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May 19, 2015

VIA E-MAIL: [RegComments@pa.gov](mailto:RegComments@pa.gov)

Department of Environmental Protection, Policy Office  
400 Market Street  
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Re: Draft Final Rulemaking, 25 Pa. Code Ch. 78a  
Environmental Protection Performance Standards at Oil and Gas Well Sites

Dear Department of Environmental Protection:

The Clean Air Council (Council) hereby submits the following comments in response to the Pennsylvania Department of Environmental Protection's (DEP) the draft final rule for unconventional wells, 25 Pa. Code Ch. 78a (Chapter 78a).

The Council is a non-profit environmental organization headquartered at 135 South 19th Street, Suite 300, Philadelphia, Pennsylvania 19103. For more than 40 years, the Council has fought to improve air quality across Pennsylvania. The Council has members throughout the Commonwealth who support its mission to protect everyone's right to breathe clean air.

The Council greatly appreciates the opportunity to comment on the DEP's draft final Chapter 78a regulations. The Council incorporates by reference its comments submitted on March 14, 2014, in response to a previous draft of Chapter 78. Further, the Council is a signatory to the comments submitted by Earth Justice and the Environmental Integrity Project, and asks that the DEP carefully review both submissions.

While we are encouraged by the DEP's efforts to improve the regulation of unconventional well activities, we strongly believe that the Chapter 78a regulations must be broadened and strengthened. Here, we focus on two areas in particular: (1) the proposed noise mitigation performance standards and (2) the application requirements for wells proposed near public resources.

### I. Chapter 78a Background

Since 2008, Pennsylvania has seen the rapid and extensive proliferation of unconventional natural gas development.<sup>1</sup> The Environmental Quality Board (EQB)

<sup>1</sup> Gas production from fracking has increased from .4 billion cubic feet per day in 2010 to 2 billion cubic feet per day in 2014 in Northeastern Pennsylvania. Additionally, gas production from fracking has reached close to 1 billion cubic feet per day in Southwestern PA, which is more than three times the production in 2010. Qingmin Meng & Steve Ashby, *Distance: A Critical Aspect for Environmental Impact Assessment of*

adopted new rules for unconventional natural gas development after Governor Corbett signed the 2012 Oil and Gas Act.<sup>2</sup> The rules were promulgated to “ensure the safe and responsible development of oil and gas resources.”<sup>3</sup> This comment addresses only Chapter 78a, the unconventional well regulations; it does not address changes to Chapter 78, the conventional oil and gas well regulations. In the draft final rulemaking, published in the Pennsylvania bulletin on April 4, 2015, the key provisions added to the revised Chapter 78a regulations, as noted by the DEP, are (1) the protection of public resources, (2) the identification of orphan and abandoned wells, (3) containment practices, and (4) the protection of water resources.<sup>4</sup> This comment will focus on the newly proposed noise mitigation performance standards and the provisions addressing the protection of public resources. The Council strongly supports the DEP’s efforts to establish these protections. However, the Council urges the DEP to strengthen the proposed rules to reflect the evidence on unconventional natural gas development’s (UNGD) threats to the public health and the environment.

## **II. The Proposed Noise Mitigation Regulations Must Be Made Specific and Must Be Strengthened**

The DEP’s proposed revisions to Chapter 78a include a new section requiring operators of unconventional wells to attempt to mitigate noise created by UNGD. The Council strongly supports the addition of performance standards for noise mitigation. However, the proposed noise mitigation performance standards must be more specific and include due process mechanisms for residents living near proposed UNGD. These changes will help to ensure that the permittee has addressed any potential negative public health and quality of life impacts of increased noise from a proposed well site before site development begins. Unconventional natural gas development operations that produce potentially harmful noise are “large truck traffic; road and well pad construction machinery; diesel engines used during drilling; fracking and completion stages; and drill rig brakes.”<sup>5</sup>

The Council believes the DEP should reference and draw from regulations promulgated by other states and territories that have addressed the issue of noise created by UNGD. There are several regulatory features adopted in other jurisdictions, which are supported by public health studies, that the DEP should consider before finalizing the Chapter 78a UGND regulations. Two recommendations that will make the Chapter 78a noise

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*Hydraulic Fracking*, The Extractive Industries and Society 1, 124 (2014), available at, <http://www.sciencedirect.com/science/article/pii/S2214790X14000513>.

<sup>2</sup> PA DEPARTMENT OF ENVIRONMENTAL PROTECTION, *Proposed Regulations for Oil and Gas Surface Activities (Amendments to 25 Pa. Code Chapter 78, Subchapter C)*, p.1, [http://files.dep.state.pa.us/OilGas/BOGM/BOGMPortalFiles/PublicResources/PlainLanguageSummaryforCh78Regulation\\_February2014.pdf](http://files.dep.state.pa.us/OilGas/BOGM/BOGMPortalFiles/PublicResources/PlainLanguageSummaryforCh78Regulation_February2014.pdf).

<sup>3</sup> *Id.*

<sup>4</sup> *Id.*

<sup>5</sup> ROXANA WITTER ET AL., UNIVERSITY OF COLORADO DENVER, COLORADO SCHOOL OF PUBLIC HEALTH, *HEALTH IMPACT ASSESSMENT FOR BATTLEMENT MESA, GARFIELD COUNTY COLORADO*, p. 41 (2010), available at, <http://www.garfield-county.com/public-health/documents/1%20%20%20Complete%20HIA%20without%20Appendix%20D.pdf>.

mitigation more specific are (1) setting permissible sound level standards and (2) requiring mandatory direct communication between operators and residents who may be impacted by UNGD noise to improve transparency and due process.

A discussion of (1) the public health impacts noise associated with noise from UNGD, (2) the noise levels associated with UNGD, (3) the guidance provided by other jurisdictions' noise regulations, (4) the current DEP responsibilities under the proposed Chapter 78a noise mitigation performance standards language, (5) the Council's recommended additions and changes to the proposed noise mitigation standards, (6) the DEP's authority to promulgate Chapter 78a, and (7) a statement on the preemptive effect of Chapter 78a on municipalities' regulations of noise follow below.

#### **A. Health Impacts from Noise**

In response to the rapid proliferation of UNGD, numerous studies on the negative impacts associated with noise from UNGD have been completed. This section draws from findings on UNGD's noise presented in studies by the University Of Maryland School Of Public Health, the Colorado School of Public Health and the West Virginia School of Public Health. The negative public health impacts of environmental noise have also been studied and described by the World Health Organization (WHO) and the Environmental Protection Agency (EPA).

Noise is a "general biological stressor."<sup>6</sup> A health impact assessment completed for area of Battlement Mesa, Colorado determined that of anticipated impacts from noise, vibration, and light exposure associated with UNGD, noise is likely to have the most substantial negative impact on health.<sup>7</sup> The health impacts associated with noise are most likely to manifest as "annoyance due to noise above background and may cause sleep disturbance, displeasure, fatigue, etc."<sup>8</sup> However, excessive exposure to noise can pose more serious health risks in that "noise may contribute to the development and aggravation of stress related conditions such as high blood pressure, coronary disease, ulcers, colitis, and migraine headaches."<sup>9</sup> The WHO lists the following negative outcomes associated with environmental noise: cardiovascular disease, cognitive impairment, sleep disturbance, tinnitus, and annoyance.<sup>10</sup> More generally, environmental noise "disturbs and interferes with activities of the individual, including concentration, communication, relaxation, and sleep."<sup>11</sup>

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<sup>6</sup> MICHAEL MCCAWLEY, WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, DIVISION OF AIR QUALITY, AIR, NOISE, AND LIGHT MONITORING RESULTS FOR ASSESSING ENVIRONMENTAL IMPACTS OF HORIZONTAL GAS WELL DRILLING OPERATIONS (ETD-10 PROJECT) (2013), available at, <http://www.wri.org/wp-content/uploads/2013/10/a-n-l-final-report-for-web.pdf>.

<sup>7</sup> WITTER, *supra* note 5, at Executive Summary VII.

<sup>8</sup> *Id.* at VIII.

<sup>9</sup> MCCAWLEY, *supra* note 7, at 9.

<sup>10</sup> WORLD HEALTH ORGANIZATION REGIONAL OFFICE FOR EUROPE, BURDEN OF DISEASE FROM ENVIRONMENTAL NOISE: QUANTIFICATION OF HEALTHY LIFE YEARS LOST IN EUROPE, p. 3 (2011), available at, [http://www.who.int/quantifying\\_ehimpacts/publications/e94888.pdf?ua=1](http://www.who.int/quantifying_ehimpacts/publications/e94888.pdf?ua=1).

<sup>11</sup> *Id.* at 15.

Studies have been conducted to determine the decibel level at which humans begin to experience these negative impacts of environmental noise. The EPA's "limit for protecting against all health effects of noise" is a 24-hour average of 55 dBA.<sup>12</sup> Studies have shown that cardiovascular health risk factors begin to be implicated by noise levels between 51-70 dB, when a person is exposed for several years.<sup>13</sup> The Colorado School of Public Health Study completed for the Battlement Mesa area notes that sleep can be impacted by "as little as 35-60 dB."<sup>14</sup> Maintaining decibel levels at or below 55 and 45 dB, for outdoors and indoors, respectively, has been identified as "preventing activity interference<sup>15</sup> and annoyance."<sup>16</sup> The EPA also sets noise guidelines for long-term exposure (40 year period) for preventing "activity interference and annoyance" at 55 dB and 45 dB, for outdoors and indoors, respectively.<sup>17</sup> EPA recognizes that "sound levels inside stores, offices, and residences with normal conversation or television listening normally fall within the 40-65 dB range."<sup>18</sup> Given that public health organizations have established recommended decibel levels for preventing negative human health impacts from noise, the Council believes that the DEP should subject noise created by UNGD to specific Permissible Sound Level (PSL) standards.<sup>19</sup>

## B. Noise Associated with Unconventional Natural Gas Development

Relative to the noise created by UNGD, the level of noise that causes public health impacts are not necessarily very high. Professor McCawley from the West Virginia University School of Public Health performed a study for the West Virginia Department of Environmental Protection and found that noise levels above 55 dBA occurred frequently throughout UNGD operations, rather than being associated with specific or isolated type of operation.<sup>20</sup> New York State conducted a Supplemental Generic

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<sup>12</sup> David C. Holzman, 122 ENVIRONMENTAL HEALTH PERSPECTIVES 2, p. A58, *Fighting Noise Pollution: A Public Health Strategy* (2014), available at, <http://ehp.niehs.nih.gov/wp-content/uploads/122/2/ehp.122-A58.pdf>.

<sup>13</sup> WITTER, supra note 5, at 40.

<sup>14</sup> WITTER, supra note 5, at 40.

<sup>15</sup> Activity interference is "widely considered the central mechanism linking exposure to noise and emergence of annoyance." Bert de Coensel et al., ACTA ACUSTICA UNITED WITH ACUSTICA, *Activity Interference Caused by Traffic Noise: Experimental Determination and Modeling of the Number of Noticed Sound Events*, available at, [http://www.researchgate.net/publication/262853302\\_Activity\\_Interference\\_Caused\\_by\\_Traffic\\_Noise\\_ExperimentaE\\_Determination\\_and\\_Modeling\\_of\\_the\\_Number\\_of\\_Noticed\\_Sound\\_Events](http://www.researchgate.net/publication/262853302_Activity_Interference_Caused_by_Traffic_Noise_ExperimentaE_Determination_and_Modeling_of_the_Number_of_Noticed_Sound_Events). The actual interference occurs when noise events "divert attention from the task at hand, thereby reducing task performance. Id.

<sup>16</sup> MCCAWLEY, supra note 7, at 9.

<sup>17</sup> WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION OFFICE OF OIL AND GAS, *Noise, Light, Dust, and Volatile Organic Compounds Generated by the Drilling of Horizontal Wells Related to the Well Location Restriction Regarding Occupied Dwelling Structures*, p. 3 (2013), available at, <http://www.dep.wv.gov/oil-and-gas/Horizontal-Permits/legislativestudies/Documents/FINAL%20OOG%20Noise%20Light%20Dust%20and%20VOCs%20Report%205-28-2013.pdf>.

<sup>18</sup> *Id.* at 3.

<sup>19</sup> See ALBERTA ENERGY RESOURCES CONSERVATION BOARD, DIRECTIVE 038: NOISE MITIGATION, § 2.1 (2007) (explaining the concept of permissible sound level standards), available at, <https://www.aer.ca/documents/directives/Directive038.pdf>.

<sup>20</sup> McCawley, supra note 7, at 18.

Environmental Impact Statement (SGEIS) that modeled the noise levels associated with UNGD using industry information about the construction equipment that would be used.<sup>21</sup> The study found that noise levels at a distance of 250-2000 feet would range from 75-57 during access road construction,<sup>22</sup> 70-52 dBA during well pad construction,<sup>23</sup> 64-45 dBA during rotary air well drilling,<sup>24</sup> and 76-44 dBA during horizontal drilling,<sup>25</sup> and between 104-72 for high-volume hydraulic fracturing.<sup>26</sup> The West Virginia and New York studies support each other. Additionally, measuring from a setback distance of 625 feet, McCawley found that noise exceeded 85 dBA a number of times.<sup>27</sup> Comparing these noise levels with the decibel level ranges associated with an absence of negative health impacts supports the conclusion of the study by the Maryland School of Public Health study that there is a “moderately high likelihood” that UNGD will create noise exposure that will have negative impacts on public health.<sup>28</sup> As cited above, the EPA sets an average of 55 dBA over 24-hours as the level that protects against all health effects of noise.

### C. Guidance from other Jurisdictions

The Alberta Energy Resources and Conservation Board regulates noise from UNGD under Directive 038: Noise Control (Alberta Directive), last revised in 2007. The Alberta Directive sets noise mitigation and control requirements for energy and utility projects.<sup>29</sup> The Alberta Directive contains PSL requirements that the Council believes the DEP should adopt and require of UNGD operators to ensure public health standards inform the DEP’s intention in Chapter 78a to protect Pennsylvanians from UNGD noise.

First, it should be noted that the Alberta Directive only requires drilling and servicing activities of well sites to comply with a PSL if a complaint is filed about noise created at the well site. The Council, however, believes that the DEP should require UNGD operators to demonstrate their ability to maintain a PSL before being granted a permit to begin development. This requirement would dovetail with the proposed Chapter 78a requirements that operators provide the DEP with an “assessment of background noise in the area of the well site”<sup>30</sup> and an “assessment of known and potential noise from drilling,

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<sup>21</sup> See NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION, FINAL SUPPLEMENTAL GENERIC ENVIRONMENTAL IMPACT STATEMENT ON OIL, GAS AND SOLUTION MINING REGULATORY PROGRAM, VOLUME 1, (2015), [hereinafter NY SGEIS], available at, [http://www.dec.ny.gov/docs/materials\\_minerals\\_pdf/fsgeis2015.pdf](http://www.dec.ny.gov/docs/materials_minerals_pdf/fsgeis2015.pdf).

<sup>22</sup> *Id.* at 6-295.

<sup>23</sup> *Id.* at 6-296.

<sup>24</sup> *Id.* at 6-298.

<sup>25</sup> *Id.*

<sup>26</sup> *Id.* at 6-300.

<sup>27</sup> McCawley, *supra* note 7, at 18.

<sup>28</sup> UNIVERSITY OF MARYLAND SCHOOL OF PUBLIC HEALTH, *Potential Public Health Impacts of Natural Gas Development and Production in the Marcellus Shale in Western Maryland*, at p. 57, (2014), available at, <http://phpa.dhmf.maryland.gov/OEHFP/EH/Shared%20Documents/Reports/MDMarcellusShalePublicHealthFinalReport08.15.2014.pdf>.

<sup>29</sup> ALBERTA DIRECTIVE 038, *supra* note 20, at § 1.1.

<sup>30</sup> 25 Pa. Code Ch. 78a41(b)(1).

stimulation and servicing activities” as a part of the required noise mitigation plan.<sup>31</sup> For the following reasons that distinguish the province of Alberta from Pennsylvania, the Council believes that an operator of a UNGD must include proof that it can attain a specific PSL (discussed further below in subsection 2) in a pre-development noise mitigation plan required by 25 Pa. Code 78a41(a).

The Alberta Directive was promulgated in 2007, several years before the public health studies cited in subsections II.A and B were completed. Today, a larger body of existing research on the impacts of noise created by UNGD informs the Council’s proposal that UNGD operators must comply with set permissible sound levels. Another factor that supports the application of PSLs to UNGD is the difference in average population density between Alberta Province and Pennsylvania. The population density in Pennsylvania is 277.6 people per square mile,<sup>32</sup> while the population density in Alberta is 14.7 people per square mile.<sup>33</sup> Since Pennsylvania is greater than eighteen times more densely populated than Alberta, there is a greater chance that residents will be impacted by noise from UNGD and, therefore, DEP has more reason to require operators to demonstrate PSLs at the pre-development, noise mitigation plan stage. Despite the Alberta Directive only regulating UGND on a “complaint basis,” the preceding facts demonstrate the reasoning behind the Council’s belief the DEP must demonstrate compliance with PSLs at the pre-development, noise mitigation plan stage. The following paragraphs examine in more detail the Alberta Directive’s PSL requirements.

An important feature of the Alberta Directive is its inclusion of Permissible Sound Level (PSL) requirements. The PSL formula developed in the Alberta Directive is PSL equals a pre-established basic sound level (BSL) plus the ability to apply several adjustments to accommodate differences in population density, proximity to transportation noise, and time of day.<sup>34</sup> The BSL is equal to a scientifically measured ambient sound level plus a 5dBA allowance.<sup>35</sup> Research conducted by the Environmental Council of Alberta established that the “average rural ambient sound level” in Alberta was 35 dbA (Leq) at night, adding the 5 dBA allowance establishes a PSL baseline standard for regulated entities.<sup>36</sup> The Alberta Directive applies this baseline standard of 40 dBA as the required PSL for energy facilities that do not have a dwelling closer than 1.5 km from the facility fence line.<sup>37</sup> The Alberta Directive provides an adjustments formula in order to create more specific required PSLs for energy projects in areas with varying population density, proximity to transportation noise.<sup>38</sup> The Alberta Directive sets different PSL levels for

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<sup>31</sup> 25 Pa. Code Ch. 78a41(b)(2).

<sup>32</sup> WORLD ATLAS, *United States*, <http://www.worldatlas.com/aatlas/populations/usapoptable.htm>.

<sup>33</sup> WIKIPEDIA, *Alberta*, <http://en.wikipedia.org/wiki/Alberta>.

<sup>34</sup> See ALBERTA DIRECTIVE 038, *supra* note 20, at § 2.1.1.

<sup>35</sup> ALBERTA DIRECTIVE 038, *supra* note 20, at § 2.1.

<sup>36</sup> ALBERTA DIRECTIVE 038, *supra* note 20, at §2.1.1.

<sup>37</sup> ALBERTA DIRECTIVE 038, *supra* note 20, at § 1.2.1.

<sup>38</sup> See ALBERTA DIRECTIVE 038, *supra* note 20, at § 2.1.2 (establishing three categories of PSL adjustment for both population density and proximity to transportation, with required PSL level increasing (becoming less stringent) for dwellings in higher density areas and dwellings in closer proximity to transportation noise).

day time and night time.<sup>39</sup> Finally, the Alberta regulations use a “receptor-oriented” approach to noise mitigation.<sup>40</sup> This means that testing for a PSL violation occurs at the site of the dwelling or structure that has filed a noise complaint, rather than from the property line.

The details of the Alberta Directive requirements should be compared to other government regulation addressing UNGD. The Maryland School of Health study notes that the Maryland Department of Environment has set “maximum allowable noise levels for receiving land categories.”<sup>41</sup> Those standards are 65 and 55 dBA in residential areas during the daytime and nighttime, respectively.<sup>42</sup> The study also notes that those dBA standards “are relatively high considering the literature on health effects associated with noise exposure and may not adequately protect public health.”<sup>43</sup> Unlike the Alberta Directive, the Colorado Oil and Gas Conservation Commission (COGCC) considers UNGD well pad development to be an industrial activity and a complaint is not necessary to trigger COGCC’s noise standards.<sup>44</sup> COGCC sets its residential noise standard at 55 dBA in the day and 50 dBA at night.<sup>45</sup>

#### **D. Current Responsibilities of UNGD Operators Regarding Noise Mitigation Under Proposed Chapter 78a Revisions**

Chapter 78a requires an operator to develop a “site specific noise mitigation plan.”<sup>46</sup> The noise mitigation plan must include (1) an “assessment of background noise in the area of the well site,” (2) an “assessment of known and potential noise from drilling, stimulation and servicing activities, taking into consideration the interests of nearby residents, including the effects on indoor noise levels for residents near the well site,” and (3) a “description of the operator’s plans to mitigate noise” that also must incorporate best practices to noise management for the drilling, stimulation and servicing activities.<sup>47</sup>

Chapter 78a41’s provisions empower the DEP to make a determination that these mandatory, pre-development, site specific noise mitigation plans are “inadequate to minimize noise” during drilling, stimulation, and servicing activities.<sup>48</sup> If, at any time, the DEP finds the plan inadequate it “may order the operator to suspend operations and to modify the plan and obtain department approval.”<sup>49</sup> Chapter 78a41’s provisions also require UNGD operators to perform “regular, frequent, and comprehensive site

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<sup>39</sup> See ALBERTA DIRECTIVE 038, *supra* note 20, at § 2.1.2.1 (setting the daytime PSL as 10 dB higher than the night time PSL and defining daytime as 7 am to 10 pm and night time as 10 pm to 7 am).

<sup>40</sup> ALBERTA DIRECTIVE 038, *supra* note 20, at § 1.2.2.

<sup>41</sup> UNIVERSITY OF MARYLAND SCHOOL OF PUBLIC HEALTH, *supra* note 29, at 50.

<sup>42</sup> *Id.*

<sup>43</sup> *Id.*; See also Subsection II.A and B, *supra* pages 3-5.

<sup>44</sup> WITTER, *supra* note 5, at 40.

<sup>45</sup> COLORADO OIL AND GAS CONSERVATION COMMISSION, Amended Rules, 800 Series: Aesthetic and Noise Control Regulations, § 802(b), available at, [https://cogcc.state.co.us/RR\\_Docs\\_new/rules/800series.pdf](https://cogcc.state.co.us/RR_Docs_new/rules/800series.pdf).

<sup>46</sup> 25 Pa. Code Ch. 78a41(a).

<sup>47</sup> 25 Pa. Code Ch. 78a41(b)(1)-(3).

<sup>48</sup> 25 Pa. Code Ch. 78a41(c).

<sup>49</sup> *Id.*

inspections to evaluate the effectiveness of any noise mitigation measures.”<sup>50</sup> Any problems discovered must be “promptly [addressed] and [corrected].”<sup>51</sup> Finally, operators are required to keep the noise mitigation plan at the well site during development activities and are required to make the noise mitigation plan available to the DEP upon its request.<sup>52</sup>

## **E. DEP Must Strengthen and Improve Its Noise Mitigation Regulations**

The addition of noise mitigation performance standards to Chapter 78a will benefit Pennsylvanians who live near UNGD. The Council welcomes the pre-development, investigative, and enforcement regulations meant to minimize the noise produced by UNGD included in Chapter 78a. These regulations add Pennsylvania to the list of states taking initiative to ensure that UNGD does not come at the cost of the health or welfare of its citizens.

The public health research regarding environmental noise and studies investigating noise created by UNGD, discussed above in Section II.A and B, demonstrate that DEP’s decision to regulate noise created by UNGD is informed by sound science drawn from specific case studies. However, the Council believes that the science compels the DEP to go farther. First, the Council lays out a specific permissible sound level that the DEP must adopt. Second, the Council discusses the benefits of prescribing specific noise levels. Third, the Council discusses how best to enforce specific noise levels. And fourth, the Council provides recommendations on establishing communication protocols between UNGD operators and residents.

### **1. Setting Specific Permissible Sound Levels**

The DEP must set a permissible sound level (PSL) for UNGD of 55 dBA during the day and 50 dBA during the night.<sup>53</sup> The PSL cannot be exceeded at any receptor within 3,500 feet of the limit of disturbance of the well site.<sup>54</sup> Receptors include all occupied structures, school common areas, playgrounds, parks, and recreational areas. Should baseline testing reveal that noise in the area already exceeds the PSL, operators may not cause a noise increase of more than 6 dBA.

The specific recommended PSLs are based on the thresholds for avoiding negative public health impacts established by the EPA and WHO, the experience of other jurisdictions,

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<sup>50</sup> 25 Pa. Code Ch. 78a41(d).

<sup>51</sup> 25 Pa. Code Ch. 78a41(e).

<sup>52</sup> 25 Pa. Code Ch. 78a41(f).

<sup>53</sup> This recommended PSL of 55/50 is appropriate given that UNGD is generally sited in less densely populated areas with low levels of background noise. Based on the baseline noise data DEP collects, in future rulemakings DEP should consider setting different PSL for areas with higher population densities and for areas with closer proximity to transportation noise. *See* ALBERTA DIRECTIVE 038, *supra* note 20, at § 2.1.1.

<sup>54</sup> The day time is designated as the hours between 7:00 am and 10:00 pm, while the nighttime is the hours between 10:00 pm and 7:00 am. *See* ALBERTA DIRECTIVE 038, *supra* note 20, at § 2.1.2.1.

and the studies completed by various schools of public health. This research and precedent is discussed in detail in sections II.A. and B.

UNGD activities in Pennsylvania have a high probability of exceeding 55 dBA. The Pennsylvania Oil and Gas Act imposes a setback of only 500 feet from a well site to a protected structure.<sup>55</sup> Troublingly, the New York SGEIS found that noise from UNGD far exceeded health standards at 2,000 feet from the well site.<sup>56</sup> The Colorado School of Public Health study found that, assuming 500 feet setback from residences, UNGD would produce noise above background and possibly above COGCC levels without “ancillary noise abatement.”<sup>57</sup> The COGCC requires UNGD activities being conducted in residential/agricultural/rural areas to satisfy the PSLs the Council recommends: 55 dBA during the day and 50 dBA during the night.<sup>58</sup> In the Maryland School of Public Health, the authors found that occupied structures more than 3,500 feet from UNGD compressor stations are unlikely to experience noise levels that will negatively impact health.<sup>59</sup> The Council’s suggested 3,500 foot perimeter draws from the West Virginia finding, but it should be noted that noise at UNGD sites may greatly exceed noise from compressor stations. The Council encourages the DEP to revisit the 3,500 scope as it develops experience regulating noise in Pennsylvania and expand the protection to a greater distance should the evidence support it.

The Council understands that in some locations background noise may exceed the PSLs prior to UNGD, which is why the Council recommends a small allowance of 6 dbA. The 6 dBA allowance is based on the NY SGEIS finding that “sound pressure increases of more than 6 dB may require a closer analysis of impact potential, depending on existing SPLs and the character of surrounding land use and receptors, and an increase of 6 dBA may cause complaints. Therefore, mitigation measures would be required if increases of this nature would be experienced at a receptor location.”<sup>60</sup>

## **2. Benefits of Establishing Specific PSLs**

The best mechanism for addressing the public health issues associated with noise from UNGD is to set specific PSLs. The purpose of setting a PSL, however, is not to guarantee that a resident will not hear any noises from a UNGD facility.<sup>61</sup> Setting a specific PSL will, most importantly, help ensure that the performance standards are protective of public health. Specificity will also ensure more transparency in the relationship between operators of UNGD and citizens that reside in close proximity to well sites. The DEP has

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<sup>55</sup> PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, *Act 13 Frequently Asked Questions*, p. 4, [http://files.dep.state.pa.us/OilGas/OilGasLandingPageFiles/Act13/Act\\_13\\_FAQ.pdf](http://files.dep.state.pa.us/OilGas/OilGasLandingPageFiles/Act13/Act_13_FAQ.pdf).

<sup>56</sup> NY SGEIS at 6-295, 6-296, & 6-298.

<sup>57</sup> WITTER, *supra* note 5, at 41.

<sup>58</sup> COLORADO OIL AND GAS CONSERVATION COMMISSION, *supra* note 45.

<sup>59</sup> UNIVERSITY OF MARYLAND SCHOOL OF PUBLIC HEALTH, *supra* note 28, at 57.

<sup>60</sup> NY SGEIS at 6-301.

<sup>61</sup> ALBERTA DIRECTIVE 038, *supra* note 20, at § 1.2.1.

stated that the rules “focus on performance over process.”<sup>62</sup> The success of the proposed noise mitigation performance standards should be measured by their ability to protect the public health and quality of life of the communities surrounded by UNGD, as well their ability to facilitate resolution of noise complaints by improving understanding of the operation of the law between UNGD operators and citizens impacted by their development.

### 3. Enforcement of Permissible Sound Levels

In order to determine when a PSL has been violated and when proposed noise mitigation plans are inadequate, the regulator, the regulated entity, and the general public all need to have a common understanding of what will constitute a noise violation of Chapter 78a by a UNGD operator. The Council believes that the site inspections required by Chapter 78a41(d) should be the mechanism used to determine whether the established PSL is exceeded. Subsections 78a41(c)-(e) establish the enforcement power of the DEP with regards to the noise mitigation required under 78a41(a). The following section contains the Council’s suggestions on how subsections 78a41(c)-(e) can be enforced in practice to ensure PSLs are maintained and to ensure that residents affected by UNGD noise have due process protections. Here again, the recommendations include aspects that were drawn from the Alberta Directive and other jurisdictions’ regulations.

Expanding on the background noise assessment conducted at the subject site, as required by 25 Pa. Code Ch. 78a41(b)(1), DEP must require that operators conduct noise modeling to demonstrate that the PSL will also not exceeded at any of the receptors within 3,500 feet of the limit of disturbance of the well site. The noise modeling should note all receptors within the 3,500 feet, including all occupied structures, school common areas, playgrounds, parks, and recreational areas.

The Alberta Directive uses a “receptor-oriented” approach to noise mitigation. For enforcement purposes, the receptor-oriented approach measures the noise levels at the actual receptor site, usually a dwelling, rather than at the property line. Under the Alberta Directive, if a valid noise complaint is received for a facility, compliance with the directive is established if a comprehensive sound survey indicates that the PSL is exceeded.<sup>63</sup> The Council believes if a complaint is received, the DEP should apply this test for compliance with the PSL at the receptor site, rather than the property line.

Even if an operator has demonstrated via the noise mitigation plan that it will not violate the proposed baseline 55/50 PSL within the 3,500 feet radius from the well site, the UNGD operator must also be prepared to respond to residents’ noise complaints. Residents living near proposed UNGD sites should have an objective mechanism for verifying whether or not noise entering their home is a violation of the law and potentially impacting their health.

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<sup>62</sup> PA DEPARTMENT OF ENVIRONMENTAL PROTECTION, *Oil and Gas Surface Regulations*, [http://www.portal.state.pa.us/portal/server.pt/community/public\\_resources/20303/surface\\_regulations/1587188](http://www.portal.state.pa.us/portal/server.pt/community/public_resources/20303/surface_regulations/1587188).

<sup>63</sup> See ALBERTA DIRECTIVE 038, *supra* note 20, at § 1.4.1.

Chapter 78a41(b)(2) requires an “assessment of known and potential noise from drilling, stimulation and servicing activities, taking into consideration the interests of nearby residents, including the effects on indoor noise levels for residents near the well site.”<sup>64</sup> The Council’s proposed requirements that the operator should be required to demonstrate that it will not violate the 55/50 PSL 3,500 should dovetail with the residents’ ability to comment and file complaints regarding noise created by UNGD. The next section addresses proposed mechanisms for this due process/complaint mechanism.

#### **4. Communication Between Licensee and Receptor/Responding to Noise Complaints**

The Alberta Directive includes a requirement that, “A licensee must discuss a proposed noise management plan with all affected persons, such as nearby residents, operators of energy-related facilities, other industries and local government.”<sup>65</sup> The Alberta noise regulations also include a requirement that if a noise complaint is registered against a licensee then the licensee must take concrete steps to resolve the issue. Those steps are (1) make direct contact with the complainant “to understand the concerns and to establish a dialogue to set reasonable expectations and a time frame to resolve the issue,” (2) explain carefully the licensee’s duties under directive 038 and the time line the licensee intends to follow in addressing the matter, (3) complete the requirements of the Noise Complaint Investigation form.<sup>66</sup>

DEP must adopt similar mechanisms that allow residents within one mile of the limit of disturbance of a UNGD site to have access to the noise mitigation plan. Residents who wish to view the noise mitigation plan should have the expectation that the information included within it will provide them specific information on the noise generating equipment at each UNGD. The Alberta Directive requires UNGD operators to provide “sound source identification.” In other words UNGD operators must “Identify major sources of noise...from the facility and their associated sound power/pressure levels.”<sup>67</sup>

Further, DEP must require that the operator offer to meet with all residents within one mile. This requirement is a common-sense, pro-active measure that will both act to prevent conflict and to promote quick dispute resolution if receptors of noise from UNGD need to file complaints.

Finally, the DEP not place a restriction on who can file a formal noise complaint for sound created by UNGD. Twenty-five Pa. Code Section 78a41(b)(2) states that “nearby residents” should be taken into account. The Alberta Directive contains no such limiting language. By limiting who can lodge a complaint, the DEP would deprive aggrieved residents from accessing a low cost dispute resolution mechanism. Moreover, by failing to gather complaints from all impacted residents, the DEP would not gather the

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<sup>64</sup> 25 Pa. Code Ch. 78a41(b)(2).

<sup>65</sup> ALBERTA DIRECTIVE 038, supra note 20, at § 5.1.

<sup>66</sup> ALBERTA DIRECTIVE 038, supra note 20, at § 4.1.

<sup>67</sup> ALBERTA DIRECTIVE 038, supra note 20, at § 3.6.

information needed to understand the full impact of noise from UNGD. The qualifier “nearby” must be deleted, so as to allow all residents who may be impacted by the noise from UNGD to make complaints.

#### **F. The Oil and Gas Act of 2012 Gives the DEP Authority to Regulate Noise Under Chapter 78a**

The same statutory authority that enables DEP to promulgate its Chapter 78 regulations also empowers the DEP to promulgate its Chapter 78a regulations for unconventional wells, the Oil and Gas Act of 2012 (Act)<sup>68</sup>. The DEP has stated that new development practices associated with UNGD require “additional oversight of applicable standards and controls.”<sup>69</sup> Chapter 78a contains the new UNGD regulations.

The specific bases for adopting noise mitigation standards are found in the language of the Act and case law interpreting the Act. The Act’s stated purposes include the protection of the “safety and property rights of persons residing in areas” where oil and gas development occurs and the protection of “the natural resources, environmental rights and values secured by the Constitution of Pennsylvania.”<sup>70</sup> Protecting the safety and property rights of Pennsylvanians includes the power to protect residents from the threats posed by noise from UNGD. These threats include negative public health impacts and intrusions on the right of quiet enjoyment of property. The Act “regulates nearly every aspect” of oil and gas drilling and exploration activities.<sup>71</sup> The Act empowers the Department to regulate the “features” of oil and gas development. Case law describes a “feature” of oil and gas development as “a characteristic of the manner or process by which the well is created, functions, is maintained, ceases to function, or is ultimately destroyed or capped.”<sup>72</sup>

The “creation and functioning stages” of UNGD include drilling and fracking procedures of UNGD. Significant noise occurs in the creation and functioning stages of UNGD. Such stages processes fall under the purview of DEP regulation as characteristics of the process by which wells are created and function. Since these activities produce significant noise that can negatively affect the safety and property rights of Pennsylvanians, the DEP may promulgate performance standards for the mitigation of noise associated with UNGD. (Therefore, the DEP has two bases for promulgating Chapter 78a).

#### **G. Preemption**

The DEP must add language to the noise mitigation performance standards in Chapter 78a that make clear that DEP does not occupy the field with regard to noise mitigation

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<sup>68</sup> 58 P.S. §§ 601.101–601.605 *repealed by* 2012, Feb. 14, P.L. 87, No. 13, § 3(2) (Act of December 19, 1984, P.L. 1140 (as amended, 58 Pa. Const. Stat. Ann. §§ 3201–3274 (West 2012))).

<sup>69</sup> PA DEPARTMENT OF ENVIRONMENTAL PROTECTION, *Proposed Regulations for Oil and Gas Surface Activities (Amendments to 25 Pa. Code Chapter 78, Subchapter C)*, supra note 2, at 1.

<sup>70</sup> 58 PA. C.S.A. § 3202.

<sup>71</sup> *Roth v. Cabot Oil & Gas Corp.*, 919 F. Supp. 2d 476, 489 (M.D. Pa 2013).

<sup>72</sup> *Huntely & Huntley, Inc. v. Borough Council of Borough of Oakmont*, 964 A.2d 855, 864 (2009).

regulations. Local municipalities must be able to set their own noise standards in order to fulfill their police power under the Municipalities Planning Code. The DEP's noise mitigation performance standards should represent a regulatory floor that allows local municipalities to establish stricter noise mitigation requirements. If it is impossible to comply with both a municipality's noise mitigation standards and the Chapter 78a standards, an operator must be required to comply with the more stringent standard.

### **III. As Public Resources, Schools and Playgrounds Require Much Greater Protections**

The Council commends the DEP for recognizing that schools and playgrounds deserve special consideration during the permitting of unconventional gas wells. However, here too, the Council urges the DEP to strengthen the proposed protections to reflect the available evidence on the risks associated with UNGD. First, the 200 foot scope of applicability must be expanded to 1-mile. Second, parents of the children attending the school must be given the opportunity to offer stakeholder input. Third, should the permittee challenge permit conditions before the Environmental Hearing Board (EHB), the burden must be on the *permittee* to show that the conditions are not necessary. Fourth, the Council strongly supports the use of limit of disturbance as a perimeter from which to measure distances from well sites. And fifth, where the DEP finds that a well poses a threat to a public resource, it *must* impose conditions to minimize or eliminate the threat.

#### **A. Background**

In the draft final Chapter 78 oil and gas surface regulations, the DEP added school property and playgrounds to the named public resources which are afforded special protections.<sup>73</sup> If school property or a playground is within 200 feet of the limit of disturbance of a proposed well site, the well permit applicant must notify the school 30 days prior to submitting its well permit application to the DEP. The notice must include a copy of the plat showing the proposed limit of disturbance and, *inter alia*, "a description of the measures proposed to be taken to avoid or mitigate impacts, if any."<sup>74</sup> The school then has 30 days to submit comments to the DEP and the applicant detailing the "functions and uses of the public resource" and the measures the school believes must be taken to "avoid or minimize probable harmful impacts to the public resource where the well, well site and access road is located."<sup>75</sup> The applicant can submit a response.<sup>76</sup> If the DEP determines that the proposed well does indeed pose a probable harmful impact, it "may" impose conditions on the permit.<sup>77</sup> The DEP has to consider the applicant's property rights and "the degree to which any potential condition may impact or impede the optimal development of the oil and gas resources."<sup>78</sup> The applicant can appeal

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<sup>73</sup> 25 Pa. Code Ch. 78a.15(f)(1)(vii).

<sup>74</sup> 25 Pa. Code Ch. 78a.15(f)(2)&(3)(iii).

<sup>75</sup> 25 Pa. Code Ch. 78a.15(f)(2).

<sup>76</sup> 25 Pa. Code Ch. 78a.15(g).

<sup>77</sup> 25 Pa. Code Ch. 78a.15(g).

<sup>78</sup> 25 Pa. Code Ch. 78a.15(g).

imposed permit conditions to the EHB and the DEP will have the burden of showing that the conditions are necessary to “protect against a probable harmful impact.”<sup>79</sup>

## **B. School Common Areas and Playgrounds within One Mile Must Be Afforded the Public Resource Protections**

The scope of the public resource protections affecting school common areas and playgrounds must be extended from 200 feet to one mile. The proposed 200 foot radius does not accurately account for the risks posed by UNGD. Limiting the rule to those public resources within 200 feet of the well site excludes many public resources that will be subjected to probable harmful impacts of UNGD.

Based on the available public health research, and past experience with UNGD accidents, school common areas and playgrounds within one mile of a well site can face probable harmful impacts from the development—the distance may be even greater. Therefore, the scope of the public resource protections—must be extended to areas within one mile of the limit of disturbance.

First, in assessing the scope and extent of probable harmful impacts, it is important to be mindful of the fact that school common areas and playgrounds are populated by children, a group particularly vulnerable to pollution. Children eat, drink, and breathe more per unit of body weight than adults, they are likely to be more active and spend greater amounts of time outdoors, their young age means that diseases with long latency periods—such as cancers—will have more time to manifest, and as compared to adults, children have a diminished ability to metabolize and expel chemicals.<sup>80</sup> All of these factors compel one to afford children, and where they are known to congregate, special consideration when developing policies to protect them from harmful pollutants.

Second, the public health research shows that populations living within one mile of UNGD are adversely affected. In a study conducted in Washington County, Pennsylvania, residents living within one kilometer of a gas well, as compared to those living within two kilometers, reported suffering from higher numbers of respiratory symptoms and skin rashes.<sup>81</sup> In Colorado, researchers found higher rates of birth defects and low birth rates in children born to mothers living within 10 miles of UNGD sites as compared to those living more than 10 miles from UNGD.<sup>82</sup> Finally, in another Pennsylvania study, researchers found that women living within 2.5 kilometers of a well site, as

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<sup>79</sup> 25 Pa. Code Ch. 78a.15(g).

<sup>80</sup> WORLD HEALTH ORGANIZATION, CHILDREN ARE NOT LITTLE ADULTS (2008), available at [http://www.who.int/ceh/capacity/Children\\_are\\_not\\_little\\_adults.pdf](http://www.who.int/ceh/capacity/Children_are_not_little_adults.pdf); Mark D. Miller et al., *Differences Between Children and Adults: Implications for Risk Assessment at California EPA*, 21 Int J Toxicol 403-18 (2002); see generally J. Leith Sly & David O. Carpenter, *Special Vulnerability of Children to Environmental Exposures*, 27 Rev. Env'tl. Health 151-157 (2012).

<sup>81</sup> Peter M. Rabinowitz et al., *Proximity to Natural Gas Wells and Reported Health Status: Results of a Household Survey in Washington County, Pennsylvania*, Env'tl. Health Perspectives, September 2014. <http://ehp.niehs.nih.gov/1307732/>.

<sup>82</sup> Lisa M. McKenzie et al., *Birth Outcomes and Maternal Residential Proximity to Natural Gas Development in Rural Colorado*. 122 Env'tl. Health Perspectives 412-417 (2014).

compared to those living farther away, gave birth to children with lower average weights and children likely to be at low weight births.<sup>83</sup> The available research clearly demonstrates that adverse health impacts associated with UNGD extend well beyond 200 feet of the well site.

Third, mandatory evacuation zones imposed in response to well site accidents show that harms can be expected at distances far exceeding 200 feet from the well site. In October 2014, in Ohio, a well accident “released millions and millions of cubic feet of gas” creating a situation a local official described as “very dangerous,” and required a crew to be flown in from Texas to get the well under control.<sup>84</sup> A two mile evacuation zone was instituted that required 400 homes to be evacuated.<sup>85</sup> In another Ohio well accident occurring in December 2014, officials evacuated homes within 1.5 miles of the well site.<sup>86</sup> Nine days after the evacuation, displaced residents were still unable to return to their homes.<sup>87</sup> In Dunkard Township, Pennsylvania, the Chevron well explosion required the imposition of a half-mile police perimeter around the site.<sup>88</sup> As the evacuation zones suggest, threats from UNGD can be felt at distances much greater than 200 feet from the well site.

Fourth, Pennsylvanians place great faith in the state UNGD regulations. Many residents will view the 200 foot scope as a signal that at distances greater than 200 feet, their children will be safe from the harmful health impacts of UNGD. As discussed above, the evidence clearly shows otherwise. Residents must be responsibly informed of the risks associated with UNGD so that they can make prudent decisions to ensure the safety of their children. This rule will confuse parents and drive the false belief that their children will be safe when more than 200 feet from an UNGD well site.

The DEP has rightly concluded that school common areas and playgrounds face grave threats from UNGD and that a procedure must be instituted whereby these threats can be effectively mitigated. Unfortunately, the rule as written will fail to extend these protections to a great number of school common areas and playground which will face probable harmful impacts from proximate UNGD. The Council urges the DEP to extend the scope of the protection to school common areas and playgrounds within one mile of the limit of disturbance.

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<sup>83</sup> Elaine L. Hill, *Shale Gas Development and Infant Health: Evidence from Pennsylvania* (2014), available at <http://www.ncsu.edu/cenrep/workshops/TREE/documents/Hill.pdf>.

<sup>84</sup> David Gossett & Casey Junkins, *Gas Well Accident Is Being Investigated*, INTELLIGENCER / WHEELING NEWS-REGISTER (Oct. 29, 2014) <http://www.theintelligencer.net/page/content.detail/id/615767.html>.

<sup>85</sup> *Id.*

<sup>86</sup> Laura Arenschiold, *Evacuated Families in Monroe County Await Answers on Fracking-Well Gas Leak*, COLUMBUS DISPATCH (Dec. 22, 2014 5:50 AM) <http://www.dispatch.com/content/stories/local/2014/12/22/evacuated-families-await-answers-on-gas-leak.html>.

<sup>87</sup> *Id.*

<sup>88</sup> *One Injured, One Missing at Southwest Pa. Gas Well Fire*, WTRF-TV (Feb. 14, 2014, 9:22 AM) <http://www.wtrf.com/story/24691233/gas-well-explosion-reported-in-southwest-pa>.

### C. Parents Must be Given the Opportunity to Comment

Only the public resource agency is afforded the opportunity to submit comments as part of the public resource permit application process. Where the common area of a public school is deemed a public resource, the parents of the children attending the subject school are not afforded an opportunity to comment. The public resource agency is directed to provide comment on the “functions and uses of the public resource” and what must be done to “avoid or minimize probable harmful impacts to the public resource where the well, well site and access road is located.”<sup>89</sup> Where there are probable harmful impacts to schools, it is the school children who are of greatest concern. And in cases where children are likely to be affected, the parents of those children must be afforded an opportunity to participate in a process aimed at ensuring their children’s safety and general welfare.

### D. The Burden Must Be on the Applicant to Show Permit Conditions Are Unnecessary

Placing the burden on the DEP to show that permit conditions are necessary to protect against probable harms turns on its head the near universal practice of requiring the petitioner to prove its case when bringing a challenge. When the DEP finds that there will be a probable harmful impact to a public resource, and it imposes permit conditions to mitigate those impacts, well permit applicants can challenge the conditions before the EHB.<sup>90</sup> The rule, as written, states that the DEP will then have the initial burden of showing the conditions it imposed are necessary.<sup>91</sup> Not only is this a startling departure from common practice, but it conflicts with Pennsylvania Supreme Court precedent. Further, it reflects bad public policy as it will incentivize DEP to be overly cautious in the use of permit exemptions, provide permit applicants with undue leverage, and will no doubt invite a challenge to nearly every permit condition DEP decides to impose.

Section 3215(e) of Act 13 provides that DEP must carry the burden of showing that its permit conditions are necessary. But in reviewing § 3215(e), the Pennsylvania Supreme Court had this to say:

If an applicant appeals permit terms or conditions—and only the applicant can appeal—Section 3215 remarkably places the burden on the Department to “prov[e] that the conditions were necessary to protect against a probable harmful impact of [sic] the public resources.” 58 Pa.C.S. § 3215(e). Viewed in terms of the constitutional mandates, this is *topsy-turvy*: Act 13 places on the Department the burden of proof and persuasion, and the people are allocated thereby the risk of an erroneous decision by the Environmental Quality Board. See Commonwealth v. Sanchez, 614 Pa. 1, 36 A.3d 24, 65 (2011). *This naturally invites the Department to articulate “necessary” conditions as minimal standards that an applicant would accept without litigation.* The scheme also

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<sup>89</sup> 25 Pa. Code Ch. 78a.15(f)(2).

<sup>90</sup> 25 Pa. Code Ch. 78a.15(g).

<sup>91</sup> 25 Pa. Code Ch. 78a.15(g).

provides the oil and gas operator *leverage* in the first instance to negotiate permit terms and conditions to optimize industrial development, even at the expense of protected environmental and habitability concerns. *The statutory scheme overall dilutes the Department's authority to regulate and enforce adequate environmental standards, and fosters departures from the goal of sustainable development.*<sup>92</sup>

A plurality of the Supreme Court adopted the above quoted analysis and a majority struck down the provision. Not only is the DEP not statutorily compelled to require this burden switch, but court precedent prohibits it from doing so.

The same concerns articulated by the Pennsylvania Supreme Court are at play here. The DEP may hold back on imposing the conditions strong enough to protect against harmful impacts, and instead under-regulate out of fear of legal challenge. Even more troublingly, the threat of legal challenge could dissuade DEP personnel from imposing any conditions. As with all government agencies, DEP has limited resources. The DEP may not have the legal resources required to defend the many permit conditions that may need to be imposed and thereby face pressure to limit the use of permit conditions. For all these reasons, where a well site represents a probable harmful impact and the DEP imposes condition, the operator must shoulder the burden of demonstrating that the conditions are not necessary.

#### **E. Limit of Disturbance**

The Council strongly supports measuring from the limit of disturbance at a well site, rather than from the wellbore, when assessing proximity to UNGD. The impacts from natural gas development are not confined to the activities conducted at the wellbore. Equipment is located, and operations are conducted, within the limit of disturbance that present risks to human health. For instance, the limit of disturbance includes well pad access roads used by heavy trucks that cause sound, light, and air pollution, such as particulate matter. New York estimated that a single unconventional well can require as many 6,790 truck trips, 3,950 of which are made by heavy trucks.<sup>93</sup> A school may abut an access road, but be located relatively far from the wellbore. The use of limit of disturbance is an acknowledgment that equipment such as tanks, separators, and pumps all create health risks and a population's proximity to these pollution sources must be taken into consideration in the permitting of an unconventional natural gas well.

To create additional clarity and certainty, the Council recommends that "limit of disturbance" be clearly defined as the boundary identified in the permit applicant's erosion and sediment control plan.

#### **F. Where a Well Constitutes a Probable Harmful Impact on a School or Playground, DEP Must Impose Conditions**

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<sup>92</sup> Robinson Twp., Washington Cnty. v. Com., 83 A.3d 901, 984 (Pa. 2013) (all emphasis added).

<sup>93</sup> NY SGEIS at 6-303.

Where the DEP finds that a proposed well will likely have a harmful impact on a school common area or playground, the draft final rule does *not* require that DEP impose conditions to mitigate the harms. Instead, the rule states only that the DEP “may” impose conditions on the permit.<sup>94</sup> This is untenable. The DEP must be required to impose conditions on a well permit where the well is found to pose a threat to school common areas and playgrounds. The rule as written allows for an absurd result: the DEP finds that there is a probable harmful impact on a public resource but does nothing about it.

#### **IV. Conclusion**

The Council strongly supports many of the changes in the DEP’s draft final Chapter 78a regulations. The Council is encouraged to see that the DEP has, in many instances, provided greater protections in its most recent draft. However, the Council urges the DEP to adopt the suggestions contained herein, and those provided in the comments by Earth Justice and the Environmental Integrity project, to which the Council is a signatory.

Should you have any questions regarding the Council’s analysis or suggestions, please contact Aaron Jacobs-Smith, managing attorney, at [ajs@cleanair.org](mailto:ajs@cleanair.org) or (215) 567-4004 ext. 109.

Respectfully,



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Joseph Otis Minott, Esq.  
Executive Director & Chief Council

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<sup>94</sup> 25 Pa. Code Ch. 78a.15(g).