

June 25, 2012

Via Electronic and First Class Mail

Devin P. Tomko
Air Quality Engineering Specialist
Air Quality Program
Pennsylvania Department of Environmental Protection
400 Waterfront Drive
Pittsburgh, PA, 15222
dtomko@state.pa.us

**Re: Welling Compressor Station
DEP Plan Approval Application PA-63-00958A**

Dear Mr. Tomko,

Clean Air Council (Council) and Group Against Smog and Pollution (GASP) (collectively, Commenters) hereby submit the following comments in response to the Pennsylvania Department of Environmental Protection's (DEP or the Department) proposed Plan Approval No. PA-63-00958A for the expansion of the Welling Compressor Station, which includes installation and operation of five Waukesha P9390GSI 1,980bhp rich-burn natural gas-fired compressor engines, one John Deere 6068HF285 197-bhp diesel engine, and capacity expansion of an on-site dehydrator and reboiler.

I. Introduction and Background

Clean Air Council is a non-profit environmental organization headquartered at 135 S. 19th St., Suite 300, Philadelphia PA 19103. For more than 40 years, the Council has fought to improve the air quality across Pennsylvania. The Council's mission is to protect everyone's right to breathe clean air.

Group Against Smog and Pollution is a non-profit environmental organization headquartered 5135 Penn Avenue Pittsburgh, PA 15224. Founded in 1969, GASP works to obtain for the residents of western Pennsylvania clean air, water, and land in order to create the healthy, sustainable environment and quality of life to which we are entitled.

Factual Background

MarkWest Liberty Midstream & Resources LLC (MarkWest) is the owner and operator of as many as fourteen (14) compressor stations in Washington County, Pennsylvania that gather

natural gas from area wells, including the Welling Compressor Station.¹ Most, if not all, of these compressor stations sends compressed gas primarily or *exclusively* to the Houston Gas Processing Plant (Houston), also located nearby in Washington County and owned by MarkWest. In addition, the Welling Compressor Station receives gas from several upstream wells in the area that feed exclusively to Welling.

On January 25, 2012, the Department received a plan approval application from MarkWest for its Welling Compressor Station to add a number of emission sources to its current emission sources, which had all been approved through separate applications to the Department within the last two years. On June 3, 2012, the Department issued a Memo entitled “Review Plan Approval Application PA-63-00958A,” which included a technical analysis of the newly proposed emission sources. As explained below, the Department’s analysis is inadequate, incorrect, and improper, and the Commenters urge the Department to revise its analysis in accordance to the comments below.

II. Aggregation

The Department has conducted an inadequate analysis for single source determination of the multiple emission sources commonly owned or controlled by MarkWest. As the US Environmental Protection Agency (EPA) has made clear on numerous occasions, federal Clean Air Act regulations and subsequent court decisions require states to consider an array of factors in deciding whether to aggregate emissions from multiple sources. Yet the Department has ignored federal regulations by considering only a subset of factors in their single source determination. When MarkWest’s emissions are properly aggregated and counted as a single source, their natural gas facility easily exceeds state and federal air emission limits for several pollutants. The Department should have aggregated emissions from MarkWest’s total facility, rather than issue a minor source permit for the Welling Compressor Station (Welling).

1. Regulatory Framework

The Department has the duty to regulate certain air pollutants under the federal Clean Air Act² and Pennsylvania’s Air Pollution Control Act.³ Because the federal PSD requirements promulgated by the EPA are adopted and incorporated by reference in their entirety, the Department must apply EPA guidance consistently and properly in interpreting and implementing the Commonwealth’s Air Program.⁴

¹ Lowry, Hoskins, Dryer, Stewart, Shaw, Godwin, Fulton, Johnston, Tufta Day, Brigich, Baker, Redd, and Three Brothers Stations.

² Clean Air Act, 42 U.S.C. § 7410.

³ Pennsylvania Air Pollution Control Act (APCA), 35 P.S. § 4001 *et seq.*

⁴ 25 Pa. Code § 127.83. These regulatory provisions were adopted June 17, 1983, effective June 18, 1983, 13 Pa.B. 1940.

Under the Commonwealth's New Source Review (NSR) program, the Prevention of Significant Deterioration (PSD) program, and the Title V Permit program, a stationary source that emits more than the allowable limit of a regulated pollutant will be treated as a "major source" and is required to meet stricter standards for reporting, monitoring, and pollution control technologies. The federal regulations define "stationary source" as "any building, structure, facility, or installation which emits or may emit any air pollutant subject to regulation under the Act."⁵

In order to determine whether emissions from multiple exit points should be treated as one source, and thereby aggregate emission quantities for purposes of the NSR, PSD, and Title V analyses, the Clean Air Act determines what factors should be used in order to perform the proper analysis.

The aggregation analysis, when conducted properly, involves a full consideration of

- (1) whether the sources are under common control or ownership
- (2) whether the sources share the same Standard Industrial Classification (SIC) code; and
- (3) whether the sources are contiguous or adjacent.⁶

2. The Department's Aggregation Analysis

Taking each of these prongs in succession, it is clear that Welling, when viewed in conjunction with MarkWest's other adjacent compressor stations, its Houston Gas Processing Plant, and surrounding wells, constitute a single facility under NSR, PSD, and Title V single source permitting analysis. Consequently, any "facility-wide" emissions calculation should include the other compressor stations, Houston, and surrounding wells.

1) Whether the sources are under common control or ownership.

MarkWest's ownership of all fourteen compressor stations and the Houston Gas Processing Plant preclude any conclusion other than the sources fully satisfy the common ownership or control prong of the aggregation analysis. Although the Clean Air Act regulations do not supply a definition of "control," EPA guidelines call for a case-by-case analysis under the SEC regulatory definition, which provides: "Control is the possession, direct or indirect, of the power to direct or cause the direction of the management and policies of a person (or organization or association) whether through the ownership of voting shares, contract, or otherwise."⁷

⁵ 40 C.F.R. § 51.166(b)(5) and (6).

⁶ 40 C.F.R. § 52.21(b)(6).

⁷ 17 C.F.R. § 240.12b-2; *see also*, 45 Fed. Ref. 59874, 59878 (Sept. 11, 1980) (instituting EPA's reference to SEC's regulations).

The common control or ownership between the Welling Compressor Station and upstream wells that feed Welling must also be put under further scrutiny. In the context of natural gas production, EPA Administrator Lisa Jackson, in a recent order on petition, specifically recommends that state regulators “obtain ... business information regarding the nature of control of [a compressor station] and nearby wells...”⁸ Instead, in this instance, the Department merely looked at ownership, and concluded that because the wells are not owned by MarkWest or a subsidiary, the wells are not under “common control.”⁹ In doing so, the Department ignored other factors that can lead to a finding of common control, such as contracts between the wells and the Welling Compressor Station, and other ways in which the wells and MarkWest are each dependent on the other. For example, EPA determined that two power generating facilities, owned by separate companies, still constitute a single source because of a contractual agreement for one facility to supply the other with 100% of its power for seven years.¹⁰

There is no indication that the Department reviewed the contractual arrangements between the wells and MarkWest’s Welling Compressor Station. If a contractual arrangement gave one party decision-making authority over the other, or if a contract provides for a single purchaser arrangement, the Department could establish common control. Similarly, the Department should have reviewed whether there is a support or dependency relationship between the wells and compressor station, such that one would not exist “but for” the other. Such determinations are factually driven, but the Department has not made the requisite factual inquiry to be able to draw conclusions about the nature and extent of common control.

(2) Whether the sources share the same SIC code

The permits issued to MarkWest for its Houston Gas Processing Plant falls under SIC 1321 (Mining-Natural Gas Liquids). The Welling Compressor Station, whose SIC is 1311, is part of the same industrial grouping. Similarly, natural gas exploration, drilling, and extraction all fall under the same two-digit SIC (13).

(3) Whether the sources are contiguous or adjacent

In issuing successive permits for Welling and MarkWest’s other operations in Washington County, the Department has completely ignored and bypassed the aggregation guidelines promulgated by the EPA. The physical proximity between Welling and Houston is only one of many factors that informs a proper aggregation analysis. As the EPA has repeatedly explained and demonstrated, physical distance does not override the “common sense” notion of a facility. Assistant Administrator Gina McCarthy emphasized in a 2009 memorandum that adjacency may

⁸ *In the Matter of Kerr-McGee/Andarko Petroleum Corporation, Frederick Compressor Station*, Petition VII-2008-02 (Order on Petition) (Oct. 8, 2009).

⁹ Review Plan Approval Application PA 63-00958A (published June 3, 2012) (the Proposed Plan Approval), p. 10.

¹⁰ Letter from EPA Region 8, Richard Long to CO Dept. of Public Health Environment (Oct. 1, 1999).

only be determined after full consideration of proximity along with all other factors relevant to the analysis.¹¹ Other EPA guidance documents explain that “[a] specific distance between pollutant emitting activities has never been established by EPA for determining when facilities should be considered separate or one source for PSD purposes.”¹² Rather, it is the *relationship* between the facilities that informs the decision.

It is entirely reasonable to examine the context --i.e., the relationship between the different emissions activities --in order to decide if they are “close” enough to constitute a single major source of pollutants. In promulgating the definition of a source, EPA has clearly articulated that the three regulatory criteria, including the “contiguous or adjacent” factor, are applied such that emissions activities that meet a common sense notion of a plant are treated as a single source under Title V.¹³

It is troubling that the Department’s plan approval refers to its own memorandum as the source for its “prescribed” analysis, implying that the Department is legally bound to follow this analysis, which it lays out in its October 13, 2011 “DEP NSR Aggregation Guidance.”¹⁴ The document the plan approval cites carries no legal authority, and describes its own purpose as “interim guidance.”¹⁵ Far from being authoritative, the DEP NSR Aggregation Guidance runs counter to established EPA guidelines that call for a much deeper inquiry as to whether multiple sources should be considered adjacent based on factors other than physical distance. Moreover, because the federal PSD requirements promulgated by the EPA are adopted and incorporated in their entirety as part of the Pennsylvania SIP, the Department must apply EPA guidance when implementing the PSD program.¹⁶ The EPA itself submitted comments on the Department’s guidance document, stating that the procedures outlined in the Department’s guidelines “do not ... have weight.”¹⁷ EPA explained that the Department’s guidance that aggregation should never occur among “expansive operations” spread over an undefined “large geographical area” was contrary to federal law.¹⁸

EPA has determined that emission sources that are much further than 7 miles may constitute a single source. For example, the EPA determined that a mine and processing plant, separated by

¹¹ See “Withdrawal of Source Determination for Oil and Gas Industries,” Gina McCarthy, EPA Assistant Administrator (Sept. 22, 2009).

¹² Letter from EPA, Robert Kellam, to EPA Region 8, Richard Long, “Analysis of the Applicability of [PSD] to Anheuser-Busch, Inc. Brewery and Nutri-Turf, Inc., Landfarm at Fort Collins, Colorado” p. 3 (Aug. 27, 1996) (determining that a brewery and landfarm located 6 miles apart were interdependent to a degree that compelled a single source determination).

¹³ 45 Fed Reg. at 52,694-95; 61 Fed. Reg. at 34,206.

¹⁴ Plan Approval, p. 11.

¹⁵ “Guidance for Performing Single Stationary Source Determinations for Oil and Gas Industries,” Department of Environmental Protection Bureau of Air Quality, Docket No. 270-0810-006 (Oct. 12, 2011).

¹⁶ 25 Pa. Code § 127.83.

¹⁷ EPA Comments on PADEP Technical Guidance on Air Aggregation in Oil and Gas Industries, p. 2, available at <http://www.cleanair.org/sites/default/files/EPA%20Aggregation%20Comments.pdf>.

¹⁸ Id. at 4.

35-40 miles, constituted a single source.¹⁹ The EPA based its conclusion on the presence of a “dedicated ... pipeline,” and also noted that one facility produced an “intermediate product” for the other.²⁰ Those and other factors indicated an “integral connectedness” of the two facilities, such that they should be treated as a single source for PSD permitting.²¹

The Department based its decision on only a limited number of factors.²² Those factors it did consider indicate that the Welling Compressor Station and the Houston Gas Processing Plant should be considered “adjacent” for purposes of PSD single source determination.

- *“Welling and Houston are connected to each other by a series of pipelines dedicated to the transport of natural gas.”²³*

Although the two emission sources are seven miles apart, the interdependence between the two facilities is demonstrated by the series of pipelines connecting the two. This factor weighs heavily in favor of a single source finding.

- *“Natural gas dewatered and compressed at Welling may be transmitted to MarkWest’s discharge header system for transport to either Line 1360, Houston, or to the Majorsville plant in WV.”*

Though MarkWest relies heavily on the existence of independently-owned Line 1360, it has provided no information regarding how much natural gas, if any, is projected to flow through this pipeline. There is no indication from the Department’s analysis that the Department received any information pertaining to the throughput data for Line 1360, either in volume or as a percentage of gas flowing from Welling. The mere *potential* of throughput via an alternate pipeline does nothing to show a lack of interdependence. Until the Department sees evidence, either through contracts or otherwise, that MarkWest’s gas will *actually* flow to independent parties, the interdependence between Welling and Houston should lead to the conclusion that Welling and Houston are adjacent for the purposes of the PSD. Furthermore, the Department has previously stated that 100% interdependence is not a prerequisite to a single source determination.²⁴

- *Produced gas may be sent downstream from Welling to Houston, but cannot be sent upstream from Houston to Welling.*

¹⁹ Letter from EPA Region 8, Richard Long, to Dennis Myers, CO Dept. of Public Health and Environment, p. 1 (April 20, 1999).

²⁰ Id.

²¹ Id.

²² Proposed Plan Approval I, p. 11.

²³ Id. Bulleted quotes are the four pieces of “information” the Department considered in its analysis of adjacency.

²⁴ *Clean Air Council v. PA DEP*, Env. Hear’g Bd. Docket No. 2011-072(R) (Sept. 12, 2011), Appellee’s Response to Appellant’s First Set of Interrogatories, Interrogatory No. 13, p. 14, (see Attachment A).

Whether the gas flows uni-directionally or bi-directionally, the more relevant inquiry is how much and what percentage of gas flows from one source to the other. Uni-directional gas flow does little or nothing to indicate independence when determining adjacency. For example, a brewery sending waste water to a landfarm six miles away was still considered adjacent, even though there was no return of any material from the landfarm to the brewery.²⁵

- *Gas cannot be transported directly between Welling and any other surrounding MarkWest Compressor Station.*

Houston acts as a hub for all fourteen of MarkWest's compressor stations in the area, including Welling, whose dependence on Houston, as explained above, demonstrates that it operates as a single source. The other nine compressor stations, though they have limited capabilities to send gas to each other, all send the vast majority, and in many cases, *all* their compressed gas to Houston. Thus, it is irrelevant whether Welling can send or receive gas from another nearby compressor station. They all send gas to a commonly owned and operated source—Houston—which connects to all ten compressor stations and is adjacent for purposes of the PSD.

Missing from the Department's inquiry is any request for information that would show whether Welling should be aggregated with upstream wells. It is possible the Department found such an analysis unnecessary after it improperly concluded that wells did not meet the requirements of common control. However, once common control is established between Welling and the wells, it becomes necessary to analyze whether the wells and Welling operate under such a dependent relationship that it ought to be considered a single source. There is no indication that the Department examined the contracts between the well owners and MarkWest, the volumes of gas flowing through Welling, the percentage of gas from each well flowing through Welling, or the existence and use of alternate pipelines that flow from wells to other compressor stations or endpoints. Given the amount of information that is lacking from the Department's analysis, it is premature and improper to determine that Welling is a separate emission source from the surrounding wells under the EPA guidelines.

²⁵ See. Letter from EPA, Robert Kellam, to EPA Region 8, Richard Long, "Analysis of the Applicability of [PSD] to Anheuser-Busch," p. 3 (Aug. 27, 1996)

III. Testing Requirements

The Department should include additional maintenance requirements to optimize the operation of the compressor engines, and require the emergency shutdown system and purge pressure shutdown controls to be operated in such a way as to prevent blow down of gas into the atmosphere. The Department's Northcentral Region recently performed a thorough review of the US EPA Natural Gas STAR program and determined that this recommendation was a required best management practice.²⁶

IV. Emissions Calculations

- 1. The applicant improperly combines lower heating value (LHV) fuel consumption rates with higher heating value (HHV) emission factors, resulting in underestimation of potential to emit (PTE) from natural gas-fired engine combustion.**

The applicant's potential to emit (PTE) calculations for several pollutants emitted by the Waukesha G9390PSI and Caterpillar G3516B engines are derived from incorrect fuel consumption figures. As a result, the PTE calculations for the Waukesha engines underestimate emissions of carbon dioxide equivalent (CO₂e) and non-Formaldehyde (non-HCHO) hazardous air pollutants (HAPs). The PTE calculations for the Caterpillar engines also underestimate emissions of filterable fine particulate matter (PM_{2.5}), and condensable particulate matter (PM).

The applicant's estimated fuel consumption for both the Waukesha and Caterpillar engines are taken from the engine vendor's specification sheets.²⁷ Both engine specification (spec) sheets base their fuel consumption figures on fuel lower heating values (LHV).²⁸ However, the applicant uses these LHV-based fuel consumption rates as inputs in AP42 and greenhouse gas reporting rule (Part 98) emissions calculations.²⁹ Both AP42 and the Part 98 emissions calculations are based on fuel higher heating values (HHV).³⁰

While it is generally acceptable to use either LHV or HHV-based figures in combustion calculations, they cannot be mixed and matched. "[E]nergy data and emission factors" must be "on the same basis, either HHV or LHV. Errors occur when the conventions are not clearly identified and are combined (e.g., multiplying the energy associated with fuel use, reported on

²⁶ See Plan Approval 41-0078C.

²⁷ Waukesha P9390GSI Engine Specification Sheet at 2, *available at*: http://www.dresserwaukesha.com/documents/7012_0710.pdf; Caterpillar G3516B Engine Specification Sheet at 3, *available at*: <http://catoilandgas.cat.com/cda/files/1216322/7/lehw0037-00.pdf>.

²⁸ The Waukesha engine ratings are based on a fuel LHV of 900 btu/scf, the Caterpillar ratings are based on a fuel LHV of 905 Btu/scf. Waukesha P9390GSI Engine Spec. Sheet at 2; Caterpillar G3516B Engine Spec. Sheet at 4.

²⁹ Attachment B - Email from MarkWest to Devin Tomko, PADEP (May 3, 2012, 7:08 pm) at 3.

³⁰ See e.g., 40 C.F.R. § 98.33; EPA, AP42 Chapter 1.4 at 1.4-5 footnote a; *available at*: <http://www.epa.gov/ttn/chief/ap42/ch01/final/c01s04.pdf>.

one basis, by an emission factor that is reported on the other basis).”³¹ Mismatching LHV and HHV emissions calculation inputs “may result in a 5% to 10% error in the calculated emissions.”³²

Note that using an HHV Btu value in the Part 98 calculation³³ will not correct this underestimation if the PTE calculation is still ultimately limited by an LHV-based max fuel consumption figure. For instance, applicant’s CO2e calculations use the Part 98 recommended heat value of 1028 Btu/scf, but annual fuel consumption is still limited by the LHV-based Btu/hr figure (or a volume-based limit calculated by dividing the LHV-based Btu/hr figure by 1028 Btu/scf.) This results in the same, underestimated calculated PTE regardless of whether the fuel heat value is 500 Btu/scf or 1500 Btu/scf.

Gaseous fuel LHV is approximately 10% lower than HHV. The API compendium provides equations to adjust heat values and emission factors between LHV and HHV on this basis.³⁴ However, a more direct, accurate solution is to divide the LHV-based Btu/hr figures from the vendor spec sheets by the vendors’ assumed fuel Btu value to determine scf/hr. This scf/hr figure can then be multiplied by whatever heat value is most appropriate for any given emission calculation.

Correcting the underestimated engine heat input results in the following increases in facility-wide PTE

Table 1: Facility-wide PTE increases due to heat input correction

	TPY
CO2e	93009.83
HAPs*	0.44
PM2.5	0.11

* does not include HCHO

See Attachment C, sheets 1-3 for the complete corrected calculations. [Note: the applicant’s Part 98 calculation substituted two (2) Waukesha L7042 engines for the Caterpillar G3516B engines. Commenters’ calculations use G3516B data, resulting in a slight decrease in CO2e PTE for these 2 engines].

³¹ API, Compendium of Greenhouse Gas Emissions Methodologies (Aug. 2009) at 3-18, *available at*: http://www.api.org/ehs/climate/new/upload/2009_GHG_COMPENDIUM.pdf.

³² Karin Ritter *et al.*, Consistency in Greenhouse Gas Emissions Estimation for Oil and Gas Industry Operations at 3, *available at*: <http://www.epa.gov/ttnchie1/conference/ei12/green/shires.pdf>.

³³ 40 CFR § 98.33

³⁴ API, Compendium of Greenhouse Gas Emissions Methodologies (Aug. 2009) at A-4.

2. The CO2 calculation for the Caterpillar G3516B engines should be based on the vendor-supplied CO2 emission rate.

Equipment-specific vendor emissions data is typically more accurate than general source-category-wide emission factors such as Part 98 or AP42.³⁵ EPA recommends using such equipment-specific data rather than general emission factors when it is available.³⁶ The Caterpillar spec sheet for the G3516B engine includes a g/bhp-hr emission rate for CO2.³⁷ This CO2 emission rate should be used to calculate CO2 emissions for these engines.

3. The applicant's PTE calculations for the dehydrator reboiler burner have not been adjusted to account for the increased reboiler rating.

The proposed plan approval would increase the reboiler fuel consumption from 2 MMBtu/hr to 2.5 MMBtu/hr.³⁸ However, the reboiler's PTE does not reflect this change.³⁹

Table 2: revised reboiler emissions

	2 MMBtu/hr (TPY)	2.5 MMBtu/hr (TPY)
NOx	0.83	1.07
CO	0.70	0.89
VOC	0.05	0.06
CO2e	1057.40	1281.19

See Attachment C, sheets 1 and 4 for complete calculations.

4. The applicant's CO2e PTE calculation for the dehydrator flare uses an incorrect fuel consumption figure.

The applicant's CO2e PTE calculation for the dehydrator flare uses a fuel consumption figure of 5.97 MMBtu/hr.⁴⁰ The source of this figure is unclear and it is inconsistent with the 7 MMBtu/hr figure used to calculate the flare's PTE for criteria pollutants.⁴¹

³⁵ EPA "Compilation of Air Pollutant Emission Factors," AP42 introduction at 3-4 *available at*: <http://www.epa.gov/ttn/chieff/ap42/c00s00.pdf>.

³⁶ *Id.*

³⁷ Caterpillar G3516B Engine Spec. Sheet at 3.

³⁸ Proposed Plan Approval, p. 1.

³⁹ Proposed Plan Approval, p.12.

⁴⁰ Attachment B – Email from MarkWest to Devin Tomko, PADEP (May 3, 2012, 7:08 pm) at 3.

⁴¹ *Id.* at 3 and 15.

Substituting the 7 MMBtu/hr figure in the CO₂e PTE calculation results in an additional 527.85 TPY CO₂e:

Table 3: revised dehydrator reboiler emissions

	MMBtu/hr	CO ₂ (metric tons)	CH ₄ (metric tons)	N ₂ O (metric tons)	CO ₂ e (metric tons)	CO ₂ e (short tons/yr)
applicant calculation	5.97	2772.80	1.10	1.62	2775.52	3059.48
adjusted to 7 MMBtu/hr	7	3251.19	1.29	1.90	3254.38	3587.33

See attachment C, sheet 1 for complete calculations.

5. The applicant’s PTE calculations fail to account for the higher Btu value of the site-specific gas.

The field gas sent to the Welling facility is extremely high-Btu “wet gas.” A January 26, 2012 analysis of the Welling gas indicates a higher heating value of 1415.8 Btu/scf.⁴² This is apparently a representative sample of the gas received by Welling as the applicant used it as the basis for its dehydrator PTE calculations.⁴³ However, the applicant has not accounted for the high heat value of the Welling gas in its PTE calculations for the Waukesha G9390PSI engines, the Caterpillar G3516B engines, or the dehydrator reboiler.

Emission calculations are to be based on source-specific data to the maximum extent feasible.⁴⁴ As discussed in section IV.1, above, the Waukesha and Caterpillar engine combustion PTE calculations were based on a combination of lower heating values (900 and 905 Btu/scf) and higher heating values (1020 and 1028 Btu/scf), all of which were far lower than the site-specific 1415.8 Btu/scf heat value. The reboiler calculations appear to assume a gas heat value of approximately 800 Btu/scf.⁴⁵

⁴² Attachment D – Welling Gas Analysis (Jan. 26, 2012) at 3.

⁴³ Attachment B – Email from MarkWest to Devin Tomko, PADEP (May 3, 2012, 7:08 pm) at 2 and 45-52.

⁴⁴ EPA, AP42 introduction at 2-4 *available at*: <http://www.epa.gov/ttn/chief/ap42/c00s00.pdf>; USEPA, GHG Permitting Guidance Appendix I p. I-2, *available at*: <http://www.epa.gov/nsr/ghgdocs/ghgpermittingguidance.pdf> (noting that while Part 98 can be used to calculate CO₂e PTE, “sources should use similar adjustments to fuel throughput,

activity data, and emissions for determining PTE for GHG that have been used in existing PSD and title V guidance for those units and which are applied on a case-by-case basis depending on specific operating parameters for the affected sources.”)

⁴⁵ Attachment B – Email from MarkWest to Devin Tomko, PADEP (May 3, 2012, 7:08 pm) at 19 (listing reboiler at 2 MMBtu/hr and “aprox. 2450cf/hr”)

Attachment C, sheets 1 and 2 include emission calculations for the natural gas engines and reboiler based on the 1415.8 Btu/scf value and the assumption that the maximum volume of fuel these emission units can combust remains unchanged. As a result, facility-wide CO₂e would increase by over 45,000 TPY, and HAP emissions would increase by nearly 2 TPY compared to the estimated PTE in the Department's technical review memo. The equipment at Welling may not actually be capable of combusting the quantity of Btu's necessary to achieve this level of increased emissions. For instance, operating at this heat input may cause equipment to overheat, operate inefficiently, or suffer premature wear. Most significantly, the engine air-fuel controllers likely reduce fuel flow when high Btu gas is combusted.

Moreover, NSR and Title V PTE calculations are to err on the side of overestimating emissions. For example, "[p]otential to emit means the *maximum* capacity of a stationary source to emit any air pollutant under its physical and operational design."⁴⁶ PTE is to be based on "worst case" emissions, "the dirtiest fuels, and/or the highest emitting materials and operating conditions that the source is or will be permitted to use,"⁴⁷ and should take into account emissions from startups, shutdowns and malfunctions.⁴⁸ If the applicant can demonstrate a technical limitation prevents the equipment from operating at this capacity, the PTE calculation can reflect that limit. The applicant may also request a limit on hours of operation or quantity of fuel combusted to reduce PTE.⁴⁹ In the absence of such a limit, the Department must calculate PTE on a maximum, worst case basis, and thus must assume maximum fuel consumption volume and heat value.

6. The applicant's PTE calculations fail to account for all emission units and pollutant-emitting activities at the facility.

a. The applicant has not included emissions due to truck loadout of condensate

The applicant's facility block diagram indicates condensate will be removed from the site via truck;⁵⁰ however, the applicant does not appear to have calculated VOC or HAP emissions resulting from truck loadout. These emissions must be quantified and included in the PTE calculations for the facility.

b. The applicant has not included CO₂ emissions from the engine catalysts.

⁴⁶ 40 CFR § 70.2 [emphasis added]; 40 CFR. §§ 52.21(b)(4), 51.165(a)(1)(iii), 51.166(b)(4); 25 Pa.Code § 121.1 – definition of potential to emit.

⁴⁷ USEPA, NSR Workshop manual p. A.19, *available at*: <http://www.epa.gov/ttn/nsr/gen/wkshpman.pdf>

⁴⁸ Letter from Steven Riva, USEPA Region 2, to NJDEP, *Accounting for Emergency Generators in the Estimate of Potential to Emit* (Feb. 14, 2006) p. 2 *available at*: <http://www.epa.gov/region7/air/nsr/nsrmemos/generator.pdf>.

⁴⁹ U.S. v. Louisiana-Pacific Corporation, 682 F. Supp. 1122, 1133 (D. Colo. 1987).

⁵⁰ Attachment B – Email from MarkWest to Devin Tomko, PADEP (May 3, 2012, 7:08 pm) at 33.

The applicant's CO₂ PTE calculation does not account for CO₂ created by the engine catalysts as a result of oxidation of CO. Multiplying the CO reduction by the increased molar mass of CO₂ results in additional facility-wide CO₂ emissions of 2495.75 TPY.⁵¹

7. The modified facility PTE likely exceeds the Title V emissions threshold.

Sections 1 – 6 describe multiple problems with the applicant's PTE calculations. The final, corrected facility-wide PTE will depend on how these problems are addressed and how emissions are recalculated. Regardless, the revised facility CO₂e PTE will likely exceed the 100,000 TPY Title V emission threshold.⁵²

8. The Department must evaluate whether the pattern of construction at Welling constitutes NSR circumvention

The Department's technical review memo notes that Application PA-63-00958A was submitted to the Department on January 25, 2012.⁵³ The review memo also notes that the Welling facility currently operates under a plan approval issued on November 24, 2011 and that the November 24, 2011 plan approval replaced a general permit issued on September 9, 2010.⁵⁴

In less than two years, the applicant has submitted applications for three separate projects at the Welling site. This is an indication that MarkWest is attempting to circumvent federal regulations. As the both the EHB and EPA explained:

“An operator may not phase, stage, or delay a project or engage in incremental construction to avoid the applicability triggers of the NSR/PSD programs.”⁵⁵

“If a source files more than one minor source permit application simultaneously or within a short time period of each other, this may constitute strong evidence of an intent to circumvent the requirements of [Major Source] preconstruction review.”⁵⁶

Note also that a determination multiple modifications should be combined to determine NSR applicability does not require any intent on the part of the applicant to circumvent NSR requirements:

⁵¹ For the complete calculation, see Attachment C, sheet 5.

⁵² See attachment C, sheet 6 for several revised facility-wide PTE scenarios.

⁵³ Proposed Plan Approval, p. 1.

⁵⁴ Id.

⁵⁵ *United Refining Co. v. DEP*, EHB Docket No. 2007-100-L (Aug. 7, 2008) at 12, citing 25 Pa. Code § 127.216. See also, 40 C.F.R. § 52.21(r) (4); 25 Pa. Code §§ 121.9.

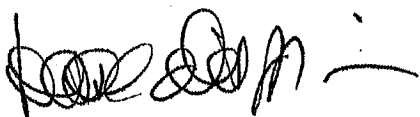
⁵⁶ Memo from John B. Rasnic, EPA, Applicability of New Source Review Circumvention Guidance to 3M – Maplewood, Minnesota (Jun. 23, 1993) at 3, available at: <http://www.epa.gov/region7/air/nsr/nsrmemos/maplwood.pdf>.

“Where a source is permitted for several minor modifications that *may in good faith be intended to be separate* but result in the source's aggregate increases to be major even considering decreases over a short time period (e.g., one year or 18 months), the modifications may require major new source review”⁵⁷

Given the short time period between these modifications, the Department must evaluate whether the emissions increases from each plan approval should be combined for the purpose of determining NSR applicability.

If the Department determines the emissions increases from each of the permits issued to Welling should be considered together and facility-wide PTE exceeds 100,000 TPY CO₂e, Welling must meet major source NSR requirements for greenhouse gases. Additionally, facility-wide NO_x emissions exceed the 40 TPY NSR significance threshold; thus if Welling is a major source for greenhouse gases, the applicant must also meet the NSR requirements for NO_x.

Respectfully submitted,



Joseph O. Minott, Esq.
Executive Director
Clean Air Council
135 S. 19th St.
Philadelphia, PA 19103
joe_minott@cleanair.org
(215) 567-4004



Joe Osborne, Esq.
Legal Director
Group Against Smog & Pollution
5135 Penn Ave.
Pittsburgh, PA 15224
joe@gasp-pgh.org
(412) 924-0604

⁵⁷ *Id.* at 5 [emphasis added].