

**MEMO**

**TO** File AQ/FAC/ERC/10-000-021  
APS ID: Auth ID: PF ID: 270150

**FROM** Hubert Thomas Flaherty HTF 12/17/2020  
New Source Review  
Air Quality Program

**THROUGH** David G. Balog, P.E. DGB 12/17/2020 Eric A. Gustafson EAG  
Environmental Engineer Manager Regional Program Manager  
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Northwest Regional Office Northwest Regional Office

**DATE** October 20, 2020

**RE** Revised Emission Reduction Credits Review  
INDSPEC Chemical Corporation - Petrolia  
Petrolia Borough, Butler County

**Introduction/Background:**

This review is for revising the original ERC application received on July 23, 2018 and approved on February 11, 2019. During the original review of this ERC application, the Department used September 11, 2017 as the shutdown date for determining ERCs. This was based on the following information submitted by the facility:

- From letter dated December 13, 2017, the facility announced on March 27, 2017, the facility would be closing.
- On July 31, 2017, production ceased for all organic resin products at the facility with all intermediate production and utility operations ending by September 22, 2017.
- From letter dated August 30, 2018, the actual shutdown date for the last of the process sources was September 11, 2017.

Based off the September 11, 2017 date, all the shutdown sources were eligible for ERCs.

Central Office, during their review to put the ERCs in the Registry, reviewed AIMs and noted that the facility reported that the individual sources were shutdown starting in March 2017 with the last of the sources being shutdown in September 2017 (See Permanent Shutdown Sources Table below). Based on the information in AIMs, all sources that were shutdown prior to July 23, 2017 are not eligible for ERCs because they do not meet the requirements in 25 PA Code 127.207(2). [In accordance with 25 PA Code 127.207(2), except as provided in § 127.206(r) (relating to ERC general requirements), an ERC registry application shall be submitted to the Department within 2 years of the initiation of an emissions reduction used to generate ERCs. For deactivated sources or facilities the following also apply: (i) the owner or operator of an ERC generating source or facility shall submit a written notice to the

Department within 1 year after the deactivation of a source or facility to request preservation of the emissions in the inventory. (ii) within 2 years after ERC generating emission reductions are initiated, the owner or operator of a source or facility that is covered under a maintenance plan submitted to the Department in accordance with 25 PA Code 127.11a or 127.215 (relating to reactivation of sources; and reactivation) may permanently deactivate the source or facility and submit an ERC registry application to the Department if the emissions are preserved in the inventory.]

However, the facility has submitted additional information as to when the source last had emissions generated (See Permanent Shutdown Sources Table below). ERCs will be granted to sources that had emissions generated within 1 year of ERC application submittal (See Permanent Shutdown Sources Table below).

The following is the Permanent Shutdown Sources Table:

Source	Source Name	Rating	Last Operated (AIMS)	Date of Last Emissions (Facility)	Qualify for ERC based on Submittal Date (7-23-18)
035	No. 1 Bertram	12.8 mmbtu/hr	3-31-17	3-31-17	No
036	No. 2 Bertram	12.8 mmbtu/hr	3-31-17	3-31-17	No
038	#8 Keeler Boiler	141 mmbtu/hr	9-30-17	9-30-17	Yes
039	No. 9 Boiler	196.4 mmbtu/hr	6-30-17	6-30-17	No
040	#10 Boiler	200 mmbtu/hr	8-31-17	8-31-17	Yes
057	Caustic Pot Heaters (5 units)	10.8 mcf/hr ng	9-30-17	9-30-17	Yes
100	Copeland	8.5 mcf/hr ng	9-30-17	9-30-17	Yes
101	Sulfonation	25 tons/hr benzene	7-31-17	7-31-17	Yes
104	#1 Kiln	1.7 mcf/hr ng	3-31-17	3-31-17	No
105	#2 Kiln	1.7 mcf/hr ng	3-31-17	3-31-17	No
106	#1 Spray Drier	18.4 mcf/hr ng	3-31-17	3-31-17	No
116	#3 Kiln	1.7 mcf/hr ng	3-31-17	3-31-17	No
117	#4 Kiln	2.7 mcf/hr ng	3-31-17	3-31-17	No
122	Oleum Unloading	47,500 #/hr sulfur trioxide	3-31-17	3-31-17	No
131	#3 Spray Dryer	18.4 mcf/hr ng	3-31-17	3-31-17	No
133	Sodium Sulfate Silo	5,000 #/hr Sodium sulfate	7-31-17	7-31-17	Yes
134	#3 Acid Sodiator	100 tons/hr benzene	7-31-17	7-31-17	Yes
147	Miscellaneous Storage Tanks		3-31-17	3-31-17	No
147A	Two (2) Benzene Storage Tanks	700 gal/hr benzene	5-31-17	11-8-17	Yes
147F	Formaldehyde Storage Tank #T-2050		7-31-17	7-22-17	Yes
147G	Phenol Storage Tank #3019		3-31-17	4-18-17	No
147H	Styrene Tank	12,000 gal/hr	4-30-17	9-28-17	Yes
148	Reactor 505	1,250 #/hr resin	4-30-17	4-30-17	No
149	Reactor 506	200 #/hr resin	7-31-17	7-31-17	Yes
150	Reactor 507	4,250 #/hr resin/adhesive	7-31-17	7-31-17	Yes

152	#5 Dryer	25,000 #/hr sodium sulfate/fite	3-31-17	3-31-17	No
153	#6 Dryer	25,000 #/hr sodium sulfate/fite	3-31-17	3-31-17	No
154	Nine (9) Fusion Mixers	62,000 #/hr disalt+sodiumhydro	3-31-17	3-31-17	No
159	BRA / HER Reaction Processes	150 #/hr BRA or USP	7-31-17	7-31-17	Yes
161	Flaker Operations (2)	7,100 #/hr resorcinol	3-31-17	3-31-17	No
162	Sulfate/Sulfite Storage/Handling	46,000 #/hr NA Sulfate/ite	3-31-17	9-30-17	Yes
163	Brittle Resin Pastille Equipment	5,400 #/hr resin	7-31-17	7-31-17	Yes
164	Distillation Area	26,500 #/hr resorcinol	3-31-17	3-31-17	No
165	Process Piping in Benzene & Phenol Service	15 gal/hr phenol 6,300 #/hr benzene	5-31-17	11-8-17	Yes
165A	Components Subject to Subpart UU – LDAR		7-31-17	11-6-17	Yes
166	Carbonator	62,500 #/hr sodiated diacid	7-31-17	7-31-17	Yes
170	Raw Material Unloading/Storage @ Hill Plant	80 tons/hr solox+formaldehyde	10-31-16	11-6-17	Yes
171	Resin Loading @ Hill Plant	20 tons/hr resin	9-30-17	9-30-17	Yes
173	Liquid Resorcinol Loading Operation	7,500 #/hr resorcinol	3-31-17	3-31-17	No
175	Recovery Centrifuges & Tank Vents	27,000 #/hr intermediates, sodium	3-31-17	3-31-17	No
177	Soda Ash Handling	25,000 #/hr soda ash	8-31-17	8-31-17	Yes
178	Krystal Units #1 & #2	9,000 #/hr sodium sulfate slurry	3-31-17	7-31-17	Yes
179	Krystal #3	17,600 #/hr sodium sulfate slurry	3-31-17	3-31-17	No
180B	250 HP Air Compressor	82.5 gal/hr diesel fuel	12-31-18	12-31-18	Yes
190	9,500-gallon Resorcinol Storage Vessel	1,000 #/hr resorcinol	3-31-17	3-31-17	No
191	Resin Hold Tank	4,500 #/hr brittle resin	7-31-17	7-31-17	Yes
192	Main Cooling Tower	600,000 gal/hr cooling water	7-31-17	7-31-17	Yes
194	Krystal #3 Cooling Tower	108,000 gal/hr cooling water	3-31-17	3-31-17	No
202	Rail Car Cleaning		6-30-15	6-30-15	No
237	Tank #T-3056		9-30-17	9-30-17	Yes
Reported under Source 135					
135	Extraction Process	100 tons/hr resorcinol 1 ton/hr neutral liquor	3-31-17	3-31-17	No

135	Miscellaneous Process Vents		3-31-17	11-7-17	Yes
147B	Two (2) Ether Storage Tanks		4-30-17	11-7-17	Yes
147C	Four (4) Ether Work Tanks		3-31-17	4-30-17	No
235	Raffinate Tank (T-3034)		3-31-17 Operated all of 2018 & 2019	9-30-17	Yes
165B	Components Subject to 25 PA Code 129.71 – LDAR		3-31-17	11-7-17	Yes

## Notes:

- Source 170: the facility stated that the styrene storage tank contained material until it was emptied on November 6, 2017 so it had small emissions until this date.
- Source 235: this source is still in operation with a PTE of 0.1 tpy as a stormwater tank (repurposed from raffinate tank).

In accordance with 25 PA Code 127.207(1), a creditable emissions decrease or ERC shall be surplus, permanent, quantified and federally enforceable as follows:

- (i) Surplus: A creditable emissions decrease or ERC shall be included in the current emission inventory, and may not be required by or be used to meet past or current SIP, attainment demonstration, RFP, emissions limitation or compliance plans. Emissions reductions necessary to meet NSPS, LAER, RACT, BAT, BACT, allowance-based programs and permit or plan approval emissions limitations or other emissions limitations required by the Clean Air Act or the act may not be used to generate ERCs or a creditable emissions decrease. [The emissions from the facility were included in the emissions inventory and fees were paid for the two-year period (2015 & 2016). From 25 PA Code 127.207(4)(i)(A), the average actual emissions or allowable emissions, whichever is lower, shall be calculated over the 2 calendar years immediately preceding the emissions reduction which generates the creditable emissions decrease or ERC. Two sources for NO<sub>x</sub> and six sources for VOC went through a RACT II Alternate RACT Requirement (case-by-case) determination, no additional controls were required – see INDSPEC 10-00021 RACT II Memo dated October 20, 2020 & INDSPEC 10-00021 RACT II EPA Comment Response dated October 20, 2020. The remaining sources were either exempt from RACT II or could meet the presumptive RACT II limits. If emissions were greater than the presumptive limits, the emissions will be reduced to the presumptive limit. Source 038 & Source 040 had higher emission limits than the presumptive limits; however, their actual emissions were based on factors less than the presumptive limits. No reduction was required.]
- (ii) Permanent: A creditable emissions decrease or ERC generated from emissions reductions which are Federally enforceable through an operating permit or a revision to the SIP and assured for the life of the corresponding increase, whether unlimited or limited in duration, are considered permanent. Emissions limitations and other restrictions imposed on a permit as a result of a creditable emissions decrease or ERC generation shall be carried over into each successive permit issued to that facility. MERCs and other ERCs generated pursuant to an approved economic incentive program shall be permanent within the time frame specified by the program. [Originally, the facility stated that the sources were permanently shut down from the deactivation date of September 11, 2017.

Subsequently, the facility provided the date of last emissions for each source – see Permanent Shutdown Sources Table above.]

(iii)Quantified: A creditable emissions decrease or ERC shall be quantified in a credible, workable and replicable method consistent with procedures promulgated by the Department and the EPA. [The actual emissions were included in the emissions inventory and fees were paid for the two-year period (2015 & 2016) and were determined through the use of stack test results, AP-42 emission factors, or CEMs data (25 PA Code 127.207(6)) and the baseline emissions were determined in accordance with 25 PA Code 127.207(4).]

(iv)Enforceable: A creditable emissions decrease or ERC shall be Federally enforceable emissions reductions, regulated by Federal or SIP emissions limitations, such as a limit on potential to emit in the permit, and be generated from a plan approval, economic incentive program or permit limitation. [The shutdown sources were included in the facility Title V Operating Permit (10-00021); however, after shutdown of the sources the facility obtained a State Only permit issued on March 8, 2018, with an expiration date of February 28, 2023. To make the ERCs Federally Enforceable, the shutdown sources will not be identified in the facility State Only Operating Permit, and a yearly inactivation form and inspection will be required by the Department to ensure the permanent shutdown of the affected sources. If the source(s) is permanently removed from the site, the yearly inactivation form and inspection will not be required.]

#### Baseline Emissions:

Notes for the following Tables:

- Excluded 1 is exclusion of emissions due to exceeding current limits
- Excluded 2 is exclusion of emissions due to regulatory requirements (RACT II)

Source 038	VOC (tpy)	NO <sub>x</sub> (tpy)	CO (tpy)	SO <sub>x</sub> (tpy)	PM10 (tpy)	PM2.5 (tpy)
2015	1.67	19.92	31.04	0.18	0.58	0.58
2016	1.29	19.47	19.63	0.14	1.78	1.78
Excluded 1						
Excluded 2						
ERCs	1.480	19.695	25.335	0.160	1.180	1.180
Available ERCs	1.480	19.695	25.335	0.160	1.180	1.180

Notes:

- NO<sub>x</sub> limit is 0.51 #/mmbtu; 9.16 #/hr; & 40.12 tpy (from operating permit)
- Rated at 141.0 mmbtu/hr
- NO<sub>x</sub> emissions for 2015 based on 0.063 #/mmbtu (from 2009 testing) and NO<sub>x</sub> emissions for 2016 based on 7.31 #/hr (from testing in 2016 based on 0.0673 #/mmbtu).
- Excluded 2 - No corrections required because all emissions were below the presumptive limit of 0.10 #/mmbtu for NO<sub>x</sub>.

Source 040	VOC (tpy)	NO <sub>x</sub> (tpy)	CO (tpy)	SO <sub>x</sub> (tpy)	PM10 (tpy)	PM2.5 (tpy)
2015	2.46	13.13	10.42	0.33	0.61	0.61
2016	2.49	13.13	25.13	0.33	2.27	2.27
Excluded 1		0.1262				

Excluded 2		0				
ERCs	2.475	13.067	17.775	0.330	1.440	1.440
Available ERCs	2.475	13.067	17.775	0.330	1.440	1.440

## Notes:

- NO<sub>x</sub> limit is 0.05 #/mmbtu; 9.71 #/hr; & 39.6 tpy (from operating permit)
- Rated at 200 mmbtu/hr
- Excluded 1 - NO<sub>x</sub> emissions were corrected due to thirteen (13) 1-hour exceedances of the short-term permit limit of 0.050 #/mmbtu during 2016. There was two (2) 1-hour exceedances on October 19, 2016, of 0.051 & 0.051 #/mmbtu; one (1) 1-hour exceedance on October 21, 2016, of 0.063 #/mmbtu; one (1) 1-hour exceedance on October 22, 2016, of 0.064 #/mmbtu; three (3) 1-hour exceedances on October 25, 2016, of 0.052, 0.059, & 0.064 #/mmbtu; one (1) 1-hour exceedance on November 7, 2016, of 0.055 #/mmbtu; three (3) 1-hour exceedances on November 9, 2016, of 0.056, 0.063, & 0.052 #/mmbtu; one (1) 1-hour exceedance on December 27, 2016, of 0.063 #/mmbtu; and one (1) 1-hour exceedance on December 30, 2016, of 0.053 #/mmbtu.
- Excluded 2 – No corrections required because all emissions were below the RACT II presumptive limit of 0.10 #/mmbtu for NO<sub>x</sub>.

Source 057	VOC (tpy)	NO <sub>x</sub> (tpy)	CO (tpy)	SO <sub>x</sub> (tpy)	PM10 (tpy)	PM2.5 (tpy)
2015	0.014	0.699	0.17	0.003	0.01	0.01
2016	0.016	0.776	0.19	0.0033	0.04	0.04
Excluded 1						
Excluded 2						
ERCs	0.015	0.738	0.180	0.003	0.025	0.025
Available ERCs	0.015	0.738	0.180	0.003	0.025	0.025

Source 100	VOC (tpy)	NO <sub>x</sub> (tpy)	CO (tpy)	SO <sub>x</sub> (tpy)	PM10 (tpy)	PM2.5 (tpy)
2015	11.01	0.58	417.82	0.003	4.876	4.876
2016	10.73	0.97	406.91	0.006	4.74	4.74
Excluded 1						
Excluded 2						
ERCs	10.870	0.775	412.365	0.005	4.808	4.808
Available ERCs	10.870	0.775	412.365	0.005	4.808	4.808

Source 101	VOC (tpy)	NO <sub>x</sub> (tpy)	CO (tpy)	SO <sub>x</sub> (tpy)	PM10 (tpy)	PM2.5 (tpy)
2015	0	0	0	0	0	0
2016	0	0	0	0	0	0
Excluded 1						
Excluded 2						
ERCs	0	0	0	0	0	0
Available ERCs	0	0	0	0	0	0

Source 133	VOC (tpy)	NO <sub>x</sub> (tpy)	CO (tpy)	SO <sub>x</sub> (tpy)	PM10 (tpy)	PM2.5 (tpy)
2015	0	0	0	0	0.01	0.01
2016	0	0	0	0	0.091	0.091
Excluded 1						
Excluded 2						
ERCs	0	0	0	0	0.051	0.051
Available ERCs	0	0	0	0	0.051	0.051

Source 134	VOC (tpy)	NO <sub>x</sub> (tpy)	CO (tpy)	SO <sub>x</sub> (tpy)	PM10 (tpy)	PM2.5 (tpy)
2015	0.1293	0	0	30.24	0	0
2016	0.0225	0	0	28.7297	0	0
Excluded 1						
Excluded 2						
ERCs	0.076	0	0	29.485	0	0
Available ERCs	0.076	0	0	29.485	0	0

Source 147A	VOC (tpy)	NO <sub>x</sub> (tpy)	CO (tpy)	SO <sub>x</sub> (tpy)	PM10 (tpy)	PM2.5 (tpy)
2015	0.063	0	0	0	0	0
2016	0.063	0	0	0	0	0
Excluded 1						
Excluded 2						
ERCs	0.063	0	0	0	0	0
Available ERCs	0.063	0	0	0	0	0

Source 147F	VOC (tpy)	NO <sub>x</sub> (tpy)	CO (tpy)	SO <sub>x</sub> (tpy)	PM10 (tpy)	PM2.5 (tpy)
2015	0.5180	0	0	0	0	0
2016	0.5179	0	0	0	0	0
Excluded 1						
Excluded 2						
ERCs	0.518	0	0	0	0	0
Available ERCs	0.518	0	0	0	0	0

Source 147H	VOC (tpy)	NO <sub>x</sub> (tpy)	CO (tpy)	SO <sub>x</sub> (tpy)	PM10 (tpy)	PM2.5 (tpy)
2015	0.043	0	0	0	0	0
2016	0.0433	0	0	0	0	0
Excluded 1						
Excluded 2						
ERCs	0.043	0	0	0	0	0
Available ERCs	0.043	0	0	0	0	0

Source 149	VOC (tpy)	NO <sub>x</sub> (tpy)	CO (tpy)	SO <sub>x</sub> (tpy)	PM10 (tpy)	PM2.5 (tpy)
2015	0.363	0	0	0	0	0
2016	0.4311	0	0	0	0	0
Excluded 1						
Excluded 2						
ERCs	0.397	0	0	0	0	0
Available ERCs	0.397	0	0	0	0	0

Source 150	VOC (tpy)	NO <sub>x</sub> (tpy)	CO (tpy)	SO <sub>x</sub> (tpy)	PM10 (tpy)	PM2.5 (tpy)
2015	5.567	0	0	0	0	0
2016	4.8017	0	0	0	0	0
Excluded 1						
Excluded 2						
ERCs	5.184	0	0	0	0	0
Available ERCs	5.184	0	0	0	0	0

Source 159	VOC (tpy)	NO <sub>x</sub> (tpy)	CO (tpy)	SO <sub>x</sub> (tpy)	PM10 (tpy)	PM2.5 (tpy)
2015	0.0002	0	0	6.725	0.047	0.047
2016	0.0001	0	0	2.464	0.017	0.017
Excluded 1						
Excluded 2						
ERCs	0.0002	0	0	4.595	0.032	0.032
Available ERCs	0.0002	0	0	4.595	0.032	0.032

Source 162	VOC (tpy)	NO <sub>x</sub> (tpy)	CO (tpy)	SO <sub>x</sub> (tpy)	PM10 (tpy)	PM2.5 (tpy)
2015	0	0	0	0	17.357	17.357
2016	0	0	0	0	17.429	17.429
Excluded 1						
Excluded 2						
ERCs	0	0	0	0	17.393	17.393
Available ERCs	0	0	0	0	17.393	17.393

Source 163	VOC (tpy)	NO <sub>x</sub> (tpy)	CO (tpy)	SO <sub>x</sub> (tpy)	PM10 (tpy)	PM2.5 (tpy)
2015	0.086	0	0	0	0.342	0.342
2016	0.087	0	0	0	0.347	0.347
Excluded 1						
Excluded 2						
ERCs	0.087	0	0	0	0.345	0.345
Available ERCs	0.087	0	0	0	0.345	0.345

Source 165	VOC (tpy)	NO <sub>x</sub> (tpy)	CO (tpy)	SO <sub>x</sub> (tpy)	PM10 (tpy)	PM2.5 (tpy)
2015	0.6	0	0	0	0	0
2016	0.741	0	0	0	0	0
Excluded 1						
Excluded 2						
ERCs	0.671	0	0	0	0	0
Available ERCs	0.671	0	0	0	0	0

Source 165A	VOC (tpy)	NO <sub>x</sub> (tpy)	CO (tpy)	SO <sub>x</sub> (tpy)	PM10 (tpy)	PM2.5 (tpy)
2015	0.278	0	0	0	0	0
2016	0.2734	0	0	0	0	0
Excluded 1						
Excluded 2						
ERCs	0.276	0	0	0	0	0
Available ERCs	0.276	0	0	0	0	0

Source 166	VOC (tpy)	NO <sub>x</sub> (tpy)	CO (tpy)	SO <sub>x</sub> (tpy)	PM10 (tpy)	PM2.5 (tpy)
2015	0.0001	0	0	0	0.341	0.341
2016	0	0	0	0	0.3237	0.3237
Excluded 1						
Excluded 2						
ERCs	0.0001	0	0	0	0.332	0.332
Available ERCs	0.0001	0	0	0	0.332	0.332

Source 170	VOC (tpy)	NO <sub>x</sub> (tpy)	CO (tpy)	SO <sub>x</sub> (tpy)	PM10 (tpy)	PM2.5 (tpy)
2015	0.044	0	0	0	0	0
2016	0.044	0	0	0	0	0
Excluded 1						
Excluded 2						
ERCs	0.044	0	0	0	0	0
Available ERCs	0.044	0	0	0	0	0

Source 171	VOC (tpy)	NO <sub>x</sub> (tpy)	CO (tpy)	SO <sub>x</sub> (tpy)	PM10 (tpy)	PM2.5 (tpy)
2015	0.135	0	0	0	0	0
2016	0.147	0	0	0	0	0
Excluded 1						
Excluded 2						
ERCs	0.141	0	0	0	0	0
Available ERCs	0.141	0	0	0	0	0

Source 177	VOC (tpy)	NO <sub>x</sub> (tpy)	CO (tpy)	SO <sub>x</sub> (tpy)	PM10 (tpy)	PM2.5 (tpy)
2015	0	0	0	0	0.0004	0.0004
2016	0	0	0	0	0.0004	0.0004
Excluded 1						
Excluded 2						
ERCs	0	0	0	0	0.0004	0.0004
Available ERCs	0	0	0	0	0.0004	0.0004

Source 178	VOC (tpy)	NO <sub>x</sub> (tpy)	CO (tpy)	SO <sub>x</sub> (tpy)	PM10 (tpy)	PM2.5 (tpy)
2015	2.383	0	0	0	0.15	0.15
2016	2.264	0	0	0	0.143	0.143
Excluded 1						
Excluded 2						
ERCs	2.324	0	0	0	0.147	0.147
Available ERCs	2.324	0	0	0	0.147	0.147

Source 180B	VOC (tpy)	NO <sub>x</sub> (tpy)	CO (tpy)	SO <sub>x</sub> (tpy)	PM10 (tpy)	PM2.5 (tpy)
2015	0.0029	0.0187	0.004	0.0003	0.0013	0.0013
2016	0.0126	1.6822	0.0226	0.0002	0.0074	0.0074
Excluded 1						
Excluded 2						
ERCs	0.008	0.850	0.013	0.0003	0.004	0.004
Available ERCs	0.008	0.850	0.013	0.0003	0.004	0.004

Source 191	VOC (tpy)	NO <sub>x</sub> (tpy)	CO (tpy)	SO <sub>x</sub> (tpy)	PM10 (tpy)	PM2.5 (tpy)
2015	0	0	0	0	0	0
2016	0	0	0	0	0	0
Excluded 1						
Excluded 2						
ERCs	0	0	0	0	0	0
Available ERCs	0	0	0	0	0	0

Source 192	VOC (tpy)	NO <sub>x</sub> (tpy)	CO (tpy)	SO <sub>x</sub> (tpy)	PM10 (tpy)	PM2.5 (tpy)
2015	0	0	0	0	5.412	5.412
2016	0	0	0	0	5.141	5.141
Excluded 1						
Excluded 2						
ERCs	0	0	0	0	5.277	5.277
Available ERCs	0	0	0	0	5.277	5.277

Source 237	VOC (tpy)	NO <sub>x</sub> (tpy)	CO (tpy)	SO <sub>x</sub> (tpy)	PM10 (tpy)	PM2.5 (tpy)
2015	0.0012	0	0	0	0	0
2016	0.0012	0	0	0	0	0
Excluded 1						
Excluded 2						
ERCs	0.0012	0	0	0	0	0
Available ERCs	0.0012	0	0	0	0	0

## Sources Reported under Source 135:

Source 135	VOC (tpy)	NO <sub>x</sub> (tpy)	CO (tpy)	SO <sub>x</sub> (tpy)	PM10 (tpy)	PM2.5 (tpy)
2015	210.38	0	0	0	0	0
2016	159.05	0	0	0	0	0
Excluded 1	0.38					
Excluded 2	0					
Baseline	184.525	0	0	0	0	0

## Notes:

- Excluded 1 - VOC emissions were corrected due to an exceedance of the annual permit limit of 210.0 tpy during 2015.
- The emissions represented by this source are a collection of emission sources from the entire extraction process [a chemical recovery operation with multiple process steps and emission points (both stack and fugitive) occurring in various areas of the facility]. Emissions are calculated using a mass balance approach for the entire process. The stack emissions included are from 2 extraction process condensers which vent to a common stack (S235). The condensers reduce VOC emissions by 96.5% to ~3.8 tpy. The fugitive emissions included are from LDAR (Source 165B), ether storage tanks (Source 147B), ether work tanks (Source 147C), raffinate storage & processing (Source 235), and miscellaneous process vents (Source 135).

Source	Description	VOC PTE (tpy)	Fraction of Total Source Emissions
135	Extraction Process	3.80	0.0181
147B	Ether Storage Tanks	0.87	0.0041
147C	Ether Work Tanks	6.70	0.0319
235	Raffinate Tank T-3034	149.0	0.7095
165B	Fugitive Emissions	6.45	0.0307
135	Miscellaneous Process Vents	43.18	0.2056

Note: Fraction of total source emission is based on the ratio of the individual contribution to the total ether balance on a PTE basis.

Source	Description	Baseline VOC (tpy)	New PTE (tpy)	Included in ERCs
135	Extraction Process	3.32	N/A	No
147B	Ether Storage Tanks	0.74	N/A	Yes
147C	Ether Work Tanks	5.87	N/A	No
235	Raffinate Tank T-3034	131.04	0.1	Yes
165B	Fugitive Emissions	5.65	N/A	Yes

135	Miscellaneous Process Vents	37.92	N/A	Yes
Total		175.34		

Note: Baseline VOC based on fraction of total source emissions and Source 135 AIMS baseline of 184.525 tpy after excluding the 0.38 tpy due to limit exceedance.

#### **ERCs:**

In accordance with 25 PA Code 127.207(1)(i), Emissions reductions necessary to meet NSPS, LAER, RACT, BAT, BACT, allowance-based programs and permit or plan approval emissions limitations or other emissions limitations required by the Clean Air Act or the act may not be used to generate ERCs or a creditable emissions decrease.

#### **Excludable Emissions (Exceedance):**

Based on 25 PA Code 127.207(1)(i), any emissions reported that exceeded a current limit needs to be excluded. The following sources had emissions above their current limits in 2015 & 2016:

- Source 040 - NO<sub>x</sub>
  - Excluded 0.1262 tpy based on thirteen (13) 1-hour exceedances of the short-term permit limit of 0.05 #/mmbtu in 2016.
- Source 135 - VOC
  - Excluded 0.38 tpy based on exceeding the 210.0 tpy limit in 2015.

#### **Excludable Emissions (Regulatory):**

In accordance with 25 PA Code 127.207(4)(iii), the baseline emissions rate will not exceed the allowable emissions rate including RACT requirements in force at the time the ERC registry application is submitted.

Based on no change in either the NO<sub>x</sub> or VOC emission rates for the alternate (case-by-case) sources, there is no adjustment necessary for ERCs purposes for the alternate (case-by-case) sources.

From the presumptive requirements of 25 PA Code 129.97, all presumptive sources, except for Sources 038 & 040, were required to install, maintain, and operate the source in accordance with the manufacturer's specifications and with good operating practices. Sources 038 & 040 are subject to a new presumptive emission limit of 0.10 # NO<sub>x</sub>/mmbtu heat input. For Source 038, the new presumptive limit is lower than the current limit of 0.51 #/mmbtu & 0.11 #/mmbtu. For Source 040, the current limit (0.05 #/mmbtu) is more stringent than the new presumptive limit. Compliance with the new presumptive emission limit was required by January 1, 2017. Source 038 conducted stack testing on December 1, 2016, to show compliance with the 0.10 # NO<sub>x</sub>/mmbtu heat input limit. Test results showed NO<sub>x</sub> emissions to be 0.0673 #/mmbtu. Central Office conducted a completeness review on October 18, 2018 and deemed the report to be incomplete (meaning that insufficient information is available to initiate an audit review later). The company was notified on October 30, 2018. Source 040 used CEMs data to show compliance prior to shutdown. The CEMs data for the 4<sup>th</sup> quarter of 2016 showed the quarterly average for Boiler 10 was 0.038632 #/mmbtu. The CEMs data showed the emission standard for Boiler 10 was 0.050 #/mmbtu with violations on 8 days. However, none of those violations exceeded 0.1 #/mmbtu during the 4<sup>th</sup> quarter. Central Office created the CEMs report on February 1, 2017.

Based on a review of Sources 038 & 040 baseline emissions to determine if previously compliant emissions would need to be excluded based on the new presumptive limit, Source 038 & Source 040 have no excludable emissions.

**Total ERCs:**

	VOC (tpy)	NO <sub>x</sub> (tpy)	CO (tpy)	SO <sub>x</sub> (tpy)	PM10 (tpy)	PM2.5 (tpy)
2015 AIMS	225.032	34.348	459.454	37.481	29.737	29.737
2016 AIMS	174.994	36.028	451.883	31.673	32.330	32.330
Excluded (Exceedance)	0.38	0.1262				
Excluded (Regulatory)						
Excluded (Permit Limit)	0.1					
Available ERCs	199.53	35.12	455.67	34.58	31.03	31.03
Requested ERCs	199.87	75.14	468.80	35.10	30.98	30.98
Granted ERCs	199.53	35.12	455.67	34.58	31.03	31.03

## Notes:

- Excluded (Exceedance) are emissions excluded due to exceeding an emission limit
- Excluded (Regulatory) are emissions excluded due to exceeding a regulatory requirement (RACT II)
- Excluded (Permit Limit) are emissions excluded due to Source 235 operating with a limit of 0.1 tpy.

**Total ERCs by Source:**

Source	Name	VOC (tpy)	NO <sub>x</sub> (tpy)	CO (tpy)	SO <sub>x</sub> (tpy)	PM10 (tpy)	PM2.5 (tpy)
038	#8 Keeler Boiler	1.480	19.695	25.335	0.160	1.180	1.180
040	#10 Boiler	2.475	13.067	17.775	0.330	1.440	1.440
057	Caustic Pot Heaters (5 units)	0.015	0.738	0.180	0.003	0.025	0.025
100	Copeland	10.870	0.775	412.365	0.005	4.808	4.808
101	Sulfonation	0	0	0	0	0	0
133	Sodium Sulfate Silo	0	0	0	0	0.051	0.051
134	#3 Acid Sodiator	0.076	0	0	29.485	0	0
147A	Two (2) Benzene Storage Tanks	0.063	0	0	0	0	0
147F	Formaldehyde Storage Tank #T-2050	0.518	0	0	0	0	0
147H	Styrene Tank	0.043	0	0	0	0	0
149	Reactor 506	0.397	0	0	0	0	0
150	Reactor 507	5.184	0	0	0	0	0
159	BRA / HER Reaction Processes	0.0002	0	0	4.595	0.032	0.032
162	Sulfate/Sulfite Storage/Handling	0	0	0	0	17.393	17.393
163	Brittle Resin Pastille Equipment	0.087	0	0	0	0.345	0.345
165	Process Piping in Benzene & Phenol Service	0.671	0	0	0	0	0
165A	Components Subject to Subpart UU	0.276	0	0	0	0	0

	– LDAR						
166	Carbonator	0.0001	0	0	0	0.332	0.332
170	Raw Material Unloading/Storage @ Hill Plant	0.044	0	0	0	0	0
171	Resin Loading @ Hill Plant	0.141	0	0	0	0	0
177	Soda Ash Handling	0	0	0	0	0.0004	0.0004
178	Krystal Units #1 & #2	2.324	0	0	0	0.147	0.147
180B	250 HP Air Compressor	0.008	0.850	0.013	0.0003	0.004	0.004
191	Resin Hold Tank	0	0	0	0	0	0
192	Main Cooling Tower	0	0	0	0	5.277	5.277
237	Tank #T-3056	0.0012	0	0	0	0	0
Sources reported under Source 135							
	Source 135 MPV	37.92					
	Source 147B	0.738					
	Source 165B	5.646					
	Source 235	131.037					
	Excluded Emissions (exceeded limit in 2015)	(0.38)					
	New PTE Limit for Source 235	(0.1)					
	Total Source 135	174.86					
Totals							
	ERCs	199.53	35.12	455.67	34.58	31.03	31.03
	From Over Control (Source 235)	130.94					
	From Shutdown (rest of sources)	68.60	35.12	455.67	34.58	31.03	31.03

### Recommendations:

The total amount of ERCs available as identified in the preceding paragraph should be published in the PA Bulletin with the following conditions:

The following conditions are applicable to the following sources from INDSPEC (10-00021).

- A. The following sources are over control of emissions as of September 11, 2017, and prohibited from being operated in Raffinate service and shall not exceed 0.1 tpy of VOC:

Source	Name
235	Tank (T-3034)

- 1) The facility generated 130.94 tons of VOC Emission Reduction Credits (ERCs) with the over control of emissions of the sources located in Petrolia Borough, Butler County.
- 2) ERCs generated by the over control of emissions by an existing facility will not expire for use as offsets. The use of these ERCs in applicability determinations for netting purposes is limited to the period specified in §127.203a(a)(1) (relating to applicability determination). [25 PA Code 127.206(e)]

B. The following sources are permanently shut down as of September 11, 2017, and prohibited from operation by this condition:

Source	Name
038	#8 Keeler Boiler
040	#10 Boiler
057	Caustic Pot Heaters (5 units)
100	Copeland
101	Sulfonation
133	Sodium Sulfate Silo
134	#3 Acid Sodiator
147A	Two (2) Benzene Storage Tanks
147F	Formaldehyde Storage Tank #T-2050
147H	Styrene Tank
149	Reactor 506
150	Reactor 507
159	BRA / HER Reaction Processes
162	Sulfate/Sulfite Storage/Handling
163	Brittle Resin Pastille Equipment
165	Process Piping in Benzene & Phenol Service
165A	Components Subject to Subpart UU – LDAR
166	Carbonator
170	Raw Material Unloading/Storage @ Hill Plant
171	Resin Loading @ Hill Plant
177	Soda Ash Handling
178	Krystal Units #1 & #2
180B	250 HP Air Compressor
191	Resin Hold Tank
192	Main Cooling Tower
237	Tank #T-3056
147B	Two (2) Ether Storage Tanks
165B	Components Subject to 25 PA Code 129.71 – LDAR
135	Miscellaneous Process Vents

- 1) The facility generated 68.60 tons of VOC, 35.12 tons of NO<sub>x</sub>, 455.67 tons of CO, 34.58 tons of SO<sub>x</sub>, 31.03 tons of PM<sub>10</sub>, and 31.03 tons of PM<sub>2.5</sub> Emission Reduction Credits (ERCs) with the permanent shutdown of the sources located in Petrolia Borough, Butler County.
- 2) ERCs generated by the curtailment or shutdown of a facility which are not included in a plan approval and used as offsets will expire for use as offsets 10 years after the date the facility ceased emitting the ERC generating emissions. The use of these ERCs in applicability determinations for netting purposes is limited to the period specified in 25 PA Code 127.203a(a)(1). [25 PA Code 127.206(f)]

- 3) The expiration date of ERCs may not extend beyond the 10-year period allowed by subsection (f), if the ERCs are included in a plan approval but are not used and are subsequently reentered in the registry. [25 PA Code 127.206(g)]
- C. ERCs may not be entered into the ERC registry until the emission reduction generating the ERCs has been certified by the Department in accordance with the criteria for ERC generation and creation contained in 25 PA Code 127.207 (relating to creditable emissions decrease or ERC generation and creation). [25 PA Code 127.206(j)]
- D. A major facility which, due to reductions in the maximum allowable emissions rates, including reductions made to generate ERCs, no longer meets the criteria in §127.203 (relating to facilities subject to special permit requirements) will continue to be treated as a major facility. [25 PA Code 127.206(k)]
- E. ERCs may not be traded to facilities under different ownership until the emissions reduction generating the ERCs is made Federally enforceable. [25 PA Code 127.206(l)]
- F. ERCs transferred from one facility to another may not be transferred to a third party, unless the transfer of the ERCs is processed by the Department through the ERC registry system. [25 PA Code 127.206(n)]
- G. Except as provided under 25 PA Code 127.210 (relating to offset ratios), an ERC created for a regulated criteria pollutant shall only be used for offsetting or netting an emissions increase involving the same criteria pollutant unless approved in writing by the Department and the EPA. [25 PA Code 127.206(o)]
- H. The owner or operator of a source or facility which has registered ERCs with the Department may not exceed the emissions limitation or violate other permit conditions established in generating the ERCs. [25 PA Code 127.206(p)]
- I. ERCs may not be generated for emissions in excess of those previously identified in required emission statements and for which applicable emission fees have been paid. [25 PA Code 127.206(q)]
- J. Pursuant to the provisions of 25 Pa. Code 127.207(7), if equipment has not been dismantled or removed, the owner or operator shall on an annual basis certify in writing to the Department the continuance of the shutdown.
- K. The facility and any subsequent user of these credits shall comply with the requirements of 25 PA Code 127.206, 127.207, and 127.208, regarding ERC use and transfer requirements.
- L. These ERCs may be used, traded, or sold after the approved entry of the ERCs by the Department into the Pennsylvania ERC Registry System.
- M. If the company wishes to restart any of the sources, a plan approval application shall be submitted.

**Summary:**

INDSPEC was a major source (Title V) based on potential emissions. They had a Title V permit with an expiration date of March 31, 2017. The shutdown of the sources in 2017 resulted in the facility becoming a State Only facility. The remaining sources were permitted in a State Only permit issued on March 8, 2018, with an expiration date of February 28, 2023. The State Only application was received on September 28, 2017. The shutdown of the sources located in Petrolia Borough resulted in ERCs for VOC, NO<sub>x</sub>, CO, SO<sub>x</sub>, PM10, and PM2.5. The approval of the ERCs will be incorporated into the facility operating permit via a modification/amendment application and will be published in the PA Bulletin.

Approval of this ERC application is recommended.

**MEMO**

**TO** File AQ/FAC/RACT/10-000-021  
APS ID: Auth ID: PF ID: 270150

**FROM** Hubert Thomas Flaherty HTF 12/17/2020  
New Source Review  
Air Quality Program

**THROUGH** David G. Balog, P.E. DGB 12/17/2020 Eric A. Gustafson EAG  
Environmental Engineer Manager Regional Program Manager  
Air Quality Program Air Quality Program  
Northwest Regional Office Northwest Regional Office

**DATE** October 20, 2020

**RE** Review of Application for RACT II  
INDSPEC Chemical Corporation - Petrolia  
Petrolia Borough, Butler County

**RACT II:**

RACT II final rulemaking was considered and adopted by the EQB on November 17, 2015. RACT II final rulemaking was approved by the Independent Regulatory Review Commission on March 10, 2016. RACT II final rulemaking was published in the PA Bulletin on April 23, 2016. Based on the Preamble, the final-form rulemaking contains definitions consistent with the Federal regulations in 40 CFR 72. From 25 PA Code 129.96(a), RACT II is applicable to the owner and operator of a major NO<sub>x</sub> and/or VOC emitting facility that were in existence on or before July 20, 2012.

This facility was a major stationary source of NO<sub>x</sub> & VOCs and was in existence before July 20, 2012. As such, in accordance with 25 Pa. Code §129.96, this facility is subject to the Department's RACT II requirements under §§129.97-129.100. In accordance with §129.99(d)(1)(i), the facility was required to submit a RACT proposal in accordance with the procedures in §129.92(a)(1)-(5), (7)-(10) and (b) by the October 24, 2016 deadline. On October 25, 2016, the Department received a RACT II Application for the facility dated October 24, 2016. The RACT II Application contained sources subject to alternative RACT proposal, sources subject to presumptive RACT II requirements under §129.97 and exempted sources not subject to RACT II under §129.96(c). The facility RACT II application addresses two (2) sources subject to an alternative RACT proposal for NO<sub>x</sub> pursuant to §129.99(b) and six (6) sources subject to an alternative RACT proposal for VOC pursuant to §129.99(c). This review consists of only the alternate RACT proposal from 25 PA Code 129.99.

Source	Source Name	Rating	NO <sub>x</sub>	VOC
035	No. 1 Bertram	12.8 mmbtu/hr	Presumptive (2)	Exempt
036	No. 2 Bertram	12.8 mmbtu/hr	Presumptive (2)	Exempt
038	#8 Keeler Boiler	141 mmbtu/hr	Presumptive (4)	Exempt
039	No. 9 Boiler	196.4 mmbtu/hr	Presumptive (4)	Exempt
040	#10 Boiler	200 mmbtu/hr	Presumptive (4)	Exempt
057	Caustic Pot Heaters (5 units)	10.8 mcf/hr ng	Presumptive (2)	Exempt
100	Copeland	8.5 mcf/hr ng	Presumptive (1)	Alternate (case-by-case)
101	Sulfonation	25 tons/hr benzene		Exempt
104	#1 Kiln	1.7 mcf/hr ng	Exempt	Exempt
105	#2 Kiln	1.7 mcf/hr ng	Exempt	Exempt
106	#1 Spray Drier	18.4 mcf/hr ng	Alternate (case-by-case)	Exempt
116	#3 Kiln	1.7 mcf/hr ng	Exempt	Exempt
117	#4 Kiln	2.7 mcf/hr ng	Presumptive (1)	Exempt
122	Oleum Unloading	47,500 #/hr sulfur trioxide		
131	#3 Spray Dryer	18.4 mcf/hr ng	Alternate (case-by-case)	Exempt
133	Sodium Sulfate Silo	5,000 #/hr Sodium sulfate		
134	#3 Acid Sodiator	100 tons/hr benzene	Exempt	Exempt
135	Extraction Process	100 tons/hr resorcinol 1 ton/hr neutral liquor		Alternate (case-by-case)
147	Miscellaneous Storage Tanks			Exempt
147A	Two (2) Benzene Storage Tanks	700 gal/hr benzene		Exempt
147B	Two (2) Ether Storage Tanks			Exempt
147C	Four (4) Ether Work Tanks			Presumptive (1)
147F	Formaldehyde Storage Tank #T-2050			Exempt
147G	Phenol Storage Tank #3019			Exempt
147H	Styrene Tank	12,000 gal/hr		Exempt
148	Reactor 505	1,250 #/hr resin		Exempt
149	Reactor 506	200 #/hr resin		Exempt

150		Reactor 507	4,250 #/hr resin/adhesive		Alternate (case-by-case)
152		#5 Dryer	25,000 #/hr sodium sulfate/fite		
153		#6 Dryer	25,000 #/hr sodium sulfate/fite		
154		Nine (9) Fusion Mixers	62,000 #/hr disalt+sodiumhydro		Exempt
159		BRA / HER Reaction Processes	150 #/hr BRA or USP		Exempt
161		Flaker Operations (2)	7,100 #/hr resorcinol		Exempt
162		Sulfate/Sulfite Storage/Handling	46,000 #/hr NA Sulfate/ite		
163		Brittle Resin Pastille Equipment	5,400 #/hr resin		Exempt
164		Distillation Area	26,500 #/hr resorcinol		Alternate (case-by-case)
165		Process Piping in Benzene & Phenol Service	15 gal/hr phenol 6,300 #/hr benzene		Exempt
165A		Components Subject to Subpart UU – LDAR			Exempt
165B		Components Subject to 25 PA Code 129.71 – LDAR			Alternate (case-by-case)
166		Carbonator	62,500 #/hr sodiated diacid		Exempt
170		Raw Material Unloading/Storage @ Hill Plant	80 tons/hr solox+formaldehyde		Exempt
171		Resin Loading @ Hill Plant	20 tons/hr resin		Exempt
173		Liquid Resorcinol Loading Operation	7,500 #/hr resorcinol		Exempt
175		Recovery Centrifuges & Tank Vents	27,000 #/hr intermediates, sodium		Exempt
177		Soda Ash Handling	25,000 #/hr soda ash		
178		Krystal Units #1 & #2	9,000 #/hr sodium sulfate slurry		Presumptive (1)
179		Krystal #3	17,600 #/hr sodium sulfate slurry		Alternate (case-by-case)
180B		250 HP Air Compressor	82.5 gal/hr diesel	Presumptive (3)	

			fuel	Source Removed	
190		9,500-gallon Resorcinol Storage Vessel	1,000 #/hr resorcinol		Exempt
191		Resin Hold Tank	4,500 #/hr brittle resin		Exempt
192		Main Cooling Tower	600,000 gal/hr cooling water		
194		Krystal #3 Cooling Tower	108,000 gal/hr cooling water		
202		Rail Car Cleaning			
237		Tank #T-3056			Exempt

## Notes:

- Blank means source does not emit pollutant
- Exempt: Potential emissions of less than 1 tpy for NO<sub>x</sub> or 1 tpy of VOC
- Presumptive (1): install, maintain, and operate the source in accordance with the manufacturer's specifications and with good operating practices [25 PA Code 129.97(c)(1) & (c)(2) – NO<sub>x</sub> PTE < 5 tpy or VOC PTE < 2.7 tpy]
- Presumptive (2): install, maintain, and operate the source in accordance with the manufacturer's specifications and with good operating practices [25 PA Code 129.97(c)(3) – combustion source < 20 mmbtu/hr]
- Presumptive (3): install, maintain, and operate the source in accordance with the manufacturer's specifications and with good operating practices [25 PA Code 129.97(c)(5) & (c)(8) – stationary ICE < 500 bhp & emergency standby engine operated < 500 hours in a 12-month period]
- Presumptive (4): NO<sub>x</sub> limit of 0.10 # NO<sub>x</sub>/mmbtu heat input [25 PA Code 129.97(g)(1)]

## Sources that haven't shutdown and are currently included in the facility operating permit:

Source	Source Name	Rating	NO <sub>x</sub>	VOC
147D	Gasoline Storage Tank #3019			Exempt
169	Sodium Sulfate Product Loading @ Copeland			
180	South & North Generators (1387 hp engines)	142 gal/hr diesel fuel	Presumptive (1)	Presumptive (1)
180A	#1 Fire Pump Engine (237 hp)	14.6 gal/hr diesel fuel	Presumptive (2)	Presumptive (2)
180D	Air Compressor Engine (307 hp model TAD 764 VE)	15.7 gal/hr diesel fuel	N/A (1)	N/A (1)
180E	Fire Pump Engine (220 hp)	11.2 gal/hr diesel fuel	N/A (2)	N/A (2)
180F	New #2 Fire Pump Engine (220 hp JD)	11.2 gal/hr diesel fuel	N/A (3)	N/A (3)
235	Tank Number T-3034			Exempt
236	Tank Number T-3054			Exempt
238	Tank Number T-3069			Exempt

250	T-3072 (Effluent Tank) 451,000 Gal			Exempt
270	V-8 X-Factor Tank		N/A (4)	N/A (4)
280	V-9 X-Factor Tank		N/A (5)	N/A (5)

Note:

- Blank means source does not emit pollutant
- Exempt: Potential emissions of less than 1 tpy for NO<sub>x</sub> or 1 tpy of VOC
- Presumptive (1): install, maintain, and operate the source in accordance with the manufacturer's specifications and with good operating practices [25 PA Code 129.97(c)(8) – emergency standby engine operated < 500 hours in a 12-month period]
- Presumptive (2): install, maintain, and operate the source in accordance with the manufacturer's specifications and with good operating practices [25 PA Code 129.97(c)(5) & (c)(8) – stationary ICE < 500 bhp & emergency standby engine operated < 500 hours in a 12-month period]
- N/A (1): Constructed after July 20, 2012 (Constructed on 5/9/13)
- N/A (2): Constructed after July 20, 2012 (Constructed on 8/11/14)
- N/A (3): Constructed after July 20, 2012 (Constructed on 9/16/15)
- N/A (4): Constructed after July 20, 2012 (Constructed on 12/23/14)
- N/A (5): Constructed after July 20, 2012 (Constructed on 11/5/14)

This review consists of only the alternate RACT proposal from 25 PA Code 129.99.

Source	Source Name	Rating	NO <sub>x</sub>	VOC
100	Copeland	8.5 mcf/hr ng	Presumptive (1)	Alternate (case-by-case)
106	#1 Spray Drier	18.4 mcf/hr ng	Alternate (case-by-case)	Exempt
131	#3 Spray Dryer	18.4 mcf/hr ng	Alternate (case-by-case)	Exempt
135	Extraction Process	100 tons/hr resorcinol 1 ton/hr neutral liquor		Alternate (case-by-case)
150	Reactor 507	4,250 #/hr resin/adhesive		Alternate (case-by-case)
164	Distillation Area	26,500 #/hr resorcinol		Alternate (case-by-case)
165B	Components Subject to 25 PA Code 129.71 – LDAR			Alternate (case-by-case)
179	Krystal #3	17,600 #/hr sodium sulfate slurry		Alternate (case-by-case)

The Extraction Process (Source 135) consists of the following:

Source	Emission Point	Control Device	VOC PTE (tpy)	Notes
Extraction Process (135)	S135	Condensers (C135)	3.8	2 condenser vents (RACT II: case-by-case)
	Z135	Fugitive LDAR	Included with Z165B	

Ether Storage Tanks (147B)	Z135	Fugitive LDAR	0.87	2 storage tanks (RACT II: exempt)
Ether Works Tanks (147C)	S135	Condensers (C135)	Included with S135	4 storage tanks (RACT II: presumptive)
	Z135	Fugitive LDAR	6.7 total (1.7 each)	
Raffinate Tank T-3034 (235)	Z235	Fugitive LDAR	149.0	Site-wide use of raffinate in various processes [RACT II: N/A - Subject to 25 PA Code 129.71 (see 25 PA Code 129.96 - applicability)]
Fugitive Emissions (165B)	Z165B	Fugitive LDAR	6.45	Site-wide process piping in ether service [RACT II: N/A - Subject to 25 PA Code 129.71 (see 25 PA Code 129.96 - applicability)]
Miscellaneous Process Vents (Site-wide) (135)			43.18	Site-wide ether emissions not otherwise accounted for [RACT II: N/A - Subject to 25 PA Code 129.71 (see 25 PA Code 129.96 - applicability)]

### Alternative RACT Proposal and Petition for Alternative Compliance Schedule:

In accordance with §129.99(d)(1), the facility shall submit a written RACT proposal in accordance with the procedures in §129.92(a)(1)-(5), (7)-(10) and (b).

From 25 PA Code 129.99(a), the facility may propose an alternative RACT requirement or RACT emission limitation in accordance with subsection (d). The facility proposed the following:

- Source 106 & 131: Continue to use good combustion practices with no change in the NO<sub>x</sub> emission rate.
- Source 100: Continue to use the existing scrubbers with no change in the VOC emission rate.
- Source 135: Continue to use the existing condensers with no change in the VOC emission rate.
- Source 150: Continue to use the existing condenser with no change in the VOC emission rate.
- Source 164: Continue to use the existing condensers with no change in the VOC emission rate.
- Source 165B: Continue to use the existing LDAR program with no change in the VOC emission rate.
- Source 179: Continue to use the existing condenser with no change in the VOC emission rate.

### Original RACT (12-7-95)

- The facility shall install combination flame arrestor conservation vents on the four ether feed tanks (work tanks) T-869, T-870, T-1085, and T-1086.
- The VOC emissions from the four work tanks in the extraction area shall be reduced by 96.5%.
- The facility shall install low-NO<sub>x</sub> burners on Boiler #8 and convert the boiler from coal to natural gas as approved under Plan Approval #10-302-021A issued September 28, 1994.
- The facility shall comply with the following:

- Boiler #7 NO<sub>x</sub> limit: 0.14 #/mmbtu; 8.4 #/hr; 36 tpy calculated on a 12-month rolling basis
- Boiler #8 NO<sub>x</sub> limit: 0.065 #/mmbtu; 9.16 #/hr; 40.12 tpy calculated on a 12-month rolling basis
- Boiler #9 NO<sub>x</sub> limit: 0.11 #/mmbtu; 22 #/hr; 96.4 tpy calculated on a 12-month rolling basis
- Within 30 days after installation of NO<sub>x</sub> and VOC controls, a test procedure and a sketch with dimensions indicating the location of sampling ports and other data to ensure the collection of representative samples shall be submitted to the Department.
- Within 60 days of the installation of the NO<sub>x</sub> and VOC controls, stack tests shall be performed in accordance with the provisions of Chapter 139 to show compliance with the NO<sub>x</sub> emission limits for Boiler #7 and the 96.5% reduction from the four work tanks.
- At least two weeks prior to the tests, the Department shall be informed of the date and time of the tests.
- Within 60 days after completion of the tests, two copies of the complete test report, including all operating conditions, shall be submitted to the Department for approval.
- The Department reserves the right to revise the emission limits established based on actual emission rates and the emissions during stack testing.
- INDSPEC shall monitor and record the amount of steam produced, the pressure at which it is produced, the boiler efficiency and the heat input to Boiler #4 and #5. The maximum heat input to these boilers shall not exceed 49.5 mmbtu/hr.
- Following the implementation of the RACT requirements, the facility shall, through the use of a Department approved periodic source testing program or predictive modeling program, determine the rate of emissions of NO<sub>x</sub> from Boiler #8 unless the owner and operator elects to use a Department approved continuous monitoring system [25 PA Code Section 129.91(i)].
- The presumptive NO<sub>x</sub> sources shall be maintained and operated in accordance with manufacturer's specifications. The sources shall also be operated and maintained in accordance with good air pollution control practices.
- The facility shall comply with the record keeping requirements of 25 PA Code Section 129.95.

#### Revised RACT (10-19-98) (SIPed)

- The facility shall install combination flame arrestor conservation vents on the four ether feed tanks (work tanks) T-869, T-870, T-1085, and T-1086.
- The VOC emissions from the four work tanks in the extraction area shall be reduced by 96.5%.
- The facility shall comply with the following:
  - Boiler #3 NO<sub>x</sub> limit: 0.51 #/mmbtu; 25.5 #/hr; 111.7 tpy calculated on a 12-month rolling basis
  - Boiler #7 NO<sub>x</sub> limit: 0.14 #/mmbtu; 8.4 #/hr; 15.6 tpy calculated on a 12-month rolling basis
  - Boiler #8 NO<sub>x</sub> limit: 0.51 #/mmbtu; 60.2 #/hr; 263.6 tpy calculated on a 12-month rolling basis
  - Boiler #9 NO<sub>x</sub> limit: 0.11 #/mmbtu; 22 #/hr; 96.4 tpy calculated on a 12-month rolling basis
- The #7 boiler shall not burn more than 223 mmcf of natural gas per year (based on a 12-month rolling total). The facility shall keep records of the natural gas burned by the #7 boiler based on a 12-month rolling total. The records shall be kept by the facility for a minimum of 5 years.
- Boiler #3 and Boiler #8 shall be operated in accordance with the manufacturer's recommendations. The sources shall also be operated and maintained in accordance with good air pollution control practices.
- The applicant shall install, operate and maintain continuous monitoring systems to monitor the NO<sub>x</sub> emissions for Boiler #9. The NO<sub>x</sub> monitor shall be maintained and operated in compliance with the

requirements of the Department's CEM Manual, 25 PA Code Chapter 139, and 40 CFR Part 60, Subpart Db.

- Within 30 days after installation of NO<sub>x</sub> and VOC controls, a test procedure and a sketch with dimensions indicating the location of sampling ports and other data to ensure the collection of representative samples shall be submitted to the Department.
- Within 60 days of the installation of the NO<sub>x</sub> and VOC controls, stack tests shall be performed in accordance with the provisions of Chapter 139 to show compliance with the NO<sub>x</sub> emission limits for Boiler #7 and the 96.5% reduction from the four work tanks. The sources shall be tested at least once every five years except for the combustion units rated greater than 100 mmbtu/hr. The combustion units rated greater than 100 mmbtu/hr shall be stack tested on an annual basis to comply with the requirements of 25 PA Code Section 129.91(i).
- At least two weeks prior to the tests, the Department shall be informed of the date and time of the tests.
- Within 60 days after completion of the tests, two copies of the complete test report, including all operating conditions, shall be submitted to the Department for approval.
- The Department reserves the right to revise the emission limits established based on actual emission rates and the emissions during stack testing.
- INDSPEC shall monitor and record the amount of steam produced, the pressure at which it is produced, the boiler efficiency and the heat input to Boiler #4 and #5. The maximum heat input to these boilers shall not exceed 49.5 mmbtu/hr.
- The presumptive NO<sub>x</sub> sources shall be maintained and operated in accordance with manufacturer's specifications. The sources shall also be operated and maintained in accordance with good air pollution control practices.
- The facility shall comply with the record keeping requirements of 25 PA Code Section 129.95.

#### Sources covered by original and revised RACT

Source	Description	In Existence on July 20, 2012
038	Boiler #8	Yes
039	Boiler #9	Yes
032	Boiler #3	No
031	Boiler #4	No
033	Boiler #5	No
037	Boiler #6	No
034	Boiler #7	No
165	Process Piping	Yes
135	Extraction Process	Yes
147	T-1611, T-2017, T-1057, T-1205, T-528, & T-844	Yes
147C	T-869, T-870, T-1085, & T-1086	Yes
	T-922	No
	T-923	No
	T-994	No
	T-1026	No
	T-1027	No
	T-1028	No
	T-1029	No

	T-1059	No
	T-1094	No
	T-1108	No
	T-1514	No
	T-1530	No
	T-2003	No
	T-2036	No

From both the original RACT and the revised RACT, Source 147 [Miscellaneous Storage Tanks consisting of T-1611, T-2017, T-1057, T-1205, T-528, & T-844], Source 147C [Four (4) Ether Work Tanks consisting of T-869, T-870, T-1085, & T-1086], Source 038 [#8 Keeler Boiler], Source 039 [No. 9 Boiler], Source 165 [Process Piping], & Source 135 [Extraction Process] were the only sources still in existence on July 20, 2012.

### **NO<sub>x</sub> Analysis:**

Existing NO<sub>x</sub> Control Technologies for Source 106 & Source 131:

- None

Additional NO<sub>x</sub> Control Technologies:

- Selective Non-Catalytic Reduction (SNCR)
- Selective Catalytic Reduction (SCR)
- EM<sub>x</sub>/SCONO<sub>x</sub>
- Low NO<sub>x</sub> Burners (LNB)
- Good Combustion Practices/Minimize Excess Air

Evaluation of Technical Feasibility:

- Selective Non-Catalytic Reduction (SNCR) – SNCR uses ammonia or urea to react with NO<sub>x</sub> to form N<sub>2</sub> and H<sub>2</sub>O without the use of a catalyst. This reaction occurs at ~ 1,600 to 2,100F. SNCR is not feasible because exhaust temperatures for the dryers range from 1290F to 1560F and would require additional combustion to raise the temperature for the reaction to occur. Also, as these are direct-fired units, injection of the reagent into the flue gas exhaust would impact the process material and affect product quality.
- Selective Catalytic Reduction (SCR) – SCR uses ammonia or urea (reducing agent) to selectively reduce NO<sub>x</sub> to N<sub>2</sub> and H<sub>2</sub>O. The reducing agent is injected into the flue gas stream upstream of a catalyst bed. SCR requires an optimum temperature range of 575F to 750F and fairly constant temperatures or NO<sub>x</sub> removal efficiency decreases. SCR is not feasible because at the exhaust temperatures of 1290F to 1560F, conventional reduction catalysts break down and are unable to perform their desired functions.
- EM<sub>x</sub>/SCONO<sub>x</sub> – SCONO<sub>x</sub> system consists of a platinum-based catalyst coated with potassium carbonate to oxidize NO<sub>x</sub> and CO (to CO<sub>2</sub>). The catalyst is installed in the flue gas with a temperature range of 300F to 700F. The EM<sub>x</sub> (second-generation SCONO<sub>x</sub> NO<sub>x</sub> Absorber Technology) utilizes a single catalyst to oxidize both NO and CO, a second catalyst system to absorb NO<sub>2</sub>, and a regeneration system to convert the NO<sub>2</sub> to N<sub>2</sub> and water vapor. EM<sub>x</sub>/SCONO<sub>x</sub> is not feasible because exhaust temperatures for the dryers range from 1290F to 1560F.
- Low NO<sub>x</sub> Burners (LNB) – LNB are designed to control fuel and air mixing to create larger and more branched flames reducing peak temperatures resulting in less NO<sub>x</sub> formation. LNB is feasible.

- Good Combustion Practices/Minimize Excess Air – This consists of the following:
  - Maintaining the temperature at the lower end of the desired range and when the distribution of air at the air and fuel injection zones is controlled (maintaining a low-oxygen condition near fuel injection points).
  - Minimizing excess air
  - Good Combustion Practices/Minimize Excess Air is feasible.

Ranking of the Technically Feasible Control Technologies:

- Low NO<sub>x</sub> Burners (LNB)
- Good Combustion Practices/Minimize Excess Air

Evaluation of Cost Effectiveness of each Control Technology:

In the preamble to the RACT II regulations, the Department indicated that \$3,500/ton of NO<sub>x</sub> removed and \$7,000/ton of VOCs removed was deemed the upper-bound cost-effectiveness threshold and applying these new thresholds does not have an effect on the add-on control technology decisions for the presumptive RACT requirements established in the final-form rule-making (Pennsylvania Bulletin, Vol. 46, No. 17, April 23, 2016 page 2044). The cost analysis conducted for LNB/ULNB was \$31,224/\$21,218 for Source 106 based on PTE of 11.26 tpy. The cost analysis conducted for LNB/ULNB was \$31,224/\$21,218 for Source 131 based on PTE of 11.26 tpy. Based on the cost analysis, LNB/ULNB is deemed to be not cost-effective.

NO<sub>x</sub> Conclusion:

For Source 106 & Source 131, no additional control technologies are deemed RACT II. RACT II is deemed to be continued use of Good Combustion Practices/Minimize Excess Air for both sources with no change in the NO<sub>x</sub> emission rate.

**VOC Analysis:**

Existing VOC Control Technologies for Source 100:

- Two scrubbers (C100A & C100B)

Existing VOC Control Technologies for Source 135:

- Dual condensers (C135)

Existing VOC Control Technologies for Source 150:

- Condenser (C150)

Existing VOC Control Technologies for Source 164:

- Condensers (C164A, C164C, C164D)

Existing VOC Control Technologies for Source 165B:

- LDAR

Existing VOC Control Technologies for Source 179:

- Condenser (C179)

Additional VOC Control Technologies for Source 100, Source 135, Source 150, Source 164, & Source 179:

- Catalytic Incineration/Oxidation
- Thermal Incineration/Oxidation
- Carbon Adsorption

- Absorption (Scrubber)
- Condensers

Additional VOC Control Technologies for Source 165B:

- None

Evaluation of Technical Feasibility:

- Catalytic Incineration/Oxidation – A catalyst is used to promote oxidation of the inlet gas stream at lower temperatures (850F to 1,100F) than required in thermal oxidation with a minimum exhaust gas stream temperature of 500F for minimally acceptable control. Destruction efficiency is more sensitive to inlet concentration than thermal incineration due to mixing and limited contact time.
  - Not feasible for Source 100 because the outlet stream temperature would have to be heated to a minimum of 500F from the current 185F. Also, the exhaust is saturated with water which would present a safety concern as steam would be generated.
  - Not feasible for Source 135 because the outlet stream temperature would have to be heated to a minimum of 500F from the current 20F. Also, the exhaust is saturated with water which would present a safety concern as steam would be generated.
  - Not feasible for Source 150 because the outlet stream temperature would have to be heated to a minimum of 500F from the current 220F. Also, the exhaust is saturated with water which would present a safety concern as steam would be generated.
  - Not feasible for Source 164 because the outlet stream temperature would have to be heated to a minimum of 500F from the current 220F. Also, the exhaust is saturated with water which would present a safety concern as steam would be generated.
  - Not feasible for Source 179 because the outlet stream temperature would have to be heated to a minimum of 500F from the current 150F. Also, the exhaust is saturated with water which would present a safety concern as steam would be generated.
- Thermal Incineration/Oxidation – The VOC air stream is heated to several hundred degrees above the auto-ignition temperature of the organic compounds being oxidized (generally ~ 1,650F). The high efficiency listed is due to high inlet loading concentrations. As the inlet loading decreases, the efficiency also decreases but typically meet 20 ppmv outlet concentration.
  - Feasible for Source 100
  - Feasible for Source 135
  - Feasible for Source 150
  - Feasible for Source 164
  - Feasible for Source 179
- Carbon Adsorption – This is the selective transfer of one or more components of a gas mixture onto the surface of the pores of a solid sorbent (usually activated carbon). The adsorbed VOC is desorbed by the addition of heat and the VOCs collected for reuse or disposal. Depending on type of system, outlet concentrations typically range from 50 to 100 ppmv VOCs for inlet concentrations on the order of 1,000 ppmv for continuous operations and 20 ppmv independent of the inlet concentration (but no greater than 25% of LEL) for a canister system.
  - Not feasible for Source 100 because of the required cooling and dehumidification prior to the adsorption bed which would generate a significant amount of water with no current means to handle. Also, the exhaust stream would foul the adsorption bed due to the entrained water droplets.

- Not feasible for Source 135 because of the required dehumidification prior to the adsorption bed which would generate a significant amount of water with no current means to handle.
- Not feasible for Source 150 because of the required cooling and dehumidification prior to the adsorption bed which would generate a significant amount of water with no current means to handle. Also, the exhaust stream would foul the adsorption bed due to the entrained water droplets.
- Not feasible for Source 164 because of the required cooling and dehumidification prior to the adsorption bed which would generate a significant amount of water with no current means to handle. Also, the exhaust stream would foul the adsorption bed due to the entrained water droplets.
- Not feasible for Source 179 because of the required cooling and dehumidification prior to the adsorption bed which would generate a significant amount of water with no current means to handle. Also, the exhaust stream would foul the adsorption bed due to the entrained water droplets.
- Absorption (Scrubber) – Scrubbers combine rapid gas absorption by use of pressure drop and excellent gas and liquid distribution using either water or a chemical solution to provide a liquid scrubbing liqeur.
  - Feasible for Source 100 (currently utilizing 2 scrubbers)
  - Not feasible for Source 135 because the exhaust stream is below the freezing point of water. Also, when you retrofit a sufficient size and space is required and the area at the facility is tightly packed and readily available.
  - Not feasible for Source 150 because the exhaust stream after going through the existing condenser has a very low concentration of VOC (in low ppm range). Also, when you retrofit a sufficient size and space is required and the area at the facility is tightly packed and readily available.
  - Not feasible for Source 164 because the exhaust stream after going through the existing condenser has a very low concentration of VOC (in low ppm range). Also, when you retrofit a sufficient size and space is required and the area at the facility is tightly packed and readily available.
  - Not feasible for Source 179 because this is a saturated vent stream with little or no non-condensable constituents. Scrubbing would condense all the water evaporated by the process which is intended to evaporate water from the process to allow the production of sodium sulfate. The facility does not have a wastewater stream and manages its complicated water balance through the use of processes. The facility would need to develop a means for treatment and discharge of 40,000 gallons per day. Also, when you retrofit a sufficient size and space is required and the area at the facility is tightly packed and readily available.
- Condenser – Refrigerated condensers cool an emission stream and change the VOC vapors in it to a liquid. The liquid can be recovered, refined, or reused. A refrigerated condenser works best on emission streams containing high concentrations of VOC.
  - Not feasible for Source 100 because of the large amount of energy required to condense the large exhaust flows and would require additional equipment (wastewater treatment) for the amount of water collected.
  - Feasible for Source 135 (currently utilizing 2 condensers)
  - Feasible for Source 150 (currently utilizing condenser)
  - Feasible for Source 164 (currently utilizing 3 condensers)
  - Feasible for Source 179 (currently utilizing condenser)

- LDAR – Work practice designed to identify leaking equipment by monitoring at specified, regular intervals and repairing and replacing within a specified time frame.
  - Feasible for Source 165B (currently utilizing LDAR)

#### Ranking of the Technically Feasible Control Technologies:

- Source 100
  - Thermal Incineration/Oxidation
  - Absorption (Scrubber) (currently utilizing 2 scrubbers)
- Source 135
  - Thermal Incineration/Oxidation
  - Condenser (currently utilizing 2 condensers)
- Source 150
  - Thermal Incineration/Oxidation
  - Condenser (currently utilizing condenser)
- Source 164
  - Thermal Incineration/Oxidation
  - Condenser (currently utilizing 3 condensers)
- Source 165B
  - LDAR (currently utilizing LDAR)
- Source 179
  - Thermal Incineration/Oxidation
  - Condenser (currently utilizing condenser)

#### Evaluation of Cost Effectiveness of each Control Technology:

In the preamble to the RACT II regulations, the Department indicated that \$3,500/ton of NO<sub>x</sub> removed and \$7,000/ton of VOCs removed was deemed the upper-bound cost-effectiveness threshold and applying these new thresholds does not have an effect on the add-on control technology decisions for the presumptive RACT requirements established in the final-form rule-making (Pennsylvania Bulletin, Vol. 46, No. 17, April 23, 2016 page 2044). The cost analysis conducted for Thermal Incineration/Oxidation was \$54,565 for Source 100 based on PTE of 17.4 tpy. Based on the cost analysis, Thermal Incineration/Oxidation is deemed to be not cost-effective. The cost analysis conducted for Thermal Incineration/Oxidation was \$196,521 for Source 135 based on PTE of 3.8 tpy. Based on the cost analysis, Thermal Incineration/Oxidation is deemed to be not cost-effective. The cost analysis conducted for Thermal Incineration/Oxidation was \$85,487 for Source 150 based on PTE of 8.8 tpy. Based on the cost analysis, Thermal Incineration/Oxidation is deemed to be not cost-effective. The cost analysis conducted for Thermal Incineration/Oxidation was \$77,937 for Source 164 based on PTE of 9.6 tpy. Based on the cost analysis, Thermal Incineration/Oxidation is deemed to be not cost-effective. The cost analysis conducted for Thermal Incineration/Oxidation was \$116,101 for Source 179 based on PTE of 6.5 tpy. Based on the cost analysis, Thermal Incineration/Oxidation is deemed to be not cost-effective.

#### VOC Conclusion:

For Source 100, Source 135, Source 150, Source 164, Source 165B, & Source 179, no additional control technologies are deemed RACT II. RACT II is deemed to be the following:

- Source 100: Continue to use the existing scrubbers with no change in the VOC emission rate.
- Source 135: Continue to use the existing condensers with no change in the VOC emission rate.

- Source 150: Continue to use the existing condenser with no change in the VOC emission rate.
- Source 164: Continue to use the existing condensers with no change in the VOC emission rate.
- Source 165B: Continue to use the existing LDAR program with no change in the VOC emission rate.
- Source 179: Continue to use the existing condenser with no change in the VOC emission rate.

**Conditions:**

The facility operating permit should include the following:

- In accordance with §129.99(g), the emission limit and requirements specified in the plan approval or operating permit issued by the Department or appropriate approved local air pollution control agency under subsection (f) supersede the emission limit and requirements in the existing plan approval or operating permit issued to the owner or operator of the source prior to April 23, 2016, on the date specified in the plan approval or operating permit issued by the Department or appropriate approved local air pollution control agency under subsection (f), except to the extent the existing plan approval or operating permit contains more stringent requirements.
- In accordance with §129.100(d), the owner and operator of an air contamination source subject to this section and §§129.96-129.99 shall keep records to demonstrate compliance with §§129.96-129.99 in the following manner:
  - The records must include sufficient data and calculations to demonstrate that the requirements of 25 PA Code 129.96 – 129.99 are met.
  - Data or information required to determine compliance shall be recorded and maintained in a time frame consistent with the averaging period of the requirement.
- In accordance with §129.100(i), records shall be retained by the owner or operator for 5 years and made available to the Department or appropriate approved local air pollution control agency upon receipt of a written request from the Department or appropriate approved local air pollution control agency.

**EPA/EPA Planning:**

The RACT II was submitted to EPA on September 9, 2020, and received on September 9, 2020, to begin their comment period ending on September 30, 2020. EPA submitted comments on September 28, 2020, and the Department responded to those comments on October 16, 2020. EPA stated they had no comments on October 20, 2020.

**Summary:**

The RACT II Proposal will be incorporated into the facility operating permit either at permit renewal or after submittal of the operating permit modification application which will include the following:

- Facility operating permit application cover sheet
- Fee
- Compliance History
- Municipal/County notifications and receipts
- GIF
- Description of the RACT II conditions & the RACT II application

cc: New Source Review - Hrsbg.  
File AQ/FAC//RACT/10-000-021 - thru L. McNabb  
New Castle District Office – thru D. Dyll  
EPA Region 3

**MEMO**

**TO** File AQ/FAC/RACT/10-000-021  
APS ID: Auth ID: PF ID: 270150

**FROM** Hubert Thomas Flaherty HTF 12/17/2020  
New Source Review  
Air Quality Control  
Northwest Regional Office

**THROUGH** David G. Balog, P.E. DGB 12/17/2020 Eric A. Gustafson EAG  
Environmental Engineer Manager Regional Program Manager  
Air Quality Program Air Quality Program  
Northwest Regional Office Northwest Regional Office

**DATE** October 20, 2020

**RE** EPA Comment and Response Document  
INDSPEC Chemical Corporation - Petrolia  
Petrolia Borough, Butler County

This is in response to EPA Preliminary “Pre-Draft” comments received on September 28, 2020. The Department’s responses are as follows:

1. Page 1: Second paragraph should read “... six (6) sources subject to an alternative RACT proposal for VOC...” rather than five (5). **Department Response:** The memo has been revised to show 6 sources.
2. Understanding that this CbC RACT determination for INDSPEC is being processed in order to complete the company’s ERC application, what is PADEP Central Office’s opinion on memorializing the CbC RACT requirements in the PA SIP? It appears from the technical review memo that both of the sources subject to CbC NO<sub>x</sub> RACT and all six of the sources subject to CbC VOC RACT are no longer in operation and are no longer permitted. Will EPA be receiving a SIP revision proposal from Central Office for INDSPEC, to incorporate their CbC RACT II requirements into the PA SIP? This might be more of a question for Central Office. **Department Response:** Your question has been forwarded to Central Office to respond. The Department believes a preliminary approval can be granted prior to getting a response from Central Office on this issue to begin the process of formally including the RACT II conditions into its operating permit and beginning EPA 45-day comment period and the public notice requirements.
3. For the sources that are now following presumptive RACT II, yet had SIP’d RACT I requirements (for example, the boilers), has PADEP done a comparison of the proposed presumptive RACT II requirements with those SIP’d RACT I requirements in order to ensure that they are at least as

stringent? Or will all the RACT I requirements for all the sources remain in effect? **Department Response:**

Source	Description	Original RACT	Revised RACT (SIPed)	Presumptive RACT II	As or More Stringent
038	Boiler #8	NO <sub>x</sub> emission limit of 0.065 #/mmbtu; 9.16 #/hr; 40.12 tpy calculated on a 12-month rolling basis	NO <sub>x</sub> emission limit of 0.51 #/mmbtu; 60.2 #/hr; 263.6 tpy calculated on a 12-month rolling basis	NO <sub>x</sub> emission limit of 0.10 # NO <sub>x</sub> /mmbtu heat input [25 PA Code 129.97(g)(1)]	Yes
039	Boiler #9	NO <sub>x</sub> emission limit of 0.11 #/mmbtu; 22 #/hr; 96.4 tpy calculated on a 12-month rolling basis	NO <sub>x</sub> emission limit of 0.11 #/mmbtu; 22 #/hr; 96.4 tpy calculated on a 12-month rolling basis	NO <sub>x</sub> emission limit of 0.10 # NO <sub>x</sub> /mmbtu heat input [25 PA Code 129.97(g)(1)]	Yes
165	Process Piping			Exempt - Potential emissions of less than 1 tpy for NO <sub>x</sub> or 1 tpy of VOC	Yes
135	Extraction Process			Alternate (case-by-case)	
147	T-1611, T-2017, T-1057, T-1205, T-528, & T-844			Exempt - Potential emissions of less than 1 tpy for NO <sub>x</sub> or 1 tpy of VOC	Yes
147C	T-869, T-870, T-1085, & T-1086	VOC emissions shall be reduced by 96.5% after installing combination flame arrestor conservation vents	VOC emissions shall be reduced by 96.5% after installing combination flame arrestor conservation vents	install, maintain, and operate the source in accordance with the manufacturer's specifications and with good operating practices [25 PA Code 129.97(c)(1) & (c)(2) – NO <sub>x</sub> PTE < 5 tpy or VOC PTE < 2.7 tpy]	Yes

The following sources were covered in the original and revised RACT; however, they were no longer in existence on July 20, 2012 and not included in RACT II					
032	Boiler #3				
031	Boiler #4				
033	Boiler #5				
037	Boiler #6				
034	Boiler #7				
	T-922, T-923, T-994, T-1026, T-1027, T-1028, T-1029, T-1059, T-1094, T-1108, T-1514, T-1530, T-2003, T-2036				

4. Note that the technical review memo mentions two versions of the RACT I permit for INDSPEC. Only the later RACT I permit (PA-10-021, issued 10/19/98) was incorporated into the PA SIP. And that permit states that it supersedes the older RACT I permit (stated in the review memo on page 6 as being issued in 1995). **Department Response:** The Department understands that only the RACT permit issued on 10/19/98 has been SIPed. The review memo has been revised to indicate that the 10/19/98 RACT has been SIPed.
5. Building on the above comment #3, Conditions #6, 7, and 12-15 of the RACT I permit, issued in 1998, pertain to the four tanks that seemingly are part of the extraction process (T869, T870, T1085, and T1086). These four tanks appear to be under Source ID 147C (not under Source ID 135 for the extraction process). Will PADEP be doing a comparison of the presumptive RACT II requirements for Source ID 147C with the requirements found in the RACT I permit in order to ensure that they are at least as stringent? Or will Conditions #6, 7, and 12-15 remain in effect for Source ID 147C? **Department Response:** See response to #3 above for Source 147C. Also, Source 147C is no longer in operation.
6. The technical and economic feasibility analyses for CbC NO<sub>x</sub> and VOC RACT II for the affected sources at INDSPEC concludes that there are no feasible additional add-on controls, and that existing NO<sub>x</sub> and VOC emission limits will remain. What are the existing NO<sub>x</sub> and VOC emission limits for each of the sources and is PADEP determining these limits to be RACT? What is the origin of each of the emission limits (e.g., RACT I limits, BAT, BACT/LAER determination)? What are the actual emissions for each of these sources and how do the actuals compare to the limits being retained? Are these limits tpy limits – and if so, are they rolled/summed on a 30-day basis? Or are they shorter term limits? How will the facility monitor for the limits – and what are the associated recordkeeping and reporting requirements? **Department Response:** Based on all the sources that went through the alternate RACT II have been shutdown, there are no RACT II limits nor any recordkeeping/reporting requirements for these shutdown sources.

Source	Existing NO <sub>x</sub> Limit	Existing VOC Limit	Current Status
106	None	N/A	No longer operating, shutdown on 3/31/17
131	None	N/A	No longer operating, shutdown on 3/31/17
100	N/A	None	No longer operating, shutdown on 9/30/17
135	N/A	210 tpy based on a 12-	This source consisted of Source 135

		month rolling total (from last permit the source was in)	(Extraction Process), Source 135 (Miscellaneous Process Vents), Source 147B (2 Ether Storage Tanks), Source 147C (4 Ether Work Tanks), Source 235 (Raffinate Tank: T-3034), & Source 165B (Components Subject to 25 PA Code 129.71 – LDAR) All these sources are no longer operating, shutdown in 2017 with the exception o Source 235 which has been repurposed from a Raffinate Tank to a Stormwater Tank with a PTE of 0.1 tpy. Based on the source no longer operating, the previous limit of 210 tpy is not considered RACT II.
150	N/A	None	No longer operating, shutdown on 7/31/17
164	N/A	None	No longer operating, shutdown on 3/31/17
165B	N/A	LDAR (from last permit the source was in)	See Source 135 above
179	N/A	None	No longer operating, shutdown on 3/31/17

7. For the two sources complying with CbC NO<sub>x</sub> RACT, is “good combustion practices” further defined in the facility’s permit? **Department Response:** No, but the review memo in the NO<sub>x</sub> Analysis section does define what that is. However, because the two sources are no longer in operation, defining “good combustion practices” does not apply.
8. For the six sources complying with CbC VOC RACT, it doesn’t appear that any sort of work practice or good operating practice requirements were evaluated as part of the RACT determination. If not, why not? Are there specific good operating practices defined elsewhere in the facility’s permit for these sources? **Department Response:** Because the six sources are no longer in operation, defining “good combustion practices” does not apply.

The RACT II comment response was submitted to EPA on October 16, 2020. EPA stated they had no additional comments or questions at this time on October 20, 2020.

cc: New Source Review - Hrsbg.