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By Email

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Re: Draft Air Quality Permit Exemptions

To whom it may concern:

Below please find Clean Air Council's comments on the Department's Draft Air Quality Permit Exemptions (Doc. # 275-2101-003) ("Draft") on behalf of itself, Mountain Watershed Association, and the Group Against Smog and Pollution ("Commenters"). Commenters appreciate the opportunity to comment. By and large, Commenters believe that the Draft represents an improvement over the status quo. Nevertheless, the Department should make some substantive and procedural changes as detailed below.

1. The Department should provide a list of, and reasoning for, its changes in the Draft

While the Department provides a new draft of the exemptions list, it offers neither a list of changes nor justifications for the changes proposed. The lack of a list of changes makes it difficult for the broader public, which may not have access to software that can easily compare pdfs, to understand what the significance of the new draft is. The lack of reasoning for why the Department is proposing any of the changes also puts the reviewers at a disadvantage. Perhaps a change looks unreasonable, but there is a logical explanation for it. If the Department is not offering such an explanation, the public will waste its time protesting the change, and the Department will waste its time generating a comment response. It is better for the Department to provide all the needed information now so that public participation can be more meaningful.

It is not too late for the Department to provide that information, and give the public more time to comment after reading and digesting that information. The Department should do so.

2. Comments on Section 127.14(a)(8) Exemptions

a. Commenters support several of the changes

Commenters support several of the changes in the section on exemptions that do not require the submission of an RFD form, including:

- The specifications in ## 3, 4, and 6 that the exemptions do not include installations of outdated hardware, which will help ensure that lesser-emitting

- technology is used;
- The inclusion of the limitation on HAPs in #7, although see discussion below for proposed clarification;
 - The inclusion of an emissions limit in #13
 - The requirement of documentation supporting the claim that VOC emissions would be less than 2.7 tpy in #31

Commenters also support the Department's clarification of which of the exemptions under this section require the submission of an RFD application.

b. The Department should change some wording to clarify meaning

For exemptions #7, #20, and #25, the language in the second sentence has a confusing double negative and it is unclear whether the "that does not include" clause is referring to both the single HAP limitation *and* the combination limitation, or just the combination limitation: "HAP emissions *may not exceed* 1000 lbs/yr of a single HAP or one tpy of a combination of HAPs *that does not include* Polychlorobiphenyls (PCBs), Chromium, Mercury (Hg), Lead (Pb), Polycyclic Organic Matter (POM), Dioxins and Furans" (emphasis added). Similar language is more clearly put in #31, which can be a model for rephrasing #7, #20, and #25.

Regarding #6, Commenters interpret the language "actual emissions prior to air cleaning devices" to refer to precontrol emissions, but the language is unclear. Commenters recommend that the Department rephrase the clause to read "actual precontrol emissions" to clarify.

Two commas appear to be missing from #34, rendering it hard to read and potentially ambiguous. The Department should insert commas after "baghouse" and "Chapter 123."

And for #35, clearly the intent of the change is so that CO₂ is no longer included in this category, which Commenters support. However, "pure constituents of air" is not clearly defined. The Department used to include trace gases such as CO₂ in that definition, and does not expressly exclude it here. And if CO₂ was considered a "pure constituent of air," it is not clear that other organic trace gases that existed in the pre-industrial atmosphere would not be included as well, such as methane and NO_x. The better approach is simply to specify nitrogen and oxygen and leave it at that.

c. The Department should not move ahead with changes to #2, #12, and #39

Commenters oppose a few of the changes the Department proposes because they would increase unregulated emissions unreasonably. Commenters request that the Department not move ahead with these changes.

The deletion of the restriction that crushers be small in exemption #12 does not make sense. In order to meet the standard for inclusion in this exemption list, the Department must make a determination that the source is "of minor significance." The Department unfortunately does not explain why it is proposing this (or any other) change. Particulate matter is especially

damaging to lungs, and the operation of rock crushers can cause silicosis.¹ The more rock crushed, the more silica particles are released that scar lungs upon inhalation. The lung scarring is permanent, cumulative, and carcinogenic.

The Department already concluded, in 2018, that 150 tons per hour was an appropriate limit. This is the limit set by EPA for applicability of NSPS rules, and was likely adopted based on the EPA's use of that limit. *See* NSPS for Nonmetallic Mineral Processing Plants at Title 40 of the Code of Federal Regulations (CFR) Part 60, Subpart 000 (40 CFR 60.670(a)(1) and (c)(2)). According to EPA, "Economic and environmental impacts analysis conducted by EPA indicated that at these type of facilities operating at these capacities, emissions reductions might be unreasonably costly for the environmental benefits received." EPA Regulatory and Inspection Manual for Nonmetallic Mineral Processing Plants, Section 3.1.3, April 1991. Emissions reductions technologies have improved markedly since 1991. If anything, the Department should be *reducing* the 150 tons per hour capacity threshold rather than eliminating the existence of the threshold, as the costs would be more reasonable in 2020.

The Department should not reverse course now to allow crushers of unlimited size to be exempted from the normal permitting requirements.

d. The Department should change LDAR inspection frequency in #38(c) from twice a year to four times a year

The criteria in #38(c).i. allow unconventional well operators to implement only semi-annual LDAR inspections. This makes no sense given that GP-5A requires a baseline quarterly inspection frequency. Quarterly LDAR inspections also bring cost savings and environmental benefits.

A number of leading states already require quarterly inspections. Analysis prepared by such states, as well as by independent consulting groups and leading operators, demonstrates that quarterly inspections are cost-effective. In addition, numerous scientific studies demonstrate that equipment and components can fail or operate abnormally on unpredictable schedules and across facility and equipment types. Such events can contribute very significant emissions, far in excess of estimates that rely on emission factors. Indeed, a study in the Barnett Shale found leaks to be over 50% greater than estimated in EPA's national GHG inventory. This and many other studies relying on direct measurement underscore the critical need for operators to frequently inspect facilities for abnormal operating conditions, repair any such conditions expeditiously, and document and report the results of inspections. Furthermore, robust, detailed recordkeeping and reporting requirements are critical to compliance monitoring and enforcement. They also provide important information on the efficacy of LDAR programs.

For these reasons, the Department should change this provision in #38(c) to provide for quarterly, rather than semi-annual LDAR inspections.

¹ *See* American Lung Association, "Learn About Silicosis," <https://www.lung.org/lung-health-diseases/lung-disease-lookup/silicosis/learn-about-silicosis>.

3. Comments on Physical Changes Qualifying for Exemption Under Section 127.14(a)(9) -- Turbine Core Replacement

The only change the Department proposed to the section titled “Physical Changes Qualifying for Exemption Under Section 127.14(a)(9)” is to add a lengthy item exempting turbine core replacement from air quality permitting under certain circumstances. The Department should reject this wide-reaching proposal.

a. Historical background on the regulatory treatment of turbine core replacement

Industry has been pushing regulators for many years to get an exemption for turbine core replacement. The first time of which Commenters are aware that EPA or the Department addressed this issue formally is in a April 1, 1999 guidance letter from Steven C. Riva, Chief of the Permitting Section of the Air Programs Branch of the EPA, to the New Jersey Department of Environmental Protection.²

The letter concerns a utility’s replacement of turbines within electrical generating stations. The utility would remove a malfunctioning turbine unit from operation, take it to the repair shop, and replace it with an already-repaired spare. “The issue of whether such replacements are considered modifications which should be reviewed under new source requirements has been evaluated by Region 2.” EPA found that: “We are only recognizing that the movement of the turbines from place to place is not sufficient to trigger new source requirements. However, whenever one of the existing turbines from the original fleet is replaced, modified or reconstructed, it will be considered a new source.”

The Department’s approach appears to have been somewhat consistent with that of EPA for at least the next several years. Then, the Department denied an air quality plan approval permit to Tennessee Gas Pipeline (TGP) for the replacement of turbines at its Compressor Station 319. TGP appealed the denial.³ The Department settled with TGP through a consent adjudication that the Department published in the *Pennsylvania Bulletin* on July 1, 2006 at 36 Pa.B. 3354. The “major provisions” of the consent adjudication were published in the *Bulletin*:⁴

1. When TGP conducts a turbine core replacement at any compressor station that TGP operates in the Northcentral Region of the Department, TGP shall provide certain information in the written notice within the specified time frame.
2. At the time of the turbine core exchange, TGP shall review the availability of lower emitting new or refurbished turbine cores suitable for placement into the turbine compression engine whose

² Available at https://www.epa.gov/sites/production/files/2015-07/documents/pse_g.pdf.

³ See Environmental Hearing Board Docket No. 2005-261-C.

⁴ *Pennsylvania Bulletin*, July 1, 2006, 36 Pa.B. 3354, available at <http://www.pacodeandbulletin.gov/Display/pabull?file=/secure/pabulletin/data/vol36/36-26/1226.html&d=reduce>.

turbine core is being replaced. TGP shall install the lower emitting turbine core or, if the core will be replaced with an identical core, certify that a lower emitting core is not available.

3. TGP shall perform emissions testing for oxides of nitrogen and carbon monoxide within 90 days of completing the turbine core replacement.

4. A plan approval and/or operating permit will be required if the turbine core replacement does not meet the terms described in the relevant parts of the Consent Adjudication.

5. The turbine core replacements allowed under the provisions of the Consent Adjudication may occur for no more than 15 years from the date of the first replacement that occurs after the effective date of the Consent Adjudication. Any subsequent proposed turbine core replacements will require a plan approval application including a best available technology evaluation to be submitted to the Department for its review and approval.

In brief, this exempts TGP alone from permitting requirements, where among other things, (1) at the time of core replacement, there is no lower-emitting core available, (2) the operator tests for NOx and CO after replacement, and (3) the replacement takes place no more than 15 years after the first subsequent replacement.

At the same time as the proceedings in the TGP permit denial appeal, the Department was proposing a new GP-22 for “Landfill Gas-fired Simple Cycle Turbines.” Originally, the Department had no exemption for permitting relating to turbine core replacement. The turbine industry lobbied to change that. In the comment response document for the draft GP-22, Solar Turbines, Inc. Solar wrote, “It is Solar’s position, based on the routineness and nature of an overhaul, that an engine exchange does not trigger re-permitting.”⁵ Solar cited an NJDEP letter (not included in the comment response document): “A letter from William Sullivan of New Jersey Department of Environmental Protection to John Parodi of Hoffmann-LaRoche, Inc. describes a typical combustion turbine overhaul and determines that no pre-construction permit or State-of-the-Art (SOTA) review is required for the 15-year period (useful life of turbine) from the original turbine’s commencement of operation under New Jersey regulations.”

In response to Solar’s comments, and citing the TGP consent adjudication, the Department changed course, and emphasized the importance of the 15-year period provision:

The Department has included a new Condition 6 entitled “Physical Changes Qualifying for an Exemption” to address the concern

⁵ See GP-22 Comment Response Document at page 2, available at <http://files.dep.state.pa.us/PublicParticipation/Public%20Participation%20Center/lib/pubpartcenter/regulations/2006/commentsandresponsegp22finalrev.pdf>.

related to the nature of turbine overhauls. As a result, turbine overhauls that qualify for this exemption will only need to go through the plan approval process and a best available technology review every 15 years. ...

The Department believes that this fifteen (15) years exemption period is appropriate since it is unlikely that new technology with lower emitting turbines will be developed before then. ...

The Department and the company agreed to this settlement in the form of a consent adjudication that provides, among other things, that turbine core replacements may occur for no more than fifteen (15) years after which a plan approval application and best available technology evaluation must be submitted to the Department for its review and approval.

See id. at page 3 (emphasis added).

The final Condition 6 to GP-22 looked very much like what is now proposed in the Draft, with a couple differences.⁶ One difference is that emissions testing in GP-22 needs to be within 90 days, while the Department proposes 120 days in the Draft. This difference is not explained. An even more concerning difference is that the Department in the Draft proposed to eliminate the 15-year requirement on which it so heavily relied in drafting GP-22.

The development of GP-22 was not the last step in the development of the current turbine core replacement proposal. The Department proposed to insert turbine core replacement in the exemption list in a previous revision, drafted in 2010.⁷ As drafted in 2010, the language closely mirrored that of GP-22, including the 90-day emissions testing time frame and the 15-year limit on turbine core replacement. Ultimately, the Department restricted the scope of its exemption list revisions and did not move forward with the inclusion of this exemption.⁸

Things changed with the drafting of GP-5. The Department provided for turbine core replacement in GP-5 for gas infrastructure. However, in doing so, the Department extended the

⁶ *See* GP-22, available at <http://files.dep.state.pa.us/PublicParticipation/Public%20Participation%20Center/lib/pubpartcenter/regulations/2006/gp22conditionsfinal.pdf>.

⁷ *See* DRAFT Air Quality Permit Exemptions, Document No. 275-2101-003, April 16, 2010, available at <https://webcache.googleusercontent.com/search?q=cache:sbQIHzxzfz4QJ:https://www.scribd.com/document/182799589/Air-Quality-Permit-Exemptions+&cd=25&hl=en&ct=clnk&gl=us>.

⁸ *See Pennsylvania Bulletin*, August 10, 2013, 43 Pa.B. 4661, available at <http://www.pacodeandbulletin.gov/Display/pabull?file=/secure/pabulletin/data/vol43/43-32/1487.html>.

90-day period to 120 days and removed the 15-year limitation.⁹ The Department stated that “these terms and conditions are consistent with turbine core replacement requirements established for landfill gas-fired turbines in GP-22.”¹⁰ In these ways, though, the GP-5 rules were laxer than those for GP-22. The Draft copied those conditions in GP-5 rather than GP-22.

b. The Department should end its move toward ever laxer rules for replacing turbine cores.

Turbines are a common air pollution source and collectively contribute greatly to the pollution befouling Pennsylvania’s skies. So, the Department’s inclusion of this exemption for turbine core replacement, broader previous moves in the same direction, is no small matter.

The Department does not explain why it deviates from its early conclusion that “The Department believes that this fifteen (15) years exemption period is appropriate since it is unlikely that new technology with lower emitting turbines will be developed before then.” Why was it appropriate then but unneeded now? Newer technology may very well develop in the unlimited time frame which the turbine core replacement provision now sports. This is inconsistent with the principle in air permitting that technology should be reevaluated periodically to check for improvements.

Nor does the Department explain why testing now need only be done after 120 days rather than 90 days. As explained above in discussing Exemption 38, numerous studies have shown the importance of more frequent testing. Turbine technology has improved over time, not worsened. The shakedown period for turbines should be *less* than it was in 2006, not more. This change is inappropriate.

The Department should reject the inclusion of a turbine core replacement exemption that is materially less protective than the turbine core replacement concept it embraced 15 years ago.

4. Comments on Trivial Activities list

Commenters support the removal of three types of activities from the list of those considered trivial and not worth regulating. In particular, Commenters note that generators are not a trivial source, and the inclusion of the qualification that they are able to be “moved by hand” was not enough to render their emissions trivial, especially given its subjectivity.

⁹ See GP-5, available at

<http://www.depgreenport.state.pa.us/elibrary/GetDocument?docId=19614&DocName=03%20GP-5%20NATURAL%20GAS%20COMPRESSION%20STATIONS%2C%20PROCESSING%20PLANTS%20AND%20TRANSMISSION%20STATIONS%20GENERAL%20PLAN%20APPROVAL%20AND%20FOR%20GENERAL%20OPERATING%20PERMIT.PDF>.

¹⁰ See Technical Support Document for GP-5, available at

<http://www.depgreenport.state.pa.us/elibrary/GetDocument?docId=19616&DocName=04%20FINAL%20TECHNICAL%20SUPPORT%20DOCUMENT%20FOR%20GP-5%20%282700-PM-BAQ0267%29%20AND%20GP-5A%20%282700-PM-BAQ0268%29.PDF>.

Commenters also support the further specification of #22, #30, and #33, which Commenters presume is due to the Department's experience of non-trivial sources of emissions that would otherwise inadvertently be classified in the trivial activities list.

As in the discussion above in Section 2 of this comment, Commenters recommend that the Department removal the mention of "pure constituents of air" in #40 to avoid ambiguity, and simply list nitrogen and oxygen.

Conclusion

Commenters appreciate the opportunity for input on the changes to the Air Quality Permit Exemptions document. As described above, Commenters support many of the changes, think others could be improved with some alterations, and urge the Department to reject yet others. First, though, the Department should itemize the changes it is proposing and provide its reasoning for those changes, and give the public time to comment based on that information.

Sincerely,

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