

January 17, 2023

**By E-Mail**

Eric A. Gustafson, Regional Program Manager  
David G. Balog, P.E., New Source Review Section Chief  
Pennsylvania Department of Environmental Protection  
230 Chestnut St.  
Meadville, PA 16335

Re: Diversified Production LLC, Jay Township, Elk County  
Application for Plan Approval 24-00195A

Dear Mr. Gustafson and Mr. Balog:

Clean Air Council, PennFuture, and Earthjustice hereby submit comments on the Draft Plan Approval to Diversified Production LLC (Diversified) for construction and initial operation of additional sources at their gas well pad in Jay Township, Elk County, to generate electricity for the purpose of powering cryptocurrency mining operations. For the reasons described in these comments, the Department of Environmental Protection (DEP) must deny or withdraw the Draft Plan Approval.

Cryptocurrency mining is an energy-intensive process for creating virtual “currency.”<sup>1</sup> As DEP writes, “[d]ata mining involves intensive computer processing and subsequently requires large amounts of electricity.” Review of Plan Approval Application (Review Memo) at 2. In fact, the cryptocurrency mining industry uses as much energy as is needed in many entire countries.<sup>2</sup> To meet these high energy demands, some miners place operations at locations with direct access to energy sources, such as power plants or gas well pads.<sup>3</sup>

Fossil-based crypto mining operations pose the same environmental and public health threats as their underlying methods of energy generation—for gas, this includes emissions of nitrogen oxides, methane, hazardous air pollutants,<sup>4</sup> and the other pollutants listed in Diversified’s application. By reviving and expanding fossil generation, cryptocurrency threatens

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<sup>1</sup> See, generally, Sierra Club and Earthjustice, The Energy Bomb: How Proof-of-Work Cryptocurrency Mining Worsens the Climate Crisis and Harms Communities Now (September 2022), available at <https://earthjustice.org/documents/report/the-energy-bomb-how-proof-of-work-cryptocurrency-mining-worsens-the-climate-crisis-and-harms-communities-now> (last visited Jan. 15, 2023).

<sup>2</sup> Cambridge Bitcoin Electricity Consumption Index, <https://ccaf.io/cbeci/index/comparisons> (last visited Jan. 16, 2023).

<sup>3</sup> Some operators locating at well pads in Pennsylvania do not seek environmental permits. See, e.g., Department of Environmental Protection, Northcentral Regional Office, Notice of Violation to Big Dog Energy, LLC for Installing and Operating without Authorization (January 7, 2022).

<sup>4</sup> Under Revised Application, 24-00195A, Diversified Production LLC--Longhorn Pad C (Nov. 16, 2022) (“Revised Application”), Diversified seeks authorization to emit 8.47 tons per year of hazardous air pollutants (at pdf 82).

to undermine Pennsylvania's efforts to reduce emissions of greenhouse gases such as carbon dioxide and methane.<sup>5</sup>

Cryptocurrency operations generally have a variety of non-air quality impacts. Some use large amounts of water to cool their operations, either at the site of mining machines, the water use that comes from fossil fuel generation, or both. The machines have a lifespan as short as two years, and then become e-waste. Also, crypto mining equipment can be heard at a distance. Pennsylvanians have already found this out, with Elk County neighbors suffering from constant noise and livestock impacts from a mine.<sup>6</sup> In addition to these impacts, cryptocurrency mining diverts electricity away from the homes and businesses where it is needed most. Instead, increased demand from mining operations can raise prices, leave ratepayers with costly bills for infrastructure improvements, and strain electric grid reliability.

For these reasons, we urge DEP to review well pad plan approval applications carefully; to deny plan approval applications that, like Diversified, do not meet DEP regulatory criteria; and to investigate and take action against unpermitted well pad facilities.

1. DEP Must Deny the Plan Approval Due to Diversified's Ongoing Violations

The Revised Application must be denied due to Diversified's admitted widespread failure to comply with air quality regulations. Under the Air Pollution Control Act (the Act):

(a) The department **shall not issue, reissue or modify any plan approval or permit** pursuant to this act or amend any plan approval or permit issued under this act and may suspend, terminate or revoke any permit or plan approval previously issued under this act if it finds that the applicant or permittee or a general partner, parent or subsidiary corporation of the **applicant or permittee is in violation of this act, or the rules and regulations promulgated under this act, any plan approval, permit or order of the department**, as indicated by the department's compliance docket, unless the violation is being corrected to the satisfaction of the department.

(b) The department **may refuse to issue any plan approval or permit** pursuant to this act if it finds that the applicant or permittee or a partner, parent or subsidiary corporation of the applicant or permittee **has shown a lack of intention or ability to comply with this act or the regulations promulgated under this act or any plan approval, permit or order of the department, as indicated by past or present violations**, unless the lack of intention or ability to comply is being or has been corrected to the satisfaction of the department.

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<sup>5</sup> Pennsylvania Climate Action Plan 2021, available at <https://www.dep.pa.gov/Citizens/climate/Pages/PA-Climate-Action-Plan.aspx> (last visited Jan. 15, 2023).

<sup>6</sup> The Ridgeway Record, Bitcoin Mine Brings Heated Residents to Ridgeway Township Meeting, June 22, 2022, (available at [https://www.ridgewayrecord.com/news/bitcoin-mine-brings-heated-residents-to-ridgeway-township-meeting/article\\_00184b60-f27e-11ec-8220-134307a1c971.html](https://www.ridgewayrecord.com/news/bitcoin-mine-brings-heated-residents-to-ridgeway-township-meeting/article_00184b60-f27e-11ec-8220-134307a1c971.html)) (last visited Jan. 16, 2023).

Section 7.1(a, b) of the Act, 35 P.S. § 4007.1 (emphasis added).<sup>7</sup> Under subsection (b), DEP may refuse to issue a plan approval or permit based on an applicant's lack of intention to comply as indicated by past or present violations. Subsection (a) prohibits DEP from issuing a plan approval where an applicant has shown a lack of intention or ability to comply as indicated by past or present violations in DEP's compliance docket.

Diversified's Revised Application self-reports a brazen lack of intention or ability to comply, as follows:

| <b>Compliance Background. (Note: Copies of specific documents, if applicable, must be made available to the Department upon its request.) List all documented conduct of violations or enforcement actions identified by the Department pursuant to the APCA, regulations, terms and conditions of an operating permit or plan approval or order by applicant or any related party, using the following format grouped by source and location in reverse chronological order. Attach additional sheets as necessary. See the definition of "documented conduct" for further clarification. Unless specifically directed by the Department, deviations which have been previously reported to the Department in writing, relating to monitoring and reporting, need not be reported.</b> |                    |   |                                       |                                  |   |                              |
|---|--------------------|---|---------------------------------------|----------------------------------|---|------------------------------|
| <b>Date</b>   | <b>Location</b>    | <b>Plan Approval/<br/>Operating Permit#</b> | <b>Nature of Documented Conduct</b>   | <b>Type of Department Action</b> | <b>Status:<br/>Litigation Existing/Continuing or Corrected/Date</b> | <b>Dollar Amount Penalty</b> |
| 08/13/2018  | Eckhardt CS        | GP5-56-00315B                               | Operating without valid authorization | NOV                              | Continuing  | \$                           |
| 08/28/2018  | Malone CS          | GP5-32-00386                                | Operating without valid authorization | NOV                              | Continuing  | \$                           |
| 08/28/2018  | Maurer CS          | GP5-32-00415                                | Operating without valid authorization | NOV                              | Continuing  | \$                           |
| 08/28/2018  | Whitacre CS        | GP5-32-00417                                | Operating without valid authorization | NOV                              | Continuing  | \$                           |
| 05/21/2018  | State Gamelands CS | GP5-03-00235C                               | Operating without valid authorization | NOV                              | Continuing  | \$                           |
| 05/21/2018  | Bessie 8 Station   | GP5-11-00526B                               | Operating without valid authorization | NOV                              | Continuing  | \$                           |
| 05/21/2018  | Homer City Station | GP5-32-00146C                               | Operating without valid authorization | NOV                              | Continuing  | \$                           |
| 05/21/2018  | Onsberg Station    | GP5-32-00366B                               | Operating without valid authorization | NOV                              | Continuing  | \$                           |
| 05/21/2018  | Ernest Station     | GP5-32-00407B                               | Operating without valid authorization | NOV                              | Continuing  | \$                           |
| 05/21/2018  | Spurlin Station    | GP5-32-00435A                               | Operating without valid authorization | NOV                              | Continuing  | \$                           |

<sup>7</sup> See also 25 Pa. Code § 127.12a(h) ("Plan approval will not be issued to an applicant or related party if a violation or lack of intention or ability to comply at a source owned or operated by the applicant or a related party appears on the compliance docket") and 25 Pa. Code § 127.412 ("An operating permit will not be issued to an applicant or related party if a violation or lack of intention or ability to comply at a source owned or operated by the applicant or a related party appears on the compliance docket").

|            |                     |               |                                       |     |            |    |
|------------|---------------------|---------------|---------------------------------------|-----|------------|----|
| 05/21/2018 | Pineton Station     | GP5-32-00437B | Operating without valid authorization | NOV | Continuing | \$ |
| 07/02/2019 | Beaver Road Station | Pending       | Operating without valid authorization | NOV | Continuing | \$ |
| 07/02/2019 | Conemaugh Station   | Pending       | Operating without valid authorization | NOV | Continuing | \$ |
| 07/02/2019 | Gordon Hill Station | Pending       | Operating without valid authorization | NOV | Continuing | \$ |
| 07/02/2019 | Clark Station       | 03-00270      | Operating without valid authorization | NOV | Continuing | \$ |
| 07/02/2019 | Stubrick Station    | 03-00271      | Operating without valid authorization | NOV | Continuing | \$ |
| 07/02/2019 | Johnsonburg Station | 32-00443      | Operating without valid authorization | NOV | Continuing | \$ |
| 07/02/2019 | McCoy Station       | 32-00444      | Operating without valid authorization | NOV | Continuing | \$ |
| 07/02/2019 | Stuby Station       | 32-00442      | Operating without valid authorization | NOV | Continuing | \$ |

Revised Application at pdf 25. Thus, by Diversified’s own admission, it is operating without a valid authorization at 19 locations. All of these operations have been the subject of enforcement action—notice of violation—by DEP. Yet, the violations, and apparently Diversified’s operations, are continuing, and Diversified reports paying no penalties for the violations.

DEP’s Review Memo offers no examination of compliance issues, including no findings about the widespread, unresolved violations admitted by Diversified. Under these circumstances and under the criteria set forth in Section 7.1(b) of the Act, DEP must exercise its discretion not to issue this plan approval to a company with such widespread violations, and whose conduct shows a lack of intention or ability to comply. Further, DEP’s review includes no findings regarding the compliance docket referenced at Section 7.1(a). Regardless of whether DEP has taken the specific steps to place Diversified in a compliance docket, the consequences of Diversified’s conduct for both air quality and the integrity of the Department’s program are too severe for DEP to ignore. In accordance with the requirements of Section 7.1 of the Act, DEP must deny the Revised Application.

## 2. DEP Must Withdraw the Draft Plan Approval and Investigate Source Aggregation

DEP finds that the Revised Application does not present a major source under air quality permitting rules.<sup>8</sup> However, DEP fails to consider whether the Diversified project needs to be aggregated with other nearby sources into a single source, possibly a single major source. DEP regulations provide:

In determining whether a project exceeds the emission rate that is significant or the significance levels specified in § 127.203 (relating to facilities subject to

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<sup>8</sup> Review Memo at 3-5 (New Source Review, Prevention of Significant Deterioration, and Title V programs).

special permit requirements), the potential to emit, actual emissions and actual emissions increase shall be determined by aggregating the emissions or emissions increases from contiguous or adjacent properties under the common control of a person or entity.

25 Pa. Code § 127.204(a). The emission rates and levels in this provision refer to the test for applicability at 25 Pa. Code § 127.203 and related provisions. Thus, if emissions from nearby sources were aggregated with the emissions under the Draft Plan Approval, Diversified could meet new source review thresholds and trigger a careful DEP examination of pollution control technologies and other issues. Since Diversified has already identified 19 sources for which Diversified failed to obtain a permit, DEP must withdraw the Draft Plan Approval and investigate whether Diversified has other nearby sources possibly meeting criteria for aggregation under DEP regulations.

3. DEP Must Withdraw the Draft Plan Approval to Review Best Available Technology for Cryptocurrency-Related Emissions

DEP's Review Memo (at 1) finds:

This application was submitted per the Department's decision that the facility could not construct or operate the proposed sources under a GP-5A. Operation of the proposed equipment would focus on electrical generation and cryptocurrency data mining operations and not unconventional natural gas well site operations and remote pigging stations.

We support this approach, which requires a separate evaluation of best available technology for non-GP-5A sources such as cryptocurrency equipment. Indeed, DEP claims to have applied the technology requirements of GP-5A as a baseline (*id.* at 3).<sup>9</sup>

As DEP notes, "[e]missions from the new sources must be the minimum attainable through the use of the best available technology as required by §127.12(a)(5)." Review Memo at 4. Under DEP regulations, "best available technology" is defined as "[e]quipment, devices, methods or techniques as determined by the Department which will prevent, reduce or control emissions of air contaminants to the maximum degree possible and which are available or may be made available." 25 Pa. Code § 121.1. However, DEP's discussion of technology in the Review Memo focuses on regulatory permitting thresholds. DEP presents no basis for its technology determinations and no independent review of "available" technologies that could reduce emissions "to the maximum degree possible." Instead, it appears from the Review Memo that DEP reviewed no alternative pollution controls at all, even though the premise of the Department's action is that the cryptocurrency operation is not covered by a general permit.

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<sup>9</sup> Department of Environmental Protection, GP-05A, Unconventional Natural Gas Well Site Operations and Remote Pigging Stations, 2700-PM-BAQ0268, available at <http://www.depgreenport.state.pa.us/elibrary/GetFolder?FolderID=36120> (last checked Jan. 17, 2023).

The Department must withdraw the Draft Plan Approval and discharge its affirmative duty to review available pollution controls to that emissions at Diversified will be reduced “to the maximum degree possible,” 25 Pa. Code § 121.1.

4. DEP Must Withdraw the Draft Plan Approval to Add Carbon Dioxide and Methane Limits, and Quarterly Monitoring

Among the most serious impacts from energy use supporting cryptocurrency mining are greenhouse gas emissions, including carbon dioxide and methane. Despite these impacts, the draft permit sets no limit for carbon dioxide or methane emissions. See, e.g., Draft Plan Approval, Section G, Emission Restriction Summary, at pdf 41; Review Memo at 3. The Draft Plan Approval (at pdf 11) does provide for reporting of carbon dioxide and methane. DEP must go further, and withdraw the Draft Plan Approval to add emission limits for carbon dioxide and methane to the plan approval.

Additionally, DEP must strictly limit emissions of volatile organic compounds (VOC) at Diversified. Instead, the Draft Plan Approval (at pdf 12) appears to require only annual monitoring under a leak detection and repair program. This is considerably less stringent than the quarterly monitoring program under GP-5A.<sup>10</sup> Given that DEP has determined to be no less stringent than GP-5A, DEP must withdraw its proposed permit and require at least quarterly monitoring.

Finally, the Draft Plan Approval provides a series of requirements for testing, monitoring, recordkeeping, reporting, as well as work practice standards. Given Diversified’s extensive history of violations, it is essential that the Department closely monitor Diversified’s compliance with these provisions.

5. DEP Should Reject the Revised Application as Incomplete

DEP requires applicants for plan approvals to attach flow diagrams to applications.<sup>11</sup> However, Diversified did not include a diagram of this proposal in its Revised Application as required by DEP. Moreover, the diagram of its existing well pad that Diversified Production does provide is inaccurate, showing that the destination of the extracted gas is “gas sales.”<sup>12</sup> However, the proposed plan would direct gas to processes generating cryptocurrency on-site. The Department should find that the application is incomplete unless and until Diversified Production provides an updated flow diagram reflecting generation for cryptocurrency.

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<sup>10</sup> Section G.1.(b) of GP-5A at 18 (“No later than 60 days after the start of production, and quarterly thereafter, the owner or operator shall conduct [a leak detection and repair] program”).

<sup>11</sup> Department of Environmental Protection, How to Complete a Plan Approval Application to Construct, Modify or Reactivate an Air Contamination Source and/or Install an Air Cleaning Device, May 2000.

<sup>12</sup> Revised Application, 24-00195A, Diversified Production LLC—Longhorn Pad C, at pdf 100 of 107 (Nov. 16, 2022).

6. DEP Should Consider the Potential Impact of Noise Pollution

Cryptomining operations that utilize Application Specific Integrated Circuit mining devices can be a source of noise pollution, which can cause stress in humans and wildlife;<sup>13</sup> the location of this project in the Pennsylvania Wilds raises added concerns. DEP should consider these impacts.

Conclusion

For these reasons, DEP must deny or withdraw the Draft Plan Approval.

Thank you for the opportunity to comment on this proposal. If you have any questions, please contact us.

Sincerely,

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<sup>13</sup> Kevin Williams, “A Neighborhood’s Cryptocurrency Mine: ‘Like a Jet That Never Leaves’”, Washington Post (Aug 31, 2022) (available at: <https://www.washingtonpost.com/business/interactive/2022/cryptocurrency-mine-noise-homes-nc/>).