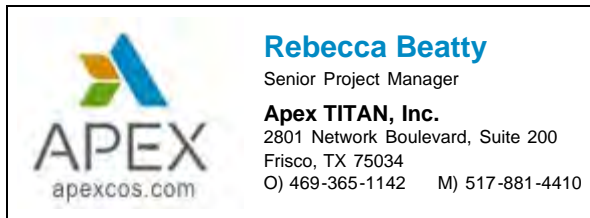


From: Rebecca Beatty <RBeatty@apexc.com>
Sent: Wednesday, August 26, 2015 2:00 PM
To: Magee, Melanie
Cc: shrishti_chhabra@kindermorgan.com
Subject: RE: Copano - PSD-TX-104949-GHG Rescission Request
Attachments: Project Flare Emissions.pdf; Revised_PSD Applicability Table.pdf

As requested, please review the attached revised PSD applicability table now showing the baseline, proposed total, and project increases for the flare. The baseline emissions consist of the pilot and TEG/EG dehydrator vent waste gas combustions (existing streams), and the proposed total adds in the project amine flash gas emissions (I've also attached the flash gas combustion emission calculations, for reference). The proposed totals are the values authorized in registration #101369.

If you need anything else, please let me know. Thanks!



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From: Magee, Melanie [mailto:Magee.Melanie@epa.gov]
Sent: Wednesday, August 26, 2015 11:07 AM
To: Rebecca Beatty
Cc: shrishti_chhabra@kindermorgan.com
Subject: RE: Copano - PSD-TX-104949-GHG Rescission Request

Received. Thank you so much for your help.

From: Rebecca Beatty [mailto:RBeatty@apexc.com]
Sent: Wednesday, August 26, 2015 11:05 AM
To: Magee, Melanie
Cc: shrishti_chhabra@kindermorgan.com
Subject: Copano - PSD-TX-104949-GHG Rescission Request

Good morning, Melanie.

As I mentioned on the phone, the flare is authorized under a different standard permit registration. The RTO authorized under standard permit registration 104949 in 2012 was removed from the same registration in 2014. Copano elected to install an electric compressor to pressurize the amine unit acid gas stream and route it to the sales gas pipeline rather than combusting it onsite.

I have attached copies of the TCEQ tech reviews and issued standard permit registration letters for both the 2012 and 2014 projects involving registration number 101369. I have also attached a copy of the issue letter for standard permit registration number 101369, which authorizes the flare.

Please let me know if you need any additional information. Thank you!

Rebecca Beatty

Senior Project Manager

Apex TITAN, Inc.

2801 Network Boulevard, Suite 200

Frisco, TX 75034

O) 469-365-1142 M) 517-881-4410

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**TABLE A-5
COPANO PROCESSING, LP
HOUSTON CENTRAL GAS PLANT
ELEVATED FLARE
Flash Gas Emissions
May 2012**

Flare EPN: FLARE
Description of Unit: Elevated Flare
Flare Type: Air or Unassisted >1000 Btu/scf
Operating Hours (hrs/yr): 8760
Sweep Gas Flow (scf/hr): 829.63 (Basis: Process flow data)

Component	Sweep Gas Stream							VOC EMISSIONS			LHV	Net Heat Release				Emission Factors		NOX AND CO EMISSIONS			
	Flow							Efficiency %	Emissions			lb/MMBTU				NOX		CO			
	MW	Wt %	Mol%	Vol%	lb/hr	scf/hr	mol/hr		lb/hr	tpy		BTU/scf	BTU/scf	BTU/hr	MMBTU/yr	NOX	CO	lb/hr	tpy	lb/hr	tpy
Methane	16.04	25.06%	49.37%	49.37%	16.98	409.59	1.06	99.0%	0.1698	0.7439	892	440	365,351	3,200	0.138	0.2755	0.0504	0.2208	0.1007	0.4409	
Ethane	30.07	14.49%	15.23%	15.23%	9.82	126.35	0.33	99.0%	0.0982	0.4301	2,254	343	284,797	2,495	0.138	0.2755	0.0393	0.1721	0.0785	0.3437	
Propane	44.10	19.71%	14.13%	14.13%	13.36	117.23	0.30	99.0%	0.1336	0.5853	2,371	335	277,943	2,435	0.138	0.2755	0.0384	0.1680	0.0766	0.3354	
Isobutane	58.12	0.00%	0.00%	0.00%	-	-	0.00	98.0%	0.0000	0.0000	2,923	-	-	-	0.138	0.2755	0.0000	0.0000	0.0000	0.0000	
n-Butane	58.12	14.92%	8.12%	8.12%	10.11	67.33	0.17	98.0%	0.2023	0.8861	2,930	237.78	197,272	1,728	0.138	0.2755	0.0272	0.1192	0.0543	0.2380	
Isopentane	72.15	0.00%	0.00%	0.00%	-	-	0.00	98.0%	0.0000	0.0000	3,602	-	-	-	0.138	0.2755	0.0000	0.0000	0.0000	0.0000	
n-Pentane	72.15	8.33%	3.65%	3.65%	5.65	30.28	0.08	98.0%	0.1129	0.4947	3,609	132	109,291	957	0.138	0.2755	0.0151	0.0661	0.0301	0.1319	
Carbon Dioxide	44.01	4.77%	3.43%	3.43%	3.23	28.41	0.07	0%	3.232	14.157	-	-	-	-	0.138	0.2755	0.0000	0.0000	0.0000	0.0000	
Nitrogen	28.01	0.00%	0.00%	0.00%	-	-	0.00	0%	0.0000	0.0000	-	-	-	-	0.138	0.2755	0.0000	0.0000	0.0000	0.0000	
H2S	34.08	0.00%	0.00%	0.00%	-	-	0.0000	98.0%	0.0000	0.0000	596	-	-	-	0.138	0.2755	0.0000	0.0000	0.0000	0.0000	
Water	18.02	1.02%	1.78%	1.78%	0.69	14.79	0.04	0%	0.6886	3.0163	-	-	-	-	0.138	0.2755	0.0000	0.0000	0.0000	0.0000	
n-Hexane	86.18	11.70%	4.29%	4.29%	7.93	35.61	0.09	98.0%	0.1587	0.6949	4,376	188	155,844	1,365	0.138	0.2755	0.0215	0.0942	0.0429	0.1881	
Ucarsol AP-814	61.08	0.00%	0.00%	0.00%	0.00	0.00	0.00	98.0%	0.0000	0.0000	1,677	0	1	0	0.138	0.2755	0.0000	0.0000	0.0000	0.0000	
TOTAL		100.00%	100.00%	100.00%	67.78	829.59	2.14		0.6075	2.6610		1,676	1,390,497	12,181			0.1919	0.8405	0.3831	1.6779	

TOTAL EMISSIONS		
Component	lb/hr	tpy
VOC	0.61	2.66
NOX	0.19	0.84
CO	0.38	1.68

* Calculatons based on October 2000, RG-109 Air Permit Technical Guidance for Chemical Sources: Flares and Vapor Oxidizers

Table B-1
New 400 MMSCFD Cryogenic Plant PSD Analysis
Copano Processing, LP, Houston Central Gas Plant
Colorado County, Sheridan, Texas

EPN	Emission Point Description	Project VOC Emissions (tpy)			Project NOx Emissions (tpy)			Project CO Emissions (tpy)			Project SO ₂ Emissions (tpy)			Project Total PM Emissions (tpy)			Project PM ₁₀ Emissions (tpy)			Project PM _{2.5} Emissions (tpy)		
		Baseline	Proposed	Increase	Baseline	Proposed	Increase	Baseline	Proposed	Increase	Baseline	Proposed	Increase	Baseline	Proposed	Increase	Baseline	Proposed	Increase	Baseline	Proposed	Increase
TURB-5	Solar Turbine Mars 100	-	3.50	3.50	-	18.07	18.07	-	30.57	30.57	-	1.71	1.71	-	3.31	3.31	-	3.31	3.31	-	3.31	3.31
TURB-6	Solar Turbine Mars 100	-	3.50	3.50	-	18.07	18.07	-	30.57	30.57	-	1.71	1.71	-	3.31	3.31	-	3.31	3.31	-	3.31	3.31
HTR-3	Regeneration Gas Heater No. 3	-	0.04	0.04	-	0.74	0.74	-	0.62	0.62	-	0.004	0.004	-	0.06	0.06	-	0.06	0.06	-	0.06	0.06
HTR-4	Regeneration Gas Heater No. 4	-	0.04	0.04	-	0.74	0.74	-	0.62	0.62	-	0.004	0.004	-	0.06	0.06	-	0.06	0.06	-	0.06	0.06
RTO-3	Regenerative Thermal Oxidizer No. 3	-	2.28	2.28	-	0.73	0.73	-	3.74	3.74	-	0.09	0.09	-	0.04	0.04	-	0.04	0.04	-	0.04	0.04
TANK-3	Amine Tank	-	0.01	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FLARE	Elevated Flare	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CRYO3 Fugitives	Fugitives	-	2.67	2.67	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Project Increase (tons)				14.70			39.18			67.79			3.51			6.78			6.78			6.78
Netting Threshold (tons)				40			40			100			40			25			15			10
Netting Required (Yes/No)				No			No			No			No			No			No			No
Significant Modification Threshold (tons)				40			40			100			40			25			15			10
Federal Review Required (Yes/No)				No			No			No			No			No			No			No