TECHNICAL REVIEW: Oil and Gas Checklist

Permit No.:	155077	***Company Name:***	Permico Midstream Partners LLC	***APD Reviewer:***	Mr. James Nolan
Project No.:	294969	***Unit Name:***	Robstown Fractionator (Initial)	***SP No(s).:***	6002 - 116.620 PRE 2011-FEB-27

GENERAL INFORMATION			
Regulated Entity No.:	RN110634318	**Date Received by TCEQ::**	January 7, 2019
Customer Reference No.:	CN605611136	**Date Received by Reviewer:**	January 9, 2019
City/County:	Robstown, Nueces County	**Physical Location:**	from robstown, head east on tx-44e. turn right on co rd 67. turn left on co rd 34. facility is located on the north side of co rd 34.

CONTACT INFORMATION					
Responsible Official/ Primary Contact Name and Title:	Mr. Jeffrey Beicker CEO	**Phone No.:** **Fax No.:**	(713) 480-7074	**Email:**	JBEICKER@PERMICOENERGIA.COM
Technical Contact/ Consultant Name and Title:	Mr. Michael Sambasile Engineering and Construction Coordinator	**Phone No.:** **Fax No.:**	(713) 480-7074	**Email:**	MSAMBASILE@PERMICOENERGIA.COM

GENERAL PROJECT INFORMATION	**YES**	**NO**	**COMMENTS**
Is confidential information included in the application?		X	The company indicates no confidential information was included in the STEERS submittal.
Are there affected NSR or Title V permits for the project?	X		The company indicates a Title V authorization will be required. They will submit an initial application for a Title V authorization. No other active or pending NSR actions are associated with the RN.
Are there permit limits on using PBRs at the site?		X	
Is PSD or Nonattainment netting required?		X	The Site is not a named source and emissions are below the PSD thresholds. The Site is in a county classified as in attainment.
Has the fee been paid?	X		Fee Receipt No. 399225
Was an impacts evaluation required for the project?	X		NOx NAAQS demonstration provided.
Have MSS emissions been accounted for in site-wide totals?		X	MSS emissions claimed under 106.359
Site Specific Analysis used?		X	Compositions are based on a combination of site-knowledge from similar Texas fractionation facilities designed by OPD and analyses received by Permico from producers who will supply the natural gas liquids. Emission calculations for volatile organic compound (VOC) sources are based on the lowest-expected ethane concentrations, which maximizes both the total calculated VOC emissions and the speciated VOC emissions used in the 30 TAC 106.261/262 analyses.

PROJECT RULES	**How was rule compliance demonstrated?**
106.359	MSS emissions are claimed under 106.359 and not included in this registration.
116.620	Compliance demonstrated through a line-by-line demonstration of rule requirements. A 261/262 compliance demonstration was provided for 116.610(a)(1) and is available in the project file. The reviewer verified all speciated chemicals listed are in compliance with the rule.

DESCRIBE THE OVERALL PROCESS AT THE SITE

The Fractionation facility will include two fractionator trains, which are designed to fractionate natural gas liquids into various products. The feed consists of mixed NGLs, including methane, ethane, propane, butane, heavier hydrocarbons, CO2, and small amounts of hydrogen sulfide (H2S).

The feed is first sent through an inlet filtration and treating system to remove water, particulate, and carbon dioxide prior to feeding the fractionation train. The filtered and treated feed is sent to a deethanizer to separate ethane. The heavier fraction from the deethanizer is fed to the depropanizer to separate the propane product. The bottoms of the depropanizer is further fed to the debutanizer to separate the mixed butane product from natural gasoline. The butane product is then sent through the deisobutanizer to separate normal and iso-butane. All of the speciated NGL products are transported from the fractionation plant by pipelines. Supporting utility operations include cooling towers, hot oil heaters, back-up generators, and firewater pumps.

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DESCRIBE THE PROJECT
The Regulated Entity has chosen to certify their site and emissions under the rules listed in the header. Rule compliance, calculation methodologies, emission calculations, and other supporting documentation have been provided by the company and can be found in the application. This information will be made available upon request by any regulatory agency/local program and is also available from the TCEQ Central File Room.

FEDERAL STANDARDS APPLICABILITY			
Applicable Rule(s) :	*Y*	*NA*	*Explanation of how it meets (if applicable), or why it isn't applicable:*
NSPS Subpart A	X		Other NSPS subparts are applicable.
NSPS Subpart K, Ka, Kb		X	The company indicates the tanks are storing liquids less than 3.5-kPa, so the subpart is not applicable.
NSPS Subpart KKK		X	Based on construction date.
NSPS Subpart LLL		X	Based on construction date.
NSPS Subpart IIII	X		Permico will comply with all applicable requirements to the engines regulated by this NSPS.
NSPS Subpart JJJJ		X	No gas operated engnes at the Site.
NSPS Subpart OOOO		X	Based on construction date.
NSPS Subpart OOOOa	X		Permico will comply with all applicable requirements of NSPS OOOOa.
MACT Subpart ZZZZ	X		Permico will comply with the applicable requirements of MACT ZZZZ.
Other: The company indicates they will operate in compliance with all applicable State rules, including 30 TAC 111, 112, 115, and 117.			

SITE INFORMATION		
Processing Capacity:	165,000-bbl/day per train (330,000-bbl/day)	MMSCF/day
Slop Throughput	142,000	gal/yr
Site specific H2S content of inlet gas (ppm)	The company indicates no sour gas or liquids will be handled at the Site.	ppm

FACILITY INFORMATION		
Equipment:	**# of each**	**Calculation Methodology**
Other Engines	3	Two 686 hp diesel powered firewater pumps and one 1207 hp emergency generator engine. All three engines have 99 hours of permitted operating hours. All three engines are EPA Tier III Certified. The NOX, CO, and PM/PM10/PM2.5 factors for the engines are based on NSPS IIII standards. The VOC and SO2 emission factors for the engines are obtained from AP-42 Section 3.4 Table 3.4-1 for large diesel engines.
Storage Tanks	3	Two rich amine tanks and one diesel storage tank. Calculated based on TCEQ guidance and Tanks 4.0.9d
Heaters	4	Calculated using vendor data, AP-42 and BACT tables. The combustion units with a design maximum heat input greater than 40 MMBtu/hr will not emit more than 0.06 pounds of NOX per MMBtu.
Amine Units	2	Each train has an amine unit (FINs AMINE-1 and AMINE-2). The amine units each include an absorber, regenerator, and flash drum. The flash gas and acid gas from FINs AMINe-1 and AMINE-2 are routed to the thermal oxidizers (EPNs TO-1 and TO-2, respectively). Emissions from the flash and acid gas vents are based on a simulation performed by OPD. A supplemental gas will be used to regulate the heating value of the streams.
Flare	1	The flare controls fugitive relief valves and sweep gas on a continuous basis. Control efficiencies for VOC and C1-C3 compounds are based on TCEQ Flare Guidance 2000. Table 4 in TCEQ Flare Guidance 2000 is used to obtain values for CO and NOX emission factors. The emission factor for SO2 is found in AP-42 Table 1.4.
Thermal Oxidizer	2	Emission factors for CO, PM, PM10, and PM2.5 are obtained from vendor guarantees. The NOX emission factor is based on TCEQ BACT, along with a vendor guarantee. A 100% conversion of H2S to SO2 is assumed. A VOC control efficiency

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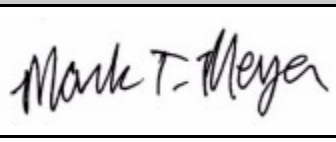
		of 99.9% is represented.
Separators	N	No gas/water/liquid separation occurs at the Site.
Truck Loading	Y	AP-42 used with a saturation factor of 0.6
Fugitives	Y	Calculated using TCEQ guidance. The company represents they will use the 28VHP LDAR Monitoring Program and took the appropriate emission factors.
MSS	N	MSS emissions are claimed under 106.359 and not included in this registration.
Cooling Towers	2	Cooling tower drift rate is based on design specifications. Hourly PM emission rates are calculated from the maximum total dissolved solids (TDS) in the circulating water, while annual PM emission rates are calculated from the average TDS in the circulating water. PM10 and PM2.5 particle size calculations are based on the methodology from "Calculating Realistic PM10 Emissions from Cooling Towers", Environmental Progress, Vol 21, Issue 2, April 20, 2004, along with SPX cooling tower drift loss data. VOC emissions are calculated based on a concentration of 0.05 ppmw (hourly basis) and 0.015 ppmw (annual basis). Permico will monitor the cooling tower water on a monthly basis using the El Paso method to verify the VOC emission rates are not exceeded.
Other		There may be other small tanks or storage drums on site that will store slop oil or caustic with a nitrogen mixing/blanket. The emissions from these tanks are assumed to be negligible since the materials will have a low vapor pressure, throughput will be small, and/or a blanket gas will be present. Similarly, compressor drain sumps will have a low throughput and only contain low vapor pressure material. Therefore, based on engineering judgement, emissions from the sumps are also assumed to be negligible.

CONTROL DEVICE(S)				
Flare	Destruction Efficiency:	99% C3 / 98% C4+	Controls what?	fugitive relief valves and sweep gas on a continuous basis.
Thermal Oxidizer 1[1]	Destruction Efficiency:	99.9%[2]	Controls what?	AMINE-1 flash gas and acid gas
Thermal Oxidizer 2[1]	Destruction Efficiency:	99.9%[2]	Controls what?	AMINE-2 flash gas and acid gas
Additional Notes:	1 – The Fractionation facility will consist of two fractionator trains, each with a dedicated TO. The TOs are not interchangeable and only function for their dedicated trains. 2 – DRE is based on a manufacturer guarantee. Additionally, both units will conform with the applicable requirements for TOs with a 99.9% DRE as outlined in the TCEQ Control Device Requirements Charts.			

ENGINE INFORMATION	**YES**	**NO**	**COMMENTS**
Was NOx/NAAQs compliance demonstrated?	X		TCEQ Non-Rule Standard Permit emission impact tables.
HCHO included in VOC total?	N/A		Diesel engines; Did not represent HCHO emissions. Reviewer has no concerns.

COMMUNICATION LOG
A meeting was conducted on January 9, 2019 to discuss the project with the company and consultants. Project updates were received January 24, 2019 and addressed control efficiency and clarified minor issues. An additional request for information was answered on January 31, 2019 and the MAERT was reviewed for accuracy by the consultant.

	TECHNICAL REVIEWER	**PEER REVIEWER**	**FINAL REVIEWER**
SIGNATURE:			
PRINTED NAME:	Mr. James Nolan	Ms. Britany Gilman	Mr. Mark Meyer, Manager
DATE:	February 1, 2019	February 1, 2019	February 5, 2019

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ESTIMATED EMISSIONS

EPN / Emission Source		VOC		NOx		CO		PM		PM_{10}		$PM_{2.5}$		SO_2	
		lbs/hr	tpy	lbs/hr	tpy	lbs/hr	Tpy	lbs/hr	tpy	lbs/hr	tpy	lbs/hr	tpy	lbs/hr	tpy
HOH-1A	Hot Oil Heater 1 Stack A	0.40	1.77	8.31	29.13	8.53	29.90	1.77	7.75	1.77	7.75	1.77	7.75	0.14	0.61
HOH-1B	Hot Oil Heater 1 Stack B	0.40	1.77	8.31	29.13	8.53	29.90	1.77	7.75	1.77	7.75	1.77	7.75	0.14	0.61
HOH-2A	Hot Oil Heater 2 Stack A	0.40	1.77	8.31	29.13	8.53	29.90	1.77	7.75	1.77	7.75	1.77	7.75	0.14	0.61
HOH-2B	Hot Oil Heater 2 Stack B	0.40	1.77	8.31	29.13	8.53	29.90	1.77	7.75	1.77	7.75	1.77	7.75	0.14	0.61
TK-FA1	Fresh Amine Storage Tank 1	<0.01	<0.01												
TK-FA2	Fresh Amine Storage Tank 2	<0.01	<0.01												
TK-D	Diesel Storage Tank 1	0.28	<0.01												
TO-1	Thermal Oxidizer 1	0.25	0.56	2.72	11.89	4.53	19.82	0.91	3.96	0.91	3.96	0.91	3.96	17.89	65.28
TO-2	Thermal Oxidizer 2	0.25	0.56	2.72	11.89	4.53	19.82	0.91	3.96	0.91	3.96	0.91	3.96	17.89	65.28
FL-1	Routine Flare	0.10	0.45	0.08	0.36	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
LOAD	Loading	1.19	0.07												
CTW-1	Cooling Tower 1	2.13	2.79					1.06	3.49	0.32	1.43	<0.01	0.01		
CTW-2	Cooling Tower 2	2.13	2.79					1.06	3.49	0.32	1.43	<0.01	0.01		
FWP-1	Firewater Pump 1	0.48	0.02	4.54	0.22	3.93	0.19	0.23	0.01	0.23	0.01	0.23	0.01	5.55	0.27
FWP-2	Firewater Pump 2	0.48	0.02	4.54	0.22	3.93	0.19	0.23	0.01	0.23	0.01	0.23	0.01	5.55	0.27
GEN-1	Emergency Generator	0.85	0.04	12.70	0.63	6.95	0.34	0.40	0.02	0.40	0.02	0.40	0.02	0.40	0.02
DS-FUG	Disconnect Fugitives	0.13	0.04												
SAMP-FUG	Sample Fugitives	0.81	0.30												
N-FUG	Fugitives	2.97	13.01												
TOTAL EMISSIONS (TPY):			**27.73**		**141.73**		**159.96**		**45.94**		**41.82**		**38.98**		**133.56**

MAXIMUM OPERATING SCHEDULE:	**Hours/Day**	**24**	**Days/Week**	**7**	**Weeks/Year**	**52**	**Hours/Year**	**8,760**