

BEFORE THE BOARD OF ENVIRONMENTAL QUALITY
STATE OF IDAHO

IN THE MATTER OF AIR QUALITY
PERMIT TO CONSTRUCT P-2019.0047

Case Docket No. 010-22-01
OAH Case No. 23-245-01

NEZ PERCE TRIBE, IDAHO
CONSERVATION LEAGUE, and SAVE THE
SOUTH FORK SALMON,

Petitioners,

FINAL ORDER

v.

IDAHO DEPARTMENT OF
ENVIRONMENTAL QUALITY,

Respondents,

and

PERPETUA RESOURCES IDAHO, INC.,

Intervenor-Respondent.

I. INTRODUCTION

On July 22, 2022, the Nez Perce Tribe, the Idaho Conservation League, and Save the South Fork Salmon (collectively “Petitioners”), filed a *Petition to Initiate Contested Case: Air Quality Permit to Construct P-2019.0047 (Jun. 17, 2022)*, seeking review of the Idaho Department of Environmental Quality’s (“DEQ”) issuance on June 17, 2022 of Air Quality Permit to Construct P-2019.0047 (“PTC”), to mining company Perpetua Resources Idaho, Inc.

(“Perpetua”) for its proposed Stibnite Gold Project (“SGP”). REC 0001–0028. Perpetua filed a Petition to Intervene in the matter on August 12, 2022. REC 0040–0043. A Hearing Officer was appointed and the parties participated in discovery and ultimately filed cross-motions for summary judgement. REC 319–322, REC 1204–1206, REC 1276–1278. On October 31, 2023, the Hearing Officer issued a *Preliminary Order*. REC 3280–3328. On November 14, 2023, the Petitioners filed a *Petition for Review* of the *Preliminary Order*. REC 3342–3356. On December 5, 2023, the Hearing Officer issued an *Amended Preliminary Order*. REC 3372–3425. In response, the Petitioners filed an *Amended Petition for Review* that requested review by the Board of Environmental Quality of both the October 31, 2023 *Preliminary Order* and the December 5, 2023 *Amended Preliminary Order*. REC 3426–3441.

The *Amended Petition for Review*, claims the following errors with the PTC:

1. That DEQ erred in finding Perpetua has legal control of the Stibnite Road Access Route such that the Route need not comply with ambient air quality standards.
2. That DEQ erred in finding Perpetua will be able to practically and physically preclude the general public from accessing locations within the ambient air boundary.
3. That DEQ violated the Air Rules¹ by allowing Perpetua to submit plans with project details after the PTC was issued and without allowing for public comment on the plans.
4. That the PTC does not include enforceable conditions that will achieve 93.3% dust control.
5. That DEQ violated the Air Rules when calculating the ambient arsenic concentrations attributable to the SGP by diluting them by 16/70.

REC 3427–3428.

¹ The “Air Rules” are found at IDAPA 58.01.01.

The Board of Environmental Quality has the authority to review Preliminary Orders pursuant to I.C. § 67-5245(2) and IDAPA 58.01.23.730. The Parties presented briefs on the issues in this matter and participated in oral argument on March 14, 2024.

II. STANDARD OF REVIEW

In making its decision on the *Amended Petition for Review* the Board of Environmental Quality “shall exercise all the decision-making power that [it] would have had if the agency head had presided over the hearing.” I.C. § 67-5245(7). This means that the Board of Environmental Quality can take a “de novo” or completely new look at the facts and issues. The Board of Environmental Quality must determine whether DEQ “has acted reasonably and in accordance with law” when issuing the Permit. *See* I.C. §§ 67-5248(a) and 67-5279; *In the Matter of Sunnyside Park Utilities’ Application for Sewage Disposal Permit*, Final Order on Petition for Review of Preliminary Order, at p. 10 (BEQ Dkt. 0103-07-02, April 7, 2009).

The case before the Hearing Officer was decided on summary judgment. A motion for summary judgment must be granted if “the movant shows that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law.” I.R.C.P. 56(a). Facts relied on by the parties must be supported by “citing to particular parts of materials in the record, including depositions, documents, electronically stored information, affidavits or declarations, stipulations . . . admissions, interrogatory answers, or other materials . . .” I.R.C.P. 56(c)(1). If the Board of Environmental Quality determines that a party has failed to “properly support an assertion of fact or fails to properly address another party’s assertion of fact as required by Rule 56(c) . . . [it may] (1) give an opportunity to properly support or address the fact; (2) consider the fact undisputed for purposes of the motion; (3) grant summary judgment if the motion and

supporting materials, including the facts considered undisputed, show that the movant is entitled to it; or (4) issue any other appropriate order.” I.R.C.P. 56(e).

III. ANALYSIS

1. DEQ Acted Reasonably and in Accordance with Law when it Found Perpetua has Legal and Practical Control of the Stibnite Access Route such that it Could be Excluded from the Ambient Air Boundary.

Petitioners assert that there was insufficient evidence in the record for DEQ to determine that Perpetua has legal and practical control over the Stibnite Access Route such that the Route could be excluded from the ambient air boundary. Under the federal Clear Air Act, EPA is required to establish national ambient air quality standards (“NAAQS”) for “criteria” pollutants, which include particulate matter PM₁₀.² *See generally* 42 U.S.C. § 7602(t); 40 C.F.R. § 50.6. When DEQ evaluates an application for permit to construct, it must determine that the “stationary source or modification would not cause or significantly contribute to a violation of any ambient air quality standard.” IDAPA 58.01.01.203.02. Ambient air is “[t]hat portion of the atmosphere, external to buildings, to which the general public has access.” IDAPA 58.01.01.006.05. Any portion of the atmosphere that is not ambient air need not comply with NAAQS.

The EPA has issued guidelines that further elucidate the meaning of “ambient air”. REC 1138–1149. The EPA Guidelines provide that the “general public” includes “any person(s) other than those who are permitted access to the property as employees or business invitees of a specific stationary source (including trespassers).” REC 1145 The EPA Guidelines also describe two aspects to consider when determining whether there will be access by the general public. The “first aspect of the access element (i.e. legal access) concerns whether the general public has

² PM₁₀ is “all particulate matter in the ambient air with an aerodynamic diameter less than or equal to ten (10) micrometers.” IDAPA 58.01.01.006.35.

the right or permission to enter a specific property . . . (i.e. the source has legal authority, via ownership or control to preclude access by the public).” REC 1145. The “second aspect of the access element (i.e. physical or practical access) addresses whether the general public is able to, under actual circumstances, enter a particular parcel of land.” REC 1145. A “rule of reason” should be used to evaluate whether physical or practical access will be restricted. REC 1147.

The evaluation should include consideration of relevant factors:

[S]uch as the nature of the measure used (e.g. physical or non-physical), source location, type, and size of the source and property to be excluded, surrounding area (including the proximity, nature, and size of the population in the area), and other factors affecting whether the members of the general public would readily be able to trespass upon or otherwise have access to the sources’ property.

REC 1147.

a. There is Sufficient Evidence to Demonstrate Perpetua Will have Legal Control Over Access to the Ambient Air Boundary.

The land ownership within the SGP is a patchwork of federal and private ownership. REC 415. The parties do not appear to dispute that Perpetua will have legal control over the lands in private ownership. The federal lands within the project boundary are owned by the United States Forest Service (“USFS”). Perpetua will have to obtain permission from the USFS, to operate the mine. Part of obtaining permission from the USFS will involve an evaluation of the project under the National Environmental Policy Act (“NEPA”). During the NEPA process, the USFS will evaluate continuing access to the SGP by the general public. The record demonstrates that “[o]ne of the alternatives currently being evaluated in the Draft environmental impact statement (EIS), Alternative 2, would provide continuing access through the SGP site on a realigned Stibnite Road during mine operations.” REC 893. However, it is noted that the “implementation of this Plan [Alternative 2 with continuing public access through the site] is

contingent upon the selection of the applicable alternative by the USFS as the preferred alternative for the SGP and inclusion of the proposed Stibnite Road access route as a component of the approved SGP.” REC 893, *see also* REC 895–896 (describing alternatives for alignment of the access route.).

The NEPA process is not yet complete, and no final EIS has been issued by the USFS. Transcript p. 38, ln. 12. Thus, the record does not contain any evidence that the USFS will require continuing public access through the SGP. DEQ recognized at oral argument that, should the USFS ultimately require public access through the SGP, the ambient air boundary analysis will have to be reevaluated. Transcript p. 88 ln. 19–p.89 ln. 17. The Board of Environmental Quality will not speculate as to the outcome of the USFS NEPA process and finds there is not sufficient evidence to support a conclusion that Perpetua will not have legal authority to control access to the federal lands within the project boundaries.

Petitioners additionally argue that it was impermissible for DEQ to rely on the following statement in Perpetua’s application form when it determined Perpetua would have legal control over access to the SGP: “Midas Gold [Perpetua] will legally control the SGP, an active industrial site where mining activities will occur, such as heavy equipment operation. . . . Midas Gold [Perpetua] has established an operations boundary to identify the area where public access will be excluded.” REC 1807. The Air Rules require that “all documents, including but not limited to, application forms for permits to construct . . . must contain a certification by a responsible official. The certification must state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.” IDAPA 58.01.01.123. The Air Rules also provide: “Persons are prohibited from

knowingly making any false statement, representation, or certification in any form, notice, or report. . . .” IDAPA 58.01.01.125.

It was reasonable for DEQ to rely on Perpetua’s representations in its application form that it would have legal control over access to the Stibnite Road Access Route. Other than the USFS NEPA process addressed above, Petitioners have cited no evidence suggesting that Perpetua will not have legal authority to prevent the general public from accessing the ambient air boundary. Therefore, the Board of Environmental Quality finds DEQ acted reasonably in relying on Perpetua’s representations in its PTC application that it would have legal authority over access to the SGP.

b. The PTC Contains Enforceable Conditions that Will Preclude Practical Access to the Ambient Air Boundary by the General Public.

Petitioners also assert that Perpetua will not have physical or practical control over access to the SGP property. However, the Board of Environmental Quality finds that there are substantial conditions in the PTC that require Perpetua to implement practical and physical restrictions on access to the SGP by the general public. Permit Condition 2.7 requires Perpetua to “observe all primary access points to preclude unauthorized public access” including providing “onsite personnel” for that purpose. REC 376. It further requires monitoring of primary public access to the facility “by use of security escort vehicles or manned guardhouses or . . . by the use of locked gates, barriers, or equivalent measures.” REC 376. Condition 2.7 also requires monitoring secondary public access to the facility by “post[ing] warning signs and periodically patrol[ing]” the secondary access points and providing “onsite personnel” for that purpose. REC 376. Perpetua is also required to describe its plans for precluding access in an Access Management Plan (“AMP”) that includes “identifying the access points monitored, the frequency of patrol, and measures employed to discourage access (e.g., locked gates, barriers,

natural features, etc.).” REC 376. Condition 2.7 also provides: “Only registered guests of the facility will be allowed access to or through the facility. Those seeking to be a guest for the sole purpose of passing through the facility to another destination shall be provided a registration sheet that explains Perpetua’s requirements for accessing the site and identifies potential hazards of the site.” REC 376. Finally, Condition 2.8 requires that Perpetua file an AMP with DEQ for approval 30 days before startup.

At least one version of an AMP was provided to DEQ in April 2020. REC 893–897. That version provides additional details of the types of access control that Perpetua plans to provide. REC 896–897. That plan specifically addresses measures to be taken with regard to persons wishing to pass through the SGP:

Signage would be placed at the North Security Gate . . . and the Main (South) Security Gate . . . entry points to provide information to travelers, and guard shacks would be located at each SGP Site entry gate to monitor all vehicle ingress/egress. To ensure passage through the site in a safe and timely manner, persons wishing to traverse the SGP site on the Stibnite Access Road access route would be required to check in at the security gate upon entry to receive a safety briefing and to alert mine staff to their presence. After passing through the SGP site, travelers would also be required to stop at the guard shack upon exiting to check out. Travelers would not be allowed to stop or loiter while traveling through the operations area. Along its full length, the Stibnite Road access route would have appropriate signage to direct travelers and would be separated from mine haul roads and areas of mine operations by fencing, berms, or gates to prevent travelers from straying from the route.

REC 896. This description makes clear that access to the SGP and the Stibnite Access Road Route will only be available under a very limited basis and not to the “general public.” Allowing some access by non-employees to facilities, such as the SGP, is common. *See e.g.* Transcript pg. 83 ln. 16–pg. 85 ln. 10. Those persons who are allowed limited access are subject to additional measures that would not apply to the “general public.” *See e.g.* REC 896. Therefore, the mere

fact that some limited access through the SGP over the Stibnite Access Road will be allowed does not mean that access will be provided to the “general public” such that the road should be considered ambient air.

Thus, Conditions 2.7 and 2.8 require Perpetua to maintain physical and practical control of access to the SGP. Petitioners have provided no evidence demonstrating that these conditions are unenforceable. Therefore, the Board of Environmental Quality finds that there is sufficient evidence in the record to support DEQ’s conclusion that Perpetua has physical and practical control over the Stibnite Road Access Route such that it may be excluded from consideration as ambient air.

2. DEQ Acted Reasonably and in Accordance with Law When it Allowed Perpetua to Submit Some Plans After the PTC was Issued.

Petitioners assert that DEQ violated the Air Rules by allowing Perpetua to submit some plans after the PTC was issued. The Air Rules provide the types of information that must be submitted with an application for PTC:

Depending upon the proposed size and location of the new or modified stationary source or facility, the application for a permit to construct must include all information required by one or more of the following provisions:

- a. For any new or modified stationary source or facility:
 - i. Site information, plans, descriptions, specifications, and drawings showing the design of the stationary source, facility, or modification, the nature and amount of emissions (including secondary emissions), and the manner in which it will be operated and controlled.

IDAPA 58.01.01.202.01.a.i. The rules require that an “opportunity for public comment will be provided on all applications requiring a permit to construct.” IDAPA 58.01.01.209.c. The Air Rules further provide: “Any additional information, plans, specifications, evidence or documents

that the Department may require to make the determinations required under Section 200 through 225 shall be furnished upon request.” IDAPA 58.01.01.202.03.

Petitioners focus on the requirement that the application include information about “the manner in which it [the project] will be operated and controlled,” arguing that this language means that any plans describing operation and control must be submitted with the application and before the PTC is issued. Petitioners assert that DEQ erred in allowing a Fugitive Dust Plan, Haul Road Capping Plan, Operation and Maintenance Manual, and Access Management Plan to be submitted after the PTC was issued. *Petitioner’s Opening Brief* at 29.

Rule 202 requires the applicant provide sufficient information with its application for DEQ to develop the PTC. IDAPA 58.01.01.202.01.a.i. In this case, Perpetua submitted considerable information with its application for PTC. *See* REC 1506–1643. This included information about its emissions units (REC 1512–1592), emissions unit control systems (REC 1593-1620), the nature and amount of emissions (REC 1621–1628), air emission modeling (REC 1634–1643), emission controls (REC 1771–1773), and proposals for T-RACT (REC 1952-1958). This information was subject to scrutiny by the public. Transcript pg. 97, ln. 11–20. After evaluating this information, allowing for public comment, and responding to public comment, DEQ issued the PTC. Transcript pg. 97, ln. 11–20, *see also* REC 921–982 (DEQ’s responses to public comments).

It was reasonable for DEQ to allow certain plans and information to be submitted after the PTC is issued. This common DEQ practice is not in violation of Air Rule 202.03 because certain details simply cannot be known at the time an application is filed. For instance, it would be impractical to require an applicant to provide detailed information regarding the application of T-RACT dust control measures before the T-RACT has been evaluated and approved by DEQ.

The applicant must first know that it will be required to use water and chemical suppressants to achieve 93.3% dust control before it is able to submit a detailed plan regarding its methods for applying the water and chemical suppressant to achieve that requirement. Requiring all plans to be submitted up front with the application form is not practical and is not required by the Air Rules. To the contrary, IDAPA 58.01.01.202.03 specifically provides that DEQ has the discretion to require additional information be “furnished upon request.” Therefore, the Board of Environmental Quality finds that DEQ did not violate the Air Rules by allowing some information and plans to be submitted after the PTC was issued.

3. The PTC Contains Enforceable Conditions that Will Achieve 93.3% Dust Control.

Petitioner’s do not argue that the 93.3% dust control analysis performed by DEQ was inadequate or that it is not possible to achieve 93.3% dust control for the SGP. Transcript pg. 69 ln. 8– ln. 14; *see also* Transcript pg. 99 ln. 18–24, Transcript pg. 137 ln. 1– ln. 8. Rather, Petitioners assert that the PTC does not contain enforceable conditions that will ensure that 93.3% dust control is achieved. Transcript pg. 69 ln. 15–ln. 21.

The PTC, however, contains multiple conditions that require Perpetua to take specific steps to achieve 93.3% dust control. Condition 2.1 provides for specific precautions to be used to control fugitive dust including use of water and chemicals for dust control during demolition of existing buildings and on road surfaces, installation, where practical, of hoods and fans, covering open body trucks, and paving roadways. REC 374. Condition 2.2 provides that, every 12-hours, Perpetua must monitor and record the “frequency and methods used (e.g. water chemical dust suppressants) to reasonably control fugitive dust emissions.” REC 374. Condition 2.3 requires Perpetua to “maintain records of all fugitive dust complaints received . . . [and] take appropriate corrective action as expeditiously as practicable after receipt of a valid complaint.”

REC 374. Condition 2.4 requires daily inspection of potential sources of fugitive dust emissions, taking action to remedy any dust discovered, and keeping records of each inspection. REC 374. Condition 2.5 requires fugitive dust control measures be applied to haul roads “such that visible emissions from vehicle traffic . . . do not exceed 10% opacity.” REC 375. Condition 2.6 requires development of a Fugitive Dust Plan to ensure compliance with fugitive dust requirements and provides an extensive list of measures and precautions that should be implemented. REC 375–376. And finally, a requirement in Table 3.1 specifically states that 93.3% dust control is required: “Control efficiency: 93.3% for PM/PM10 (haul roads).” REC 384.

The conditions in the permit are control efficiencies. As explained at oral argument, the conditions set forth certain steps that must be taken to control fugitive dust emissions. Transcript pg. 103 ln. 20–pg. 105 ln. 21; pg. 136 ln. 6–ln. 19. If the measures listed in Conditions 2.1–2.6 are taken, then the outcome will be 93.3% dust control. If those steps are not taken, Perpetua would be in violation of its PTC. And Table 3.1 makes clear that the control efficiencies must result in 93.3% dust control. REC 384. Therefore, the Board of Environmental Quality finds that the PTC contains numerous enforceable conditions that will result in 93.3% dust control.

4. DEQ Did Not Act Reasonably and in Accordance with Law When it Analyzed the Ambient Arsenic Air Concentrations for the SGP.

Petitioners assert that DEQ acted unreasonably when it diluted the ambient arsenic air concentrations by applying a 16/70 factor in its calculations. The Board of Environmental Quality agrees that there was insufficient evidence to support DEQ’s analysis of the ambient arsenic air concentrations.

a. Overview of the Air Rules Requirement for Determining Ambient Arsenic Concentrations.

The Air Rule requirements for toxic pollutants begin with IDAPA 58.01.01.161. Section 161 is the over-arching policy or qualitative standard that should be applied to the emission of toxic contaminants such as arsenic. It provides: “Any contaminant that is by its nature toxic to human or animal life or vegetation *must not be emitted in such quantities or concentrations as to alone, or in combination with other contaminants, injure or unreasonably affect human life or vegetation.*” (emphasis added). To obtain a permit to construct an applicant must demonstrate, to the satisfaction of the Department:

*Using the methods provided in Section 210, the emissions of toxic air pollutants from the stationary source or modification would not injure or unreasonably affect human or animal life or vegetation **as required by Section 161.** Compliance with all applicable toxic air pollutant carcinogenic increments and toxic air pollutant non-carcinogenic increments demonstrates preconstruction compliance with Section 161 **with regard to the pollutants listed in Section 585 and 586.***

IDAPA 58.01.01.203.03 (emphasis added). Thus, if a toxic air pollutant is listed in IDAPA 58.01.01.585 or 586, (“Section 586”) it must be evaluated under the methods provided in Section 210.

Arsenic is listed in Section 586 of the Air Rules which consists of a table that lists each carcinogenic³ toxic air pollutant that is covered by the rules. Section 586 includes “the screening emissions levels (EL) and acceptable ambient concentrations (AACC)” for each toxic carcinogenic pollutant listed. The EL listed for arsenic is “1.5E-06 lb/hr” and the AACC for arsenic is “2.3E-04 µg/m³.” The AACC is the carcinogen concentration in air in which daily exposure would limit the risk of cancer to 1 in 1 million over a lifetime, which is identified as 70

³ A carcinogen is an agent capable of inducing cancer. Cancer is a disease of heritable, somatic mutations affecting cell growth and differentiation, characterized by an abnormal, uncontrolled growth of cells.

years. The AACCs listed in the table in Section 586 are based on “annual averages.” IDAPA 58.01.01.586.

Section 210.01 provides that the applicant must first identify what toxic air pollutants will be emitted by the project. IDAPA 58.01.01.210.01. Then the applicant must use “standard scientific and engineering principles and practices to estimate the emission rate” of the pollutant. IDAPA 58.01.01.210.02.a.⁴ If the EL exceeds the levels listed in Section 586, then the applicant must continue with further analysis under Section 210.

The Applicant must then use “the modeling methods provided in Subsection 202.02 to estimate the ambient concentrations at specific receptor sites for any toxic air pollutant emitted from the point(s) of emission.” IDAPA 58.01.01.210.03.a.⁵ The “point of compliance is the receptor site that is estimated to have the highest ambient concentration of the toxic air pollutant of all the receptor sites . . .” IDAPA 58.01.01.210.03.b. Preconstruction compliance for toxic pollutants can be demonstrated using any of the methods “described in Subsection 210.05

⁴ The “uncontrolled emissions rate” is “calculated using the maximum capacity of the source . . . without the effect of any physical or operational limitations.” IDAPA 58.01.01.210.02.b.

The “controlled emissions rate” is “calculated using the maximum capacity of the source . . . with the effect of any physical or operational limitations that has been specifically described” by the applicant and submitted to DEQ. IDAPA 58.01.01.210.02.c.

The “T-RACT emissions rate” is “calculated using the maximum capacity of the source . . . with the effect of any physical or operational limitation other than control equipment that has been specifically described” by the applicant” and “an emission standard that is T-RACT.” IDAPA 58.01.01.210.02.d.

⁵ Section 202.02 provides that modeling “must be based on the applicable air quality models, data bases, and other requirements specified in 40 CFR Part 51, Appendix W (Guideline on Air Quality Models). Where an air quality model specified in the “Guideline on Air Quality Models” is inappropriate, the model may be modified or another model substituted, subject to written approval of the EPA Administrator and public comment pursuant to Subsection 209.01.c; provided that modifications and substitutions or models used for toxic air pollutants will be reviewed by the Department.”

through 210.08 and may use any applicable specialized method described in Subsection 210.09 through 210.12.” IDAPA 58.01.01.210.04.⁶

Most applicable here are the compliance methods described in Section 210.12, which provides for the use of T-RACT to demonstrate preconstruction compliance for toxic pollutants listed in Section 586. T-RACT stands for “Toxic Air Pollutant Reasonably Available Control Technology” and “is an emission standard based on the lowest emission of toxic air pollutants that a particular source is capable of meeting by the application of control technology that is reasonably available, as determined by the Department, considering technological and economic feasibility.” IDAPA 58.01.01.210. The applicant must comply with IDAPA 58.01.01.210.13 and 210.14 to first get the T-RACT approved by DEQ before it can be used in the modeling. If T-RACT is used it allows for a comparison of:

[T]he source’s . . . approved T-RACT ambient concentration at the point of compliance for the toxic air pollutant to the amount of the toxic air pollutant that would contribute an ambient air cancer risk probability of less than one to one hundred thousand (1:100,000) (which amount is equivalent to ten (10) times the applicable acceptable ambient concentration listed in Section 586).

IDAPA 58.01.01.210.12.b. Thus, if the source’s approved T-RACT ambient concentration meets the AACC listed in Section 586 times 10, then “no further procedures for demonstrating preconstruction compliance will be required for that toxic air pollutant as part of the application process.” IDAPA 58.01.01.210.12.c. DEQ must then include appropriate conditions in the permit to ensure that the T-RACT is implemented so that the 10-times ambient concentrations

⁶ Section 210.05 Uncontrolled Emissions; Section 210.06 Uncontrolled Ambient Concentration; Section 210.07 Controlled Emissions, Section 210.08 Controlled Ambient Emissions; Section 210.09 Net Emissions; Section 210.10 Net Ambient Concentration; Section 210.11 Toxic Air Pollutant Offset Ambient Concentration; Section 210.12 T-RACT Ambient Concentration for Carcinogens.

can be met. IDAPA 58.01.01.210.12.d. Thus, the Air Rules establish two acceptable cancer risk levels—1 in 1,000,000 (the AACC level) and 1 in 100,000 (the T-RACT level).

Section 210 provides one further analysis that has bearing in this case. Section 210.15 provides that “short term” projects “may utilize a short-term adjustment factor of ten (10). For a carcinogen, multiply either the applicable acceptable ambient concentration (AACC) or the screening emission rate, but not both, by ten (10), to demonstrate preconstruction compliance.” IDAPA 58.01.01.210.15. “Short Term Source” is defined as any new stationary source “with an operational life no greater than five (5) years from the inception of any operations to the cessation of actual operations.” IDAPA 58.01.01.007.08. Thus, short term sources are also allowed 10 times the AACC, which would represent a 1 in 100,000 cancer risk, as long as the operational source life is no greater than five (5) years.

b. Overview of the Ambient Air Concentration for Arsenic Analysis Performed by DEQ.

DEQ performed its analysis of ambient arsenic levels by first determining that the levels of arsenic that would be generated by the project exceeded the EL levels found in Section 586. REC 1760. Then DEQ modeled the arsenic levels using the “simple” method described by Kevin Schilling in his declaration. *See* REC 1241. Even after some refinements to this “simple” method, however, DEQ determined that “compliance could not be demonstrated using the typical approach . . .” REC 1241.

DEQ then “undertook the task of evaluating whether a more refined approach could be used to demonstrate compliance with TAP rules of Section 210.” REC 1242. The first step in the refinement was to apply the T-RACT analysis under Section 210.12. REC 1242. However, after applying the T-RACT analysis, DEQ determined that: “[c]onsideration of T-RACT in the analyses still resulted in modeled arsenic impacts exceeding a value of 10 times the AACC.”

REC 1242, *see also* REC 1242–1243 (“A worst-case conservative but simplistic approach used for the SGP did not show compliance with the arsenic AACC, or even the AACC multiplied by a factor of ten to reflect the allowable impact when using T-RACT.”) DEQ went on to explain:

Faced with this problem, there were effectively two options: 1) revision of the emission calculation and modeling methods, using those that would be less conservative (less of a tendency to overestimate emission quantities that could occur) and perhaps more complicated; or 2) refine the exposure calculation to better account for the dynamic nature of emission-generating activities and the limited project lifetime.

Ultimately, DEQ decided to use the latter method. REC 1243–1244, *see also* REC 698–706.

Rather than returning to the model, DEQ applied an additional analysis that focused on the length of time the project would operate—16 years. DEQ justified this additional analysis using IDAPA 58.01.01.210.15, which allows for an adjustment of the AACC when a project is determined to be “short term” (operating for five years or less). IDAPA 58.01.01.007.08. The applicant stated that the operational lifetime of the mine would be 16 years. REC 1243. However, the AACC levels listed in Section 586 are based on a 70-year lifetime exposure rate. DEQ reasoned, if an adjustment of 10 times is allowed for a short-term (5 year or less) project, then a similar adjustment should be allowed to account for a 16-year project. REC 1243–1244. Using this reasoning DEQ calculated a “project-based arsenic concentration representative of the project, appropriate for comparison to the AACC (based on a 70-year exposure), the modeled impact was adjusted by the factor 16/70.” REC 1243.

The mathematical equation used to make this calculation is as follows:

$$LifeExpose_{wi,j,n} = [(WEPExpose_{wi,n})(50\%) + (nonWEPExposes_{sj,n})(50\%)] \left[\frac{16 \text{ year LOM}}{70 \text{ year exposure}} \right]$$

where:

Wi	=	West End Pit scenario, where $i = 1$ to 4.
Sj	=	non West End Pit scenario, where $j = B1, B2, H1, H2, H3, H4, Y1, Y2,$ and $Y3$.
n	=	specific receptor.
$LifeExpose_{wi,j,n}$	=	lifetime exposure in $\mu\text{g}/\text{m}^3$ for West End Pit scenario i , non West End Pit scenario j , at receptor n .
$WEPExpose_{wi,n}$	=	annual maximum impact in $\mu\text{g}/\text{m}^3$ for West End Pit scenario i at receptor n .
$nonWEPExposes_{sj,n}$	=	annual maximum impact in $\mu\text{g}/\text{m}^3$ for non West End Pit scenario j at receptor n .
16 year LOM	=	maximum life-of-mine.
70 year exposure	=	Lifetime exposure used for development of AACCs in <i>Idaho Air Rules</i> .

REC 710–711.

This equation includes the use of a five-year rolling average and T-RACT adjustments made to the production levels of the West End Pit and the non-West End Pit, as well as the 16/70 adjustment for the life of the mine. These adjustments will be discussed in detail below.

c. DEQ did not Act Reasonably in Using a Five-Year Rolling Average for T-RACT that was not Properly Supported by Permit Conditions.

The AACC’s listed in Section 586 are based on annual averages, however, DEQ used a 5-year rolling average when performing its arsenic ambient air concentration calculations. The 135,000 T/day five-year rolling average was added as a T-RACT control. REC 939. As described below, the modeled ambient arsenic concentration calculations were based on the 135,000 T/day, not on 180,000 T/day. REC 710. In the PTC, DEQ limited the daily hauling and excavating limits to “no more than 180,000 tons per day (T/day) of ore and DR” and “not more than 135,000 T/day of ore and DR, based on a 5-year rolling average.” REC 385. These conditions, however, would not prevent Perpetua from hauling more than 135,000 T/day, so long

as the overall average is achieved. Perpetua must only achieve the 135,000 T/day over a five-year rolling average period. This means that it could, theoretically, run the mine at 180,000 T/day for a shorter period of time (i.e. one calendar year), but still achieve the overall requirement of 135,000 T/day over the five-year rolling period.⁷

Thus, the five-year rolling average allows for a smoothing out of the peak concentrations of ambient arsenic. For the AACC and T-RACT-AACC to limit cancer risk to 1 in 1 million and 1 in 100,000 respectively, the rule specifies compliance on an annual basis. A five-year rolling average allows considerable daily and annual increases in exposures which are contrary to limits set forth in the Air Rules.

The AACC limits set forth in Section 586 are based on annual averages, and there was no evidence in the record explaining how the five-year rolling average comports with the annual AACC limits. Therefore, the Board of Environmental Quality was unable to determine if a five-year rolling average would be equally protective of ambient air as the AACC limits set forth in Section 586. In addition, use of the five-year rolling average as a T-RACT control was not properly supported by the PTC conditions. As explained above, the PTC conditions were inadequate to ensure that the 135,000 T/day used in the ambient arsenic air concentration analysis would not be exceeded for some portion of the five-year rolling period. Therefore, the Board of Environmental Quality finds that there was insufficient evidence to support use of the five-year rolling average in the ambient arsenic air concentration analysis.

d. There was Insufficient Evidence to Support the T-RACT Analysis Limiting the Non-West End Pit Production Limit.

⁷ The PTC also contains a condition limiting the overall lifetime production of the mine to 788.4 million tons. This figure is based on the 135,000 T/day over 16 years. REC 710. Similar to the five-year rolling average, however, the overall limitation to 788.4 million tons would not provide a limitation on the daily amount of hauling that could occur, so long as the total 16-year amount is not exceeded.

As part of the T-RACT analysis, DEQ also limited the West End Pit production as a means of controlling ambient arsenic concentrations. REC 710. As shown in the mathematical equation above, the West End Pit exposure was adjusted by 50%. REC 710. This adjustment is properly reflected in PTC Condition 3.6 which requires that the permittee “shall haul no more than 394.2 MT [million tons] of ore and DR from the West End deposit over the life of the mine.” REC 385.

However, the equation listed above shows that the non-West End Pit production was also limited by 50%. REC 710. The Board of Environmental Quality was unable to determine from the record where this 50% reduction came from or whether it was actually applied when doing the calculation. Other than the equation, the Board of Environmental Quality could not identify any evidence discussing a 50% reduction in the non-West End Pit production. In addition, the PTC does not contain any conditions limiting the non-West End Pit production to 50%. PTC Condition 3.6 makes clear that all production (both West End and Non-West End Pit) is limited to 788.4 million tons, which is based on 135,000 T/day over the 16 year life of the mine. REC 710. And, as noted above, Condition 3.6 also makes clear that the West End Pit production is limited to 50%. *See* REC 385 (“The permittee shall haul no more than 788.4 million tons (MT) of ore and DR from all deposits over the life of the mine and no more than 349.2 MT of ore and DR from the West End deposit over the life of the mine.”). However, the Board of Environmental Quality could not identify a PTC condition that would limit the non-West End Pit production by 50%. Therefore, there was insufficient evidence in the record to demonstrate exactly how or whether the non-West End Pit production was limited and, if it was, the Board of Environmental Quality could not find any PTC conditions able to enforce that reduction.

e. DEQ Did Not Act Reasonably and in Accordance with Law When it Applied the 16/70 Calculation to the Ambient Arsenic Air Concentration Analysis.

As noted above, the AACC levels found in Section 586 “conservatively represents a long-term exposure (70 years) that would result in a 1 in 1,000,000 cancer risk.” REC 1242. These levels could not be met for the SGP, so the T-RACT of reducing the production of the mine to 135,000 T/day on a five-year rolling average and reducing the production of the West End Pit was applied to the analysis. The T-RACT amount allowed for in Section 210.12 represents a 1 in 100,000 lifetime cancer risk. IDAPA 58.01.01.210.12.b. But even using T-RACT, the AACC levels, as adjusted to 10-times higher by IDAPA 58.01.01.210.12.b, still could not be met. REC 1243–1244. It was at that point, that DEQ decided to apply the 16/70 adjustment to the calculation. REC 1243–1244, *see also* REC 698–706.

The Air Rules clearly provide an AACC standard in Section 586. They then clearly provide an adjustment to that AACC standard when T-RACT can be used to control emissions. IDAPA 58.01.01.210.12.b. The Air Rules also clearly allow for a 10-times adjustment to the AACC when a project is going to operate for 5 years or less. IDAPA 58.01.01.210.15. But nowhere in the Air Rules does it provide that a project that will operate more than 5 years but less than 70 years may be adjusted in proportion to the amount of time it will operate.

In addition, the Board of Environmental Quality cannot find sufficient evidence in the record to support the proposition that a higher exposure to arsenic for a shorter period of time is equally or more protective than a lower annual lifetime average exposure. Application of the 16/70 factor artificially results in 41.3% of the T-RACT-modified AACC. REC 714. The equation above demonstrates that DEQ calculated the lifetime exposure ($\mu\text{g}/\text{m}^3$) by including a variable which multiplied the results by 16/70, which takes a 16-year life of mine dividing by the 70-year exposure

limit used to set the AACC. REC 710–711. The impact of this additional variable in the equation ultimately results in over a 75% reduction in the calculated exposure.

DEQ provided the following explanation of the cancer risk vis-à-vis its 16/70 analysis:

AACCs were established in Idaho Air Rules to protect against a project-caused lifetime excess cancer risk of more than 1-in-1,000,000, or 1-in-100,000 where T-RACT is used to control emissions from sources. Prior to a regulatory clean up in 2022, Idaho Air Rules Section 006.125 defined Toxic Air Pollutant Carcinogenic Increments (AACCs) as, “Those ambient air quality increments based on the probability of developing excess cancers over a seventy (70) year lifetime exposure to one (1) microgram per cubic meter (1 $\mu\text{g}/\text{m}^3$) of a given carcinogen and expressed in terms of a screening emission level or an acceptable ambient concentration for a carcinogenic toxic air Pollutant. They are listed in Section 586.” Although a lifetime risk is the benchmark, DEQ listed annual averages for the AACCs in Idaho Air Rules because that timeframe 1) is long enough to establish a good representation of long-term impacts for most sources requiring a permit, 2) is short enough to provide compliance assurance early in the life of the industrial operation, and 3) is convenient for compliance monitoring and reporting, providing a practically enforceable limit on operations. Use of an annual limit is not key to attaining a limit on the lifetime cancer risk; and, since a lifetime risk is the benchmark, use of annual averaged emissions to show compliance with the AACC on an annual basis could be unnecessarily restrictive where processes vary considerably year-to-year and have a project lifetime substantially shorter than 70 years, such as mining processes.

REC 1242–1243. DEQ’s discussion of the cancer risk is couched in terms of annual averages, but as discussed above, a five-year rolling average was used for the analysis. The Board of Environmental Quality could find no other evidence in the record discussing the 16/70 adjustment in relation to human toxicology and cancer risk. Therefore, DEQ did not provide sufficient evidence in the form of an expert opinion from a toxicologist or other qualified expert regarding the cancer risk associated with the 16/70 adjustment.

The arsenic analysis performed by DEQ must be viewed within the wider lens of IDAPA 58.01.01.161 and 203 which require that toxic pollutants must “not be emitted in such quantities

or concentrations as to alone, or in combination with other contaminants, injure or unreasonably affect human or animal life or vegetation.” *see also* IDAPA 58.01.01.203.03. The Board of Environmental Quality has not found sufficient evidence in the record to convince it that the 16/70 analysis performed by DEQ was equally or more protective of human and animal life and vegetation as what is provided for by the Air Rules. Therefore, the Board of Environmental Quality remands this matter back for the development of further evidence regarding the ambient air concentrations of arsenic that will be produced by the SGP and whether those levels comply with the Air Rules.

IV. CONCLUSION

Based on the foregoing, it is hereby ordered:

1. DEQ Acted Reasonably and in Accordance with Law When it Determined that Perpetua Will have Legal Control of the Stibnite Road Access Route Such that it Could Properly be Excluded from Consideration as Ambient Air.
2. DEQ Acted Reasonably and in Accordance with Law When it Determined that Perpetua Will have Physical and Practical Control of the Stibnite Road Access Route Such that it Could Properly be Excluded from Consideration as Ambient Air.
3. DEQ Acted Reasonably and in Accordance with Law When it Allowed Perpetua to Submit Some Plans After the PTC was Issued.
4. The PTC Includes Enforceable Conditions that Will Achieve 93.3% Dust Control.
5. DEQ Did Not Act Reasonably and in Accordance with Law When it Analyzed the Ambient Arsenic Air Concentrations for the SGP.

The Board of Environmental Quality remands this matter to the Hearing Officer for further factual development in accordance with the terms of this order.

Dated this 9th day of May, 2024



Mark Bowen
Chairman, Idaho Board of Environmental Quality

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on this 9th day of May 2024, I caused to be served a true and correct copy of the foregoing FINAL ORDER by transmitting a copy thereof in the manner listed below:

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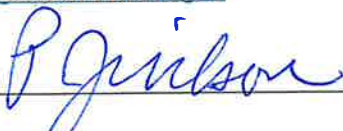
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EXPLANATORY INFORMATION TO ACCOMPANY A FINAL ORDER

The accompanying order is a “Final Order” issued by the Board of Environmental Quality pursuant to section 67-5246, Idaho Code.

PETITION FOR RECONSIDERATION

Any party may file a petition for reconsideration of a final order within fourteen (14) days of the service date of this order as shown on the certificate of service. **Note: The petition must be received by the Board of Environmental Quality within this fourteen (14) day period.** The Board of Environmental Quality will act on a petition for reconsideration within twenty-one (21) days of its receipt, or the petition will be considered denied by operation of law. See Section 67-5246(4), Idaho Code.

APPEAL OF FINAL ORDER TO DISTRICT COURT

Pursuant to Section 67-5270 and 67-5272, Idaho Code, any party aggrieved by a final order or orders previously issued in a matter before the Board of Environmental Quality may appeal the final order and all previously issued orders in the matter to district court by filing a petition in the district court of the county in which:

- i. A hearing was held,
- ii. The final agency action was taken,
- iii. The party seeking review of the orders resides, or
- iv. The real property or personal property that was the subject of the agency action is located.

The appeal must be filed within twenty-eight (28) days of: a) the service date of the final order, b) the service date of an order denying a petition for reconsideration, or c) the failure within twenty-one (21) days to grant or deny a petition for reconsideration, whichever is later. See Section 67-5273, Idaho Code. The filing of an appeal to district court does not in itself stay the effectiveness or enforcement of the order under appeal.