

**BEFORE THE ENVIRONMENTAL APPEALS BOARD
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C.**

_____)
In the Matter of:)
)
Windfall Oil & Gas Inc.)
)
)
)
)
UIC Permit No. PAS2D020BCL)
)
)
_____)

Permit Appeals UIC 21-01

EPA REGION III'S RESPONSE TO PETITION FOR REVIEW

Respectfully submitted,

_____/s/_____
(signed per Revised EAB Order re: Electronic Filing in non-Part 22 Proceedings, 8/12/13)
William C. Smith
Stefania Shamet
Senior Assistant Regional Counsel
U.S. Environmental Protection Agency, Region III
1650 Arch Street
Philadelphia, Pennsylvania 19103
Phone: (215) 814-2690
Email: smith.william@epa.gov
shamet.stefania@epa.gov

Of Counsel:

Pooja S. Parikh
Water Law Office
Office of General Counsel
U.S. Environmental Protection Agency (2355A)
1200 Pennsylvania Ave. N.W.
Washington, DC 20460
Phone: 202-564-0839
Email: parikh.pooja@epa.gov

TABLE OF CONTENTS

TABLE OF AUTHORITIES.....	3
STATEMENT OF COMPLIANCE WITH WORD LIMITATION.....	4
TABLE OF ATTACHMENTS.....	5
STATUTORY AND REGULATORY FRAMEWORK.....	6
STANDARD OF REVIEW	7
FACTUAL AND PROCEDURAL BACKGROUND.....	9
RESPONSE TO PETITION FOR REVIEW.....	14
1. The conclusory list of Issues #14 through #83 in the Petition for Review does not satisfy the requirements for EAB review.....	16
2. EPA lacks jurisdiction to address matters relating to emergency planning that are within state or local authority and not directly related to the protection of Underground Sources of Drinking Water (Issue #2).....	18
3. The Region appropriately determined and applied the Area of Review and the Zone of Endangering Influence for the Windfall well (Issues #3 and #4).....	20
4. The record supports the Region’s factual determination of no injection fluid transmission or migration due to nearby gas wells beyond the Area of Review , a “known fault” within the Area of Review, or nearby fractures or faults (Issues #5, #6, #7 and #9).....	24
5. The record supports the Region’s factual determinations relating to seismicity and fluid migration (Issue #11).....	26
6. The record supports the Region’s factual determination that migration similar to that which occurred in Ohio is unlikely, given differences in the permeability of the injection zones (Issue #8).....	28
7. The record supports the Region’s factual determinations relating to concerns about water quality and the well location (Issues #10 and #12).	30
CONCLUSION.....	32
CERTIFICATE OF SERVICE.....	33

TABLE OF AUTHORITIES

STATUTES

25 Pa. Code §§ 78.18 and 91.51	10
Safe Drinking Water Act (SDWA), 42 U.S.C. § 300h <i>et seq.</i>	passim

REGULATIONS

40 C.F.R. Part 124.....	passim
40 C.F.R. Part 144.....	6, 7, 10, 23
40 C.F.R. Part 146.....	6, 21, 22, 25
40 C.F.R. Part 147.....	6, 29
44 <u>Fed. Reg.</u> 23735, 23744 (Apr. 20, 1979)	22
45 <u>Fed. Reg.</u> 33,290, 33,412 (May 19, 1980)	7
45 <u>Fed. Reg.</u> 42472, 42481 (June 24, 1980)	22

EAB CASES

<i>In re American Soda, L.L.P.</i> , 9 E.A.D. 280, 289 (EAB 2002).....	18
<i>In re Archer Daniels Midland Co.</i> , 17 E.A.D. 380, 382-83 (EAB 2017).....	7, 8
<i>In re Ash Grove Cement Co.</i> , 7 E.A.D. 387, 397 (EAB 1997).....	8
<i>In re Beckman Prod. Servs.</i> , 5 E.A.D. 10, 19 (EAB 1994).....	17
<i>In re Beeland Grp., L.L.C.</i> , 14 E.A.D. 189, 195-96 (EAB 2008).....	7, 27
<i>In re Chevron Michigan LLC</i> , 15 E.A.D. 799, 809 n.11 (EAB 2013).....	17
<i>In re City of Lowell</i> , 18 E.A.D. 115, 131 (EAB 2020)	17
<i>In re City of Palmdale</i> , 15 E.A.D. 700, 704 (EAB 2012, <u>review voluntarily dismissed sub nom. Simpson v. EPA</u> , No. 12-74124 (9 th Cir. 2013)).....	8
<i>In re City of Pittsfield</i> , NPDES Appeal No. 08-19, at 11-13 (EAB Mar. 4, 2009) (Order Denying Review), <u>aff'd</u> , 614 F.3d 7 (1 st Cir. 2010) and <i>In re Hadson Power 14-Buena Vista</i> , 4 E.A.D. 258, 294-95 (EAB 1992));	17
<i>In re City of Taunton</i> , 17 E.A.D. 105, 110 (EAB 2016), <u>aff'd</u> , 895 F.3d 120 (1 st Cir. 2018), <u>cert. denied</u> , 139 S. Ct. 120 (2019)	16
<i>In re Dominion Energy Brayton Point, L.L.C.</i> , 12 E.A.D. 490, 510, 561-62, 645-47, 670-74 (EAB 2006)	8
<i>In re Envotech, L.P.</i> , 6 E.A.D. 260 (EAB 1196)	18, 19
<i>In re Env'tl. Disposal Sys., Inc.</i> , 12 E.A.D. 254, 292 n.26 (EAB 2005).....	7, 17, 18
<i>In re Gen. Elec. Co.</i> , 17 E.A.D. 434, 445 (EAB 2018).....	7
<i>In re Gov't of D.C. Mun. Separate Storm Sewer Sys.</i> , 10 E.A.D. 323, 342 (EAB 2002).....	8
<i>In re Guam Waterworks Auth.</i> , 15 E.A.D. 437, 444 (EAB 2011)	8
<i>In re Jordan Dev. Co., LLC</i> , 18 E.A.D. 1, 4-5 (EAB 2019)	7
<i>In re Knauf Fiber Glass, GmbH</i> , 9 E.A.D. 1, 5 (EAB 2000).....	17
<i>In re La Paloma Energy Ctr., L.L.C.</i> , 16 E.A.D. 267, 269 (EAB 2014)	8
<i>In re NE Hub Partners, L.P.</i> , 7 E.A.D. 561, 567-68 (EAB 1998), <u>pet. for review denied sub nom. Penn Fuel Gas, Inc. v. EPA</u> , 185 F.3d 862 (3d Cir. 1999).....	8
<i>In re Pa. Gen. Energy Co.</i> , 16 E.A.D. 498, 503 (EAB 2014).....	30
<i>In re Penneco Env'tl. Sols., L.L.C.</i> , 17 E.A.D. 604, 617-18 (EAB 2018).....	7
<i>In re Puna Geothermal Venture</i> , 9 E.A.D. 243, 256, 258, 260, 270 (EAB 2000).....	19

In re Russell City Energy Ctr., L.L.C., 15 E.A.D. 1, 12, 39-42, 66 (EAB 2010), pet. for review denied sub nom. Chabot-Las Positas Cmty. Coll. Dist. v. EPA, 482 F. App'x 219 (9th Cir. 2012) 9

In re Seneca Res. Corp., 16 E.A.D. 411, 412 (EAB 2014) 7, 16, 17

In re Sutter Power Plant, 8 E.A.D. 680, 687-88 (EAB 1999) 7, 17

In re W. Bay Expl. Co., 17 E.A.D. 204, 222 (EAB 2016) 8

In re Windfall Oil & Gas, Inc., 16 E.A.D. 769 (EAB 2015). passim

JUDICIAL CASES

Motor Vehicles Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co., 463 U.S. 29, 48 (1983) 8

EPA DOCUMENTS

“Minimizing and Managing Potential Impacts of Injection-Induced Seismicity from Class II Disposal Wells: Practical Approaches,” EPA UIC National Technical Workgroup, February 5, 2015 26

“Region 3 Framework for Evaluating Seismic Potential Associated with UIC Class II Permits,” updated September 2013 26

STATEMENT OF COMPLIANCE WITH WORD LIMITATION

This Response does not exceed the 30-page limit for responses, exclusive of introductory tables and attachments, specified in 40 C.F.R. § 124.19(d)(3).

TABLE OF ATTACHMENTS

Exh. A	Certified Index of the Administrative Record (A.R)
Exh. B	Permit Issuance notice to Permittee and Petitioner, December 13, 2020 (A.R. #31)
Exh. C	Final Permit, issued December 13, 2020, effective January 15, 2021 (A.R. #32)
Exh. D	Response to Comments, December 13, 2020 (A.R. #21)
Exh. E	Draft Permit, July 24, 2020 (A.R. #16)
Exh. F	Statement of Basis for Draft Permit, July 24, 2020 (public noticed 8/14/20) (A.R. #18)
Exh. G	Transcript of Public Hearing for Draft 2020 Permit (September 17, 2020) (A.R. #20)
Exh. H	2015 Windfall Permit (effective July 30, 2015) (A.R. #6)
Exh. I	Pennsylvania Department of Environmental Protection (PaDEP), Environmental Hearing Board Adjudication on PaDEP Windfall Permit (issued February 18, 2020) (A.R. #35)
Exh. J	Written Comments submitted by Petitioner Darlene Marshall during the public notice period for the 2020 Permit. (A.R. #19) Three Documents: Exh. J-1 (9/12/20 letter to EPA, and appended PaDEP EHB Submission) (resubmitted in 9/14/20 confirming email – not included) Exh. J-2 (9/24/20 letter to EPA) Exh. J-3 (8/15/20 request for public hearing)
Exh. K	U.S. Environmental Protection Agency, Region 3, “Region 3 Framework for Evaluating Seismic Potential Associated with UIC Class II Permits,” updated September 2013 (A.R. #27)
Exh. L	U.S. Environmental Protection Agency, UIC National Technical Workgroup, “Minimizing and Managing Potential Impacts of Injection-Induced Seismicity from Class II Disposal Wells: Practical Approaches,” February 5, 2015 (A.R. #28)
Exh. M	Seismic maps of Pennsylvania, U.S. Geological Survey and Pennsylvania Department of Conservation and Natural Resources (A.R. #47)
Exh. N	Pennsylvania Geological Survey, <i>Geology and Mineral Resources of the Southern Half of the Penfield 15-Minute Quadrangle, Pennsylvania, 1971/1973</i> (with Plate 12), pp. 123-24 (A.R. #36)

Exh. O Written Comments submitted by Randall Baird during public notice period for the 2020 Permit (A.R. #19) [2 documents Exh. O-1 (cover email) and Exh. O-2 (comments)]

This is the Response of the United States Environmental Protection Agency (EPA), Region III (Region) to the Petition for Review (Petition) filed by Darlene and Duane Marshall (collectively, Petitioner) with the Environmental Appeals Board (EAB or Board). Petitioner challenges Permit No. PAS2D020BCLE (2020 Permit), Exh. C, issued by the Region on December 13, 2020, to Windfall Oil & Gas Inc. (Windfall or Permittee) under EPA's Underground Injection Control (UIC) Program, Part C of the Safe Drinking Water Act (SDWA), 42 U.S.C. § 300h *et seq.* The permitted facility is a Class II disposal injection well in Brady Township, Clearfield County, PA (Windfall well, a/k/a "Zelman #1" well). The Windfall well is designed for the injection for disposal of brine and other fluids brought up in association with gas and oil production.

This is the second EAB appeal involving the Region's UIC permit for the Windfall well. As noted below, the Region's initial permit, issued on July 30, 2015, was the subject of extensive administrative proceedings in 2014-2015, culminating in a June 15, 2015, EAB order and opinion, in which the Board denied all 118 consolidated petitions for review. *In re Windfall Oil & Gas, Inc.*, 16 E.A.D. 769 (EAB 2015). For clarity, this brief will generally refer to the prior initial permit as the "2015 Permit," and the current reissued permit as the "2020 Permit."

STATUTORY AND REGULATORY FRAMEWORK

Congress enacted the SDWA in 1974 to ensure that the Nation's sources of drinking water are protected against contamination and "to prevent underground injection which

endangers drinking water sources.” 42 U.S.C. § 300h (b). Part C of the SDWA, 42 U.S.C. §§ 300h to 300h-8, is designed to protect underground sources of drinking water (USDWs) from contamination caused by underground injection of fluids. Among other things, the SDWA directed EPA to promulgate permit regulations containing minimum requirements for State UIC programs. 42 U.S.C. § 300h. In states such as Pennsylvania without an approved UIC program, EPA is the permitting authority, directly implementing the UIC regulations and issuing permits.

EPA’s UIC regulations are contained in 40 C.F.R. Parts 144-148. Part 144 establishes the regulatory framework, including permitting requirements, for EPA-administered UIC programs. Part 146 sets out technical criteria and standards for UIC permits. Procedural requirements applicable to UIC permits are found in 40 C.F.R. Part 124. In addition, state-specific requirements applicable in Pennsylvania are set forth in 40 C.F.R. §§ 147.1951 – 147.1955. The UIC regulations classify injection wells as Class I, II, III, IV, V, or VI. *See* 40 C.F.R. §§ 144.6, 146.5. The permit at issue is for a Class II well, defined as a well into which are injected fluids:

(1) Which are brought to the surface in connection with natural gas storage operations, or conventional oil or natural gas production and may be commingled with waste waters from gas plants which are an integral part of production operations, unless those waters are classified as a hazardous waste at the time of injection; (2) For enhanced recovery of oil or natural gas; and (3) For storage of hydrocarbons which are liquid at standard temperature and pressure.

40 C.F.R. § 144.6(b).

STANDARD OF REVIEW

As specified by the Board in a recent permit appeal involving a *pro se* petitioner, *In re Jordan Dev. Co., LLC*, 18 E.A.D. 1, 4-5 (EAB 2019), the standard of review in this case is as follows:

The Board’s review of UIC permits is governed by Agency permitting regulations at 40 C.F.R. Part 124, which authorize parties to file petitions for review of EPA permit

decisions. 40 C.F.R. § 124.19 (a)(1). EPA’s intent in promulgating these regulations was that this “review should be only sparingly exercised.” Consolidated Permit Regulations, 45 Fed. Reg. 33,290, 33,412 (May 19, 1980); *see also In re Beeland Grp., L.L.C.*, 14 E.A.D. 189, 195-96 (EAB 2008).

In any appeal from a permit decision issued under part 124, the petitioner (even when not represented by legal counsel) bears the burden of demonstrating that review is warranted. “[A] petition for review must identify the contested permit condition or other specific challenge to the permit decision and clearly set forth, with legal and factual support, petitioner’s contentions for why the permit decision should be reviewed.” 40 C.F.R. § 124.19 (a)(4)(i); accord *In re Archer Daniels Midland Co.*, 17 E.A.D. 380, 382-83 (EAB 2017).

Where, as here, a petitioner is not represented by legal counsel, the Board endeavors to construe the petition to fairly identify the substance of the arguments being raised. *Archer Daniels*, 17 E.A.D. at 383; *In re Sutter Power Plant*, 8 E.A.D. 680, 687-88 (EAB 1999). The Board nonetheless expects such petitions to provide “sufficient specificity” regarding the issues being raised and “some supportable reason” explaining how or why the permit issuer erred or review otherwise is warranted. *Sutter*, 8 E.A.D. at 687-88; accord *In re Windfall Oil & Gas, Inc.*, 16 E.A.D. 769 passim (EAB 2015); *In re Env'tl. Disposal Sys., Inc.*, 12 E.A.D. 254, 292 n.26 (EAB 2005).

In considering any petition filed under 40 C.F.R. § 124.19(a), the Board evaluates whether the petitioner has met threshold procedural requirements, including, among other things, whether an issue has been preserved for Board review. *See* 40 C.F.R. § 124.19(a)(2)-(4); *see also In re Penneco Env'tl. Sols., L.L.C.*, 17 E.A.D. 604, 617-18 (EAB 2018); *In re Seneca Res. Corp.*, 16 E.A.D. 411, 412 (EAB 2014). A petitioner satisfies the issue preservation requirement by demonstrating that the issues and arguments it raises on appeal were raised previously, either during the public comment period on the draft permit or during a public hearing. *See In re Gen. Elec. Co.*, 17 E.A.D. 434, 445 (EAB 2018).

Under 40 C.F.R. § 124.19, the Board has discretion to grant or deny review of a permit decision. *Archer Daniels*, 17 E.A.D. at 383. The Board ordinarily denies a petition for review of a permit decision (and thus does not remand it) unless the petitioner demonstrates that the permit decision is based on a clearly erroneous finding of fact or conclusion of law or involves an exercise of discretion that warrants review under the law. 40 C.F.R. § 124.19(a)(4); *see, e.g., In re La Paloma Energy Ctr., L.L.C.*, 16 E.A.D. 267, 269 (EAB 2014). To meet this standard, it is not enough for a petitioner to rely on previous statements of its objections during the administrative process leading up to the issuance of the permit, such as comments on a draft permit. A petitioner must demonstrate why the permit issuer’s response to those objections (i.e., the permit issuer’s basis for its decision) is clearly erroneous or otherwise warrants review. *See In re Guam Waterworks Auth.*, 15 E.A.D. 437, 444 (EAB 2011). In reviewing an exercise of discretion by the permit issuer, the Board applies an abuse of discretion standard. *See In re City of Palmdale*, 15 E.A.D. 700, 704 (EAB 2012, review voluntarily dismissed sub nom. *Simpson v. EPA*, No. 12-74124 (9th Cir. 2013)). The Board will uphold a permit

issuer's reasonable exercise of discretion if that decision is cogently explained and supported in the record. See *In re Ash Grove Cement Co.*, 7 E.A.D. 387, 397 (EAB 1997) (“[A]cts of discretion must be adequately explained and justified.”); see also *Motor Vehicles Mfrs. Ass’n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 48 (1983) (“We have frequently reiterated that an agency must cogently explain why it has exercised its discretion in a given manner * * *.”).

A permit issuer must articulate with “reasonable clarity” the reasons supporting its conclusions and the significance of the crucial facts relied on in reaching those conclusions. E.g., *Ash Grove* 7 E.A.D. at 417. As a whole, the record must demonstrate that the permit issuer “duly considered the issues raised in the comments,” responded to the comments in a meaningful fashion, and ultimately adopted an approach that “is rational in light of all information in the record.” *In re Gov’t of D.C. Mun. Separate Storm Sewer Sys.*, 10 E.A.D. 323, 342 (EAB 2002); accord *In re W. Bay Expl. Co.*, 17 E.A.D. 204, 222 (EAB 2016); *In re NE Hub Partners, L.P.*, 7 E.A.D. 561, 567-68 (EAB 1998), pet. for review denied sub nom. *Penn Fuel Gas, Inc. v. EPA*, 185 F.3d 862 (3d Cir. 1999).

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. See *In re Dominion Energy Brayton Point, L.L.C.*, 12 E.A.D. 490, 510, 561-62, 645-47, 670-74 (EAB 2006); see also, e.g., *In re Russell City Energy Ctr., L.L.C.*, 15 E.A.D. 1, 12, 39-42, 66 (EAB 2010), pet. for review denied sub nom. *Chabot-Las Positas Cmty. Coll. Dist. v. EPA*, 482 F. App’x 219 (9th Cir. 2012).

FACTUAL AND PROCEDURAL BACKGROUND

This is the Region’s Response to the Petition for Review challenging the final UIC permit, issued December 13, 2020, for the Windfall Oil & Gas, Inc. (Permittee or Windfall) Class II disposal injection well in Brady Township, Clearfield County, PA (a/k/a Zelman #1 well). Exh. C.

As noted, the Petition challenges the reissued 2020 Permit for the Windfall injection well. The initial 2015 Permit, issued on July 30, 2015, Administrative Record Document No. (A.R.#) 6, was the subject of extensive administrative proceedings in 2014-2015, including two rounds of public comment, a public hearing, the Region’s response to comments, a voluntary EAB remand, 118 petitions for review, and a 47-page EAB order and opinion, issued on June 15, 2015, in

which the Board denied the consolidated petitions for review. *In re Windfall Oil & Gas, Inc.*, 16 E.A.D. 769 (EAB 2015).

The procedural and factual history of the 2015 Permit is discussed extensively in the prior EAB decision, *In re Windfall*, 20 E.A.D. at 770-772, and need not be recited here.¹ However, as noted below, several issues raised in the present Petition for Review of the 2020 Permit re-argue issues that were previously raised and decided by the Board in the appeal of the 2015 Permit, without offering new information.

While not part of the federal UIC permitting process, the Petition refers to proceedings before the Pennsylvania Environmental Hearing Board (EHB). See Petition at 2. As noted above, the Commonwealth of Pennsylvania has not been authorized to implement the UIC Program of the SDWA, and EPA Region 3 is therefore the permitting authority for the UIC Program in Pennsylvania. See 40 C.F.R. §§ 147.1951 – 147.1955. Nevertheless, pursuant to state law, Pennsylvania requires operators of Class II injection wells to obtain an additional permit from the Pennsylvania Department of Environmental Protection (PaDEP) to drill and operate a disposal well. See 25 Pa. Code §§ 78.11, 78.12, 78.18 and 91.51. PaDEP issued the Pennsylvania permit for this well in 2018 and renewed that permit in 2019. The Petitioner in this proceeding appealed both PaDEP permits to Pennsylvania's EHB, raising many of the same issues raised in the Petition before the Board. The EHB dismissed Petitioner's appeal in a February 18, 2020 adjudication. Exh. I.

The application for the 2020 Permit, submitted on April 2, 2020, in accordance with 40 C.F.R. § 144.31, included information on the well's construction, operation and monitoring;

¹ A minor modification of the 2015 Permit on May 7, 2019 corrected a typographical error in the permit and extended its expiration date from July 30, 2019 to July 30, 2020, to account for the period when the permit was stayed due to the prior EAB appeal. A.R. #32.

information on drinking water wells and gas production wells that exist in the area surrounding the injection well; and the geologic conditions surrounding the site, including location of a fault system in the area and shallow ground water depth. A.R. #15.

As with the 2015 Permit review, in reviewing the application for the reissued 2020 Permit, the Region evaluated the geology of the injection and confining zones, and determined that the well construction, operation and monitoring, the plugging and abandonment plan, and financial assurance information that the permittee submitted met the regulatory requirements for Class II wells. *See* Statement of Basis for 2020 Permit, Exh. F. In compliance with the SDWA, the Region's focus was to ensure the permit conditions would prevent the injection operations from endangering USDWs. *See* 42 U.S.C. § 300h (b)(1)(B); 40 C.F.R. § 144.12.

Based on its technical review, the Region prepared a draft permit, Exh. E, and a statement of basis, Exh. F, on July 24, 2020. Pursuant to 40 C.F.R. § 124.10, the Region provided public notice on August 14, 2020 that the Region was accepting public comment on the draft permit, A.R. #17, and held a public hearing on September 17, 2020 (conducted virtually due to COVID concerns). Exh. G. The permit application, the draft permit, the statement of basis, were also published on the EPA's public notice website.²

The Region received written comments by mail and email on the draft 2020 Permit from 11 parties, including the Petitioner. A.R. #19 (Public comments), Petitioner's Comments attached at Exh. J. In addition, several people, including the Petitioner, provided oral testimony at the September 17, 2020, virtual hearing. *See* Transcript of 9/17/20 Hearing, Exh. G (Petitioner's Testimony at pp. 4-7). The Region issued its Response to Comments on December 13, 2020. Exh. D.

²See EPA Public Notice of Proposed Permit Reissuance for Windfall Oil & Gas, https://www.epa.gov/sites/production/files/2020-08/documents/pas2d020bcle_public_notice.pdf

The Region issued the 2020 Permit, with a ten-year term, on December 13, 2020. Exh. C. The Region established permit conditions to prevent the injection operations from endangering USDWs. The lowermost USDW is approximately 800 feet below surface level. See Statement of Basis, Exh. F at 2. The Region determined that approximately 6,500 feet (i.e., 1.231 miles) of shale or other rock separate the lowermost USDW from the injection zone, the Huntersville Chert-Oriskany formations, found at approximately 7,300 to 7,387 feet below the surface. *Id.* Thus, the injection zone is nearly 1 ¼ miles below the depth of the lowermost USDW at the well site. At least one confining zone, consisting of about 14 to 18 feet of shale and located immediately above the injection zone, will contain the injected fluid within the injection zone, and prevent upward movement of the injectate. See Statement of Basis, Exh. F at 2; Response to Comments, Exh. D at 3.

The “Construction Requirements” of the 2020 Permit require, *inter alia*:

1. “Notwithstanding any permit provision, the injection well shall inject only into formations which are separated from any underground source of drinking water by a confining zone that is free of known open faults or fractures within the Area of Review.” Permit III.A., Exh. C at 11.
2. Well casing and cementing “shall be designed for the life expectancy of the well” and prevent fluids moving into or between USDWs. To protect the lowermost USDW, surface casing must be installed to depth of 1000 feet and cemented back to the surface. In addition, the permit requires two cemented water protective casings, at depths of 175 feet and 375 feet, respectively, to protect shallow ground water and existing water wells. The injection zone is isolated by long string casing at a total depth of approximately 7300 feet, and cemented back to a depth of 5000 feet below surface. *Id.*
3. The permit requires the submission of specified logs and tests during well drilling and construction including, *inter alia*, logs documenting the required cementing, drilling records, and “Gamma Ray logs which document the geologic features of the wellbore.” *Id.*
4. Demonstration of compliance with mechanical integrity requirements. *Id.* at 11-12.
5. Pre-injection corrective action requirements to plug wells within Area of Review (AOR) “which could provide conduits for fluid migration” into USDWs. *Id.* at 12.

The “Operating Requirements” of the 2020 Permit provide, *inter alia*, for injection “limited to the Huntersville Chert/Oriskany formation” at a depth between 7300 feet and 7387 feet; injection volume capped at 30,000 barrels/month; a maximum surface injection at 2443 psi and maximum bottom hole pressure at 6425 psi. Permit III.B, Exh. C at 12. The maximum injection pressures were calculated pursuant to 40 C.F.R. § 146.23(a)(1) to prevent fracturing of the injection zone during operation. Statement of Basis, Exh F at 3.

The “Monitoring Requirements” of the 2020 Permit provide, *inter alia*, for continuous monitoring (i.e., from commencement to conclusion of well operation and plugging) of injection pressure, annulus pressure³, flow rate and cumulative volume; annual sampling and analysis of the injection fluid for 15 parameters; sampling and analysis of initial loads from each disposal customer and each type of source (e.g., from different geologic formations, geographic regions, etc.). Permit II.C., Exh. C at 6-7. The well must also be equipped with an automatic shut-off device in the event of a mechanical integrity failure. *Id.* Furthermore, the permit requires a pressure fall-off test annually and a mechanical integrity test every two years, after the initial demonstration (as well as whenever protective casing or tubing is removed from the well, the packer is reseated, or a well failure is evident). *Id.* at 7-8.

Petitioner filed a timely Petition for Review on January 12, 2021. Because Petitioner seeks the denial of the permit⁴, thereby contesting all operative permit conditions, the 2020 Permit has been stayed and Windfall is required to comply with the conditions of the 2015

³ See 40 C.F.R. § 146.8 (annulus pressure testing).

⁴ See Petition at 1, (“This petition for review will provide sufficient evidence that the permit be denied for this proposed location.”; “This EAB appeal request is to ‘deny this permit’....”)

Permit during this proceeding pursuant to 40 C.F.R. § 124.16(a)(1)⁵ and (c).⁶ See Notification of Stayed Permit Conditions, filed February 19, 2021. (Dkt. #5).

RESPONSE TO PETITION FOR REVIEW

The Petition now before the Board includes 83 numbered issues. However, as noted below, Issues #14 to #83 are simply a conclusory list of issues that do not satisfy the requirements of 40 C.F.R. § 124.19(a)(4) for Board review. Issue #1 makes uncontroverted assertions about the Petitioner's standing and the timeliness of this appeal. Petition at 2. Issue #13 does not state an appealable issue, but rather is an exhortation for EPA to "care for our environment" and "to protect the public interest," Petition at 6, to which no response is required.

The remainder of the numbered issues raised in the Petition are summarized below:

2. Emergency Planning (including Evacuation Plan and Public Notification). "An evacuation plan due to known chemicals being stored on the Injection Well Site falling in the PA Right-to-Know and the company data sheets showing a ½ mile evacuation plan should already have been implemented and required." Petitioner also calls for "a notification plan for area residents" and faults a "[l]ack of planning for emergencies."

3. Corrective Action and Area of Review. "Corrective Action in the permit still only addresses if an abandoned well in the ¼ mile Area of Review is found to need corrective action and fails to address those wells on the edge of the ¼ mile Area of Review. At minimum, six (6) wells are known to be at the same formation depth as the Injection Well and it is known that the injection fluids will intersect with these wells in the first couple years."

4. Zone of Endangering Influence. "The EPA calculated a Zone of Endangering Influence of only 400 feet for five years and now that the permit has been issued for ten years it states that the fluid for a ten year period will only go 400 feet."

⁵"If a request for review of a ... UIC ... permit under §124.19 of this part is filed, the effect of the contested permit conditions shall be stayed and shall not be subject to judicial review pending final agency action." 40 C.F.R. § 124.16(a)(1).

⁶"Any facility or activity holding an existing permit must: (1) Comply with the conditions of that permit during any modification or revocation and reissuance proceeding under §124.5; and (2) To the extent conditions of any new permit are stayed under this section, comply with the conditions of the existing permit which correspond to the stayed conditions, unless compliance with the existing conditions would be technologically incompatible with compliance with other conditions of the new permit which have not been stayed." 40 C.F.R. § 124.16 (c).

5. No Fractures. “The natural gas process recovered the gas and fracturing was used along with pressure, so the conclusion that the confining layer has ‘no fractures’ is inaccurate with six gas wells already in the same formation on the edge of the ¼ mile ...”

6. Known Fault. “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.”

7. Naturally occurring fissures. “Naturally occurring fissures occur everywhere and this area has six gas wells that had additional fracturing done.”

8. Concern regarding potential for migration similar to an incident in Ohio due to permeability. “Low permeability seemed to be an issue just like the case of the Ohio Shale.”

9. Non-Transmissiveness of Faults. Seeks “reconsideration” of data regarding “non-transmissive” faults within AOR.

10. Protection of Water Supply. “EPA has the job of protecting our water supply and cleaning up any contamination of water supplies. EPA depends on the public to provide comment on the local area and realizes that they will be working along with the residents if anything happens to the water supplies.” Includes excerpt of Petitioner’s comments during the September 17, 2020, public hearing.

11. Seismicity and Faults. Petitioner cites testimony by Mr. Dan Fisher on “injectate issues and the fault system around the well causing seismic activity.”

12. Injection Well Location and Water Monitoring. Petitioner cites testimony by Mr. Randall Baird⁷ relating to “[i]njected fluid surfacing miles from injection sites,” the location of the permitted area in a “geologic refresh zone,” and water monitoring.

Petition at 2-6.

For clarity, the Region will respond to related issues raised in the Petition as follows:

first, the conclusory list of Issues #14 through #83; **second**, emergency preparedness (Issue #2); **third**, the interrelated issues relating to Area of Review (Issue #3) and Zone of Endangering Influence (Issue #4); **fourth**, geology-related issues relating to injection fluid transmission or migration due to nearby gas wells, a “known fault” within the AOR, or fractures or faults or near

⁷There is an apparent error in the public meeting transcript, identifying the speaker as Randall “Berg.” Exh. G at 10-11. Mr. Baird also submitted written comments. Exh. O.

the AOR (Issues #5, #6, #7 and #9); **fifth**, seismicity and faults (Issue #11); **sixth**, “permeability” of the injection location (Issue #8); and **seventh**, water-quality and related well-siting concerns (Issues #10 and #12). Where the Petition re-argues an issue previously decided by the Board in its decision on the 2015 Permit without providing new information, that will be noted.

As discussed below, the Petition should be dismissed because Petitioner has not met the burden of showing that “the permit decision is based on a finding of fact or conclusion of law that is clearly erroneous.” 40 C.F.R. § 124.19(a)(4)(i).

1. **The conclusory list of Issues #14 through #83 in the Petition for Review does not satisfy the requirements for EAB review.**

Issues #14-83 consist solely of an enumerated list of issues described with one or a few words, *e.g.*, “Hydrology” (Count 15), “Depth of Casings to Protect Water Supplies” (Count 25), “Fault Block” (Count 35), “Old Shallow Gas Well Fractured Various Depths” (Count 45), “Confining Zone” (Count 65), and so on. Apart from a general reference to submissions during the public comment period (“the 78 pages submitted to the EPA during the September 2020 Public Hearing and the information was taken [sic] directly from the Environmental Hearing Board for the Pennsylvania Department of Environmental Protection (DEP) documentation presented in Darlene Marshall’s Post-Hearing Brief on December 4, 2019”), the petition does not identify any contested permit condition or sufficiently specific challenge with respect to Issues #14-83.

Before reaching the merits of a petition to review a permit under 40 C.F.R. Part 124, the Board first evaluates whether the petitioner has satisfied threshold procedural requirements, such as timeliness, standing, issue preservation, and specificity. If the petition does not satisfy the threshold procedural requirements, the Board typically denies or dismisses the petition. Only if

the Board concludes that the petition satisfies all threshold pleading obligations does the Board evaluate the merits of the petition to determine if it warrants review. E.g., *In re City of Taunton*, 17 E.A.D. 105, 110 (EAB 2016), *aff'd*, 895 F.3d 120 (1st Cir. 2018), cert. denied, 139 S. Ct. 120 (2019); *In re Seneca Res. Corp.*, 16 E.A.D. 411, 412 (EAB 2014).

With respect to Issues #14-83, Petitioner's list of issues and general reference to the record do not satisfy the Board's threshold procedural requirements. In any appeal from a permit under Part 124, Petitioner bears the burden of demonstrating that review is warranted. See 40 C.F.R. § 124.19 (a)(4); e.g., *In re Seneca Res. Corp.*, 16 E.A.D. at 412. Pursuant to 40 C.F.R. § 124.19(a)(4), "a petition for review must identify the contested permit condition or other specific challenge to the permit decision and clearly set forth, with legal and factual support, petitioner's contentions for why the permit decision should be reviewed." Even assuming Issues #14-83 were preserved during the public comment period, the petition must do more than simply refer to comments or objections raised during the public comment period. The petition must demonstrate with specificity why the permitting authority's response to those objections is clearly erroneous or otherwise merits review.

The Board consistently has denied review of petitions that merely cite, attach, incorporate, or reiterate comments previously submitted on the draft permit. E.g., *In re City of Lowell*, 18 E.A.D. 115, 131 (EAB 2020) (citing *In re City of Pittsfield*, NPDES Appeal No. 08-19, at 11-13 (EAB Mar. 4, 2009) (Order Denying Review), *aff'd*, 614 F.3d. 7 (1st Cir. 2010) and *In re Hadson Power 14-Buena Vista*, 4 E.A.D. 258, 294-95 (EAB 1992)); *In re Knauf Fiber Glass, GmbH*, 9 E.A.D. 1, 5 (EAB 2000) ("Petitions for review may not simply repeat objections made during the comment period; instead they must demonstrate why the permitting authority's response to those objections warrants review.").

The fact that Petitioner is not represented by an attorney does not shift the burden. As the

Board stated in its 2015 decision:

The Board generally endeavors to construe liberally the issues presented by an unrepresented petitioner, so as to fairly identify the substance of the arguments being raised. The Board nevertheless “expect[s] such petitions to provide sufficient specificity to apprise the Board of the issues being raised.” *In re Seneca Res. Corp.*, 16 E.A.D. 411, 412 n.1 (EAB 2014) (quoting *In re Sutter Power Plant*, 8 E.A.D. 680, 687-88 (EAB 1999)); *see also In re Env'tl. Disposal Sys., Inc.*, 12 E.A.D. 254, 292 n.26 (EAB 2005). “The Board also expects the petitions to articulate some supportable reason or reasons as to why the permitting authority erred or why review is otherwise warranted.” *In re Beckman Prod. Servs.*, 5 E.A.D. 10, 19 (EAB 1994); accord *Seneca Res.*, 16 E.A.D. at 412 n.1; *In re Chevron Michigan LLC*, 15 E.A.D. 799, 809 n.11 (EAB 2013); *Sutter*, 8 E.A.D. at 688.

In re Windfall, 16 E.A.D. at 773 (n.4).

In this appeal, the Petitioner does not take the necessary step of articulating, as to any of the enumerated issues #14-#83, a reason why the Region erred or review is otherwise warranted, leaving the Agency and the Board to wade through the record to try to construct for Petitioner precisely what she is challenging. The list presented as Issues #14-83 fails even a liberally construed procedural threshold. Because Petitioner has provided without further discussion only a list of issues and a general reference to submissions during the public comment period, the Board should follow its precedent and deny review as to Issues #14-83.

2. EPA lacks jurisdiction to address matters relating to emergency planning that are within state or local authority and not directly related to the protection of Underground Sources of Drinking Water (Issue #2).

Issue #2 involves claims relating to the absence of an “evacuation plan,” “notification plan for area residents,” and “[I]ack of planning for emergencies.” Petition at 2.

EPA does not have the legal authority in a UIC permit to address matters related to emergency management that are solely within state and local authority and not directly related to the protection of USDWs. As stated in Response to Comment #1, “EPA’s regulatory authority in the UIC permitting process is limited by the federal statutes and regulations governing this program. Some of the concerns raised included not having an evacuation plan, emergency

response capabilities, increased traffic and noise, zoning issues, and the proposed location of the injection well in a residential area.” Exh. D at 1-2.

The decision whether to grant or deny a UIC permit application can only be based on the UIC regulations. *In re Envotech, L.P.*, 6 E.A.D. 260 (EAB 1196). Neither the SDWA nor the UIC regulations authorize EPA to regulate injection wells beyond their impact on USDWs. *See In re American Soda, L.L.P.*, 9 E.A.D. 280, 289 (EAB 2002). Correspondingly, the Board’s authority to review UIC permit decisions extends only to the UIC program requirements and its focus on the protection of USDWs. *See In re Envotech*, 6 E.A.D. at 275-276 (“[T]he Board does not have authority to consider issues raised by Petitioner concerning matters that are exclusively within the State’s power to regulate”).

Local emergency preparedness is a traditionally non-federal matter, not subject to review by the Board in this permit appeal. *See, e.g., In re Env'tl. Disposal Systems*, 12 E.A.D. at 295 (questions of geographic siting of wells and transportation issues flow from state and local laws, thus not subject to Board review); *In re Puna Geothermal Venture*, 9 E.A.D. 243, 256, 258, 260, 270 (EAB 2000)(remanding permit that included permit requirements outside the scope of UIC program such as well setback, emergency response plan, notification to emergency responders, as well as an explicit requirement of compliance with state and local laws).

This 2020 Permit does not authorize Windfall to violate applicable federal, state or local laws or regulations. As the permit states in its first paragraph:

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, any invasion of other private rights, or any infringement of State or local law or regulations. Compliance with terms of this permit does not constitute a defense to any action brought under Part C and the imminent and substantial endangerment provisions in Part D of the Safe Drinking Water Act (SDWA) or any other common or statutory law for any breach of any other applicable legal duty. Permit I.A., Exh. C at 2.

In addition, Part I.D.12 of the permit states, “Nothing in this permit shall be construed to

preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation.” Exh. C at 5. The operator must also receive a permit from PaDEP applying Commonwealth law requirements regarding the construction and operation of the injection well. Therefore, EPA’s UIC permit is only one of several requirements that a permittee must meet before being allowed to commence construction and/or operation.

Petitioner’s Issue #2, relating to emergency preparedness, is outside the scope of UIC program requirements. This issue does not involve clearly erroneous findings of fact or conclusions of law. See 40 C.F.R. § 124.19(a)(4)(i).

3. **The Region appropriately determined and applied the Area of Review and the Zone of Endangering Influence for the Windfall well (Issues #3 and #4).**

Issues #3 and #4 in the Petition raise interrelated concerns about the Area of Review (AOR) and Zone of Endangering Influence (ZEI), See 40 C.F.R. § 146.6. In Issue #3, Petitioner states that the permit fails to address at least six wells “on the edge of the ¼ mile Area of Review” which are “known to be at the same formation depth as the Injection Well and it is known that the injection fluids will intersect with these wells in the first couple years.” Petition at 2. In Issue #4, Petitioner takes issue with the Region’s calculation of the ZEI. Petitioner states that “it is illogical to think that the fluid will only go 400 feet when the time has been doubled,” citing the 5-year term of the 2015 Permit and the 10-year term of the 2020 Permit. Petition at 3.

The Board decided challenges to the same ¼ mile AOR, the same six wells, and the Region’s calculation of the ZEI in its decision on the 2015 Permit. See *Windfall*, 16 E.A.D. at 777, 782-84. Because there was no reason to revise the AOR and ZEI calculations, they were carried forward to the 2020 Permit. Petitioner provides no new information and no basis for the

Board to revisit these issues in connection with the 2020 Permit after having dismissed review of the same issues in connection with the 2015 Permit.

Even if the Board determines to revisit these issues, the Board should dismiss Issues #3 and #4. Petitioner's complaint about the Region's ZEI calculation (Issue #4) is not relevant because the AOR was not established by the ZEI calculation – but rather, it was based on a fixed radius AOR approach authorized by the regulations. See Statement of Basis, Exh. F at 2, and Response to Comments, Exh. D at 3. If EPA had based the area of review on its ZEI calculation, it would have resulted in a much smaller, 400-foot radius AOR, which would have even more clearly excluded six wells that were more than ¼ mile from the Windfall well. Response to Comments, Exh. D at 3. Instead, the AOR has a radius more than three times longer than an AOR radius based on EPA's calculation of a ZEI.

As the Board stated in its 2015 decision:

Under EPA's UIC regulations, the permit issuer retains discretion to choose either a ZEI calculation or the fixed radius method to determine the area of review. *See* 40 C.F.R. § 146.6 (noting the permit issuer “may solicit input from the owners or operators of injection wells within the State as to which method is most appropriate” for that geographic area). If the permit issuer chooses to determine the area of review using the ZEI calculation and the ZEI calculation results in a radius of less than one-quarter of a mile, that ZEI calculation result is nonetheless permissible. *See id.* § 146.6(c).

Windfall, 16 E.A.D. at 777.

Moreover, Petitioner's complaint that it is “illogical to think that the fluid will only go 400 feet when the time has been doubled” disregards that the Region calculated the 400-foot ZEI for a ten-year duration. *See* Response to Comments, Exh. D at 3 (“To evaluate the acceptability of the AOR, the EPA calculated a Zone of Endangering Influence (ZEI), pursuant to 40 CFR §146.6(a), which indicated that after ten years of operation, the ZEI would only extend 400 feet from the Zelman #1 well”); *see also Id.* at 5.

Regardless, the Region duly considered the issues, meaningfully responded to the

comments, and ultimately adopted an approach that is rational in light of information in the record. In Response to Comment #2, the Region described the basis and application of the AOR and ZEI for the Windfall well:

As authorized by 40 C.F.R. § 146.6(b), Windfall proposed a “fixed radius” of one-quarter mile (1320 feet) for the AOR. No wells that penetrate the injection or confining zones were identified in the permit application within the fixed AOR. To evaluate the acceptability of the AOR, the EPA calculated a Zone of Endangering Influence (ZEI), pursuant to 40 C.F.R. § 146.6(a), which indicated that after ten years of operation, the ZEI would only extend 400 feet from the Zelman #1 well. PaDEP [in connection with issuance of the Pennsylvania permit] determined after review of the ZEI calculation that the ¼ mile AOR is adequate.

* * *

According to PaDEP’s response to [a similar] comment for the Zelman #1 well dated March 21, 2018, no public water supplies exist within the AOR, and the location of the disposal well is approximately 13,500 feet southwest of the closest portion of the City of Dubois Source Water Protection Plan Zone II boundary, and approximately 15,000 feet southwest of the closest City of Dubois public water supply well. In developing the permit conditions, the drinking water wells identified in Windfall’s application were considered and the permit conditions are deemed sufficient to protect all USDWs in the vicinity. Furthermore, no USDWs exist below 800 feet and no conduits were identified within the area of review that would allow upward fluid migration into USDWs. Exh. D at 3.

As stated in the above quote from the Board’s earlier decision, the AOR for a Class II well is determined pursuant to 40 C.F.R. § 146.6 through either a fixed radius or through the calculation of the ZEI. The ZEI calculates the lateral distance from the well in which the pressure from the injection operation may cause the migration of fluid from the injection zone into an USDW. *See* 40 C.F.R. § 146.6(a)(1)(i). The fixed radius cannot be less than one-quarter mile, but an area of review established through a ZEI calculation may be smaller. *See* 40 C.F.R. § 146.6(b)-(c); *see also* 44 Fed. Reg. 23735, 23744 (Apr. 20, 1979) (“If the area of review is calculated by the use of a formula, the permissible radius is the result of the computation even if that is less than ¼ mile.”); *see also* 45 Fed. Reg. 42472, 42481 (June 24, 1980) (rejecting

suggestion by commenters that one-quarter mile be the minimum radius for the area of review regardless of the ZEI).

As stated above, the AOR and ZEI calculation from the 2015 Permit were carried forward to the 2020 permit because there was no new information to merit re-calculation and because the well had not yet commenced operation. To evaluate the acceptability of the AOR, the Region calculated a Zone of Endangering Influence (ZEI), pursuant to 40 C.F.R. § 146.6(a), which indicated that after ten years of operation, the ZEI would only extend 400 feet from the Zelman #1 well. Exh. D at 3 & 5. As noted in the Pennsylvania Environmental Hearing Board adjudication, PaDEP's ZEI calculation "utilized a different input for reservoir pressure to obtain an output of approximately 700 feet, which is also less than the 1,320 feet in a quarter mile." Exh. I at 7.

Petitioner argues here, as was argued in connection with the 2015 Permit, that the fixed radius AOR should have been extended beyond the quarter-mile radius to encompass at least nearby six gas wells that are not inside the AOR. The Board previously addressed this same argument in its decision on the 2015 Permit. See *Windfall*, 16 E.A.D. at 782-84. The Petition refers to the public hearing on the 2015 Permit and essentially concedes that it is repeating those issues and not raising any new information. "The original public hearing testimony for this Injection Well was very well attended and provided very extensive details on USDW concerns and those concerns being ignored after all of this time is unacceptable." Petition at 3. To the extent the Petition asserts that the issues were ignored, it is factually incorrect. As the Board noted in its earlier decision, the Region addressed these concerns in connection with the 2015 Permit. *Windfall*, 16 E.A.D. at 782-84. The original application for the well included information on each of the six wells and remains part of the administrative record for the 2020 Permit. A.R. # 1. Petitioner points to no new information.

The Board properly upheld the Region's determination and application of the AOR and ZEI in its 2015 decision, and should do so again now, as Petitioner has not provided any new information showing a clearly erroneous finding of fact or conclusion of law. 40 C.F.R. § 124.19(a)(4)(i).

4. **The record supports the Region's factual determination of no injection fluid transmission or migration due to nearby gas wells beyond the AOR, a "known fault" within the AOR, or nearby fractures or faults (Issues #5, #6, #7 and #9).**

In Issues #5, #6, #7 and #9, Petitioner raises various concerns relating to faults, fissures and fracturing, all related to Petitioner's claim that geological features at or near the injection zone increase the risk of injectate fluid migration to USDWs. Issue #5 challenges EPA's factual finding that there is no evidence that six gas wells outside the AOR have caused faults or fracturing of the confining layer or injection formation. Issues #6 and #7 raise similar concerns relating to a "known fault," "naturally occurring fissures," and the aforementioned gas wells. Issue #9 challenges EPA's factual finding that potential faults within the AOR "were determined to be non-transmissive, and do not extend to the surface and show displacement caused by the faults extending upward." Petition at 3-4.

In its 2015 decision, the Board found that the Region properly considered and provided reasoned responses to these same geological issues, noting that "the Permit sets forth detailed construction and operating requirements, as provided in the applicable regulations, designed to achieve the overarching purpose of the SDWA and UIC regulations: to protect underground sources of drinking water from contamination." *In re Windfall*, 16 E.A.D. at 797. Among the relevant permit conditions was the allowance of injection "only into formations which are separated from any USDWs by a confining zone that is free of known open faults or fractures within the Area of

Review;” casing and cementing “to prevent the movement of fluids into or between USDWs for the life of the well,” mechanical integrity demonstration requirements: “continuous monitoring of injection pressure, annular pressure, flow rate, and cumulative volume, and an automatic shut-off device in the event of mechanical integrity failure;” and “detailed monitoring and reporting requirements for any noncompliance.” *Id.* at 797-798. The Petition does not support any departure from the Board’s previous findings.

Even if the Board had not previously decided these issues, the Region has appropriately addressed these geology-related issues in its Response to Comments. In Response #3, the Region discussed its consideration of “appropriate geological data on the injection and confining zones,” noting that potential faults within or near the AOR “appear to be localized, non-transmissive faults” with “no geologic evidence” that the faults “are transmissive to the deep Precambrian crystalline basement rock to the surface.” *Exh. D* at 3. The risk of transmissiveness and induced seismicity (discussed below) has been further ameliorated by permit conditions limiting “maximum surface injection pressure and bottom-hole pressure ...to ensure that, during operation, the injection pressure will not propagate existing fractures or create new fractures in the formation. Limiting pressure prevents the propagation of fractures that could (a) create potential channels for fluid movement into USDWs, or (b) create conduits for fluids to travel from the injection zone to known or unknown faults.” *Id.* at 4-5. In addition, the permit requirement for a yearly pressure fall-off test will provide data to help “determine injection potential and damage to the formation. This data may also be used to derive permeability, reservoir boundary shape and distance, and reservoir pressures. Analyzing flow conditions can help determine whether a preferential flow pattern exists in determining whether that flow could be moving toward or contacting nearby faults.” *Id.* at 5.

As in the prior permit appeal, the Petitioner in this matter has not demonstrated that the Region's geology-based permit decisions relating to Issues #5, #6, #7 and #9 are based on clearly erroneous findings of fact or conclusions of law. 40 C.F.R. § 124.19(a)(4)(i).

5. The record supports the Region's factual determinations relating to seismicity and fluid migration (Issue #11).

In Issue #11, Petitioner cites public hearing testimony of Mr. Dan Fisher on “the injectate issues and the fault system around the well causing seismic activity” Petitioner states that “Mr. Fisher explained the two faults that show evidence of existing in the ¼ mile Area of Review with one to the North East at 600 feet and the second one to the South East at 1,280 feet.” Petitioner raises the “[c]oncern over time that brine migrates and makes the faults transmissive and induces seismicity that is known to happen. Reports submitted in Ohio show lateral flow and this is an issue.” Petition at 5-6.

In its Response to Comments #3 and #4, the Region addressed concerns about seismicity induced by underground injection activities. Exh. D at 4-6. Consideration of seismicity is not specifically required by SDWA regulations for Class II wells, unlike the regulations for Class I wells for the injection of hazardous waste, *see* 40 C.F.R. §§ 146.62(b)(1) and 146.68(f). However, the Region evaluated factors relevant to seismic activity related to underground injection activities, primarily in accordance with two EPA documents: the “Region 3 Framework for Evaluating Seismic Potential Associated with UIC Class II Permits,” updated September 2013, Exh. K, and “Minimizing and Managing Potential Impacts of Injection-Induced Seismicity from Class II Disposal Wells: Practical Approaches,” EPA UIC National Technical Workgroup, February 5, 2015. Exh. L.

The Region stated that the permittee “submitted geologic information indicating the presence of at least one fault” within the ¼ mile AOR, noting:

These faults appear to be localized, non-transmissive faults. There is no geologic evidence that indicates these faults are transmissive to the deep Precambrian crystalline basement rock to the surface. Most disposal wells in the United States do not pose a hazard for induced seismicity. However, faults in the Precambrian basement are believed by some experts to have generated seismic events in other states. The proposed Zelman #1 well's injection zone is separated from the Precambrian basement by approximately 9200 feet with multiple low-permeability geologic confining zones within this distance. Exh. D at 4⁸.

In its Response to Comments, the Region also described the permit conditions designed to avoid the risk of induced seismicity and fluid migration:

The Windfall permit has been developed to prevent the over-pressurization of the injection formation by limiting the surface injection pressure during the injection operations to 2593 psi and the bottom-hole injection pressure to 6575 psi. Research indicates that a very high rate of injection or over-pressurization of a geologic formation can contribute to the possibility of seismic activity. The permitted maximum surface injection pressure and bottom-hole pressure was calculated to ensure that, during operation, the injection pressure will not propagate existing fractures or create new fractures in the formation. Limiting pressure prevents the propagation of fractures that could (a) create potential channels for fluid movement into USDWs, or (b) create conduits for fluids to travel from the injection zone to known or unknown faults.

The Windfall permit also requires a yearly pressure fall-off test. The test consists of fluid injected into the well at a constant rate for a period of time, followed by shut-in of the well and monitoring the pressure decline. The pressure change data is analyzed, which helps determine injection potential and damage to the formation. This data may also be used to derive permeability, reservoir boundary shape and distance, and reservoir pressures. Analyzing flow conditions can help determine whether a preferential flow pattern exists in determining whether that flow could be moving toward or contacting nearby fault. Response to Comments Exh. D at 4-5.

Citing local gas production records published by PaDEP's Office of Oil and Gas Management (A.R. #42), the Region further noted that "[s]ince the late 1950's/early 1960s, a significant volume of gas and brine has been produced from the proposed injection reservoir, making the Huntersville Chert/Oriskany formation receptive for the disposal of fluid." Response to Comments, Exh. D at 5. The Region noted that the extensive gas production in this area "has

⁸ See also Pennsylvania Geological Survey, *Geology and Mineral Resources of the Southern Half of the Penfield 15-Minute Quadrangle, Pennsylvania*, 1971/1973 (with Plate 12), pp. 123-24. Exh. N.

not resulted in any seismic activity nor has the presence of the fault allowed fluid to move out of the formation and into USDWs.” Further, the Region observed that “the production of both natural gas and brine from the natural pore spaces that exist in this formation have lowered the formation’s reservoir pressure and has created available storage, making this reservoir an appropriate candidate for the disposal of fluids.” Exh. D at 5.

Facing a similar record in 2015, the Board noted that the Region

thoroughly responded to comments ...on seismicity, discussing at length the following: background information on induced seismic activity; known faults near the proposed well; factors affecting fluid transmission and pore pressure; comparisons of the geology and factors influencing induced seismic events in other parts of the country due to injection activities; the general suitability of the depleted oil and gas formations for underground injection; and the potential for seismic events to contribute to groundwater contamination.

In re Windfall, 16 E.A.D. at 799.

As the Board stated in 2015, Petitioner “cannot demonstrate that review of the Region’s technical determinations regarding induced seismic activity is warranted without providing more than general statements of disagreement with the Region’s conclusions.” *In re Windfall*, 16 E.A.D. at 800, citing *Beeland Group*, 14 E.A.D. at 200.

Petitioner has not demonstrated, as required by 40 C.F.R. § 124.19(a)(4), that the Region’s permit decisions relating to Issue #11 are based on clearly erroneous findings of fact or conclusions of law.

6. The record supports the Region’s factual determination that migration similar to that which occurred in Ohio is unlikely, given differences in the permeability of the injection zones (Issue #8).

In Issue #8, Petitioner refers to an incident of fluid migration from a well (Redbird #4) in Ohio and expresses concern that fluid will migrate in a similar fashion from this well, stating that “[l]ow permeability seemed to be an issue just like the case of the Ohio Shale.” Citing the Ohio example, Petitioner stated that “fluid traveled considerable distance and impacted conventional gas

wells' and that is the same problem with this Injection Well as it is already known that the formation has at minimum six (6) penetrations on the edge of the Area of Review. The faults will further restrict the fluid and impact the flow towards the gas wells in the same formation as the Injection Well.” Petition at 3-4.

In the Response to Comments, the Region explained that the migration that had occurred in Ohio was unlikely to occur here, as conditions at the Windfall well are not comparable to the conditions that gave rise to the incident in Ohio:

The Ohio Shale is not a formation used for disposal of produced fluid in Ohio because of the low natural permeability associated with [that] shale formation. In contrast, the Windfall permit only allows injection into the Huntersville Chert/Oriskany formation, a sedimentary rock formation of Lower Devonian age commonly used for disposal of produced fluids in Pennsylvania, which has a higher natural porosity and greater interconnection of the pore space (permeability) throughout the formation than the Ohio shale. Exh. D at 6.

The Region also noted that the faults in the Windfall area of review were non-transmissive.

Id. Moreover, as noted in Response to Comment #2, “the permit does not allow the injection pressure to exceed the injection formations fracture pressure and thereby prevents fracturing that could allow fluid to migrate out of the injection zone. To confirm mechanical integrity and that the injected fluid remains in the receiving formation, the permit requires continuous monitoring of pressure conditions within the injection well.” *Id.* at 3-4.

After reviewing information regarding the Redbird #4 well in Ohio, the Region stated: “EPA believes that after reviewing the conditions and conclusions reached in the Ohio Department of Natural Resources executive summary of the Washington County Produced Water Investigation, the same geologic conditions do not exist at the Windfall facility and adequate UIC permit requirements are in place to protect USDWs.” *Id.* at 6.

Petitioner has not demonstrated, as required by 40 C.F.R. § 124.19 (a)(4), that the Region’s permit decisions relating to Issue #8 are based on clearly erroneous findings of fact or

conclusions of law.

7. **The record supports the Region’s factual determinations relating to concerns about drinking water quality and the well location (Issues #10 and #12).**

Issue #10 re-states many of the concerns raised in Issues 2-9 and 11 and already addressed herein while emphasizing Petitioner’s concern about threats to local water supplies posed by the Windfall well, including Petitioner’s comments during the September 2020 public hearing. Petition at 4-5. Issue #12 reiterates this concern, citing another commenter’s water monitoring results⁹ and stating that the “injection well is on a hill above the community geologic refresh area.” Petition at 6.

As stated above, the Region has appropriately addressed Petitioner’s issues relating to the determination of the area of review, geological conditions within or near the AOR, and the potential for induced seismicity. In addition, Response to Comments #2 summarizes the permit conditions on construction, operation, monitoring, and recordkeeping:

This well will be constructed with a ground water protective casing from the surface to approximately 170 feet, and cemented back to the surface, a second water protective string of casing from the surface to approximately 375 feet and cemented back to surface and a third ground water protective casing from the surface to approximately 1000 feet and cemented back to surface. This three-level casing complies with the requirements of 40 C.F.R. § 147.1955(b)(1).

After the injection well is drilled, the long string casing is cemented, and tubing and packer installed, but before injection begins, the permittee is required by the permit to submit to EPA notice of completion of construction (EPA Form 7520-18), providing details about the drilling, completion and testing of the well. The completion report must include the injection well drilling records, logging information, cementing records and mechanical integrity testing information. EPA will review this information to verify that the geological information submitted in the permit application is accurate, and that the

⁹ Issue 12 refers to total dissolved solids (TDS) monitoring by another citizen and states that TDS levels “went up by” 18.06 parts per million. The petition does not identify the total TDS in the samples. EPA does not have a national primary drinking water regulation for TDS. EPA does have a national secondary drinking water standard of 500 mg/l TDS (one ppm = one mg/L). 40 C.F.R. § 143.3. Secondary drinking water standards that “primarily affect the aesthetic qualities relating to the public acceptance of drinking water.” 40 C.F.R. § 143.1. See also U.S. EPA, “Secondary Drinking Water Standards: Guidance for Nuisance Chemicals,” <https://www.epa.gov/sdwa/secondary-drinking-water-standards-guidance-nuisance-chemicals>.

injection well is properly constructed and cemented to prevent leaks during operation and fluid movement out of the injection zone through the injection well bore.

EPA will review the cementing records and logs to verify proper cementing without channels between the casing and well bore that could provide a conduit for fluid movement. Also, the required mechanical integrity pressure test must show that there are no internal failures in the tubing, casing or packer installed within the well before injection begins. If new information obtained from the completion report warrants changes to the permit, EPA will modify the permit conditions as appropriate.

....

Furthermore, the permit does not allow the injection pressure to exceed the injection formation's fracture pressure and thereby prevents fracturing that could allow fluid to migrate out of the injection zone. To confirm mechanical integrity and ensure that the injected fluid remains in the receiving formation, the permit requires continuous monitoring of pressure conditions within the injection well. Exh. D at 2-4.

In its 2015 decision, in discussing petitioners' list of potential threats to USDWs purportedly related to the Windfall well, the Board found that the

Region appropriately recognized petitioners' concerns with respect to the safety of their drinking water and explained in detail its conclusion that the permit will protect USDWs in accordance with the requirements of the federal UIC regulations. This satisfies the Region's obligations under the law. Simply disagreeing with the Region and repeating concerns in a petition for review before the Board that previously have been presented to and answered by the permit issuer does not satisfy the regulatory requirement that petitioners confront the permit issuer's responses and explain why the responses were clearly erroneous or otherwise warrant Board review. *See* 40 C.F.R. § 124.19 (a)(4)(ii); *In re Pa. Gen. Energy Co.*, 16 E.A.D. 498, 503 (EAB 2014).

Moreover, the Board finds that the Permit sets forth detailed construction and operating requirements, as provided in the applicable regulations, designed to achieve the overarching purpose of the SDWA and UIC regulations: to protect underground sources of drinking water from contamination.

In re Windfall, 16 E.A.D at 797.

Similarly, Petitioner in this appeal has not demonstrated that the Region's permit decisions relating to water quality and well location concerns are based on clearly erroneous findings of fact or conclusions of law. 40 C.F.R. § 124.19(a)(4)(i).

CONCLUSION

For the foregoing reasons, the Petitioner has not shown that any of the challenged permit

decisions now before the EAB are based on any clearly erroneous finding of fact or conclusion of law. 40 C.F.R. § 124.19(a)(4)(i). Therefore, for the reasons discussed above, the Region respectfully requests that the Board deny the Petition for Review of UIC Permit No.

PAS2D020BCL.

Respectfully submitted,

_____/s/_____
(signed per Revised EAB Order re: Electronic Filing in non-Part 22 Proceedings, 8/12/13)

William C. Smith
Stefania Shamet
Senior Assistant Regional Counsel
U.S. Environmental Protection Agency, Region III
1650 Arch Street
Philadelphia, Pennsylvania 19103
Phone: (215) 814-2690
Email: smith.william@epa.gov
shamet.stefania@epa.gov

Of Counsel:
Pooja S. Parikh
Water Law Office
Office of General Counsel
U.S. Environmental Protection Agency (2355A)
1200 Pennsylvania Ave. N.W.
Washington, DC 20460
Phone: 202-564-0839
Email: parikh.pooja@epa.gov

CERTIFICATE OF SERVICE

I hereby certify that Region III's Response to Petition for Review in the matter of *Windfall Oil & Gas, Inc.*, Appeal No. UIC 21-01, was filed electronically with the Environmental Appeals Board's E-filing System and was served on Petitioner at the email address specified below, on March 11, 2021, pursuant to the Board's Revised Order Authorizing Electronic Filing in Proceedings Before the EAB Not Governed by 40 C.F.R. Part 22.

Darlene Marshall (Petitioner)
Email: mrdewy@yahoo.com
1070 Highland Street Extension
DuBois, PA 15801

_____/s/_____
*(signed per Revised EAB Order re: Electronic Filing
in non-Part 22 Proceedings, 8/12/13)*
William C. Smith
Senior Assistant Regional Counsel
U.S. Environmental Protection Agency, Region III
1650 Arch Street
Philadelphia, Pennsylvania 19103
Phone: (215) 814-2690
Email: smith.william@epa.gov

Date: March 11, 2021