

Statement of Basis

Pruet Production Company (Pruet) operates Cedar Creek, Area No. 2 (Area 2) under Major Source Operating Permit (MSOP) No. 103-0017 in southern Conecuh County, east of Castleberry, AL. Area 2 is comprised of several oil & gas wells. On October 11, 2018, the Department issued the second renewal of MSOP 103-0017.

On January 4, 2019, Pruet submitted an application to modify their MSOP to include the addition of three constructed and operating acquired from Sklar Exploration Company (Sklar). The CCL&T 33-2, CCL&T 33-4, and Jones 34-4 (the "Sklar wells") came under the control of Pruet as of January 1, 2019, after the Alabama Oil & Gas Board unitized the oil field into several large, contiguous, single-operator units rather than the patchwork of ¼ square mile sections of mineral rights that had existed previously. The Department had been in communication with Pruet and Sklar regarding the impending change of ownership prior to the new year.

PROJECT DESCRIPTION

Pruet seeks a direct modification of their MSOP, since no construction permit is warranted for these Sklar wells which have been in operation as a part of Sklar's MSOP 502-0090 for years.

Additionally, when Pruet's MSOP 103-0017 was reissued in 2018, General Proviso 12 "Compliance Certification" [page 3] gave Pruet a deadline of March 1 for their Annual Compliance Certification, though the cover letter of the permit instructed Pruet to submit Annual Compliance Certifications on December 10 of each year. The Department proposes that this language be modified to read "A compliance certification shall be submitted annually within sixty (60) days of the end of the reporting period". Additionally pages 41 and 44 of Appendices A & B respectively have formatting errors where the line beginning with "I. Indicator" is repeated on each page of those Appendices rather than only on the first page (pages 40 and 43 respectively). Additionally, under the *Provisos for Facility Engines*, provisos relating to NESHAP ZZZZ have been rearranged more sensibly under the existing headings. Finally, the reporting schedule for surveys performed to comply with NSPS OOOOa has been defined more specifically than "annually"; The first two Pruet wells subject to NSPS OOOOa (the CCL&T 35-13 in Pruet's Area 6 [103-0024] and Kendall Lands 24-16 in Pruet's Area 3 [103-0018]) started production October 25, 2016 and per the language in OOOOa related to the bundling of reports for different wells with the same operator, Pruet has been submitting OOOOa reports annually according to the October 25 – October 24 schedule set by those initial wells.

PROCESS DESCRIPTION

At each well, the produced full well-stream is separated into gas and liquid phases in the high-pressure separator and heater treater before the liquid phase flows to the power oil tank and flashes. An electrically driven pump may be used to recirculate crude from the power oil tank back into the well to a bottom-hole venturi pump. Flash vapor from the power oil tank and breathing and working losses from all the storage tanks is collected and sent to the flare for combustion or to the pipeline for sales. Each well is connected to the power grid and requires no generator. This process for the Sklar well is identical to that of the existing, permitted Pruet wells.

EMISSIONS

The potential emissions of the produced gas at the Sklar wells, accounting for their flares, are based on continuously burning well gas at a rate of 273.7 mscf/d, which is the average production for the three wells over the last year. Tank vapor emissions are determined using EPA's Tanks 4.0.9 program and the Vasquez-Beggs Equation. The emissions from the wells' heaters are based on AP-42 factors. Table 1 below reflects the potential emissions from the project, and Table 2 shows the potential emissions of the facility as a whole from the project added to the facility emissions from the October 11, 2018 Statement of Basis and the second Title V renewal application.

	Pollutant	Heaters	Flares	Total Emissions
Criteria Pollutant Emissions (TPY)	PM	0.049	0.382	0.431
	SO ₂	0.109	3.354	3.463
	NO _x	0.644	13.772	14.416
	CO	0.541	75.934	76.475
	VOC	0.035	69.017	69.052
	Total HAPs	--	5.682	5.682
GHG Emissions (TPY)	CO ₂	767.960	25,586.076	26,354.036
	N ₂ O	0.362	0.045	0.407
	CH ₄	0.432	83.663	84.095
	Mass Sum	768.754	25,669.784	26,438.538
	CO _{2e}	886.636	27,690.967	28,577.603

Table 1 – Sklar Wells Potential Emissions

	Pollutant	Heaters	Engines	Flares	Total Emissions
Criteria Pollutant Emissions (TPY)	PM	0.366	0.440	1.238	2.044
	SO ₂	0.134	0.030	13.634	13.798
	NO _x	4.818	98.010	41.412	144.240
	CO	4.047	98.100	235.949	338.096
	VOC	0.265	46.860	211.939	259.064
	Total HAPs	0.079	1.600	17.738	19.417
GHG Emissions (TPY)	CO ₂	5748.053	5390.032	79,659.104	90,797.189
	N ₂ O	0.371	0.010	0.130	0.511
	CH ₄	0.526	0.102	283.796	284.424
	Mass Sum	5748.950	5390.144	79,943.030	91,082.124
	CO _{2e}	5871.761	5395.599	86,792.650	98,060.010

Table 1 – Facility Potential Emissions

Pruet would retain their facility-wide anti-PSD limits of 245 TPY for criteria pollutants; their PTE had been calculated as >250 TPY in the past, prior to this project, with decreased production from the aging oil field accounting for the <250 TPY PTE calculated in Area 2’s most recent MSOP renewal. Those limits would be met by Pruet not flaring continuously and instead selling their gas; actual emissions from the wells would be significantly less than their potential emissions. Additionally, because the oil field has been unitized, Pruet’s application states that “individual wells can be shut-in as needed to keep the 12-month aggregate emissions below the Title V PSD limits” without losing oil in the common reservoir to competitors’ wells.

The speciation of the ~19.4 TPY HAPs from the flares is not strictly known (it likely being mixture of mostly benzene and n-hexane with other constituents such as toluene), but because HAP emissions from oil or gas production wells may not be aggregated to determine whether a facility is a major source of HAPs, Pruet is not a major source of HAPs even if the entirety of that 19.4 TPY was all a single HAP species.

REGULATIONS

The Sklar wells acquired by Pruet have the same regulatory status as their existing wells in terms of both state and federal regulations, except for the following:

40 CFR 60 Subpart OOOOa, “Standards of Performance for Crude Oil and Natural Gas Production, Transmission and Distribution for which Construction, Modification, or Reconstruction Commenced after September 18, 2015”

This regulation was promulgated by EPA on June 3, 2016 and it contains SO₂ and VOC requirements for oil & gas production wells and natural gas processing plants constructed, reconstructed, or modified after September 18, 2015. The following following table summarizes the portions of this regulation that specifically might apply to the CCL&T 33-4, which was drilled after 2015:

AFFECTED SOURCES	APPLICABILITY
Each single well [§60.5365a(a)]	This applies to a well that is hydraulically fractured or re-fractured
Pneumatic Controller [§60.5365a(d)(1)]	This applies to a single continuous-bleed natural-gas-driven pneumatic controllers with a bleed rate of > 6 scf/hr at an oil or natural gas production segment
Storage Vessels [§60.5365a(e)]	This applies to a single storage vessels located in the oil and natural gas production segment, natural gas processing segment or natural gas transmission and storage segment that has potential uncontrolled VOC emissions > 6 TPY
Collection of fugitive emission components (FEC) at a well site [§60.5365a(i)]	This applies to FEC (valves, flanges, PRVs, tank hatches, etc.) at well sites

Each Single Well

The CCL&T 33-4 well is not an affected source under this section of this subpart since it was not hydraulically fractured.

Pneumatic Controller

The pneumatic controllers at the CCL&T 33-4 are not continuous-bleed gas-driven controllers; therefore, there are no affected sources under this section of this subpart.

Storage Vessels

The storage vessels at the CCL&T 33-4 were constructed after September 18, 2015; the power oil tank is considered a Group 2 storage vessel under this subpart based on its uncontrolled emissions. At the well, tank vapor is routed to a flare for combustion. §60.5365a(e) however only applies to tanks with an uncontrolled PTE of greater than 6 TPY of VOCs, and the determination of PTE “may take into account requirements under a legally and practically enforceable limit in an operating permit or other requirement established under a Federal, State, local or tribal authority”. Because the permit includes a stipulation that Pruet may not emit gas without combustion, the closed-vent system and flare should be included in the PTE determination of potentially subject tanks. Post-control device, the VOC emissions from all tanks are <6 TPY, and the tanks do not meet the definition of *storage vessels* under Subpart OOOOa.

Collection of Fugitive Emission Components (FEC) at a well site

The CCL&T 33-4 well and its respective collection of FEC is *new* with regards to Subpart OOOOa. FEC are defined in §60.5430a as new pumps, pressure relief devices, valves, connectors, hatches on tanks not already subject to §60.5365a(e), and other required devices/systems (except compressors) capable of leaking methane or VOC. As outlined in §60.5397a(a), the aforementioned equipment are subject to the leak standards in §60.5397a(b)-(g), the reporting requirements of §60.5397a(j) and the recordkeeping requirements of §60.5397a(i).

RECOMMENDATIONS

I recommend that MSOP 103-0017 be modified to include the three aforementioned Sklar wells to be included in the Summary Page of Facility Wells.

I recommend that the deadline proscribed by General Proviso 12 on page 3 be corrected to adhere to a yearly schedule of Annual Compliance Certifications. The provisos relating to NESHAP ZZZZ ought to be arranged differently under the Provisos for the Facility Engines. The NSPS OOOOa reports have been given a set schedule rather than "annually". Additionally, the formatting errors in Appendices A & B on pages 41 and 44 respectively should be corrected at this time. I recommend the Department issue an administrative modification to MSOP 103-0017 including cover page, page 3, page 41, and page 44, with instructions on the cover letter to replace and return those specific pages of the original permit to the Department to be voided.

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ADEM

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Date

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