

IN RE WINDFALL OIL & GAS, INC.

UIC Appeal No. 21-01

ORDER DENYING REVIEW

Decided May 6, 2021

Syllabus

Ms. Darlene Marshall (“Petitioner”) petitions the Environmental Appeals Board (“Board”) to review an Underground Injection Control (“UIC”) permit that U.S. Environmental Protection Agency Region 3 (“Region”) reissued to Windfall Oil & Gas, Inc. (“Windfall”) in December 2020. The permit was issued pursuant to Part C of the Safe Drinking Water Act, 42 U.S.C. § 300h through 300h-8, and the UIC implementing regulations codified at Title 40 of the U.S. Code of Federal Regulations, parts 124 and 144 through 148. The reissued permit authorizes Windfall to construct and operate a Class II injection well, called the “Zelman #1” well, in Brady Township, Clearfield County, Pennsylvania.

The previous UIC permit, first issued by the Region in 2014 and reissued in 2015, expired before the well was constructed. Over one hundred petitioners, including Ms. Marshall, filed petitions challenging various aspects of the previous permitting decision. The Board consolidated those appeals and denied review on all issues raised, explaining its reasoning for denying review in a thorough and comprehensive decision. *In re Windfall Oil & Gas, Inc.*, 16 E.A.D. 769 (EAB 2015) (“*Windfall I*”).

Petitioner now raises a number of concerns about the permit that was reissued in 2020. The Board has categorized the issues raised as follows: (1) the Region’s selection of the Area of Review, (2) the Region’s treatment of wells located outside the Area of Review, (3) the potential for injection fluid to migrate or be transmitted to underground sources of drinking water, (4) the potential for seismic activity in the vicinity of the injection well, (5) the potential impacts of the well on drinking water quality, and (6) the permit’s lack of emergency planning conditions. The petition also includes seventy enumerated issues that are described in just a few words.

Held: The Board denies the petition for review of the 2020 reissued UIC permit. In *Windfall I*, the Board ruled on each of the substantive issues fairly raised by the Petitioner in this appeal, and the Petitioner has not pointed to any factual or legal basis, or new information in the administrative record for this Permit, that would cause us to

reconsider our previous analysis. 16 E.A.D. at 773-814. Neither has Petitioner demonstrated that the Region clearly erred in reissuing the Permit in 2020. The 2020 reissued permit is designed to protect underground sources of drinking water and includes construction, operational, recordkeeping, and monitoring provisions that directly address Petitioner's concerns. For each of the issues fairly raised in the petition, the Region has explained its permitting decision in the administrative record, including the underlying rationale for the decision. Petitioner has failed to carry her burden of demonstrating that the Region's determinations were clearly erroneous. As to the seventy enumerated issues that are described in just a few words in the petition, they do not satisfy the threshold procedural requirements for appeal.

Before Environmental Appeals Judges Aaron P. Avila, Mary Kay Lynch, and Kathie A. Stein.

Opinion of the Board by Judge Avila:

I. STATEMENT OF THE CASE

In January 2021, Ms. Darlene Marshall ("Petitioner") petitioned the Environmental Appeals Board ("Board") for review of a Class II Underground Injection Control ("UIC") Permit issued by Region 3 ("Region") of the U.S. Environmental Protection Agency ("EPA"). The Permit authorizes Windfall Oil & Gas, Inc. ("Windfall") to construct and operate a Class II injection well, called the "Zelman #1" well, in Brady Township, Clearfield County, Pennsylvania. *See* Region 3, U.S. EPA, *Windfall Oil & Gas, UIC Permit No. PAS2D020BCLE Authorization to Operate a Class IID Injection Well* (issued Dec. 13, 2020) (A.R. 32) ("Permit").¹ The Permit was issued pursuant to Part C of the Safe Drinking Water Act, 42 U.S.C. §§ 300h through 300h-8, and EPA's implementing regulations codified at Title 40 of the Code of Federal Regulations, parts 124 and 144 through 148.

Petitioner raises numerous issues in her petition, including concerns about the method for determining the Area of Review, the extent to which the Region should have accounted for six wells located outside the Area of Review and their impact on the proposed injection well, the potential for migration or transmission of injection fluid, the potential for seismic activity, the need to protect drinking

¹ Documents listed on the certified index to the administrative record for this permitting decision are so indicated with "A.R." followed by the entry number. *See* Region 3, U.S. EPA, *Certified Index to the Administrative Record for Windfall Oil & Gas, UIC Permit No. PAS2D020BCLE* (Mar. 11, 2021).

water quality, and other issues, some of which are outside the scope of the UIC program and the Board's review here. All substantive issues raised in the petition were previously raised before the Board in a consolidated appeal of an earlier permit for the Zelman #1 well filed by more than one hundred petitioners, including Ms. Marshall. *In re Windfall Oil & Gas, Inc.*, 16 E.A.D. 769, *passim* (EAB 2015) ("*Windfall I*"). The Board takes seriously the issues raised by Petitioner. For the reasons discussed below, however, the Board denies the petition for review.

II. PRINCIPLES GOVERNING BOARD REVIEW

Section 124.19 of Title 40 of the U.S. Code of Federal Regulations governs Board review of a UIC permit. In promulgating these regulations, EPA stated that the Board's power to grant review of a permit decision "should be only sparingly exercised," emphasizing that "most permit conditions should be finally determined at the [permit issuer's] level." *See* Consolidated Permit Regulations, 45 Fed. Reg. 33,290, 33,412 (May 19, 1980). In any appeal from a permit decision issued under part 124, the petitioner bears the burden of demonstrating that review is warranted. 40 C.F.R. § 124.19(a)(4). In the case of a self-represented petitioner such as here, the Board endeavors to construe liberally the petition to fairly identify the substance of the arguments being raised. *See, e.g., In re Muskegon Dev. Co.*, 18 E.A.D. 88, 90 (EAB 2020); *In re Archer Daniels Midland Co.*, 17 E.A.D. 380, 383 (EAB 2017); *Windfall I*, 16 E.A.D. at 773 n.4.

Under the standard of review set forth in the Agency's regulations, the Board ordinarily denies a petition for review of a permit decision (and thus does not remand it) unless the petitioner has demonstrated that the permit decision is based on a clearly erroneous finding of fact or conclusion of law. 40 C.F.R. § 124.19(a)(4)(i). "On matters that are fundamentally technical or scientific in nature, the Board typically defers to a permit issuer's technical expertise and experience, as long as the permit issuer adequately explains its rationale and supports its reasoning in the administrative record." *In re Jordan Dev. Co., L.L.C.*, 18 E.A.D. 1, 5 (EAB 2019).

Where a petitioner raises an issue that the permit issuer addressed in the response to comments document issued as part of the permit proceedings, petitioner must provide a citation to the comment and response and explain why the response was clearly erroneous. 40 C.F.R. § 124.19(a)(4)(ii). Federal Courts of Appeals have consistently upheld the Board's requirement that a petitioner must substantively confront the permit issuer's response to comments submitted during a public comment period or made at a public hearing. *See, e.g., Native Vill. of Kivalina IRA Council v. U.S. EPA*, 687 F.3d 1216, 1219-22 (9th Cir. 2012), *aff'g*

In re Teck Alaska, Inc., NPDES Appeal No. 10-04 (EAB Nov. 18, 2010) (Order Denying Review); *City of Pittsfield v. U.S. EPA*, 614 F.3d 7, 11-13 (1st Cir. 2010), *aff'g In re City of Pittsfield*, NPDES Appeal No. 08-19 (EAB Mar. 4, 2009) (Order Denying Review). Moreover, as the Board has explained, a petitioner's failure to respond to the Region's explanation in its response to comments "leaves us with a record that supports the Region's approach." *In re Westborough*, 10 E.A.D. 297, 311 (EAB 2002).

III. LEGAL FRAMEWORK AND FACTUAL HISTORY

A. Underground Injection Control Program

The Safe Drinking Water Act ("SDWA") requires EPA to promulgate regulations for state UIC programs to protect underground sources of drinking water. SDWA § 1421, 42 U.S.C. § 300h. EPA has promulgated such regulations, including minimum requirements for UIC permits. *See* 40 C.F.R. pts. 144-148. EPA administers the UIC program in a state such as Pennsylvania that is not authorized to administer its own UIC program. *See id.* §§ 144.1(e), 147.1951; *see also* Region 3, U.S. EPA, Response to Petition for Review 7 (Mar. 11, 2021) ("Resp. Br.") ("In states such as Pennsylvania without an approved UIC program, EPA is the permitting authority, directly implementing the UIC regulations and issuing permits.").

The UIC program focuses on the protection of underground water that "supplies or can reasonably be expected to supply any public water system" from "any contaminant" that may be present as a result of underground injection activities. SDWA § 1421(d)(2), 42 U.S.C. § 300h(d)(2); *see also* 40 C.F.R. § 144.12(a). The purpose of the UIC regulations is to prevent the movement of fluids containing contaminants into underground sources of drinking water if the presence of those contaminants may cause a violation of a primary drinking water regulation or may otherwise adversely affect human health. *See* 40 C.F.R. § 144.12(a). "[A]ll injection activities including construction of an injection well are prohibited until the owner or operator is authorized by permit." *Id.* § 144.31(a).

Injection wells fall into six classes. *Id.* §§ 144.6 (wells), 146.5 (injection wells). Class II disposal wells include wells (like the Zelman #1 well) used to inject fluids "brought to the surface in connection with natural gas storage operations, or conventional oil or natural gas production." *Id.* § 144.6(b)(1).

B. *Factual and Permitting History*

The Region first issued a UIC permit for the proposed Zelman #1 well, together with a Response to Comments document, in February 2014. *See* Region 3, U.S. EPA, *Windfall Oil & Gas, UIC Permit No. PAS2D020BCLE Authorization to Operate a Class IID Injection Well* (issued Feb. 14, 2014); Region 3, U.S. EPA, *Response to Comments for Windfall Oil & Gas UIC, Permit No. PAS2D020BCLE* (Feb. 14, 2014) (A.R. 5) (“2014 Resp. to Cmts.”). The Board received more than sixty petitions for review challenging various aspects of the February 2014 permitting decision and, at the Region’s request, remanded it to allow for further review by the Region. *In re Windfall Oil & Gas, Inc.*, UIC Appeal Nos. 14-04 through 14-62 (consolidated) (EAB June 10, 2014) (Order Granting Motion for Voluntary Remand to Allow Reconsideration of Permit Decision). On remand, the Region revised the permit to impose additional requirements and reissued it in October 2014. Region 3, U.S. EPA, *Windfall Oil & Gas, UIC Permit No. PASD020BCLE Authorization to Operate a Class IID Injection Well* (issued Oct. 31, 2014) (A.R. 6) (“2015 Permit”).

The permit that the Region reissued in October 2014 was the subject of over one hundred petitions for review, including a petition filed by Petitioner in the current appeal, which the Board consolidated. *In re Windfall Oil & Gas*, UIC Appeal Nos. 14-73 through 14-189 (Dec. 3, 2014) (Order Consolidating Petitions for Review). The Region stayed the October 2014 permit in its entirety pending resolution of those appeals. *See* Region 3, U.S. EPA, *Windfall Oil & Gas, Statement of Basis for U.S. EPA UIC Program Draft Class IID Permit Reissuance No. PAS2D020BCLE*, at 1 (July 24, 2020) (A.R. 18) (“Stmt. of Basis”). After considering all of the issues raised in the appeals, the Board issued a thorough and comprehensive decision denying review of the October 2014 permitting decision. *Windfall I*, 16 E.A.D. at 814. Following the Board’s ruling, the Region issued a final permit on July 30, 2015. *See* Stmt. of Basis at 1-2. That permit, which for consistency we refer to as the “2015 Permit,” had a five-year term that was originally set to expire on October 31, 2019. *Id.* The Region subsequently discovered that the expiration date as originally recorded was a typographical error and did not accurately reflect the permit’s five-year term. *Id.* To correct the error, the Region issued a minor modification correcting the expiration date to July 30, 2020. *Id.*

Because Windfall also needed to obtain a permit from the Pennsylvania Department of Environmental Protection prior to constructing Zelman #1, the well was not installed before expiration of the 2015 Permit. *See id.* at 2 (stating that Windfall did not receive the state construction permit until March 21, 2018, and

that the Pennsylvania permit was subsequently appealed to the Pennsylvania Environmental Hearing Board).

Windfall submitted an application for reissuance of the UIC permit in April 2020; the Region issued a draft permit, together with the Statement of Basis document in July 2020. Region 3, U.S. EPA, *Windfall Oil & Gas, DRAFT UIC Permit No. PASD020BCLE Authorization to Operate a Class IID Injection Well* (July 24, 2020) (A.R. 16); Stmt. of Basis at 1. The Region opened a public comment period on the draft permit and received timely written comments from eleven parties, including Petitioner. See Resp. Br. at 11 & Ex. J (attaching written comments and correspondence submitted by Petitioner during public comment period). The Region conducted a telephonic public hearing at which several people, including Petitioner, provided oral statements *Id.*; see Transcript of Public Hearing (Sept. 17, 2020) (A.R. 20) (“Pub. Hearing Tr.”). On December 13, 2020, the Region issued a Response to Comments document together with the Permit that is the subject of this appeal. Region 3, U.S. EPA, *Response to Comments for Windfall Oil & Gas UIC Permit No. PAS2D020BCLE*, (Dec. 13, 2020) (A.R. 21) (“Resp. to Cmts.”).

The Permit authorizes Windfall to construct and operate the Zelman #1 Class II injection well, subject to specified conditions. Permit at 1. The injection zone for the well lies approximately 7,300 to 7,387 feet below the surface elevation, in the Huntersville Chert/Oriskany formation. Stmt. of Basis at 2. The lowermost underground source of drinking water is located approximately 800 feet below surface elevation and is separated from the injection zone by approximately 6,500 feet (or 1.231 miles) of shale and other rock. *Id.* A confining zone consisting of fourteen to eighteen feet of limestone is located immediately adjacent to the injection zone. *Id.* “In addition, a series of low permeability shale and limestone formations are located above the injection zone and separate that formation from the lowermost USDWs [underground sources of drinking water].” *Id.* at 2-3.

IV. ANALYSIS

Petitioner raises a number of concerns about the Region’s 2020 permitting decision. The issues raised in the petition can generally be categorized as concerns pertaining to: (1) the Region’s selection of the Area of Review, (2) the Region’s treatment of wells located outside the Area of Review, (3) the potential for injection fluid to migrate or be transmitted, (4) the potential for seismic activity in the vicinity of the injection well, (5) potential impacts of the well on drinking water quality, and (6) the permit’s lack of emergency planning conditions. Finally, the

petition concludes with seventy enumerated “issues,” each described in a few words.

For the following reasons, the Board denies the petition for review.

A. *Selection of the Area of Review*

Petitioner raises concerns about the manner in which the Region selected what the UIC regulations refer to as the “Area of Review” for the proposed injection well, particularly with respect to the way the Region calculated the “Zone of Endangering Influence.” Pet. at 3 (Issue #4). Specifically, Petitioner contends that the Region’s calculations “don’t actually consider all the factors properly” and lack transparency, that the Region should take into account geological faults, and that it is “illogical to think that the [injection] fluid will only go 400 feet when the time has been doubled.” *Id.* The Board understands that this last contention may refer to the fact that the 2015 Permit was issued for a term of five years whereas the 2020 Permit has been issued for a term of ten years.

The UIC regulations provide that the Area of Review for a proposed injection well may be determined in one of two ways: *either* by calculating the Zone of Endangering Influence *or* by using a fixed radius around the well of not less than 1/4 of a mile. 40 C.F.R. § 146.6(a)-(b); *see also id.* § 144.3 (defining area of review). In this instance, the Region based the Area of Review on a fixed radius of 1/4 of a mile (that is, a radius of 1,320 feet), which is the approach that Windfall had proposed in its permit application. Resp. to Cmts. at 3; *see also* Stmt. of Basis at 2. To evaluate the “acceptability” of a fixed radius of 1/4 of a mile, the Region also calculated the Zone of Endangering Influence for the proposed well. Resp. to Cmts. at 3; *see* 40 C.F.R. § 146.6(a). According to those calculations, the Zone of Endangering Influence would extend 400 feet after the well had been in operation for ten years. Resp. to Cmts. at 3. The Region noted that, after reviewing the calculations, the Pennsylvania Department of Environmental Protection determined a 1/4 mile fixed radius Area of Review to be adequate. *Id.*

In the Response to Comments document issued in connection with the 2015 Permit, which is included in the administrative record for the 2020 Permit, the Region explained that it calculated the Zone of Endangering Influence “using parameters based on reservoir information obtained from past drilling records * * * and injectivity testing information from the Green Glen #1 well * * * located in Huston Township, Clearfield County.” Region 3, U.S. EPA, *Response to Comments for Windfall Oil & Gas UIC Permit No. PAS2D020BCLE*, at 15 (Feb. 2014) (A.R. 5) (“2014 Resp. to Cmts.”). “The parameters obtained from this

information included permeability, reservoir pressure, the depth and thickness of the injection zone, rate of injection[,] and volume.” *Id.* The Region also explained that it reviewed published information on the injection zone and verified that the parameters used in this instance were consistent with those used in permitting actions for other wells injecting into the same formation. *Id.* The Region stated that it calculated the Zone of Endangering Influence using “a modified Theis equation,” which it explained is a mathematical model that can be used to calculate an Area of Review in accordance with 40 C.F.R. § 146.6(a)(2). *Id.* However, when it first issued the permit in 2014, the Region used a 1/4 of a mile (1,320 foot) fixed radius Area of Review because it was deemed to be “more protective” than the 400-foot Zone of Endangering Influence. *Id.*

In its response brief to the petition, the Region explains that it did not recalculate the Zone of Influence for the 2020 Permit but instead “carried forward” its previous analysis for selecting the Area of Review. Region’s Resp. at 20-21. In *Windfall I*, the Board concluded that the Region’s decision to use a 1/4 of a mile radius Area of Review was not clearly erroneous and explained its reasoning at length.² 16 E.A.D. at 773-94.

Challenges to the manner in which the Region calculated the Zone of Endangering Influence miss the mark because the Region based the Area of Review on a fixed radius of 1/4 of a mile, not on the 400-foot Zone of Endangering Influence. Resp. to Cmts. at 3; *see also* 2014 Resp. to Cmts. at 15. Also, even if the Region had relied on the Zone of Endangering Influence calculations to establish the Area of Review, the Region explained that it had calculated the extent of the Zone of Endangering Influence based on operation of the well for ten years, although the permit was initially issued for a term of only five years. Resp. to Cmts. at 3; *see also* 2014 Resp. to Cmts. at 15. Thus, as to this calculation, the time measuring the extent of the Zone of Endangering Influence has not doubled, as Petitioner seems to contend. In any event, the petition does not include any legal or factual basis for showing that the Region’s calculations were clearly erroneous.

For the reasons given above, we find Petitioner’s arguments challenging the manner in which the Region selected the Area of Review to be unpersuasive. The

² Nothing in the petition causes us to alter the conclusion we reached in *Windfall I* that the Region did not clearly err in selecting the Area of Review. But even if we were to consider Petitioner’s challenge without regard to the Board’s previous ruling on this issue, Petitioner’s challenge in this petition focuses largely on the Zone of Endangering Influence and not the fixed radius method, which the Region used to select the Area of Review.

petition does not provide any new information demonstrating that the Region clearly erred in exercising its authority under 40 C.F.R. § 146.6 to select the fixed radius method for the Area of Review, nor does the petition set forth any argument or information that would cast doubt on the Board's analysis of this issue in the *Windfall I* decision. See 16 E.A.D. at 773-94. Selection of the Area of Review for a proposed injection well is a technical determination, and the Board generally defers to a permit issuer's expertise on matters that are fundamentally technical or scientific in nature as long as the permit issuer has adequately set forth and explained its rationale for the determination in the administrative record. *Id.* at 777; see also *Muskegon*, 18 E.A.D. at 99. The administrative record demonstrates that the Region duly considered the issues raised in the comments, and the Board concludes that Petitioner has failed to establish that the Region's decision to establish the Areas of Review based on a fixed radius of 1/4 of a mile is clearly erroneous in light of all the information in the record. See *Windfall I*, 16 E.A.D. at 781; see also, e.g., *In re N.E. Hub Partners, L.P.*, 7 E.A.D. 561, 568 (EAB 1998).

B. Wells Located Outside the Area of Review

Petitioner raises concerns about six wells located "on the edge of" the 1/4 of a mile Area of Review and suggests that those wells should be monitored and that corrective action provisions should apply. Pet. at 2 (issue #3). The petition states:

At minimum, six (6) wells are known to be at the same formation depth as the Injection Well [i.e., the Zelman #1 well] and it is known that the injection fluids will intersect with these wells in the first couple of years. These wells should be monitored as it is already known that two of these wells have some type of issue and the Injection Well has potential to cause further problems over the next ten years. Totally ignoring these reported issues on these wells further erodes the public trust in the EPA and company after over ten (10) years of public involvement.

Id. at 2-3.

The UIC regulations require permit applicants for new Class II injection wells to identify the location of all known wells within the area of review that

penetrate the injection zone.³ 40 C.F.R. § 144.55(a). For any such wells that are “improperly sealed, completed, or abandoned,” applicants must submit a corrective action plan detailing the steps or modifications necessary to prevent movement of fluid into underground sources of drinking water. *Id.* Corrective action plans are incorporated into UIC permit conditions, and the owner or operator of a new injection well may not begin injection operations until all required corrective action has been taken. *Id.* § 144.55(a)-(b). The regulations do not specifically require corrective action for wells located outside the area of review.

In the Response to Comments document, the Region acknowledged that “without certain precautions, abandoned wells near an injection well may pose a risk to USDWs [underground sources of drinking water] by providing a conduit for the migration of fluid out [of] an injection zone.” Resp. to Cmts. at 3. However, the Region noted that “[n]o wells that penetrate the injection or confining zone were identified in the permit application within the fixed [Area of Review].” *Id.*

Concerns about six wells located outside the Area of Review were also raised by Petitioner and others in *Windfall I*. 16 E.A.D. at 781-84. The Board addressed those concerns at length, pointing out that the administrative record for the 2015 Permit included documentation from the Pennsylvania Department of Environmental Protection indicating that three of the wells outside the Area of Review had been plugged. *Id.* at 782. The Board next observed that the UIC regulations do not mandate the plugging of an operational well within, or just outside, the Area of Review absent evidence that the well threatens to serve as a conduit for the migration of fluid from an injection zone to a underground source of drinking water. *Id.* at 783. And as the Board explained, the record reflected that the three operating wells located just outside the Area of Review would not require corrective action even if they were located within the Area of Review, as they were not potential conduits for fluid migration to underground sources of drinking water. *Id.* Finally, the Board also determined that the *Windfall I* petitioners had failed to present information or other documentation to demonstrate that the plugging was

³ Permit applicants for Class II wells that will operate “over the fracture pressure of the injection formation” must also identify “all known wells within the area of review penetrating formations affected by the increase in pressure.” 40 C.F.R. § 144.55(a). Here, the Permit does not allow the injection pressure to exceed the injection formation’s fracture pressure and therefore that regulatory requirement does not apply. Resp. to Cmts. at 3-4; *see* Permit § III.B.4, at 12 (injection pressure limitation).

insufficient and, similarly, had failed to demonstrate that the Region's decision not to extend the Area of Review to include those six wells was clearly erroneous. *Id.*

The petition now before us fails to identify any factual or legal basis or new information in the administrative record for this Permit that would cause us to reconsider the analysis set forth in *Windfall I* with respect to the need for monitoring or corrective action for those six wells.⁴ Petitioner alleges that injection fluid will “intersect with” the six plugged wells and alleges that two of the wells “have some type of issue.” Pet. at 2. However, the petition does not include sufficient legal or factual support needed to sustain these claims. See 40 C.F.R. § 124.19(a)(4)(i). For example, Petitioner does not provide any further explanation of the “issues” she asserts pertain to two wells. See Pet. at 2. The Board has long held that generalized objections to permit terms and unsubstantiated arguments do not suffice to demonstrate clear error. See, e.g., *Windfall I*, 16 E.A.B. at 783; *In re City of Pittsfield*, NPDES Appeal No. 08-19, at 6 (E.A.B. Mar. 4, 2009) (Order Denying Review), *review denied*, 614 F.3d 7 (1st Cir. 2010). Further, the determination as to whether nearby wells require monitoring or corrective action under the UIC program requirements is a technical one, and the Board defers to the permit issuer's technical and scientific expertise on such determinations, as long as the rationale for the permitting decision has been clearly set forth in the administrative record. See *Windfall I*, 16 E.A.D. at 777; see also *Muskegon*, 18 E.A.D. at 99. The administrative record demonstrates that the Region duly considered the issues raised in the comments, and the Board concludes that Petitioner fails to establish that the Region's decision to exclude the six wells located outside the Area of Review is clearly erroneous in light of all the information in the record. See *Windfall I*, 16 E.A.D. at 783-84; see also, e.g., *N.E. Hub*, 7 E.A.D. at 568.

C. *Migration or Transmission of Injection Fluid*

Petitioner raises concerns that various geological features at or near the injection site increase the risk that injected fluid would migrate to underground sources of drinking water through faults, fissures, and fractures in the injection

⁴ Petitioner has identified no material difference between the permit provisions pertaining to monitoring and corrective action requirements in the 2020 Permit and parallel provisions in the 2015 Permit. Compare, e.g., Permit §§ II.C, at 6-8 (monitoring requirements), III.A.5, at 12 (corrective action), with 2015 Permit §§ II.C, at 7-8, III.A.5, at 12.

formation or confining layer. Pet. at 3-4 (issues #5, #6, #7, #8 and #9). Issue five in the petition raises concerns about fractures in the confining layer, and Petitioner contends that “the [Region’s] conclusion that the confining layer has ‘no fractures’ is inaccurate with six gas wells already in the same formation on the edge of the 1/4 mile [radius]” given that “fracturing was used along with pressure” to recover gas from those wells, and that “[f]aults can change from being non-transmissive to become transmissive.” *Id.* at 2. Issue six states, in its entirety, “It is already known thanks to the Pennsylvania DEP that the fluid will quickly intersect with the known fault in the area. This will affect all data relevant to this Injection Well.” *Id.* Issue seven states that “[n]aturally occurring fissures occur everywhere” and raises concerns that pressure from fracturing the gas wells in addition to the naturally occurring fissures “has been an on-going concern for the public.” *Id.* Issue eight asserts that “permeability has never been accurately decided for this Injection Well” and points to an example in Ohio, cited by the Region in the Response to Comments document, in which fluid travelled “considerable distance” and impacted gas production wells. *Id.* at 3-4. Finally, issue nine focuses on “potential faults” within the Area of Review and suggests that data concerning the transmissivity and location of the “potential faults” should be reconsidered. *Id.* at 4.

The Region addressed these issues in the Statement of Basis and responded to comments on each of them in its Response to Comments document. While the Region acknowledged the likely presence of at least one fault within the Area of Review, it concluded that any faults in the vicinity “appear to be localized, non-transmissive faults.” Resp. to Cmts. at 4. The Region also pointed to two Permit conditions designed to limit the potential for injection fluid to migrate through geologic features. *Id.* First, the Region noted that the Permit includes limits on injection pressure at both the surface and at the bottom-hole.⁵ *Id.* Second, the Region explained that the Permit requires a yearly pressure fall-off test, during which fluid will be injected into the well at a constant rate, after which the well will be “shut-in” and the decline in pressure monitored. *Id.* at 5. The data will be analyzed to determine, among other things, whether any damage to the formation has occurred and whether flow is moving toward or contacting any nearby faults. *Id.*

The Region also explained that certain geological features of the proposed injection reservoir (the Huntersville Chert/Oriskany formation), combined with

⁵ Surface injection pressure during injection operations is limited to 2,443 pounds per square inch (“psi”) and injection pressure at the bottom hole is limited to 6,425 psi. Permit § III.B.4, at 12.

past usage of the reservoir, make it an appropriate candidate for fluid disposal. *Id.* Over the past sixty or so years, the formation has produced a significant volume of gas and brine, such that the reservoir pressure has been lowered, and, according to the Region, that factor, together with natural pore spaces that exist in the formation, indicates that the reservoir will provide available storage for injectate. *Id.* The Region also relied on data regarding the production history of other gas production wells, drilled outside the fault block in which the Huntersville Chert/Oriskany formation is located, to conclude that existing faults have resulted in “displacement” of the Huntersville Chert/Oriskany formation. *Id.* Thus, the Region explained, “fluid that is injected into the Huntersville Chert/Oriskany formation at the proposed injection well location should be confined within the fault block.” *Id.*

With respect to the brine migration incident that occurred in Ohio, the Region explained that the geology in the vicinity of the Ohio well differs from the geology in the vicinity of the proposed Zelman #1 well. *Id.* at 5-6. The Region referenced an August 2020 report by the Ohio Attorney General (“OAG”) and the Ohio Department of Natural Resources (“ODNR”) that had concluded that wastewater injected into the Ohio Shale formation from a brine disposal well, known as Redbird #4, was the source of brine that appeared in several production wells in the adjacent Berea Sandstone formation. *Id.* at 6. The report noted that “[n]aturally occurring fissures exist between the Ohio Shale formation and the Berea Sandstone formation, allowing wastewater to migrate between the formations and the production wells.” *Id.* at 6 (quoting the OAG & ODNR report). The Region explained that in the case of the Ohio well, fluid was injected into a fissure between a low-permeability shale formation and an adjacent sandstone formation, allowing the fluid to travel “considerable distance” such that impacts to gas production wells occurred. *Id.* at 6. The Region explained that the “the same geologic conditions do not exist at the Windfall facility” and that the Permit conditions for the Zelman #1 well will be adequate to protect underground sources of drinking water. *Id.*

In *Windfall I*, the Board fully considered concerns raised by the petitioners about the potential for injected fluid to be transmitted or migrate from the injection zone. 16 E.A.D. at 794-798. Petitioner has not pointed to any factual or legal basis or new information in the administrative record for this Permit that would cause us to reconsider that analysis, nor has Petitioner provided factual and legal support for the argument that geological features at the Windfall site will result in the transmission or migration of injectate into underground sources of drinking water. *See* 40 C.F.R. § 124.19(a)(4). For example, though Petitioner expresses concerns

about the potential for injectate fluid to migrate or be transmitted, nothing in the petition rebuts the Region's determination that the only fault known to be present within 1/4 mile of the injection well site appears to be localized and non-transmissive and that a confining layer consisting of approximately fourteen to eighteen feet of limestone, as well as "numerous" other confining zones, separates the injection zone from the lowermost underground source of drinking water. *See* Resp. to Cmts. at 3, 4. And the Permit specifically prohibits underground injection activity that would contaminate underground drinking water supplies or otherwise adversely affect human health.⁶ Permit § I.A, at 2. In addition, the Region may modify, revoke and reissue or terminate the permit for cause, *id.* § I.B., and Windfall has a duty to comply with "all applicable UIC Program regulations and conditions of th[e] permit," *id.* § I.D.1.

The extent to which fluid from an injection well has the potential to migrate or be transmitted is a technical determination, and the Board defers to the permit issuer's technical and scientific expertise on such issues, as long as the rationale for the permitting decision has been clearly set forth in the administrative record. *See Windfall I*, 16 E.A.D. at 785; *see also Muskegon*, 18 E.A.D. at 99. The administrative record demonstrates that the Region duly considered the issues raised in the comments, and Petitioner has failed to establish clear error in the Region's determination that the geology of the proposed injection zone and surrounding area do not preclude the issuance of a UIC permit for the Zelman #1

⁶ The Permit provides as follows:

The underground injection activity, otherwise authorized by this permit, shall not allow the movement of fluid containing any contaminant into underground sources of drinking water (USDW), if the presence of that contaminant may cause a violation of any primary drinking water regulation under 40 C.F.R Part 41 or may otherwise adversely affect the health of persons. Any underground injection activity not authorized by this permit or otherwise authorized by rule is prohibited. Issuance of this permit does not convey property rights or mineral rights of any sort or any exclusive privilege; nor does it authorize any injury to persons or property, or any invasion of other property rights, or any infringement of State or local law or regulations.

Permit § I.A, at 2.

well. See *Windfall I*, 16 E.A.D. at 783-84, 794-98; see also, e.g., *N.E. Hub*, 7 E.A.D. at 568.

D. *Seismicity*

Petitioner raises general concerns about seismicity in the area of the proposed injection well. Pet. at 5-6 (Issue #11). Citing statements presented at the public hearing, Petitioner suggests that over time, brine may migrate, making the faults transmissive and inducing seismic activity. *Id.*; see Pub. Hearing Tr. at 8-10. Petitioner maintains that “due diligence must be done and should have been done already.” *Pet.* at 6.

In the Statement of Basis and the Response to Comments documents, the Region explained its reasoning for including permit conditions related to seismicity and addressed concerns raised during the comment period and at the public hearing that underground injection activities may induce seismic activity. Resp. to Cmts. at 4-5; Stmt. of Basis at 3. The Region explained that it undertook an evaluation of potential seismic activity at the proposed well site in accordance with two EPA documents: *Region 3 Framework for Evaluating Seismic Potential Associated with UIC Class II Permits* (Sept. 2013) and *Minimizing and Managing Potential Impacts of Injection-Induced Seismicity from Class II Disposal Wells: Practical Approaches* (Feb. 5, 2015). Resp. to Cmts. at 4. According to the Region, “[e]arthquake activity in Pennsylvania [is] basement related, either from basement faulting or faulting at shallower depths induced by tectonic stresses originating from the basement.” Stmt. of Basis at 3. The Region explained in the Response to Comments document that any faults in the area of the injection zone are “localized, non-transmissive faults” and that there is no geologic evidence that they are transmissive to the deep Precambrian crystalline basement rock. Resp. to Cmts. at 4. The proposed injection zone is separated from the Precambrian basement by approximately 9,200 feet. *Id.* The Region stated that “[m]ost disposal wells in the United States do not pose a hazard for induced seismicity” but that “faults in the Precambrian basement are believed by some experts to have generated seismic activity in other states.” *Id.* It explained that the risk of induced seismic activity due to the Zelman #1 well is low due to the distance between the proposed injection zone and the Precambrian basement and the multiple “low-permeability geologic confining zones within this distance.” *Id.* The Region further explained that the Permit includes two conditions that will assist in the prevention of induced seismic activity—limits on injection pressure and the yearly pressure fall-off test requirement, both of which also relate to the migration of fluid and are discussed above in Part IV.C above. Stmt. of Basis at 3.

The Board considered concerns about seismicity, and the potential for the proposed injection well to induce seismic activity, in the 2015 consolidated appeal. *Windfall I*, 16 E.A.D. at 798-800. There, the Board concluded that petitioners had raised only general concerns about seismicity and had not explained why the Region's response to their comments was clearly erroneous. *Id.* at 799. Here, too, based on the record for the Permit before us, we conclude that Petitioner has not responded to the Region's response to comments regarding seismicity and that Petitioner has not presented sufficient factual or legal support to demonstrate clear error by the Region, particularly given the technical nature of this issue. 40 C.F.R. § 124.19(a)(4); *see In re Penneco Envtl. Sols.*, 17 E.A.D. 604, 611-16 (EAB 2018) (denying review in UIC permit appeal on issue of induced seismic activity due to petitioners' failure to confront Region's response to comments or otherwise demonstrate clear error by the permit issuer).

E. Drinking Water Quality and the Injection Well

Petitioner also raises general concerns about the potential impact of the injection well on the area's water supply. *Pet.* at 4-5, 6 (issues #10 and #12). Issue ten in the petition restates comments that Petitioner presented at the September 2020 public hearing. *Id.* at 4-5. Issue twelve states "[t]he injection well site is where our water supply comes from and references statements made at the public hearing regarding the possibility that injected fluid could "surfac[e] miles from injection sites" and that "[t]he permitted area is a geologic refresh zone." *Id.* at 6.

As discussed above at Parts IV.C and IV.D, the Region in the Statement of Basis and Response to Comments documents addressed many of Petitioner's concerns regarding geological conditions in or near the Area of Review. The Region also pointed out that the Permit includes a number of conditions relating to construction, operation, recordkeeping, and monitoring designed to protect underground sources of drinking water, including the following:

- The injection well must be constructed with three-level groundwater protective casing, including, (1) casing from the surface to approximately 170 feet below surface, and cemented back to the surface; (2) a second string of casing from the surface to approximately 375 feet below surface, also cemented back; and (3) a third groundwater protective casing from the surface to approximately 1000 feet, also cemented back, Permit § III.A, at 11;
- Windfall may not commence injection until it has submitted to the Region a notice of completion of construction and the Region has determined the

injection well to be in compliance with Permit conditions, Permit § II.D.2, at 8;

- Prior to commencing operation of the injection well, Windfall must demonstrate the well's mechanical integrity in accordance with 40 C.F.R. § 146.8 (and repeat the demonstration at least every two years, or more often if “protective casing or tubing is removed from the well, the packer is resealed, or a well failure is evident”) and conduct a pressure fall-off test “to better characterize the injection reservoir,” Permit § II.C.6-7, at 7-8; and
- Windfall must conduct continuous monitoring of pressure conditions in the well once operations begin to ensure injection pressure does not exceed the injection formation's fracture pressure, Permit §§ II.C.2 (monitoring), III.B.4 (injection pressure limitation) at 7, 12.

See also Resp. to Cmts. at 2-5.

In *Windfall I*, the Board determined that the Region had appropriately recognized concerns from the public about the safety of their drinking water and had explained, in the administrative record, how the permit conditions will protect underground sources of drinking water. 16 E.A.D. at 797-98. We find nothing in the record or petition currently before us that would alter our previous conclusion that the Region has satisfied its obligations under the Safe Drinking Water Act and the UIC regulations to protect drinking water. If a petition raises an issue that the permit issuer addressed in its response to comments document, petitioner must cite the relevant comment and response and explain why the response was clearly erroneous. 40 C.F.R. § 124.19(a)(4)(ii). Simply repeating comments or arguments made during the public comment period that have been addressed by the Region does not satisfy Petitioner's burden on appeal to demonstrate clear error. *See Windfall I*, 16 E.A.D. at 797; *In re Pa. Gen. Energy Co.*, 16 E.A.D. 498, 503 (EAB 2014). Petitioner's failure to respond to the Region's explanation in its Response to Comments “leaves us with a record that supports the Region's approach.” *In re Westborough*, 10 E.A.D. 297, 311 (EAB 2002).

F. *Emergency Planning*

Petitioner maintains that the Region erred by failing to include emergency planning provisions in the Permit, including a plan for notifying and evacuating area residents in the event of an emergency at the well site. Pet. at 2 (issue #2).

The Region addressed that issue in the Response to Comments document, explaining that EPA lacks the authority under the UIC program to address matters

related to emergency management that are not directly related to the protection of underground sources of drinking water. Resp. to Cmts. at 1-2. The Region also pointed out that the Commonwealth of Pennsylvania's oil and gas statutes address surface activities and industry practices at oil and gas well sites. *Id.* at 2 (referencing 25 Pa. Code Ch. 78 & 78A (Environmental Protection Standards at Oil & Gas Well Sites)). The Region noted that under Pennsylvania law, the prospective operator of an injection well must first receive a permit from the Pennsylvania Department of Environmental Protection. *Id.* at 2. The Commonwealth's permitting requirements are in addition to federal UIC permitting requirements.

The UIC permitting program is "limited to the protection of underground sources of drinking water," and the Board's review of UIC permitting decisions is limited to the boundaries of the program. *In re Bear Lake Props., L.L.C.*, 15 E.A.D. 630, 643 (EAB 2012). Petitioner has not explained how her concerns about emergency management relate to this permitting decision and the protection of underground sources of drinking water. Emergency management at oil and gas well sites generally falls within the purview of state and local law and regulation. *See, e.g.*, 25 Pa. Code Chs. 78 & 78A (addressing surface activities at oil and gas well sites). Because the Board lacks authority to rule on challenges to a UIC permitting decision that are outside the scope of the UIC permitting program, and emergency management of surface activities relating to oil and gas wells is regulated by Pennsylvania law, we deny review on this issue. *See Windfall I*, 16 E.A.D. at 813 (denying review on claims that fall outside scope of Board's authority to review UIC permits); *In re Stonehaven Energy Mgmt., L.L.C.*, 15 E.A.D. 817, 825 n.6 (EAB 2013) (same).

G. Other Issues

In addition to the issues discussed above, Petitioner also included in the petition an enumerated list of seventy additional "issues," each described in a few words. Pet. at 7-10. (issues #14 through #83). The seventy enumerated "issues" are, for the most part, a list of terms.⁷ To the extent these "issues" are not encompassed within the issues raised that we have previously discussed, Petitioner fails to identify contested permit conditions and does not explain the factual or legal bases for the challenges. 40 C.F.R. § 124.19(a)(4)(i). Merely listing items of

⁷ For example, among the "issues" listed by Petitioner are the following: "15) Hydrology;" "20) Water Supply;" "30) Burden of Proof Falls on Homeowner;" "31) Faults;" "51) Chemicals;" "60) Geology;" "71) Stimulation;" and "80) Mechanical Integrity." Pet. at 7-10.

concern does not satisfy Petitioner's burden on appeal to demonstrate clear error.⁸ While the Board endeavors to construe liberally a petition filed by a petitioner unrepresented by counsel so as to identify the substance of the arguments, the petitioner must, at a minimum, "articulate some supportable reason why the [permit issuer] erred in its permit decision in order for the petitioner's concerns to be meaningfully addressed by the Board." *In re Env'tl. Disposal Sys., Inc.*, 12 E.A.D. 254, 292 n.26 (EAB 2005) (quoting *In re Beckman Prod. Servs.*, 5 E.A.D. 10, 19 (EAB 1994)). Where a petitioner has not met the minimum requirements, the Board will dismiss the claim for lack of specificity. *See, e.g., In re Presidium Energy, LC*, UIC Appeal No. 09-01, at 4-5 (EAB July 27, 2009) (Order Denying Review). Because Petitioner has not satisfied the standard required by 40 C.F.R. § 124.19(a)(4)(i) for issues 14 through 83, the Board denies review of these "issues."

V. CONCLUSION

For the reasons stated above, the Board denies the petition for review.

So ordered.

⁸ Petitioner references comments previously presented to the Region during the comment period and at the public hearing and asks the Board to incorporate those comments, and others, into the petition. Pet. at 1-2, 10. Simply repeating comments that were previously made during a public comment period and addressed by the permit issuer, without explaining why the permit issuer's response to the comment was clearly erroneous, does not satisfy a petitioner's burden on appeal. 40 C.F.R. § 124.19(a)(4)(ii); *see Windfall I*, 16 E.A.D. at 797; *In re Pa. Gen. Energy Co.*, 16 E.A.D. 498, 503 (EAB 2014).