001 T22501	5,000 bbl Contingency Condensate Storage Tanks Controlled Emissions	4.45	22.56	–	–	–	–	–	–	–	–	0.01	0.05	–	–	0.03	0.20
FL-1	T17501 T17701	500 bbl On-Spec Storage Tanks Controlled Emissions	1.64	6.51	–	–	–	–	–	–	–	–	0.002	0.01	–	–	0.001	0.004
FL-1	FL-1	Flare 1 Combustion	0.01	0.06	1.77	8.22	3.55	16.47	–	–	1.15	5.62	0.00002	0.0001	–	–	0.000005	0.00002
Unchanged Emission Rates																		
FUG-1	FUG-1	Site Fugitives	1.56	6.85	–	–	–	–	–	–	–	–	0.0004	0.002	–	–	0.02	0.08
H-NGL	H-NGL	NGL Stabilizer Heater	0.03	0.13	0.53	2.32	0.44	1.93	0.04	0.18	0.07	0.31	0.00002	0.0001	0.0004	0.002	0.00001	0.00004
H-1	H-1	Stabilizer Heater 1	0.05	0.22	0.90	3.94	0.78	3.42	0.07	0.31	0.12	0.53	0.00004	0.0002	0.001	0.004	0.00002	0.0001
H-2	H-2	Stabilizer Heater 2	0.05	0.22	0.90	3.94	0.78	3.42	0.07	0.31	0.12	0.53	0.00004	0.0002	0.001	0.004	0.00002	0.0001
H-3	H-3	Stabilizer Heater 3	0.05	0.22	0.90	3.94	0.78	3.42	0.07	0.31	0.12	0.53	0.00004	0.0002	0.001	0.004	0.00002	0.0001
H-4	H-4	Stabilizer Heater 4	0.05	0.22	0.90	3.94	0.78	3.42	0.07	0.31	0.12	0.53	0.00004	0.0002	0.001	0.004	0.00002	0.0001
H-5	H-5	Stabilizer Heater 5	0.05	0.22	0.90	3.94	0.78	3.42	0.07	0.31	0.12	0.53	0.00004	0.0002	0.001	0.004	0.00002	0.0001
H-6	H-6	Stabilizer Heater 6	0.05	0.22	0.90	3.94	0.78	3.42	0.07	0.31	0.12	0.53	0.00004	0.0002	0.001	0.004	0.00002	0.0001
FWP-01	FWP-01	Firewater Pump Engine 1	0.11	0.001	1.84	0.02	1.09	0.01	0.10	0.001	0.01	0.0001	–	–	0.003	0.00004	0.002	0.00003
FWP-02	FWP-02	Firewater Pump Engine 2	0.11	0.001	1.84	0.02	1.09	0.01	0.10	0.001	0.01	0.0001	–	–	0.003	0.00004	0.002	0.00003
VRU	T58001	500 bbl Gunbarrel Tank Controlled Emissions	13.66	1.77	–	–	–	–	–	–	–	–	–	–	–	–	0.05	0.01
VRU	T58501 T59001	500 bbl Produced Water Storage Tank Controlled Emissions	0.22	0.01	–	–	–	–	–	–	–	–	–	–	–	–	0.001	0.00003
VRU	T59501	500 bbl Slop Oil Storage Tank	1.85	0.07	–	–	–	–	–	–	–	–	0.001	0.0001	–	–	0.001	0.00003
VRU	T60001	5,000 bbl Contingency Water Storage Tanks Controlled Emissions	0.01	0.004	–	–	–	–	–	–	–	–	<0.01	<0.01	–	–	0.00004	0.00003
TRUCK1	TRUCK1	Pressurized NGL Loading	0.35	2.52	–	–	–	–	–	–	–	–	–	–	–	–	0.0001	0.001
TRUCK2	TRUCK2	Produced Water Loading	0.72	0.97	–	–	–	–	–	–	–	–	–	–	–	–	0.003	0.004
TRUCK3	TRUCK3	Slop Oil Tank Loading	46.11	0.64	–	–	–	–	–	–	–	–	–	–	–	–	0.22	0.003
FL-2	FL-2	Flare 2 Combustion	0.002	0.01	0.06	0.26	0.13	0.57	–	–	0.01	0.04	0.00001	0.0001	–	–	0.000001	0.000004
Maintenance, Startup, and Shutdown (MSS)																		
MSS-FUG	MSS-FUG	Miscellaneous MSS Activities	106.53	2.36	–	–	–	–	–	–	–	–	0.11	0.002	–	–	0.16	0.003
MSS-TK-CO	MSS-TK-CO	Tank Cleanout MSS Activities	8.71	0.20	–	–	–	–	–	–	–	–	0.01	0.0003	–	–	0.02	0.001
FL-1-MSS	COMP-BD	Controlled Compressor Blowdown	22.00	5.37	–	–	–	–	–	–	–	–	0.08	0.02	–	–	0.02	0.01
FL-1-MSS	PLANT-BD	Controlled Plant Blowdown	5.92	0.09	–	–	–	–	–	–	–	–	0.001	0.00001			0.01	0.0001
FL-1-MSS	FL-1-MSS	Combustion Emissions from FL-1 Waste Gas associated with MSS	–	–	9.48	1.75	18.92	3.5	–	–	8.64	1.88	–	–	–	–	–	–
MSS-PIG	MSS-PIG	Pigging MSS Activities	0.11	0.0003	–	–	–	–	–	–	–	–	0.0001	0.0000002	–	–	0.001	0.01
MSS-BC	MSS-BC	Blasting and Coating MSS Activities (PBR 106.263)	–	–	–	–	–	–	2.21	1.18	–	–	–	–	–	–	–	–
		Proposed Site-Wide PTE	**214.40**	**51.45**	**20.92**	**36.23**	**29.90**	**43.01**	**2.87**	**3.22**	**10.61**	**11.03**	**0.21**	**0.09**	**0.01**	**0.03**	**0.54**	**0.33**

NOTES:

The HAP emissions from this site will be less than the 10 T/yr and 25 T/yr threshholds for individual and aggregated HAPs.

No EPNs were added, and no EPNs were deleted.
Emissions were updated for the three EPNs/FINs listed under the header Updated Emission Rates.
Otherwise, no changes were made to emissions from other EPNs.
Formaldehyde emissions are included in VOC emissions.