

**GROUP AGAINST SMOG AND POLLUTION COMMENTS REGARDING
PLAN APPROVAL 10-368A: KEYSTONE MIDSTREAM SERVICES, LLC
BLUESTONE GAS PLANT**

I. The permit record contains no information to support the 0.20 g/hp-hr VOC emission rate for the Waukesha 7042GSI inlet and outlet compressor engines.

The permit record contains no information to support the VOC emission rate for the Waukesha 7042GSI inlet and outlet compressor engines. In the cover letter for its April 1, 2011 application modification, the applicant states that the modified application uses “the same manufacturer specifications that were included in the original application for the inlet compressors.”¹ This is incorrect; in the revised application, the VOC emission rate for the inlet and outlet engines is 0.20 g/hp-hr.² In the original application the VOC emission rate was 0.25 g/hp-hr.³

In both the modified and original application the applicant indicates that “manufacturer data” is the source of the emissions estimate.⁴ The original application includes manufacturer data indicating a 0.25 g/hp-hr VOC emission rate;⁵ however, the permit record contains no manufacturer data or any other information to support the lower 0.20 g/hp-hr VOC emission rate included in the modified application and the draft plan approval.

Unless the applicant can provide an adequate basis to support the 0.20 g/hp-hr VOC emission rate it cannot be used to calculate the facility’s potential to emit. While Commenter believes the 0.25 g/hp-hr VOC emission rate from the catalyst specification sheet also underestimates VOC P|TE from these emission units (see following section), assuming for the moment that the 0.25 g/hp-hr VOC emission rate is accurate, it would increase VOC emissions from each Waukesha 7042GSI compressor from 2.86 to 3.57 TPY. This would result in total facility-wide VOC emissions of 51.82 TPY, in excess of the 50 TPY NSR major source threshold.⁶

II. VOC PTE calculations must include formaldehyde emissions from compressor engines.

Formaldehyde emissions are not included for the purposes of determining compliance with the VOC emission rates of 40 CFR subpart JJJJ.⁷ As a result, engine manufacturers rarely include HCHO emissions in the VOC emission rates provided in

¹ Letter from James E. Fleak, P.E. to Adam Holquist, Air Quality Engineering Specialist, PADEP, NWRO at p. 2. (Mar. 30, 2011)

² Replacement Pages - Bluestone Gas Processing Plant Application, Engines, Sections B-F, at p. 10. (Mar. 2011) [hereinafter “Modified Application”].

³ Bluestone Gas Processing Plant Process Application Form at p. 11 (Dec. 2010) [hereinafter “Original Application”].

⁴ *Id.*; Modified Application at p. 10.

⁵ Bluestone Application, Appendix B, DCL Int’l, Inc. Product Quotation, 2-DC75-14 CC Catalyst for Waukesha 7042GSI.

⁶ 40 C.F.R. § 51.165(a)(1)(iv)(A)(1)(ii); 25 Pa. Code § 127.201(c).

⁷ 40 CFR § 60.4241(h).

their compressor engine specification sheets. However, HCHO must be included in VOC PTE calculations for the purpose of determining Title V and NSR applicability.⁸ It is not clear from the information provided by Waukesha, DCL, or the Applicant that the HCHO emissions from the Waukesha 3524GSI or 7042GSI engines were included in the VOC PTE calculations. If HCHO emissions were excluded, DEP must add an additional 2.99 TPY to the facility-wide VOC PTE.

III. If the facility's estimated VOC PTE remains < 50 TPY, DEP must ensure initial stack tests properly account for aldehydes and other oxygenated compounds.

Similarly, EPA's VOC test method 25A does not include formaldehyde emissions and underestimates emissions of other aldehydes and other oxygenated hydrocarbons.⁹ While test method 25A is adequate for determining compliance with subpart JJJJ, aldehydes and other oxygenated hydrocarbons must be included when determining VOC major source status.¹⁰ In the event the Bluestone facility's VOC estimated PTE remains just under the 50 TPY major source threshold, DEP must carefully review the initial Bluestone facility stack tests to ensure the facility is actually under the 50 TPY VOC threshold. If method 25A is used, the stack test results must be combined with the results of the HCHO stack tests and adjusted to correct for method 25A's underestimation of other aldehydes and other oxygenated hydrocarbons.

IV. PTE calculations must include emissions from compressor blowdowns.

While the application states that "a flare will be used for combustion of natural gas associated with maintenance blowdowns of the inlet and residue compressors,"¹¹ the applicant has failed to include emissions estimates for compressor engine blowdowns.

V. The proposed NO_x, VOC, and CO emission rates for the Waukesha 3524GSI and 7042GSI engines do not satisfy BAT.

Commenter does not believe the NO_x, VOC, or CO emissions rates for the Waukesha 3524GSI and 7042GSI engines constitute BAT.¹² Compare the proposed emission rates to those for the similar compressor engines at the MarkWest Welling Compressor Station in Washington County:

⁸ 40 C.F.R. § 51.100(s); 40 C.F.R. § 70.2.

⁹ 73 Fed. Reg. 3568, 3579-80 (Jan. 18, 2008).

¹⁰ 40 C.F.R. § 51.100(s); 40 C.F.R. § 70.2.

¹¹ Bluestone Application at p. 2-4.

¹² 25 Pa. Code § 127.12(a)(5).

Welling and Bluestone compressor engine emission limit comparison¹³

Facility	Engine	Controls	NOx (g/hp-hr)	VOC (g/hp-hr)	CO (g/hp-hr)
Bluestone	Waukesha 3524GSI rich burn, 840 HP	NSCR	0.3	0.25	0.65
	Waukesha 7042GSI rich burn, 1480 HP	NSCR	0.3	0.2	0.5
Welling	Waukesha P9390GSI Rich burn, 1980 HP	NSCR, AFR controller	0.2	0.12	0.26

VI. Aggregation

Despite the Applicant’s claim that “the proposed Bluestone Plant should not be aggregated with other Keystone assets in the area,”¹⁴ several emission units located near the Bluestone facility satisfy the three-part aggregation test and must be combined with Bluestone and treated as a single source.

Emission units are considered part of a single source for PSD, NNSR and Title V permitting purposes if they:

1. share the same first two digits of their respective SIC codes,
2. are under common control, and
3. are located on one or more “contiguous or adjacent properties.”¹⁵

A. SIC Code

In the context of the oil and gas industry, the SIC code element of the source determination test is straightforward: oil and gas wells, processing facilities, and compressor stations share the same first two digit SIC code.¹⁶ Thus the SIC code factor does not present a barrier to aggregation of the Bluestone facility with related natural gas compressor stations, gas well sites, or processing plants.

B. Common Control

DEP and the applicant have acknowledged that the Bluestone Gas Processing Plant, Sarsen Gas Processing Plant, the Voll Compressor Station, and future planned Keystone processing plants are under common ownership.¹⁷ While complete ownership of multiple sources by a single entity is sufficient to establish common control, it is not

¹³ PADEP, Draft Bluestone Plan Approval Memo p. 4; Attachment 1: PADEP, MarkWest Welling Compressor Station Plan Approval # 63-00958 (Feb. 24, 2011).

¹⁴ Bluestone Application at p. 4-1 (emphasis in original).

¹⁵ 40 C.F.R. § 52.21(b)(6).

¹⁶ PADEP, Guidance for Performing Single Stationary Source Determinations for Oil and Gas Industries, 270-0810-006 at p. 1 n. 7 (Oct. 12, 2011), “Exploration, extraction, or production activities in the oil and natural gas development industry share the same two-digit SIC code – 13.”

¹⁷ PADEP, Draft Bluestone Technical Review Memo p. 4; Bluestone Application at p. 4-4.

necessary. The common control factor is based on the SEC's definition of control: "the possession, direct or indirect, of the power to direct or cause the direction or the management and policies of a person, whether through ownership of voting shares, by contract, or otherwise."¹⁸

Numerous well sites near the Bluestone facility satisfy the common control element of the aggregation test. In its aggregation discussion, the applicant describes the Keystone Midstream ownership structure and then states that "the [Keystone] facilities do not have a common owner with the wellheads providing gas to these facilities."¹⁹ This statement is astonishing because it is contradicted by the ownership structure discussion that immediately precedes it:

Keystone is a joint venture owned by Stonehenge Energy Resources, L.P. (Stonehenge), a Delaware limited partnership, R.E. Gas Development, LLC (REGD), a Delaware limited liability company, and Summit Discovery Resources II, LLC (Summit). Stonehenge, the majority owner of Keystone with a 60% interest, is the Manager of Keystone, responsible for operation and compliance for its assets. REGD and Summit are minority owners of Keystone with 28% and 12% ownership interests respectively. They have no direct control over the day-to-day operations of Keystone.

*REGD owns the wellheads in this region that will provide gas to the facilities via gas gathering systems. Keystone does not own any portion of the wellheads. Therefore, the facilities do not have a common owner with the wellheads providing gas to these facilities.*²⁰

The Applicant's statement that "the facilities do not have a common owner with the wellheads" completely disregards REGD's ownership of the area wellheads and 28% ownership stake in Keystone Midstream. "[A]n ownership interest as low as 10 percent may result in control, while ownership of 50 percent necessarily results in control."²¹

Further, REGD is a wholly owned subsidiary of Rex Energy Corp,²² meaning Rex is the indirect owner of the area well sites and 28% percent owner of Keystone Midstream. In addition to outright ownership interests, Rex "contributed approximately \$11.2 million" to Keystone Midstream to "support the construction of the [Butler County] cryogenic gas processing plants."²³

¹⁸ 17 C.F.R. § 210.1-02(g); 45 Fed. Reg. 59,874, 59,878 (Sept. 11, 1980).

¹⁹ Bluestone Application at pp. 4-2 – 4-3.

²⁰ *Id.*

²¹ EPA Region 8, Single Source Determination for KN Power/Front Range Energy Associates, pp. 4-5 (Oct. 1, 1999) (quoting 44 Fed. Reg. 3279 (January 16, 1979)) available at: <http://www.epa.gov/region07/air/nsr/nsrmemos/frontran.pdf>; See also. EPA Region 2, Common Control Question - Dupont and Dupont Dow Elastomers (Nov. 25, 1997) available at: <http://www.epa.gov/region7/air/title5/t5memos/2-jntven.pdf>, (finding common control despite only 50% ownership); EPA Region 4, Common Control - United Technologies Corporation; (July 20, 1995), available at: <http://www.epa.gov/region7/air/title5/t5memos/site.pdf>, (finding common control despite only 50% ownership).

²² Rex Energy Corp. 10 –Q, p. 22 (Nov 8, 2011), available at:

<http://ir.rexenergycorp.com/secfiling.cfm?filingID=1193125-11-301998>

²³ *Id.* at 24.

Common control can also be established through contractual relationships,²⁴ such as “contract-for service” activities,²⁵ single purchaser contracts,²⁶ or the contractual right to exert direct control over another facility.²⁷ Rex has entered into such a contractual agreement with Keystone:

*[W]e entered into a capacity reservation arrangement with Keystone Midstream to ensure sufficient capacity at the cryogenic gas processing plant owned by Keystone Midstream to process our produced natural gas. Under the terms of the arrangement, we have reserved 14 net Mmcfe of processing capacity per day for the first year, effective in February 2011, and 28 net Mmcfe of processing capacity for the subsequent nine years, or through January 2020. If we do not meet our capacity reservation volumes, we are obligated to pay \$0.30/Mcfe per day for the difference between actual processed volumes and the reservation volume. During the three and nine months ended September 30, 2011, we incurred charges for approximately \$0 and \$0.1 million, respectively, in relation to the capacity reservation. In the event that we do not process any gas through the cryogenic gas processing plant we may be obligated to pay approximately \$0.4 million for the remainder of 2011 and approximately \$3.1 million for each year in which 28 net Mmcfe of processing capacity is reserved.*²⁸

C. Contiguous or Adjacent

The Bluestone facility is less than ¼ mile from Rex Energy Operating Corporation’s Bame J1 well, API # 019-21464 (40.8046529, -80.07581105). PADEP’s October 2011 “Guidance for Performing Single Stationary Source Determinations for Oil and Gas Industries” establishes a presumption that emission units located within ¼ mile are contiguous or adjacent.²⁹ Thus the Bame J1 well is presumed to satisfy the contiguous or adjacent requirement. Because the well also shares the same two digit SIC code as the Bluestone facility and is operated by Rex Energy, it satisfies all three elements of the aggregation test. The Bame J1 well and any associated well pad emission units must be aggregated with the Bluestone facility.

While other emission units related to the Bluestone facility are located at distances greater than ¼ mile, they may still satisfy the contiguous or adjacent factor on a case-by-case basis. For example, in addition to proximity, DEP is still permitted to

²⁴ 17 C.F.R. § 240.12b-2.

²⁵ Letter from John S. Seitz, “Major Source Determinations for Military Installations,” (Aug. 2, 1996) p. 3, available at: <http://www.epa.gov/region7/air/title5/t5memos/dodguid.pdf>.

²⁶ Letter from Richard R. Long, U.S. EPA Region 8 to Margie Perkins, Colorado Department of Public Health and the Environment (Oct. 1, 1999) pp. 2-4, available at: <http://www.epa.gov/region7/air/nsr/nsrmemos/frontran.pdf>.

²⁷ *Id.*

²⁸ Rex Energy Corp. 10 –Q, p. 22 (Nov 8, 2011), available at: <http://ir.rexenergycorp.com/secfiling.cfm?filingID=1193125-11-301998>.

²⁹ PADEP, Guidance for Performing Single Stationary Source Determinations for Oil and Gas Industries, 270-0810-006 at p. 4 (Oct. 12, 2011).

consider interdependency when making contiguous or adjacent determinations.³⁰ In the Bluestone Technical Review memo, DEP notes that:

*On August 25, 2011, Keystone Midstream submitted a series of proposed system maps for all current and proposed gathering activities and associated processing plants and compressor stations in the area, which indicated that the proposed Bluestone site and its associated gathering system will be physically separated from the gathering systems associated with the Sarsen and KMS#3 sites via physically disconnected and blinded lines.*³¹

While Commenter has not had the opportunity to study the proposed system maps, DEP's description indicates that area's natural gas gathering system will not allow wells to connect to more than one natural gas processing and compression facility. This suggests that the Butler County gathering system contains unique, dedicated interdependencies like those that led EPA Region 5 to conclude that geographically separated gas well sites should be considered a single source with the gas processing plant they fed into.³²

Sincerely,

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³⁰ *Id*; see also, Letter from Cheryl L. Newton, Director of EPA Region 5 Air and Radiation Division, to Scott Huber, Summit Petroleum Corp. (Oct. 18, 2010), available at <http://www.epa.gov/region07/air/title5/t5memos/singler5.pdf>.

³¹ PADEP, Draft Bluestone Technical Review Memo p. 4.

³² Letter from Cheryl L. Newton, Director of EPA Region 5 Air and Radiation Division, to Scott Huber, Summit Petroleum Corp. (Oct. 18, 2010), available at <http://www.epa.gov/region07/air/title5/t5memos/singler5.pdf>.