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PENNSYLVANIA ENVIRONMENTAL HEARING BOARD

COMMONWEALTH OF PENNSYLVANIA
ENVIRONMENTAL HEARING BOARD

MARY E. HURST *et al.*, and EMMA WRIGHT, *et al.*, Intervenors	**: EHB Docket No. 2024-019-B**
	: Consolidated with: 2024-020-B, 2024-
	: 021-B, 2024-026-B, 2024-027-B, 2024-
v.	**: 030-B, 2024-032-B, 2024-033-B, 2024-**
	: 034-B, 2024-038-B, 2024-041-B, 2024-
	: 043-B, 2024-044-B, 2024-046-B, 2024-
COMMONWEALTH OF PENNSYLVANIA, DEPARTMENT OF ENVIRONMENTAL PROTECTION and CATALYST ENERGY LLC, Permittee	**: 047-B, 2024-048-B, 2024-049-B, 2024-**
	: 050-B, 2024-051-B, 2024-052-B, 2024-
	: 053-B, 2024-054-B, 2024-054-B, 2024-
	: 056-B, 2024-057-B
	:
	: Issued: June 11, 2026

A D J U D I C A T I O N

By Steven C. Beckman, Chief Judge and Chairperson

Synopsis

The Board dismisses an appeal of a Pennsylvania change-in-use permit authorizing a company to convert an oil and gas well into an underground injection well to conduct disposal activities in accordance with its federal permit. The Appellants and Intervenors have not satisfied their burden of proof to show that the issuance of the Pennsylvania permit was unlawful, unreasonable, or not supported by the facts established at the hearing on the petition for supersedeas and the hearing on the merits. The Appellants and Intervenors also failed to convince the Board that the Department's decision to issue the change-in-use permit was inconsistent with the Department's obligations under the Pennsylvania Constitution.

Background

The Appellants' and Intervenors' (collectively, "Ms. Hurst")[1] have filed an appeal of the Department of Environmental Protection's ("Department's") issuance of a change-in-use permit at Permit Number 37-083-46237-00-01 ("Permit") to Catalyst Energy, Inc. ("Catalyst"). The Permit authorizes Catalyst to convert an existing conventional oil and gas well to an underground injection well in Keating Township, McKean County ("Injection Well"). The Injection Well is located at 4505 State Route 646, Cyclone, PA (the "Site"). The Injection Well is permitted to receive flowback and produced water generated from Catalyst's oil and gas related operations as well as oil and gas related wastewaters from other oil and gas operators. (Stipulation of Fact for Supersedeas Hearing ("Stip.") at ¶ 5). Prior to applying for the Permit, Catalyst obtained an Underground Injection Control Permit for the Injection Well from the United States Environmental Protection Agency ("EPA") as is required by the Department.

The Department issued an initial permit on January 11, 2024, and a corrected Permit was issued on January 17, 2024, including two additional conditions. (Joint Ex. 4; Stip. at ¶ 13). Between February 15, 2024, and February 26, 2024, the Board received, via U.S. mail, thirty-eight individual appeals of the Permit. The majority of the appeals were consolidated under EHB Docket No. 2024-016-B on March 28, 2024, and the remainder of the appeals were eventually consolidated on April 18, 2024. On May 6, 2024, sixteen individuals, collectively, filed a petition to intervene and the Department subsequently filed an answer in opposition to their petition. On May 30, 2024, the Board issued an Opinion and Order granting the Intervenors' petition. As the case has

[1] This case was originally consolidated and captioned with the named Appellant as Miranda Lananger under EHB Docket No. 2024-016-B. In September 2025, Ms. Lananger withdrew from the case and on September 15, 2025, the Board issued an order reconsolidating the remaining Petitioners and Intervenors under EHB Docket No. 2024-019-B with the named Appellant as Mary E. Hurst. To view the complete filings in this case, interested parties should view the docket for both case numbers.

progressed, several appellants have withdrawn their appeals, and multiple intervenors have discontinued their interventions.

After granting several extensions of the pre-hearing deadlines, discovery ultimately concluded in this matter on October 11, 2024. On November 7, 2024, Ms. Hurst filed an Application for Temporary Supersedeas and a Petition for Supersedeas. Following a conference call, and after receiving a joint update and proposed orders on the Application and Petition from the parties, the Board, on November 11, 2024, granted in part and denied in part the temporary supersedeas, allowing Catalyst to conduct activities related to the preparation for injection but prohibited any actual injection of oil and gas related fluids and further prohibited any earth disturbance activities. The Supersedeas Hearing was held in Pittsburgh over the course of five non-consecutive days and concluded on December 10, 2024, after the parties made their closing arguments. The following day, the Board issued an order permitting the parties to file post-hearing briefs by December 24, 2024 ("Supersedeas Briefs"), which they all opted to submit. On December 27, 2024, we issued an order denying the Petition for Supersedeas and lifting the Temporary Supersedeas. On January 17, 2025, the Board issued an opinion supporting the Order denying the Petition for Supersedeas finding that Ms. Hurst had not shown by a preponderance of the evidence that she was likely to prevail on the merits of her appeal (the "Supersedeas Opinion").

Ms. Hurst decided to proceed with her appeal following the Board's unfavorable ruling on her Petition for Supersedeas which is a rare occurrence in front of the Board. In April 2025, both the Department and Catalyst filed motions for summary judgment that the Board ultimately denied in an order and opinion issued on June 30, 2025. See *Lananger et al. v. DEP*, 2025 EHB 546. In reaching the decision to deny summary judgment, the Board relied on its de novo review standard and on the "rather singular procedural and factual circumstances presented by" the case. (*Lananger*

et al., 2025 EHB 546, 555). We decided that the appeal should proceed to a full Merits Hearing, but we also held that given the extensive Supersedeas Hearing, we would place constraints on the testimony based on discussions with the counsel for the parties and incorporate the transcript and evidence from the Supersedeas Hearing into the record of the Merits Hearing. *Id*. The parties eventually agreed that testimony at the Merits Hearing would be largely limited to evidence of actions and activities that took place following the conclusion of the Supersedeas Hearing in December 2024. The Merits Hearing took place on November 12-13, 2025, in Pittsburgh. The parties filed post-hearing briefs ("Merits Briefs") and the final filing, Ms. Hurst's Merits Reply Brief, was filed on February 24, 2026. The matter is now ripe for decision. The record for our decision includes all the testimony and evidence presented at both the Supersedeas Hearing held in December 2024 and the Merits Hearing held in November 2025.

FINDINGS OF FACT

Procedural Background and Record

1. The Department is the Commonwealth agency with authority to administer and enforce the Oil and Gas Act, the Clean Streams Law, and the regulations applicable to oil and gas well permitting and related waste management.

2. Catalyst Energy, LLC is the permittee and owner/operator of the well at issue in this appeal. (Joint Exs. 4, 29).

3. The well at issue is the Catalyst Lot 580-1 well, Permit No. 37-083-46237-00-01, located at 4505 State Route 646, Cyclone, Keating Township, McKean County. (Stip. ¶ 5; Joint Ex. 4).

4. The Department issued the change-in-use permit on January 11, 2024, and issued a corrected Permit on January 17, 2024. (Catalyst Ex. 25; Joint Ex. 4; Stip. ¶ 13).

5. The Permit authorizes Catalyst to change the use of the existing Lot 580-1 conventional oil and gas well to an injection well. (Joint Ex. 4; Merits Hearing Notes of Transcript at page ("M.T.") 112).

6. Before applying to the Department for the change-in-use Permit, Catalyst obtained a federal Underground Injection Control ("UIC") permit ("EPA Permit") from the United States Environmental Protection Agency ("EPA") for the Injection Well. (Joint Stip. ¶¶ 2-3; Joint Ex. 3).

7. The EPA Permit authorizes injection, and the Department's Permit authorizes the change in use of the existing well under Pennsylvania law. (Joint Exs. 3, 4, 34; M.T. 112).

8. The Injection Well is classified as a Class II-D commercial injection disposal well. (Joint Exs. 2, 3, 4).

9. By cover letter dated December 4, 2020, Catalyst submitted a UIC permit application for the Injection Well to EPA. (Stip. ¶¶ 2, 4; Joint Ex. 2).

10. EPA issued the UIC permit for the Injection Well on July 18, 2022, and issued a revised permit with minor modifications on or around August 19, 2024. (Joint Ex. 3).

11. The EPA permit contains provisions governing construction, operation, monitoring, and mechanical-integrity requirements for the Injection Well. (Joint Ex. 3).

12. The Injection Well is permitted to receive flowback and produced water generated from Catalyst's oil and gas related operations as well as oil and gas related wastewaters from other oil and gas operators. (Stip. ¶ 5; Joint Ex. 2).

13. Between February 15 and February 26, 2024, the Board received individual appeals challenging the Department's issuance of the change-in-use Permit, and those appeals were eventually consolidated. (EHB Docket No. 2024-016-B, Dkt. No. 1; (EHB Docket No. 2024-016-B, Dkt. Entry No. 12).

14. Sixteen individuals petitioned to intervene, and the Board granted intervention on May 30, 2024. (EHB Docket No. 2024-016-B, Dkt. No. 17).

15. After the completion of discovery, Appellants and Intervenors filed an Application for Temporary Supersedeas and Petition for Supersedeas on November 7, 2024. (EHB Docket No. 2024-016-B, Dkt. Entry No. 36; EHB Docket No. 2024-016-B, Dkt. Entry No. 41).

16. On November 12, 2024, the Board granted temporary supersedeas in part, allowing certain preparatory activities but prohibiting actual injection of oil and gas related fluids and prohibiting earth disturbance activities pending the hearing on the petition for supersedeas. (EHB Docket No. 2024-016-B, Dkt. Entry No. 45).

17. The Board held a five-day supersedeas hearing in December 2024. (EHB Docket No. 2024-016-B, Dkt. Entry No. 46).

18. On December 27, 2024, the Board denied the Petition for Supersedeas and lifted the temporary supersedeas. (EHB Docket No. 2024-016-B, Dkt. Entry No. 68).

19. On January 17, 2025, the Board issued an opinion supporting its order denying supersedeas, finding that Appellants and Intervenors had not shown a likelihood of success on the merits. (EHB Docket No. 2024-016-B, Dkt. Entry No. 69).

20. After the Board denied the petition for supersedeas, Catalyst commenced injection operations on January 22, 2025. (M.T. 46, 80).

21. On April 4, 2025, the Department and Catalyst each filed motions for summary judgment. (EHB No. 2024-016-B, Dkt. Entry Nos. 82-83).

22. The Board denied the Department's and Catalyst's motions for summary judgment and directed that the appeal proceed to a merits hearing under the Board's de novo review standard. (EHB No. 2024-016-B, Dkt. Entry No. 91).

23. The record for this adjudication includes the testimony and exhibits from both the December 2024 Supersedeas Hearing and the November 2025 Merits Hearing. (Id., at 11; M.T. 7-8).

The Permit, EPA Permit, and Applicable Operational Requirements

24. Catalyst's permit application to the Department included a copy of its EPA UIC permit application, an EPA UIC permit, a control and disposal plan, and an erosion and sedimentation plan. (Joint Exs. 2, 3, 16, 18, 29, 30; Joint Stip. ¶ 12).

25. The EPA Permit was a prerequisite for the Department to issue the change-in-use Permit. (Joint Exs. 3, 4).

26. The Department's Permit includes special conditions in addition to the standard conditions applicable to the Permit. (Joint Ex. 4).

27. The Department's Permit requires Catalyst to submit to the Department copies of mechanical integrity test results required by the EPA permit. (Joint Ex. 4).

28. The Department's Permit requires Catalyst to provide the Department, on a monthly basis, with an electronic and graphical record of injection pressures, annular pressures, injection rates, injection volumes, and cumulative volumes in a format acceptable to the Department. (Joint Ex. 4).

29. The Department's Permit requires that injection pressures, annular pressures, injection rates, injection volumes, and cumulative volumes be continuously monitored with digital devices. (Joint Ex. 4; M.T. 270).

30. The Department's Permit requires Catalyst to notify the Department within 24 hours if monitoring indicates a mechanical integrity problem, and to cease injection if such conditions arise. (Joint Ex. 4).

31. The EPA Permit requires periodic mechanical integrity testing and requires mechanical integrity testing after certain types of work in the Injection Well. (Joint Ex. 3; M.T. 122).

32. The Department's corrected Permit contained an expiration provision requiring commencement of drilling before January 11, 2025. (Joint Ex. 4; M.T. 80-81).

33. Catalyst installed the injection tubing in November 2024. (M.T. 112).

34. Catalyst did not begin injection until January 22, 2025. (M.T. 46, 80).

Surface Development, E&S Controls, and C&D/PPC Plans

35. Before the Department issued the Permit, the Site already contained an existing production well, certain production equipment, and an access road. (Joint Exs. 1, 29, 30; S.T. 249-50).

36. Catalyst's May 2023 application included an E&S plan dated March 2023 and a C&D plan dated April 2023. (Joint Exs. 18, 29).

37. Catalyst later submitted revised C&D and E&S-related documents, including a September 2023 C&D plan, an October 2024 PPC plan that incorporated C&D provisions, and revised E&S plans dated April 2024 and August 2024. (Joint Exs. 16, 17, 19, 20).

38. The Department reviewed Catalyst's C&D and E&S plans during the permit-review and site-development process. (Joint Exs. 22, 23; S.T. 725-27, 937-39).

39. Brian Ayers, a Water Quality Specialist Supervisor for the Department, reviewed the March 2023 E&S plan and a C&D plan for the Site. (Joint Exs. 22, 23; S.T. 725-27).

40. The March 2023 E&S plan identified wetlands and the unnamed tributary to Kinzua Creek near the Site. (Joint Ex. 18).

41. In an October 16, 2023, internal memorandum, Mr. Ayers concluded that the March 2023 E&S plan was consistent with the requirements of Chapter 102 and 25 Pa. Code § 78.53. (Joint Ex. 22).

42. In the same October 16, 2023, memorandum, Mr. Ayers concluded that the C&D plan met the requirements of the Department's guidelines for environmental emergency response plans. (Joint Ex. 22).

43. In an October 23, 2023, internal memorandum, Mr. Ayers again addressed the plans and recommended additional permit conditions to protect nearby wetlands and watercourses. (Joint Ex. 23).

44. The Department incorporated three E&S-related special conditions into the Permit: marking wetland boundaries with high-visibility fencing, prohibiting discharges from the well pad under 25 Pa. Code § 78.60, and requiring ABACT BMPs throughout the well site to maintain and protect existing surface-water quality. (Joint Exs. 4, 23).

45. Department inspector Evan Bruce conducted a September 7, 2023, field inspection that informed the Department's later consideration of surface-water and wetland protections. (Hurst Ex. XX; Joint Exs. 22, 23).

46. Catalyst installed high-visibility fencing, a filter sock, a rock construction entrance, and stone surfacing as E&S controls at the Site. (Joint Exs. 1, 7, 19, 20; S.T. 157-63, 762, 764).

47. The March 2023 E&S plan identified a potential GP-7 permit issue associated with a portion of the driveway that would have encroached into wetland #3. (Joint Ex. 18).

48. Catalyst redesigned the Site layout to avoid encroaching on wetland #3. (Hurst Ex. BBB; Catalyst Ex. CAT24; S.T. 581, 593, 760-61).

49. Catalyst sent the updated site plan to the Department on July 15, 2024. (Hurst Ex. BBB).

50. Department staff conducted a July 17, 2024, site inspection and determined that a GP-7 permit was no longer required because the revised Site layout avoided the wetland impact. (Catalyst Ex. CAT24; S.T. 581, 593, 760-61).

51. Water collected in the containment area around operational equipment at the Site is added to incoming disposal fluids and injected rather than discharged from a point source. (Joint Exs. 17, 19, 20; S.T. 163, 248, 252).

52. The Site measured less than one acre at the time of the Supersedeas Hearing. (S.T. 978-79).

53. Catalyst did not apply for or receive an NPDES permit for the Site. (Joint Exs. 4, 18-20; S.T. 979).

54. Catalyst did not apply for or receive a Chapter 105 permit for a dam, water obstruction, or encroachment at the Site. (Joint Exs. 18-20; S.T. 620, 729, 733).

55. Kevin Maskol, a Department Mineral Resource Program Specialist with oil and gas waste-management experience, reviewed the final PPC/C&D materials. (S.T. 934-39, 943).

56. Mr. Maskol found that the PPC plan, including the C&D plan, generally satisfied the Department's requirements. (S.T. 942).

57. Mr. Maskol found that the Site did not meet the criteria requiring the PPC/C&D plan itself to be sealed by a professional engineer. (S.T. 942-43).

58. The final C&D plan in the October 2024 PPC plan contained a pressure barrier plan. (Joint Ex. 17).

2025 Stone Placement and Alleged Wetland Encroachment

59. By the time of the November 2025 Merits Hearing, an issue had arisen concerning stone placed in an area near the Site that Catalyst's consultant identified as a potential wetland impact. (Hurst Exs. CCCC, DDDD; M.T. 87-93, 230-36).

60. Jason Horvath, a Catalyst employee, was alerted by email that an expansion of a gravel area had encroached on a wetland area and he notified the Department of this issue. (Hurst Exs. CCCC, DDDD; M.T. 88-93).

61. Brian Ayers investigated the alleged encroachment for the Department in late May 2025. (M.T. 272-73).

62. Mr. Ayers completed a basic wetlands identification course provided by the United States Army Corps of Engineers and participated in several dozen formal wetland identifications due to complaints or proposed well-site concerns and had considered wetlands issues in many well-site inspections. (M.T. 271-72).

63. Mr. Ayers visited the Site and observed the area identified by Catalyst's consultant as a possible wetland encroachment. (M.T. 273-74).

64. The potential encroachment was small, approximately one-hundredth of an acre or a couple hundredths of an acre. (M.T. 281-82).

65. Mr. Ayers saw that the area was covered by stone and observed the surrounding vegetation. (M.T. 273-74).

66. Based on his inspection, Mr. Ayers concluded that the area where stone had been placed was not a wetland. (M.T. 282).

67. Catalyst removed the stone from the area at issue. (Hurst Ex. DDDD; M.T. 275).

68. Mr. Ayers later observed that the stone had been removed and that the area had been temporarily stabilized with mulch and seed. (M.T. 275).

Well Construction, Injection Zone, and Mechanical Integrity

69. The Lot 580-1 well is an existing vertical well that was previously used as a production well. (M.T. 13).

70. Catalyst's injection operations involve disposal of produced fluids from oil and gas wells. (M.T. 13).

71. The Injection Well injects the produced fluids into the Onondaga formation. (M.T. 15; S.T. 282-83).

72. Injected fluid exits the well through perforations and enters the Onondaga formation. (M.T. 15).

73. The Injection Well casing includes an 11 ¾-inch casing from the surface to 425.9 feet, an 8 5/8-inch casing from the surface to 2,504.36 feet, and a 4 ½-inch production casing from the surface to 5,396.35 feet. (Joint Ex. 25, CAT001336).

74. Catalyst installed a 2 7/8-inch tubing string and packer inside the 4 ½-inch production casing for injection operations. (Joint Ex. 25; M.T. 14-16, 112).

75. The injection tubing runs down the well and carries fluid toward the injection zone. (M.T. 14-16).

76. The packer separates the injection zone from the portion of the well above the injection zone and creates a barrier so that injected fluid is directed into the intended formation. (M.T. 14-15).

77. The annulus is the space between the injection tubing and the 4 ½-inch casing. (M.T. 16).

78. The cement bond log for the Injection Well identified the top of cement around the 4 1/2-inch casing at approximately 3,512 feet. (Joint Ex. 25; S.T. 439).

79. The Injection Well is permitted to inject fluids into the Onondaga formation in an interval from approximately 5,170 feet to 5,188 feet. (Joint Exs. 2, 3, 25; S.T. 438-39).

80. The Injection Well was drilled by Belden and Blake in 1990 to produce gas from the Onondaga formation. (Joint Ex. 25; S.T. 428-32).

81. Catalyst presented testimony from David Wozniak, P.E., who was admitted as an expert petroleum and reservoir engineer. (S.T. 422-428).

82. Mr. Wozniak was familiar with the Injection Well and the development of the Onondaga formation around it from his work with Belden and Blake after 1995. (S.T. 428-32).

83. Mr. Wozniak described the Onondaga formation in the area of the Injection Well as a reef formation known as the Cyclone Reef. (S.T. 432).

84. The Bradford Sands are separated from the Onondaga formation by approximately 3,000 feet of Middle and Upper Devonian shales and provide a confining interval. (S.T. 445).

85. Mr. Wozniak offered the expert opinion that wells drilled into the Bradford Sands, even if abandoned and unplugged, would not create a pathway for fluids to migrate from the Onondaga formation into groundwater. (S.T. 448-49).

86. The EPA oversaw mechanical integrity testing of the Injection Well on July 16, 2024, and November 26, 2024. (Joint Exs. 14, 31).

87. The Injection Well passed the July 16, 2024, and November 26, 2024, mechanical integrity tests as documented in EPA mechanical integrity reports. (Joint Exs. 14, 31; S.T. 270-72, 704-06).

88. The November 26, 2024 mechanical integrity test was conducted at a pressure exceeding 1,000 psi. (Joint Ex. 31; S.T. 270-71).

89. The annulus was tested at approximately 1,000 psi during mechanical integrity testing. (M.T. 112-13).

90. Mr. Wozniak concluded that the mechanical integrity tests conducted were consistent with EPA guidelines and agreed with EPA's conclusion that the Injection Well passed those tests and was mechanically sound. (S.T. 451).

91. Mr. Wozniak testified that the most common cause of failure in Class II injection wells, in his experience, was tubular failure due to corrosion caused by improper maintenance. (S.T. 457).

92. Mr. Wozniak further testified that the tubular failures of which he was aware at other sites did not result in environmental impacts because they were detected through pressure monitoring. (S.T. 457).

93. Ms. McGill concluded that if mechanical integrity is maintained, migration from the injection reservoir to shallower geologic zones would not occur. (S.T. 820-21, 826).

Pressure Monitoring, P1/P2, and 2025 Operational Issues

94. Catalyst monitors tubing pressure through a P1 pressure transducer and annular pressure through a P2 pressure transducer. (S.T. 990-91; M.T. 16, 245).

95. P1 measures pressure on the injection tubing. (M.T. 245).

96. P2 measures pressure in the annular space between the tubing and casing. (M.T. 16, 245-48).

97. If problems occur with the tubing above the packer, the pressure on P1 would drop and the pressure on P2 would increase. (S.T. 990).

98. If a problem occurred with the 4 1/2-inch casing, the pressure on P2 would drop. (S.T. 990-91).

99. The maximum permitted injection pressure for P1 is 2,600 psi. (Joint Ex. 4; M.T. 248).

100. If the P1 transducer goes down, is disconnected, or fails, injection automatically stops. (M.T. 246-47).

101. On January 28, 2025, a Department inspection report recorded that Catalyst was gravity-feeding approximately one barrel per minute of brine into the well. (Joint Ex. 35; M.T. 11-12).

102. In late January 2025, Catalyst observed inconsistent or errant P2 pressure readings in the annulus. (Hurst Ex. MMMM; M.T. 19-23, 28-29, 118).

103. The inconsistent readings led Catalyst to cease injection and inspect the Injection Well. (Hurst Ex. MMMM; M.T. 20-23, 118-22).

104. The digital P2 reading was higher than the analog reading during the investigation; the digital P2 reading was approximately 300 psi while the analog reading was approximately 100 psi. (M.T. 118, 269).

105. Catalyst first attempted to reseat the packer and then moved the packer approximately 30 feet higher in the Injection Well, after which the annulus held pressure during a test. (M.T. 118-122).

106. Catalyst chose to install a new packer. (M.T. 121).

107. After the new packer was installed, Catalyst performed a mechanical integrity test on February 6, 2025. (Joint Ex. 37; M.T. 122).

108. The Injection Well passed the February 6, 2025 mechanical integrity test with EPA and Department personnel present. (Joint Ex. 37; M.T. 122-24).

109. Department inspector, Doug Welsh, was onsite to observe Catalyst's work and the February 6, 2025 mechanical integrity test. (M.T. 123-24).

110. EPA noted the packer issue as a mechanical integrity failure but stated that there was no reason to believe injection fluid was released into the environment and no failure of the casing that might have resulted in a release of injection fluid into an underground source of drinking water. (Catalyst Ex. 72; M.T. 125-26).

111. Catalyst defaults to analog readings when digital and analog readings differ. (M.T. 269).

112. Catalyst submitted pressure and flow-rate reports to the Department, including records for January, February, March, April, and May 2025. (Joint Exs. 40-44; M.T. 23, 29-31, 54, 59, 62).

113. The pressure records included injection rate, cumulative injection, P1 tubing pressure, and P2 annular pressure. (Joint Exs. 40-44; M.T. 30-31).

114. Catalyst used acid treatments during operation of the well to address scale or resistance affecting the injection rate. (Hurst Exs. MMMM, OOOO, SSSS; M.T. 38-40, 51-52).

115. The pressure records show operational variation in injection pressure and injection rate after injection began. (Joint Exs. 40-44).

116. Increased pressure can be used to maintain injection rate in the face of resistance. (M.T. 163-66).

117. Prior to the Merits Hearing, P2 did not have the same automatic shutdown function when it reached its default value because no maximum allowable P2 shutdown pressure had been set in the Permit. (M.T. 247-48).

118. Catalyst experienced periods when the P2 transducer was offline or recording default/electrical fault values. (Hurst Exs. IIII, JJJJ; M.T. 248-51).

119. One P2 outage in June 2025 was caused by a blown specialty fuse. (M.T. 248-49, 262).

120. Catalyst did not previously know that the fuses were specialty fuses that could not be obtained immediately from common local suppliers. (M.T. 249).

121. During the June 2025 P2 outage, Catalyst still had P1 monitoring and P1 shutdown protection in place during injection. (M.T. 262).

122. For the June 2025 P2 outage, Catalyst's daily sheets recorded the digital P2 readings rather than separate analog P2 readings. (M.T. 250-51, 263-64).

123. The Department did not raise an issue with Catalyst regarding the equipment being offline. (M.T. 270).

124. After the monitoring issue was raised at the Merits Hearing, Catalyst added an automatic shutdown for P2 at 750 psi and an alarm at 700 psi. (M.T. 248).

125. Catalyst installed a paper chart recorder to record annular pressure using an analog device independent of the digital P2 transducer. (M.T. 251-52, 268-70).

126. Catalyst personnel will use the paper chart to record annular pressure even if the digital P2 transducer is offline. (M.T. 268-70).

Geology, Monitoring Wells, Seismic Review, and Potential Migration Pathways

127. Catalyst uses two monitoring wells in connection with the Injection Well: the Amico-Witco well and the Sweeley well. (S.T. 282).

128. The Amico-Witco monitoring well is in the Onondaga formation, the same formation as the Injection Well. (S.T. 282-84).

129. Monitoring the Amico-Witco well provides information about reservoir pressure and fluid level in the same formation into which Catalyst injects. (S.T. 283-85).

130. The Sweeley Well monitoring includes a pressure gauge that measures the fluid level in the reservoir to ensure the fluid does not reach the drinking water table. (S.T. 51).

131. The Department evaluated geologic information regarding the confining layers above the Onondaga formation as part of its review. (Joint Exs. 22, 23; S.T. 633-636, 658-64, 813-821, 825-26).

132. Department geologists Susan Price and Andrea McGill testified regarding the geologic setting and the Department's review of potential migration pathways. (S.T. 633-636, 658-64, 804-09, 813-21, 825-26).

133. There are no known faults in the area that would provide a migration pathway from the Onondaga formation to shallow groundwater. (S.T. 645).

134. The Department uses a spreadsheet to evaluate the risk of induced seismic activity at disposal wells. (S.T. 636).

135. The Department evaluated induced-seismicity risk for the Injection Well, scoring it one point out of seven, indicating there was a low seismic risk. (S.T. 636; Catalyst Ex. CAT59).

136. Despite the Department's conclusion that the seismic risk was low, the Department included special conditions requiring Catalyst to address seismic monitoring and mitigation. (Joint Ex. 4; Catalyst Exs. CAT21, CAT59).

137. Catalyst submitted a seismic monitoring and mitigation plan, and the Department approved it in October 2024. (Catalyst Exs. CAT21, CAT59; S.T. 621-22).

138. The Department and Catalyst identified four deep wells that penetrate the Onondaga formation in the area of the Injection Well: the Enervest Lot 581-1 well, the Amico-Witco well, the Sweeley well, and the Injection Well. (Joint Exs. 2, 24, 25; S.T. 699-706, 983-87).

139. The Department considered the Oil and Gas Conservation Law and the availability of records for conservation wells in evaluating whether other deep wells were likely to exist in the area. (S.T. 557-64, 699-706).

140. Department inspector supervisor Marshall Wurst reviewed historic oil and gas records and maps for the Cyclone area. (S.T. 523-27, 557-64).

141. The deep wells identified in the historic studies penetrated the Onondaga formation and included depth information about those wells. (S.T. 557-64).

142. Mr. Wurst testified that historic shallow wells in the area were generally drilled to the Bradford Sands, at approximately 2,000 to 2,200 feet. (S.T. 557-64).

143. Mr. Wurst and his staff conducted numerous inspections and investigations in the area, including looking for undocumented wells. (S.T. 527-34, 557-564).

144. Department staff concluded that numerous historic wells in the Cyclone area were shallow wells and were unlikely to penetrate the confining layers above the Onondaga formation. (S.T. 557-64, 820-21, 825-26).

145. Ms. Price and Ms. McGill testified consistently with the Department's conclusion that the historic wells were likely shallow and did not reach the Onondaga formation. (S.T. 645, 658-64, 813-21, 825-26).

146. Mr. Wozniak testified regarding early drilling history in the area and agreed that the Bradford Sands was extensively developed in the Cyclone area. (S.T. 441, 445, 448-49).

147. Marc Glass was admitted as an expert in environmental monitoring and remediation. (S.T. 840-58).

148. Mr. Glass acknowledged that he is not a geologist, petroleum engineer, or reservoir engineer. (S.T. 846-58).

Groundwater, Drinking-Water Complaints, and Investigations

149. There is evidence of existing methane and water-quality concerns in the Cyclone area. (Hurst Exs. T, PP, QQ, RR; Joint Exs. 24, 26; S.T. 351-75, 398-417, 682-715).

150. Water-supply complaints in the area may become stray-gas migration cases if methane levels exceed the applicable regulatory action level. (S.T. 682-84).

151. Catalyst tested water from 15 water wells within 1,000 feet of the Injection Well to establish baseline conditions prior to injecting fluids. (S.T. 197, 203).

152. The Department also considered issues relating to the Pithole Water Association, a public water supply for the Cyclone area. (Hurst Ex. X; S.T. 622-24).

153. The Pithole Water Association well is located approximately 2,000 feet northeast of the Injection Well and is outside the area of review. (Joint Ex. 2; S.T. 640).

154. Because the Pithole Water Association is the sole water source for the Cyclone area, the Safe Drinking Water Program expressed concern about the Injection Well's potential to impact this water source. (Hurst Ex. X; S.T. 624).

155. The Department investigated water-supply complaints in the area, including the Dragonette complaint. (Joint Ex. 26; S.T. 351-75, 682-690).

156. Joseph Lichtinger, a Department Professional Geologist Manager, was involved in stray-gas migration investigations relating to water supplies in the area. (S.T. 682-84).

157. Mr. Lichtinger testified that the Department had other water-supply complaints in the area and explained the Department's process for evaluating complaints that exceed methane action levels. (S.T. 682-84).

158. The Department issued a July 29, 2024, letter regarding the Dragonette water-supply complaint, supported by a Department memorandum. (Joint Ex. 26; S.T. 684-90).

159. The record includes water test results from private water supplies in the area, including results associated with Josh Morgan, Banks, Sweeley, and Jamie Coleman. (Hurst Exs. T, PP, QQ, RR).

160. At the Merits Hearing, Lisa Rice testified that she lives about one-quarter mile from the Injection Well. (M.T. 221).

161. Ms. Rice has a water well that was drilled in the early 1960s and is approximately 280 to 300 feet deep. (M.T. 227-29).

162. Beginning in June 2025, Ms. Rice noticed problems with her household water, including a metallic or petroleum-like smell, eye irritation near running water, bad taste, and concerns regarding animals drinking the water. (M.T. 223-26).

163. Ms. Rice submitted a complaint to the Department regarding her water. (M.T. 223).

164. Ms. Rice reported an odor to her water and a sinkhole in her backyard. (M.T. 223-26).

165. Alicia Furey, a licensed professional geologist employed by the Department, investigated the Rice water-supply complaint. (M.T. 193-95).

166. Ms. Furey's work for the Department includes investigating water supply and stray-gas complaints. (M.T. 193-94).

167. Ms. Furey observed an odor in Ms. Rice's water and described it as petroleum-like with some metallic characteristics. (M.T. 199-201).

168. The Department collected water samples as part of the Rice investigation. (Hurst Exs. ZZZZ, BBBBB; DEP Ex. 41; M.T. 199).

169. The Department laboratory report described the sample appearance as "Clear, metallic/petro odor, NGD via jar." (Hurst Ex. ZZZZ; M.T. 200-01).

170. "NGD via jar" means no gas detected via the jar method. (M.T. 201).

171. Methane and ethane were detected in the collected water samples and Isotech detected a small amount of propane. (Hurst Exs. ZZZZ, BBBBB; M.T. 209-10).

172. Methane is odorless and does not explain a petroleum odor in the water. (M.T. 209-10).

173. The Department considered Ms. Rice's proximity to the Injection Well as part of its investigation. (M.T. 210).

174. The Department created a gas migration isotopic cross-plot plotting gas samples from various wells, including the Injection Well and Ms. Rice's well. (DEP Ex. 41; M.T. 214-217).

175. The location on the cross-plot of the gas sample from Ms. Rice's well is close to other older wells that the Department has found to be leaking. (DEP Ex. 41; M.T. 216-17).

176. As of the Merits Hearing, the Department had not identified the source of gas and odor present in Ms. Rice's water well but had concluded that the Injection Well is not likely to be a source of the contamination. (M.T. 211; 216-20).

177. The Department concluded that the alleged sinkhole in Ms. Rice's yard is an old abandoned well. (M.T. 213).

178. As of the Merits Hearing, the Rice investigation remained open. (M.T. 210-11).

Department Oversight and Environmental Review

179. The Department reviewed Catalyst's application materials before issuing the Permit and requested revisions or additional information where it deemed appropriate. (Joint Exs. 22, 23, 29, 30; S.T. 724-67, 934-43).

180. The Department's review involved staff with expertise or experience in water quality, oil and gas inspections, waste management, geology, and injection-well permitting. (S.T. 523-66, 597-75, 724-67, 804-36, 934-43).

181. The Department added special conditions to the Permit addressing surface-water protection, E&S controls, pressure monitoring and reporting, mechanical integrity test reporting, and seismic monitoring and mitigation. (Joint Ex. 4).

182. The Department conducted repeated inspections of the Site before and after the Permit was issued. (Joint Exs. 5-12, 35, 39, 46; DEP Exs. 13, 14, 15, 19; S.T. 523-34; M.T. 145-49, 174-93).

183. Department staff investigated complaints and concerns raised regarding wells and water supplies in the area. (Joint Exs. 24, 26; Hurst Exs. T, PP, QQ, RR, ZZZZ, BBBBB; DEP Ex. 41; S.T. 682-90; M.T. 193-95, 199-201, 209-11, 213-18).

184. Catalyst initially provided detailed minute-by-minute pressure data to the Department and later submitted summary reports after discussions with the Department and other injection-well operators in Pennsylvania. (M.T. 62).

185. The Department was aware of the January/February 2025 packer issue and DEP inspector Douglas Welsh was onsite to observe Catalyst's work and the February 6, 2025, mechanical integrity test. (Joint Ex. 37; M.T. 122-24, 145-49).

186. The Department did not take enforcement action or determine that the January/February 2025 packer issue required revocation of the Permit. (Joint Ex. 37; Catalyst Ex. 72; M.T. 125-27).

187. The Department did not raise concerns with Catalyst regarding P2 equipment outages. (M.T. 270).

188. Catalyst implemented additional monitoring safeguards after the P2 issues were addressed at the Merits Hearing. (M.T. 248-53, 268-70).

189. In March 2025, Catalyst informed the Department that it planned to add additional storage tanks at the Site. (M.T. 84-87).

190. The Department requested by email that Catalyst delay installation of the additional storage tanks until it received further guidance, but Catalyst proceeded after determining Department approval was not required. (Hurst Ex. BBBB; M.T. 84-87).

191. Catalyst updated its on-site plans to reflect the additional tanks, and a Department inspection shortly after the installation reported no violations. (M.T. 103-07).

192. On June 4, 2025, a Department inspector observed a small leak in a pressure line from the pump to the Injection Well. (Joint Ex. 46; M.T. 174-76).

193. The June 5, 2025, inspection report stated that the Injection Well was shut down to work on the facility but did not specifically describe the small pressure-line leak observed the previous day. (Joint Ex. 46; M.T. 174-78).

194. Mr. Welsh did not identify a violation related to the small leak because it was below the reportable quantity of five gallons in 24 hours and he could not prove a discharge to waters of the Commonwealth. (M.T. 176, 188-89).

195. Mr. Welsh concluded that Catalyst was following its PPC plan in addressing the issue and that the problem was fixed by the next day. (M.T. 188-89).

DISCUSSION

Standard of Review

Ms. Hurst's appeal challenges the Department's issuance of the Permit for the Injection Well. The Board reviews Department actions *de novo*, meaning that the Board "decide[s] the case anew on the record developed before" it. *Borough of St. Clair v. DEP*, 2016 EHB 299, 318 (citing *Dirian v. DEP*, 2013 EHB 224, 232; *O'Reilly v. DEP*, 2001 EHB 19, 32; *Warren Sand & Gravel Co. v. Dep't of Envtl. Res*., 314 A.2d 556 (Pa. Cmwlth. 1975)). In a third-party appeal such as this case, the party challenging the Department's decision bears the burden of proof. 25 Pa. Code § 1021.122(c)(2). In order to succeed in challenging the Department's permit decision, Ms. Hurst must demonstrate by a preponderance of the evidence that the Department acted unreasonably or contrary to the law, that its decision is not supported by the facts, or that the decision is inconsistent with the Department's obligations under the Pennsylvania Constitution. *Brockway Borough Mun. Auth. v. DEP*, 2015 EHB 221, 236, *aff'd*, 131 A.3d 578 (Pa. Cmwlth. 2016); *Friends of Lackawanna v. DEP*, 2017 EHB 1123, 1156.

Analysis

In considering this case, it is important to keep in mind the type of permit that is at the heart of this matter. Ms. Hurst is challenging the Department's decision to grant a permit to Catalyst, authorizing it to change the use of an existing production well, the Catalyst Lot 580-1 well, into an injection well for the disposal of oil and gas waste fluids. Because Catalyst's activity involves the conversion of an existing well to an injection well, the Site already contained the pre-existing production well, some limited production equipment, and an access road prior to the permit decision. The regulation governing the permitting of an injection well is found at 25 Pa. Code §

78.18. It provides that a person may not alter an existing well to be a disposal well unless the person: (1) obtains a well permit under § 78.11; (2) submits a copy of the well permit for the disposal well from EPA along with the EPA well permit application and related documentation; (3) submits a copy of a control and disposal plan for the disposal well and related facilities that meets the requirements of § 91.34; and (4) submits a copy of an erosion and sedimentation plan for the disposal well that meets the requirements of Chapter 102 and §78.53.

In her challenge to the Department's permit decision, Ms. Hurst raises several issues that can be grouped into three major lines of argument. The first focused on the permitting of the surface infrastructure and the impact on the watershed and wetlands arising from Catalyst's additional development at the Site and the operations of the Injection Well. Ms. Hurst argues that the Department failed to require Catalyst to satisfy the requirements of 25 Pa. Code § 78.18(3) and (4) dealing with the control and disposal ("C&D") plan and an erosion and sedimentation ("E&S") plan. Further, she argues that the Department did not properly consider and apply the Clean Streams Law and regulations designed to protect the waterways and wetlands at the Site. She also asserts that once Catalyst began operations at the Injection Well, the evidence shows that the Permit failed to adequately protect a wetland bordering the Site which calls into question whether the Permit was properly issued in the first place.

Ms. Hurst's second line of argument is centered on the downhole integrity of the Injection Well and the potential impact of the injection of oil and gas fluids on the drinking water in the area surrounding the Injection Well. Ms. Hurst stated that the groundwater in the vicinity of the Injection Well has existing contamination issues that have not been properly addressed by either the Department or Catalyst and asserts that the Department's issuance of the Permit did not properly evaluate and/or account for the risks posed by the Injection Well. She alleges that the

evidence of problems Catalyst has encountered since it commenced injection at the Site in January 2025 demonstrates that the Permit is not sufficiently protective of the groundwater and, therefore, the Department acted improperly and in a manner that is inconsistent with its constitutional obligations, in issuing the Permit.

The third major line of argument offered by Ms. Hurst addresses the Environmental Rights Amendment ("ERA") to the Pennsylvania Constitution. She asserts that issuing the Permit is illegal under the ERA because its safeguards fail to prevent violations of the Clean Streams Law and its implementing regulations. She also asserts that the Department's actions have violated its trustee duties under the ERA. Relying on private trust concepts, Ms. Hurst states that the Department, as a trustee of Pennsylvania's public natural resources, has a duty to administer the trust as a prudent person, which requires the Department to exercise reasonable care, skill and caution. According to the argument set forth by Ms. Hurst, the Department has "failed its duty of prudence by both delegating its responsibilities to a company that has not endeavored to fulfill them and by exercising insufficient oversight over the company." (Hurst Merits Brief at 24).

The Department and Catalyst of course oppose the positions set forth by Ms. Hurst and contend that the Department's permit decision complied with all relevant statutes and regulations, was reasonable and supported by the facts, and satisfied the Department's constitutional obligations. Catalyst and the Department assert that the operational issues raised by Ms. Hurst are part of routine startup activities and do not rise to a level that demonstrates that the Department's permitting decision was unreasonable or contrary to the law.

Surface Development Activities

We first address Ms. Hurst's claims regarding the surface development activities at the Site. In its initial permit application dated May 5, 2023 ("May 2023 Application") (Joint Ex. 29),

as is required under 25 Pa. Code § 78.18, Catalyst included copies of a C&D plan dated April 20, 2023 ("April 2023 C&D Plan") and an E&S plan dated March 2023 ("March 2023 E&S Plan"). Both the April 2023 C&D Plan and the March 2023 E&S Plan were updated several times as the development at the Site moved forward. There is a revised C&D plan dated September 15, 2023 (Joint Ex. 16) and an updated C&D plan attached as Appendix D to the Preparedness, Preventions, and Contingency ("PPC") plan that was submitted on October 11, 2024. (Joint Ex. 17). Revised E&S plans are dated April 2024 (Joint Ex. 19) and August 2024 (Joint Ex. 20). Revisions to these plans incorporate changes to the Site's development as well as comments from the Department. The initial and revised E&S plans and C&D plans, along with conditions related to the E&S plans that were added to the Permit, are the main mechanisms by which the Department regulated Catalyst's surface development activities.

The Department reviewed the C&D and E&S plans, requested changes where appropriate, approved them as necessary, and conducted numerous inspections to ensure that the plans were followed and that the environment, including the waterways and wetlands around the Site, were protected. Brian Ayers ("Mr. Ayers"), a Water Quality Specialist Supervisor for the Department, conducted the initial review of the March 2023 E&S Plan and also reviewed an early version of the C&D Plan.[2] He drafted an internal Department memo dated October 16, 2023, stating that the March 2023 E&S Plan "is consistent with the requirements set forth in Chapter 102 & Chapter 78.53." (Joint Ex. 22). In the same memo, he reached a similar conclusion regarding the C&D plan finding that it "meets the requirements set forth in" the Department's Guidelines for the Development and Implementation of Environmental Emergency Response Plans. (*Id.*). A week

[2] We cannot determine from Mr. Ayers' testimony or his internal memo whether he initially reviewed the April 2023 C&D Plan, or the C&D Plan dated September 15, 2023.

later, on October 23, 2023, Mr. Ayers wrote a second memo ("October 23 Memo") in which he again stated that the plans met the requirements but, in addition, suggested permit conditions addressing E&S control measures to protect the nearby wetlands and watercourses. (Joint Ex. 23). The three specific conditions discussed in the October 23 Memo were as follows: (1) Mark the boundaries of all wetlands with high visibility fencing during all phases of the activity, including construction; (2) The owner or operator may not cause or allow a discharge from the well pad under 25 Pa. Code § 78.60; and (3) The owner or operator shall implement ABACT BMPs[3] throughout the well site to maintain and protect the existing water quality of surface water resources. Mr. Ayers testified that these suggestions were based on discussions with his staff after Evan Bruce, a Department inspector, conducted a field inspection on September 7, 2023. (Hurst Ex. XX). He explained that the conditions were intended to ensure that Catalyst undertook the necessary steps to protect the waterways and wetlands. The Department incorporated the three specific conditions set forth in the October 23 Memo as special conditions in the Permit, making them enforceable conditions governing Catalyst's site development activities.

The evidence at the Supersedeas Hearing satisfied us that Catalyst complied with the Permit's special conditions and followed the other requirements in its March 2023 E&S Plan as subsequently revised. The high visibility fencing and the ABACT BMPs, which consists of a rock construction entrance and filter sock, were installed in February 2024 (See Joint Ex. 7) and appeared to still be in place and maintained close to the time of the Supersedeas Hearing in December 2024. (Joint Ex. 1; S.T. 249-50). The record at that time reflected that these ABACT BMPs were effective in protecting the identified wetlands and the unnamed tributary to Kinzua

[3] ABACT BMPs is an acronym for Antidegradation Best Available Combination of Technologies – Best Management Practices. 25 Pa. Code § 102.1.

Creek, the principal waterway in the area. The Department's inspection reports associated with its frequent inspections of the Site (See Joint Exs. 8, 9, 10, 11 and 12; DEP Ex. 19) and the testimony provided at the Supersedeas Hearing do not evidence any discharges from the Site or any other violations of the E&S special conditions in the Permit through December 2024.

At the time of the Supersedeas Hearing, Ms. Hurst presented no evidence of any impacts on the identified wetlands or waterways from the surface activities at the Site. However, by the time of the Merits Hearing in November 2025, an issue had arisen concerning the potential encroachment of an alleged wetland area located at the Site. Jason Horvath ("Mr. Horvath") testified that he was alerted via email by a Catalyst contractor that an expansion to the gravel parking lot encroached on a wetland area. (M.T. 88-89; Hurst Ex. CCCC). Catalyst brought this issue to the attention of the Department and, as a result, Mr. Ayers investigated the alleged encroachment for the Department in late May 2025. He testified that he had completed the basic wetlands identification course provided by the U.S. Army Corps of Engineers and had participated in several dozen formal wetland identifications due to a complaint or a concern at a proposed well site. Mr. Ayers visited the Site and observed the area that was identified by Catalyst's consultant as a wetland encroachment. The potential encroachment covered a small area of approximately 1/100th of an acre. (M.T. 281-282). He surveyed the soil that was not covered by the stone along with the surrounding plants and concluded that the area where the stone had been placed was not a wetland. (M.T. 274, 282). While the Department did not seek to have Mr. Ayers admitted as an expert on wetlands identification, based on his testimony regarding his experience, we credit his testimony regarding the absence of a wetland. At the time of his investigation, he discussed possible options with Catalyst staff and Catalyst decided to remove the stone from the impacted

area. Mr. Ayers returned to the Site later where he observed that the stone had been removed and the area was temporarily stabilized with mulch and seed.

Ms. Hurst asserts this incident shows that the special conditions in the Permit are insufficient to protect the wetlands and, therefore, the Permit should not have been issued in the first instance. We disagree that the evidence supports this position. First, based on Mr. Ayers' testimony, no wetlands encroachment took place. The only evidence in opposition to this testimony is an email from Catalyst's consultant. However, we received no testimony from the consultant and thus have no basis to evaluate this evidence beyond the emailed statement itself. This is in contrast to Mr. Ayers' direct testimony that there were no wetlands impacted by the stone. We understand Ms. Hurst's concern that the high-visibility fence the Permit required to be in place was apparently pushed over as a result of plowing and remind both Catalyst and the Department that this should not occur in the future. Ongoing compliance with the Permit is important. However, it is unclear from the testimony what role, if any, the issue with the fence played in the alleged encroachment and we note that the filter sock, that was also required under the Permit, was in place according to Mr. Ayers. Ultimately, this incident does not rise to a level for us to conclude that the Permit should not have been issued by the Department.

Ms. Hurst next argues that the Department has neither followed its own regulations nor the Clean Streams Law in permitting the surface activities at the Site. The site plan in the March 2023 E&S plan identified three wetlands and the unnamed tributary to Kinzua Creek. While it is a little unclear from the testimony, the unnamed tributary and two of the wetlands at the Site qualify as exceptional value waters pursuant to the Department's classification scheme. Ms. Hurst states that because of the exceptional value classification, the Department was required to apply various regulations that govern development in areas containing exceptional value waterways. The

problem with Ms. Hurst's argument is that the regulations that she cites to support her position are triggered during water permitting by the Department. Catalyst did not apply for any water permits for this project nor did the Department issue any water permits for this project. The only question is whether the Department was correct in determining that water permits were not required for the development of the Site.

There was no evidence presented at either of the hearings indicating that Catalyst had either planned for or had a point source discharge during construction. The record did not contain any evidence of a point source discharge from the proposed or actual operations of the Injection Well. Rather than being discharged at a point source, any water collected in the containment area surrounding the equipment at the Site is added to the incoming disposal fluids and injected into the underground formation. The lack of a point source discharge obviates the need for an NPDES permit which eliminates the specific antidegradation requirements cited by Ms. Hurst.

Early in the development and permitting process, the Department and Catalyst discussed one water permit for the Site. The March 2023 E&S Plan identified the need for a GP-7 permit to cover the construction of a portion of the Site's driveway that would encroach into existing wetland #3. A GP-7 permit is a general permit intended to cover minor road crossings in wetlands that impact less than a 1/10th of an acre. The April 2024 E&S Plan continued to discuss the need for the GP-7 permit and at least as of May 1, 2024, the Department's position remained that a GP-7 permit was necessary before construction commenced. (Hurst Ex. DDD). However, Catalyst neither applied for nor received the GP-7 permit prior to commencing construction. (S.T. 581). Instead, Catalyst redesigned the Site layout to avoid encroaching on wetland #3. An updated site plan was sent to the Department on July 15, 2024, by Catalyst employee Jason Horvath. (Hurst Ex. BBB). To confirm that Catalyst had followed the new site plan and that it did not encroach on

wetland #3, Department staff conducted a site inspection on July 17, 2024. Following that on-site inspection, the Department determined that a GP-7 was no longer required and communicated that to Catalyst via email. (Catalyst Ex. 24). Ms. Hurst argues that the failure to have a GP-7 permit when Catalyst began construction is a violation and thereby supports her claim. We conclude that she is not correct and agree with the Department's position that this permit issue became moot as it was not ultimately necessary for the Site as developed. (S.T. 593). While it would have been prudent for Catalyst to have communicated with the Department regarding its decision to alter the Site design to avoid encroaching on wetland #3 earlier than mid-July 2024 when construction was well underway, the communication issue here does not give rise to significant concern regarding the Department's permitting decision. The Site redesign led to a better environmental outcome by avoiding any impact or encroachment to wetland #3 thereby eliminating the need for a GP-7 permit. Catalyst's failure to obtain a permit that ultimately was not required, simply does not support overturning the Department's permit decision in this case.

Ms. Hurst also argues in her Supersedeas Brief that the Department failed to properly account for the exceptional value wetlands and waterways in the permitting process. She states that the Department was not authorized to issue the Permit because it failed to evaluate and apply the criteria for special protection wetlands and watersheds and failed to require proper permits under Chapter 102 and 105. Ms. Hurst failed to establish that any permits were required at the Site under these regulations. Chapter 102 governs erosion and sedimentation requirements. It requires an NPDES Permit for earth disturbance activities that equal or exceed one acre. 25 Pa. Code § 102.5(b). It specifically lists oil and gas activities as requiring an E&S permit if the activities involve 5 acres or more of earth disturbance over the life of the project. 25 Pa. Code § 102.5(c). Neither of these requirements apply in this case based strictly on the size requirement

alone. The Site developed by Catalyst was under one acre as originally proposed and as ultimately constructed. The constructed Site measured 0.8458 acres at the time of the Supersedeas Hearing (S.T. 978), and no evidence was presented at the Merits Hearing that the Site's size had changed once operations of the Injection Well began. The Department correctly determined that no Chapter 102 permit was required. In the absence of a permit, Catalyst was still required to follow an E&S plan and did so in this case as demonstrated by the testimony at the Supersedeas Hearing.

Chapter 105 requires a written permit if a person is going to construct, operate, maintain, enlarge or abandon a dam, water obstruction or encroachment. 25 Pa. Code § 105.11(a). There was no evidence that Catalyst proposed a dam or a water obstruction. An encroachment is defined as "a structure or activity which changes, expands or diminishes the course, current or cross section of a watercourse, floodway or body of water." 25 Pa. Code § 105.1. With the exception of the alleged May 2025 encroachment discussed above, Ms. Hurst produced no evidence that Catalyst encroached into any watercourse, floodway or body of water associated with the wetlands or unnamed tributary to Kinzua Creek. As we understand it, Ms. Hurst's main argument here has to do with the permitting of activities in the exceptional value wetlands identified on the Site.

The regulation that she cites in support of her argument is found at 25 Pa. Code § 105.18a. It provides that the Department will not grant a permit for an encroachment located in, along, across or projecting into an exceptional value wetland, or otherwise affecting an exceptional value wetland unless certain requirements are met. However, there was no evidence of any encroachment at the time of the Supersedeas Hearing and, as we have discussed, the alleged May 2025 encroachment was not supported by the evidence. Thus, the need for a Chapter 105 permit and its related requirements does not apply to Catalyst's development activities at the Site. Ultimately, the facts of the case support the finding that the Department properly addressed the

surface development activities at the Site and required Catalyst to take the proper steps to protect the wetlands and waterways. Further, Ms. Hurst produced no evidence that the development activities had any impact on the wetlands or the unnamed tributary to Kinzua Creek. The E&S controls the Department required and implemented by Catalyst, specifically, the high-visibility fencing and the filter sock, along with the stone placed on the Site, are designed to effectively protect the surface water resources during construction and ongoing operations so long as they are complied with by Catalyst and properly enforced by the Department. To the extent that a lack of compliance and enforcement existed in the incident where the high-visibility fencing was knocked over during plowing, we find that the evidence on this issue is not sufficient to challenge the legality and reasonableness of the Department's decision to issue the Permit.

Ms. Hurst also raised an issue regarding the review of the C&D Plan submitted by Catalyst, questioning whether it met the requirements found in the applicable regulations. The permitting requirements for the Injection Well require that Catalyst submit a C&D Plan to the Department that satisfies the requirements set forth in 25 Pa. Code § 91.34. Section 91.34 requires that a person engaged in activities utilizing pollutants provide a plan that outlines the nature of the activity and includes preventative measures that the person intends to undertake to prevent pollutants from reaching the waters of the Commonwealth. 25 Pa. Code § 91.34. In addition to these general requirements, the Department has specific requirements for C&D plans involving oil and gas facilities found at 25 Pa. Code § 78.55. Multiple Department witnesses testified that Catalyst's C&D Plan met the regulatory requirements. In his initial review, Mr. Ayers stated that the C&D Plan met the regulations' requirements. Despite that, Catalyst continued to revise the C&D Plan as the Site plans developed. Eventually a final C&D Plan was incorporated into the PPC Plan identified as Joint Exhibit 17. The Department had Kevin Maskol ("Mr. Maskol") review the final

C&D plan because he had experience in reviewing plans for facilities like Catalyst's Injection Well. (S.T. 936-7). Mr. Maskol testified that the PPC Plan, including the C&D Plan, generally satisfies the Department's requirements. (S.T. 942).

During the Supersedeas Hearing, Ms. Hurst raised an issue concerning whether the PPC Plan, including the C&D Plan, required the signature of a registered professional engineer. Mr. Maskol testified that the Site did not meet the criteria requiring a stamp by a professional engineer and Ms. Hurst did not provide evidence to the contrary. In her Supersedeas Brief, Ms. Hurst also raised the specific issue that the C&D Plan presented at the time of the application did not include a pressure barrier policy which she claimed is required under 25 Pa. Code § 78.55. We are not convinced that Ms. Hurst is correct in this assertion. A pressure barrier policy is not mentioned in the permitting requirements for injection wells set forth in 25 Pa. Code § 91.34. It is only mentioned as a requirement in 25 Pa. Code § 78.55 which requires a C&D plan "prior to generation of waste." Mr. Maskol testified that this phrase requires Catalyst to have the final and complete plan in place prior to beginning operations at the Injection Well. The last C&D Plan that Catalyst submitted in October 2024 as part of its PPC Plan contains a pressure barrier policy thereby satisfying the requirement at 25 Pa. Code § 78.55. We find that Ms. Hurst has not shown that there are issues with the C&D Plan accepted by the Department for the Site.

Injection Well Integrity and Groundwater

Ms. Hurst's second concern is the potential risk posed by injecting oil and gas fluids into the Injection Well. She argues that the groundwater in the area around the Injection Well is already contaminated and that the disposal of the oil and gas waste the Permit authorizes creates added risk to the people in the area who rely on the groundwater as their source for drinking water. She specifically alleges that Catalyst had not performed a successful mechanical integrity test prior to

beginning operations. She further asserts that once operations commenced in January 2025, there were additional issues with the mechanical integrity of the Injection Well. (Hurst Supersedeas Brief at 13; Hurst Merits Brief at 25-26). She also raises concerns about numerous oil and gas wells in the vicinity of the Injection Well, many of which are reportedly abandoned, unplugged and/or improperly plugged. She asserts that the Department lacks sufficient information about these wells and they pose a risk by potentially providing a pathway for the injection fluids to reach the shallower groundwater. She argues that the Department should have denied the Permit on the basis of this risk. At the Merits Hearing, Ms. Hurst presented evidence arising from the ongoing operations of the Injection Well that she contends raise concerns about the safe operation of the Injection Well and the potential for those operations to impact groundwater. These operational issues, she argues, show that the Department has not sufficiently investigated the geology in the area of the Injection Well or the functioning of the Injection Well to support its permitting decision. (Hurst Merits Brief at 23). Upon review of the testimony and the evidence of record, we conclude that the Department and Catalyst adequately investigated and addressed these issues and that the Department properly determined Catalyst met the requirements for the Permit. Therefore, we find that Ms. Hurst has not demonstrated that the Department should have denied the Permit based on the risk posed by injecting oil and gas fluids into the Injection Well.

The Injection Well is classified as a Class II-D commercial injection disposal well. In Pennsylvania, the EPA is primarily responsible for permitting these types of wells. Under a cover letter dated December 4, 2020, Catalyst submitted a permit application for the Injection Well to the EPA. (Joint Ex. 2). The EPA issued a permit for the Injection Well on July 18, 2022, and issued a revised permit with minor modifications to correct typographical issues on or around August 19, 2024. ("EPA Permit") (Joint Ex. 3). There was no evidence that the EPA Permit that

authorizes Catalyst to operate a Class II-D commercial injection disposal well was appealed by any party. The EPA Permit sets forth detailed provisions governing the construction, operation, and monitoring requirements for the Injection Well and generally controls the Injection Well operations that go to many of Ms. Hurst's concerns. As previously noted, the Department regulations governing the permitting of injection wells required Catalyst to submit a copy of the EPA Permit, along with the associated application and related documentation, as part of its permit application. 25 Pa. Code § 78.18(2). There is no dispute that Catalyst satisfied this requirement as part of its application filings with the Department. Beyond the regulatory requirement that Catalyst possess an EPA Permit, the Department also conditioned the Permit on the existence of the EPA Permit and further required Catalyst to submit copies of any revisions or modifications of the EPA Permit to the Department. Even though some of the operating parameters for the Injection Well are contained in the EPA Permit and not the Permit, based on the testimony at the Supersedeas Hearing, the Department considered these operating requirements in its permit decision.

Both the EPA Permit and the Permit address mechanical integrity testing of the Injection Well. Mechanical integrity looks at a well's ability to prevent the loss of fluids that is generally accomplished by casing and cementing the well bore. In the case of the Injection Well, there are several strings of well casings designed to prevent leakage from the well bore. Starting from the outside of the Injection Well and working in, there is a 11 ¾-inch casing starting from the surface and going down to 425.9 feet; an 8 ⅝-inch casing from the surface to 2,504.36 feet; and a 4 ½-inch production casing from the surface down to 5,396.35 feet. (Joint Ex. 25, CAT001336). Each of these three casing strings are cemented in place. In addition to the existing casing, Catalyst installed a new 2 ⅞-inch tubular and packer inside the 4 ½-inch production casing. The oil and

gas fluids will be sent downhole to the injection level through the new tubular. Ms. Hurst pressed the Department and Catalyst on the issue of the Injection Well's mechanical integrity and argued at the Supersedeas Hearing that Catalyst "has not yet performed a successful mechanical integrity test." (Hurst Supersedeas Brief at 13). The Board heard testimony and reviewed evidence that extensively addressed the mechanical integrity of the Injection Well and the testing conducted to evaluate its integrity. Based on that testimony and evidence, we find that Ms. Hurst's assertion that Catalyst had not performed a successful mechanical integrity test prior to the start of operations is not supported. Furthermore, she has not shown that the Department's permit decision was unreasonable due to issues involving the mechanical integrity of the Injection Well.

The mechanical integrity of the Injection Well is clearly important because if the casing and cement are unable to contain the fluid within the wellbore above the injection zone, the injected fluids could theoretically leak from the Injection Well, potentially reaching the shallow groundwater that serves as the drinking water in the Cyclone area. Andrea McGill, a Department geologist involved in reviewing the permit application, repeatedly testified that as long as the mechanical integrity was upheld, she did not see any chance of migration from the injection reservoir to the shallower geological zones. (S.T. 820, 821, 826). The EPA Permit prohibits Catalyst from commencing injection operations until it has demonstrated to the EPA's satisfaction that the Injection Well has mechanical integrity and it has received written correspondence from EPA confirming as much. (Joint Ex. 3). The Permit requires Catalyst to provide the Department with documentation from EPA demonstrating compliance with the EPA mechanical integrity requirements. Catalyst demonstrated the mechanical integrity of the Injection Well prior to starting operations by passing two mechanical integrity tests witnessed by EPA and Department staff. The first mechanical integrity test was conducted on July 16, 2024. The first test was

described as a joint effort between Catalyst and EPA. The EPA inspection report (Joint Ex. 14) listed Jason Horvath of Catalyst, as the person conducting the test and Dave Rectenwald ("Mr. Rectenwald") as the EPA witness. Doug Welsh ("Mr. Welsh") of the Department was listed as present for the test. Mr. Rectenwald marked the section of the EPA form for the test results as "Passed." Mr. Rectenwald did not testify but both Mr. Horvath and Mr. Welsh testified that the first test passed EPA requirements to demonstrate mechanical integrity. (S.T. 270, 510). A second mechanical integrity test was run on November 26, 2024. The EPA inspection report (Joint Ex. 31) again lists Mr. Horvath as conducting the test and Mr. Rectenwald as the EPA witness. Marshall Wurst ("Mr. Wurst") of the Department was listed as present for the second test. The second test was run at a higher starting pressure and for a longer time than the first test. The EPA inspection report again lists the test result as "Passed." (Joint Ex. 31, CAT001847).

Ms. Hurst did not present any direct fact or expert witness testimony challenging the mechanical integrity test results. Through her counsel's cross-examination of various witnesses, Ms. Hurst attempted to create doubt surrounding the results of these two mechanical integrity tests. None of the testimony elicited on cross-examination overcame the clear testimony and evidence presented by Catalyst and the Department that showed the Injection Well satisfactorily passed both tests. When a party raises technical issues, such as those pertaining to the mechanical integrity tests, the Board would generally expect the party questioning the test's reliability and results to present expert testimony to support their position.

While Ms. Hurst failed to provide expert testimony challenging the mechanical integrity testing, Catalyst presented testimony from David Wozniak ("Mr. Wozniak") who was admitted as an expert petroleum and reservoir engineer. Mr. Wozniak testified that upon reviewing the test information, it was his expert opinion that the mechanical integrity tests completed prior to

operations beginning at the Injection Well were conducted per the EPA guidelines and, furthermore, based on those guidelines, he concurred with the EPA in finding that the Injection Well passed the tests and that it was mechanically sound. (S.T. 451).

Once operations began in late January 2025, an issue arose with the packer in the Injection Well. Inconsistent pressure readings in the annular space between the digital pressure gauge and the analog pressure gauge led Catalyst to cease injection and investigate the situation. (M.T. 118). Catalyst first attempted to reseat the packer, but pressure readings showed a continuing issue with holding pressure in the annular space. Catalyst next attempted to set the packer 30 feet higher up the Injection Well and this time it held the pressure for four hours. Despite the packer holding pressure, Catalyst decided to install a new packer in the Injection Well. Installation of the new packer took place in early February 2025. In accordance with the requirement in the EPA Permit that a new mechanical integrity test be run in conjunction with certain types of work in the Injection Well, Catalyst ran a mechanical integrity test following installation of the new packer.[4] The Injection Well passed the mechanical integrity test conducted on February 6, 2025 and EPA gave Catalyst permission to restart injection activity. (M.T. 122; Joint Ex. 37). DEP was aware of the issue with the packer and DEP inspector Doug Welsh was onsite to observe Catalyst's actions including the February 6th mechanical integrity test. (M.T. 123-124). EPA noted that the issue with the packer constituted a mechanical integrity failure but stated that there was no reason to believe that any injection fluid was released into the environment and no evidence of a failure of the casing that might have resulted in the release of injection fluid into an underground source of drinking water. (M.T. 125-126; Catalyst Ex. 72).

[4] In addition to requiring a mechanical integrity test following certain work in the Injection Well, the EPA Permit also requires Catalyst to run a mechanical integrity test every two years and EPA can request that Catalyst demonstrate mechanical integrity at any time during the term of the EPA Permit. (Joint Ex. 3).

Ms. Hurst argues that the problem with the packer required significant unexpected and unexplained maintenance by Catalyst to maintain mechanical integrity. She asserts that it demonstrates that the Department does not adequately know and understand the mechanical conditions at the Injection Well and should not allow continued operations under the Permit. We disagree. Ms. Hurst offered no expert testimony regarding the issue with the packer or the actions that Catalyst and the Department undertook to address the situation. Both the EPA and the Department observed how Catalyst managed the packer problem and neither agency appears to have been concerned with those actions or determined that there was a significant issue with the Injection Well or its operation. The original issue with the packer was noted because of inconsistent pressure readings from pressure monitoring. Catalyst acted in accordance with the Permit requirements and notified EPA and the Department about the issue. (M.T. 156-57). In accordance with the EPA Permit, Catalyst completed a mechanical integrity test once the new packer was installed. The fact that the EPA Permit requires mechanical integrity testing after certain work is done on an injection well seems to acknowledge that work, such as the need to adjust and/or replace a packer, will likely be required on occasion and is not an unexpected occurrence as suggested by Ms. Hurst. EPA gave its permission to restart injection only after Catalyst demonstrated the Injection Well's mechanical integrity. EPA stated that there was no evidence of the release of injection fluid and Ms. Hurst offered no direct evidence to the contrary. Overall, Ms. Hurst has not demonstrated by a preponderance of the evidence that the issue surrounding the packer replacement is sufficient to question the Department's decision to issue the Permit in the first instance.

Ms. Hurst raised issues regarding the cement surrounding the well casings. Her counsel seized on the term "open hole" in an attempt to raise an issue about the integrity of the Injection

Well. It is our understanding that in this case, the term "open hole" was used to describe a portion of the wellbore where the 4 ½-inch production casing is not cemented in place. This occurs from the top of the cement at 3,512 feet back to the surface. Mr. Wozniak and others testified that this lack of cement was purposefully designed because the filling of that void with cement would create hydrostatic pressure that could potentially fracture the surrounding rock; a result that the company who originally drilled the well would obviously want to avoid. (S.T. 216-217, 439). The "open hole" does not, as Ms. Hurst's counsel's questioning tried to suggest, create an automatic pathway for injected fluids to enter the level containing the area's drinking water. Any injected fluids would first have to escape the tubular and the 4 ½-inch production casing which is unlikely to take place due in part to the pressure monitoring discussed below. If fluids did in fact get released from the 4 ½-inch production casing, they would then have to pass through either the surrounding thousands of feet of rock or, after moving up through the uncemented portion of the well bore, escape out of either the 8 ⅝-inch casing and cement or the 11 ¾-inch casing and cement or both. None of these possibilities seem likely to occur and the repeated discussions of the "open hole" did not convince the Board otherwise.

Ms. Hurst also took issue with the completion report because it lacked a cement bond log for the Injection Well above 3,300 feet. (Hurst Supersedeas Brief at 13). As the Board understands it, the intent of the cement bond log run in the Injection Well was to determine the condition of the cement around the 4 ½-inch casing. (S.T. 491). The cement bond log identified that the top of the cement was at 3,512 feet and the lack of cement above that point was clearly identified in the log. (Joint Ex. 25). Ms. Hurst neither identified any statutes or regulations requiring a cement bond log be run above 3,300 feet, nor did she present an expert to testify why the lack of a cement bond log above that depth created an issue with the integrity of the Injection Well. Based on the

testimony discussed above that explained the lack of cement was part of the intended design of the cement program for the 4 ½" production casing, we find that the lack of a cement bond log in a section where all parties acknowledge there is no cement, is not an issue. Without expert testimony to explain why the lack of the cement bond log poses a risk of a release from the Injection Well, there is no basis on which we can find that the Department's permit decision was improper or unreasonable.

As testified to at the Supersedeas Hearing and the Merits Hearing, the EPA Permit and the Permit require Catalyst to monitor the pressures in the Injection Well to ensure that mechanical integrity is maintained during ongoing operations. The Permit requires that Catalyst continuously monitor injection pressures, annular pressures, and injection rates. If the monitoring indicates that any mechanical integrity problems have arisen, Catalyst is required to notify the Department within 24 hours of these conditions and must cease fluid injection. Ms. Hurst's counsel asked Catalyst's expert, Mr. Wozniak, what was the most common cause for failures of Class II injection wells. He testified that, based on his experience, it was failure in the tubulars due to corrosion caused by improper maintenance. (S.T. 457).[5] He stated, however, that in the instances involving tubular failures that he was aware of that occurred at other sites, no environmental impacts occurred because these failures were detected as a result of the companies' monitoring of the pressures in the wells. Catalyst has installed two pressure monitoring transducers on the Injection Well that are designed to monitor the integrity of the tubular and of the 4 ½-inch production casing. Mr. Horvath testified extensively about the two pressure monitoring transducers at both the Supersedeas Hearing and the Merits Hearing. Pressure transducer P1 is intended to continuously

[5] Catalyst routinely uses a corrosion inhibitor in the Injection Well to address any potential corrosion issues. (S.T. 79-81, 462, 509; M.T. 42-43, 51, 101).

monitor the pressure in the tubular and the P2 pressure transducer is designed to continuously monitor the pressure in the annular space between the tubular and the 4 ½-inch production casing. If a problem with the tubular occurred above the packer, there would be a drop in the pressure on the P1 transducer and an increase in the pressure reading at the P2 transducer. (S.T. 990). Mr. Horvath stated that Catalyst would be aware of the issue "the second it happened" as text messages would go out to multiple Catalyst staff and, in addition, the injection pump would automatically shut off, thereby preventing any further injection of fluid into the Injection Well. (S.T. 990-91). Any leaks would be contained within the 4 ½-inch production casing. (S.T. 991-92). Similarly, if there was any issue with the integrity of the 4 ½-inch production casing independent of an issue with the tubular, the pressure measured by the P2 transducer would drop and Catalyst would immediately be notified of that issue. (S.T. 241, 244-45). The Permit also requires that Catalyst report pressure monitoring information to the Department on a monthly basis. (Joint Exs. 4, 32; S.T. 295-96).

Once injection began in January 2025, the pressure monitoring system brought the issue with the packer to Catalyst's attention in late January 2025. However, the testimony at the Merits Hearing clearly showed that the pressure monitoring system has not worked as flawlessly as Mr. Horvath's testimony at the Supersedeas Hearing suggested it would. This is concerning because Mr. Horvath acknowledged that the pressure monitoring transducers are an important piece of well monitoring equipment. (M.T. 140). The problems with pressure monitoring at the Injection Well were the result of both mechanical failures and human shortcomings. The digital P1 transducer that measures the pressure in the tubular recorded a default value of 4000 psi for at least two days in June 2025 and two days in July 2025. (M.T. 259, 263). The duration and nature of the problem that resulted in the default value recording at P1 was not clear from the testimony. Catalyst's setup

provides for the automatic shutdown of the injection pump when the digital pressure readings at P1 exceeds 2600 psi so the default recording of 4000 psi shutdown the injection pump limiting any risk of a release according to Mr. Horvath. (M.T. 267). In June 2025, the digital pressure transducer that measures the annular pressure (P2) was non-functioning for several days and also recorded a default value of 4000 psi. (M.T. 66-67).[6] According to Mr. Horvath, the digital P2 transducer was non-functioning because it blew a fuse and the specialty replacement fuse was not readily available. (M.T. 249). He testified that he was unaware that it required a specialty fuse.[7] During the time that P2 transducer was inoperable, Catalyst had an analog pressure monitor in place, but it is unclear how frequently the analog pressure readings were observed and there is no record of the analog pressure monitoring data being recorded during that interval. (M.T. 67-68, 250). Mr. Horvath testified that during that time, Catalyst personnel at the Site wrote down the default value of 4000 psi from the non-functioning P2 transducer rather than record the actual analog pressure readings. (M.T. 250-51). Further, it is apparent that the analog equipment measuring the P2 pressure at the Injection Well in June 2025 was not capable of the type of instantaneous notification of a problem to multiple parties that Catalyst had described during the Supersedeas Hearing. Despite Catalyst reporting the default value to the Department for the several days that the P2 transducer was not functioning, there is no testimony in the record indicating the Department was aware of the issue or followed up with Catalyst on this clear violation of the Permit's terms.

[6] Mr. Horvath testified that there was only one other time besides the days in June 2025 that the P2 transducer was inoperable. It occurred over a 5-hour period on July 31, 2025, because the equipment had become plugged. Catalyst removed the failed P2 transducer, conducted maintenance and put it back into service. (M.T. 254-55).

[7] Catalyst subsequently ordered 20 replacement fuses that are stored at the Site. (M.T. 249-250).

After this was raised during the first day of testimony at the Merits Hearing, Catalyst took immediate steps to address this problem. On the second day of the Merits Hearing, Mr. Horvath testified about several actions undertaken by Catalyst overnight. Catalyst maintains an automatic shutdown of the injection pump if the pressure on the injection tubing, as measured by the P1 transducer, exceeds a specified level but it did not have a similar shutdown system for the annular pressure measured by the P2 transducer. Catalyst installed an automatic shutdown on the injection pump if the reading of the P2 pressure exceeded 750 psi along with an alarm setting that triggers if the reading reaches 700 psi. (M.T. 248). In addition, Catalyst added a paper chart to continuously record analog P2 pressure readings. (M.T. 251-52). As a result of this change, there are three separate instruments tracking the P2 pressure, the digital transducer, the analog monitor and the chart recorder with its own analog measurement equipment. Catalyst also stated that it was planning on adding one additional piece of equipment, an analog Murphy gauge, that will send out a text alert if the analog recorded pressure goes above a specified value. This is intended to provide a text alert even when the digital P2 transducer is not functioning properly.

Overall, Catalyst has reasonably addressed concerns about the pressure monitoring system raised at the Merits Hearing. We recognize that Catalyst acted promptly in response to these concerns once they were raised at the Merits Hearing but also acknowledge that it is concerning that it took hearing testimony in front of the Board for these issues to surface. The Permit requires Catalyst to provide continuous digital monitoring of the pressure in the injection tubing and in the annulus. Unfortunately, the record developed at the Merits Hearing shows that this has not been done on a continuous basis. Further, the Permit requires Catalyst to submit information about the pressures in the injection tubing and the annulus to the Department monthly. Catalyst originally submitted the pressure information in detail, but after it discussed the report format with the

Department and reviewed what other injection wells in Pennsylvania were providing in reports to the Department, Catalyst began providing a less detailed summary report of the pressure data. Either way, the fact that the digital monitoring of pressure was not meeting the Permit requirement for continuous monitoring was readily evident from the reports submitted by Catalyst. Despite that, Mr. Horvath testified that Catalyst was never contacted by the Department to clarify the information on the reports or to explain why the transducers were recording the default value. (M.T. 259-61).

We have obvious misgivings about the lack of attention by both Catalyst and the Department to the issues concerning the pressure monitoring equipment. It appears that the Merits Hearing testimony focused Catalyst's attention on these concerns and we hope the same can be said for the Department. Despite our apprehensions, Ms. Hurst did not present any evidence that these monitoring problems led to the release of injection fluid from the Injection Well and the 4 ½-inch casing. It is important to remember that the 4 ½-inch casing extends all the way from the surface to the injection zone located at approximately 5,170 feet. Further, even if a release had taken place, there are two additional strings of casing beyond the 4 ½-inch casing and several thousand feet of a confining shale zone that protects the much shallower drinking water zone in the Cyclone area.

Ultimately, the issue for the Board to decide is what the operational issues with the pressure monitoring system say about the Department's decision to issue the Permit. We find that the issue is not with the terms of the Permit or the Department's decision to issue the Permit. Instead, these operational problems are concerned with compliance and enforcement of the Permit once operations begin. One factor that the Department is supposed to consider when issuing a permit is the compliance history of the permittee. If the compliance history demonstrates that an applicant

is unwilling or unable to comply with the terms of a permit, the Department should deny the application. While it is not a direct analogy, it is reasonable to think about this issue in terms of whether Catalyst's non-compliance with the Permit terms would rise to a level that would support the Department denying a permit application. We conclude that it would not rise to that level in this case. The evidence presented does not show that Catalyst is unwilling or unable to comply with the requirements for pressure monitoring. Overall, we find that the operational issues with the pressure monitoring equipment do not support Ms. Hurst's arguments that the Permit should not have been issued in the first place.

A further argument Ms. Hurst presents is the possibility that the injected fluids may escape from the injection zone and contaminate the drinking water level. The Injection Well is permitted to inject fluids into the Onondaga Formation in an interval from 5,170 feet to 5,188 feet. The Injection Well was initially drilled by Belden and Blake in 1990 to produce gas from the Onondaga. At the Supersedeas Hearing, Catalyst presented testimony from its expert witness, Mr. Wozniak, who described the specifics of the reservoir receiving the disposal fluids. Besides his extensive experience in the oil and gas industry, Mr. Wozniak was very familiar with the Injection Well and the development of the Onondaga Formation around it. He described the Onondaga Formation in the area of the Injection Well as a reef formation called the Cyclone Reef. While Mr. Wozniak did not work for Belden and Blake at the time the Injection Well was drilled, he joined Belden and Blake in 1995 and worked there while the Injection Well was in production.

During his time at Belden and Blake, his responsibilities included evaluating reserves, making him familiar with the production characteristics of the Injection Well. He also testified that while at Belden and Blake, he participated in a study to evaluate the reservoir quality and the areal extent of the Cyclone Reef, requiring him to examine the formation from a reservoir

engineering, geologic, and geophysical standpoint. This study was undertaken because Belden and Blake considered using the Onondaga Formation in the area of the Injection Well for gas storage. He stated that based on this analysis, the Onondaga Formation at the Injection Well had "excellent containment" and "tremendous deliverability" which make it "a perfect container" for disposal. (S.T. 432). We found Mr. Wozniak's testimony on this topic well-supported and persuasive given his direct knowledge of the geologic setting and characteristics of the injection formation. Ms. Hurst offered no expert testimony that contradicted Mr. Wozniak's expert opinions regarding the suitability of the Onondaga Formation for receiving disposal fluids.

Mr. Wozniak's testimony and opinions were also consistent with the factual and expert testimony offered by Susan Price ("Ms. Price") and Andrea McGill ("Ms. McGill") at the Supersedeas Hearing. Ms. Price is a Professional Geologist Manager at the Department and a licensed professional geologist in the Commonwealth of Pennsylvania. Ms. Price testified that there were several thousand feet of predominantly shale layers between the Onondaga Formation and the shallower Bradford Sandstone (also known as the Bradford Sands) located at a depth of around 2,000 feet. Ms. Price described the shale as a good confining zone to prevent the movement of fluids because it does not have good permeability. (S.T. 657). She also identified approximately 2,000 feet of shale located between the Bradford Sandstone and the lowermost source of drinking which is located at a depth of 350 feet. This shale acts as a protective confining layer that helps to prevent injected fluids from reaching the shallow drinking water zone. Ms. McGill is a licensed professional geologist in the Department's oil and gas program and was the main reviewer for the Permit. (S.T. 804). She also testified to the several thousand feet of confining shales existing between the injection depth and the underground sources of drinking water. (S.T. 820). Ms. McGill stated that "with correct mechanical integrity and the confining layers, there should not be

natural pathways" for injected fluids to reach the drinking water. (*Id*.). Ms. Hurst offered no expert testimony or other evidence challenging the opinions of either Mr. Wozniak or the Department's professional geologists, whose testimony supported the position that the Onondaga Formation is a well contained formation with several thousand feet of confining layers of overlying shale and, therefore, offers a suitable formation for the injection of fluids.

The Department evaluated two possible issues with the confining layers as part of its analysis of the permit application. The first involved reviewing geologic information to determine the presence or absence of faults and the potential for seismic activity in the vicinity of the Injection Well. Faults can create a potential pathway for injected fluid to move through the confining shale layers. They can also be activated by the pressures created by injection wells, resulting in earthquakes, a concept known as induced seismic activity. Department geology staff, specifically Ms. Price and Ms. McGill, reviewed the relevant fault-related data. Ms. McGill testified that there are no known faults within the area of review, a distance of 1,000 feet from the Injection Well. (S.T. 819, 822). The closest known earthquake to the Injection Well occurred 25 miles away and took place in 1995. (S.T. 822). Ms. Price stated that based on maps documenting faults within Pennsylvania, there are no known faults in the formations above the Onondaga Formation. (S.T. 661-62).

Ms. Price also testified that the Department uses a spreadsheet to evaluate the risk of induced seismic activity at disposal wells. (S.T. 636). The spreadsheet involves seven questions and is scored from zero to seven, with seven being the highest score and indicating the highest risk level for induced seismic activity. The Injection Well scored a one (1) on the spreadsheet with the one-point deriving from a question concerning the monthly volume of injected fluids. The question asks whether the injected volume is at a rate below 100,000 barrels per month. The EPA

Permit allows Catalyst to inject 100,000 barrels per month. As such, the Department treated the answer to this question on the spreadsheet as a "yes" and assigned one-point. Based on the spreadsheet score, the Department considers the Injection Well is at low risk for induced seismic activity. It was Ms. Price's expert opinion that the Injection Well's operation is unlikely to induce seismic activity. (S.T. 664). Ms. Hurst offered no testimony, expert or otherwise, disputing any of the Department's factual testimony regarding the presence or absence of faults, the risk of seismic activity, nor did she challenge the expert opinion offered by Ms. Price.

Despite the low risk of induced seismic activity and the lack of any known faults in the area, the Department still placed special conditions in the Permit requiring Catalyst to address the potential for seismic activity in the vicinity of the Injection Well. (Joint Ex. 4). The Permit gave Catalyst the option of either installing seismic monitoring equipment or obtaining data from the Pennsylvania earthquake monitoring system. Catalyst elected to install their own seismic monitoring equipment and submitted a seismic monitoring plan to the Department. (Catalyst Ex. 21). The Department approved the seismic monitoring plan (Catalyst Ex. 59; S.T. 621). Additionally, the Department inspected the seismic monitoring equipment that Catalyst installed and did not identify any problems during the inspection. (Joint Ex. 13). Overall, we find that the Department properly reviewed the issues posed by potential faults and induced seismic activity at the Injection Well and took appropriate steps to monitor these issues going forward. Ms. Hurst has failed to identify any problems or shortcomings regarding this issue that challenged the Department's decision to issue the Permit.

At the Merits Hearing, Ms. Hurst presented evidence that she asserts demonstrates that the Onondaga Formation was not performing as effectively as a reservoir for the injected fluid as anticipated. She argued that something unexpected and problematic is impairing the Injection

Well's function and may have serious environmental consequences. (Hurst Merits Brief at 27-29). She suggests that in light of these facts, it was unreasonable for the Department to have issued the Permit. We disagree with Ms. Hurst's assertion.

Catalyst began injection in late January 2025. It was halted soon after to address the complications with the packer that we discussed in detail above. Once injection recommenced on or around February 6, 2025, the injection pressure as measured by the P1 transducer, has fluctuated from gravity flow (which is essentially zero pressure) to pressures ranging above 2100 psi, with the maximum pressure reaching 2390.5 psi. (M.T. 71-72). The Permit allows a maximum injection pressure of 2600 psi. No evidence was presented that Catalyst exceeded the injection pressure limit in the Permit at any point up to the time of the Merits Hearing. Mr. Horvath testified that the injection pressure can be influenced by pore size, temperature, the presence of scale on the casing and around the perforations, as well as operational factors. (M.T. 115-118). Ms. Hurst argued that the fact that Catalyst had conducted four acidification operations to clean up scale downhole, as well as re-perforation of a section of the injection zone, indicated there were problems with injection and potentially showed that the injection zone was filling up. Mr. Horvath testified that these activities were undertaken to increase efficiency and ensure that Catalyst could meet the demand for its disposal services. He characterized these activities as normal operations and maintenance of the Injection Well. The Department was notified about these actions and was present when Catalyst conducted them.[8] Ms. Hurst's contention that the increases in injection pressure show that the injection zone was getting full is not supported by the data. As discussed in detail below, there are two monitoring wells, the Amico-Witco Lot 580-1 Well and the Sweeley

[8] Mr. Welsh testified that he observed these activities but may not have been present the entire time when the length of time for the activities exceeded his normal workday. (M.T. 172).

No. 1 Well that are in place to monitor the fluid level in the injection zone. The Permit requires that injection cease if the fluid levels in these wells approach 450 feet which is 100 feet below the base of the underground drinking water zone. The fluid levels in the monitoring wells were measured in August 2025. The fluid level in the Amico-Witco Well was measured at 5,279 feet and was measured in the Sweeley Well at 5,219 feet. The fluid levels as measured are significantly below the level that would suggest that the injection zone was nearing capacity. (M.T. 95-99). Ms. Hurst presented no expert testimony to support her claims about the injection rate, acidization treatments, re-perforation of the Injection Well or the capacity of the reservoir. Absent an expert to testify that the activities and data on injection pressures show an issue with the reservoir and/or Catalyst's injection activities, there is no basis in the record to hold that the Department erred in issuing the Permit. Catalyst's operations are within its permitted limits for injection pressure and the data related to the monitoring wells show that the fluid levels in the injection reservoir remain well below the level of the underground drinking water zone.

Next, Ms. Hurst contends that existing wells in the Cyclone area have the potential to create a pathway for fluids to move from the Injection Well and the Onondaga Formation to the groundwater. Both the Department and Catalyst evaluated this concern. The Department evaluated the area for existing wells within a 1,000-foot radius around the Injection Well. Additionally, the EPA sets the area of review at a slightly greater distance of a ¼ mile. There is no dispute among the parties that there are numerous historic oil and gas wells in the vicinity of the Injection Well. There is also no dispute that the status of some of the historic oil and gas wells in this area are unknown and others are unplugged and/or abandoned. The Board heard extensive testimony during the Supersedeas Hearing about historic maps of the oil and gas wells in the area, including the Tidewater Oil map (1937), the South Penn map (date unknown) and the Pennzoil

map (undated). In addition, the Department and Catalyst testified about historic information collected and published by the Pennsylvania Geologic Survey that tracks deep wells in Pennsylvania. The term "deep well" is historically used to describe conventional wells in Pennsylvania that reach the Onondaga Formation. The Department concluded that, within the area of the Injection Well, there are only four deep wells that penetrate the depth of the Onondaga Formation. The Department required Catalyst to address all four of these wells. The Department determined that the remaining wells within the area of review are far shallower and only penetrate into the Bradford Sands at a depth of between 2,000 and 2,200 feet. Therefore, the Department concluded the remaining wells were not a risk to the integrity of the injection zone and unlikely to act as a pathway for fluids to move into the shallow groundwater. Ms. Hurst argued that the Department lacked sufficient information about the wells and failed to undertake a thorough enough investigation of them to support the conclusions. We thoroughly reviewed and considered the testimony and evidence on this issue and find that the record before us supports the Department's conclusion that the existing wells do not create a level of risk that would warrant denying the Permit.

We start by looking at the deep wells. The Department and Catalyst identified four deep wells within the Injection Well's proximity that penetrate the Onondaga Formation: 1) the Enervest Lot 581-1 Well; 2) the Amico-Witco Lot 580-1 Well; 3) the Sweeley No. 1 Well; and 4) the Lot 580 – 1 Well. The Department required Catalyst to address all four of these identified deep wells. The Lot 580-1 Well is the well the Department approved for Catalyst to convert into the Injection Well. The Permit required Catalyst to convert the Amico-Witco Lot 580-1 Well into a monitoring well, however Catalyst opted to convert both the Amico-Witco Well and the Sweeley Well into monitoring wells to assess the level of the disposal fluid in the injection zone. (S. Stip. at ¶ 8).

Conversion of the Sweeley Well to a monitoring well was not required by the EPA Permit or the Permit. Catalyst voluntarily added the Sweeley Well as an additional monitoring well. Lastly, Catalyst plugged the Enervest Lot 581-1 Well, bringing it into compliance with the Permit and the EPA Permit.

The Department based its determination that these were the only four deep wells in the vicinity of the Injection Well on several lines of evidence. The Oil and Gas Conservation Law became effective in 1961. As a result of that law going into effect, drillers were required to report to the Commonwealth any wells that penetrated the Onondaga Formation. The Department's records only show the four deep wells identified by Catalyst and the Department. As for any wells that may have been drilled prior to the Oil and Gas Conservation Law, the Department and Catalyst relied on a study and publications from the Pennsylvania Geologic Survey, commonly referred to as the Fettke report. The Survey collected information about all deep wells in Pennsylvania and compiled that information into reports. Those reports do not identify any deep wells in the vicinity of the Injection Well prior to the enactment of the Oil and Gas Conservation Law. Mr. Wurst, the Department's acting oil and gas inspector for the area around the Injection Well, was questioned by Ms. Hurst's counsel about deep wells in the area. Mr. Wurst testified that he had reviewed the Tidewater, South Penn and Pennzoil maps to see if they showed any deep wells. (S.T. 559). He stated that the historic maps use a specific symbol demarcating deep wells and that this symbol "stands out pretty well" and "is kind of unmistakable." (*Id*.). According to Mr. Wurst, none of the maps contained the distinctive symbol that would indicate the presence of a deep well. Mr. Wurst was also involved in paper record reviews and field investigations of abandoned wells in the Cyclone area since March of 2023. Mr. Wurst testified that based on his investigation, he found no evidence suggesting that the abandoned wells in the Cyclone area are deep wells. (S.T.

551-59). Ms. Hurst presented no evidence that directly contradicted the Department's and Catalyst's determination that there are only four deep wells in the vicinity of the Injection Well and there is no dispute that these four wells were addressed by the Department as part of the permitting process.

As we have stated, there are numerous historic wells in the Cyclone area. Based on its review of the available information, the Department concluded that these wells were shallow and unlikely to have penetrated below the Upper Devonian Bradford Sands at a depth of around 2,200 feet. The Department further concluded that these shallow wells do not create a risk to drinking water because they are separated from the Onondaga Formation by approximately 3,000 feet of confining shale layers. (Catalyst Ex. 46). Ms. Hurst's stated concern is that the Department records and additional information pertaining to the historic wells are not sufficient to support the conclusion that the wells within the Injection Well's vicinity are shallow and, therefore, do not pose a risk to the drinking water wells in the area.

Various Department staff testified in support of its conclusion that the historic wells are shallow and do not go below the Bradford Sands. Mr. Wurst testified that he had reviewed the Tidewater, South Penn and Pennzoil maps and completed over 50 inspections of wells in the area. (S.T. 548-51). Based on that information and his investigation, as well as his knowledge of historic practices, he concluded that these were water-flood wells that were drilled in the Bradford Third Sand at an approximate depth of 2,000 to 2,200 feet. He testified that most of the wells were likely drilled in the 1930's and 1940's and because they had good oil recovery, the operators lacked an incentive to drill deeper than the Bradford Third Sand. He noted that most operators at the time also lacked the capacity to drill deeper wells. (S.T. 553). Ms. Hurst's counsel asked Mr. Wurst about the possibility that other deep wells could be present in the area besides the four wells

identified by Catalyst. He responded, stating "[n]ot according to any mapping we have. […] they tend to keep good records of those [deep] wells. So we feel confident that anything past the Bradford Third Sand doesn't exist in this area." (S.T. 558). In response to a question from Department counsel, asking him, based on his experience, his multiple inspections, available mapping, and the symbols on the maps, whether he was confident that the abandoned wells in the Cyclone area were shallow, Mr. Wurst simply answered "Yes." (S.T. 564).

The two Department licensed professional geologists, Ms. McGill and Ms. Price, both testified briefly regarding the historic wells. Ms. McGill testified that based on her review of the geologic setting and the wells in the area, the area is "rich with basically shallow oil wells to the Bradford Sands, which are thousands of feet shallower [than the Injection Well]." (S.T. 825). While discussing the deep wells, she further stated that all the other wells the Department found or were otherwise identified in the area were shallow wells. (S.T. 826). Ms. Price was asked to discuss the geology of the Cyclone area. She stated that the Department looked at the Bradford Sandstone which has a depth around 2,000 feet. She noted that this is where all the shallow wells in the area are located. (S.T. 657).

Catalyst's expert witness, Mr. Wozniak, discussed early drilling history and noted that the Bradford Sands within the Cyclone area were extensively developed. He agreed with Mr. Wurst that this included waterflooding to enhance oil recovery. (S.T. 441). He noted that the Bradford Sands were separated from the Onondaga Formation by 3,000 feet of Middle and Upper Devonian Shales that provided an excellent confining interval. (S.T. 445). He offered his expert opinion stating that the existence of the wells drilled into the Bradford Sands, even if abandoned and unplugged, would not create a pathway for fluids to migrate from the Onondaga Formation into the shallow groundwater. (S.T. 448-49).

Ms. Hurst presented testimony from a local Cyclone resident, Dennis Johnson ("Mr. Johnson"). Mr. Johnson testified that he grew up in Cyclone and worked in the oil fields, including for a period of approximately 22 years when he worked for Pennzoil from 1973 to 1996. (S.T. 398-401, 415). He stated that there were wells all over the place, some of which were plugged while others were abandoned with open holes. (S.T. 402-04). When asked whether the wells in the area drilled by Pennzoil during the time he worked for the company were drilled into the Bradford Sands he responded that many of the wells were drilled prior to his time at Pennzoil but that the newer wells that he was involved with were drilled to the Bradford Third Sand at a depth of around 2,210 feet. (S.T. 415-16). Mr. Johnson did not offer any testimony that contradicted the Department's conclusion that the historic wells were shallow and drilled into the Bradford Sands.

Ms. Hurst also presented an expert witness, Marc Glass ("Mr. Glass"). Mr. Glass was admitted as an expert in environmental monitoring and remediation but acknowledged during questioning that he is neither a licensed professional geologist nor a licensed professional engineer in Pennsylvania and had little to no expertise involving oil and gas wells. (S.T. 846-58). Mr. Glass reviewed the Tidewater and Pennzoil maps and attempted to review well records. He testified that he was unable to determine the well depths of more than 20 wells located in the ¼ mile area of review around the Injection Well. (S.T. 879). Mr. Glass testified that the lack of information confirming the depth of the wells in the area of review created a data gap that he concluded created a risk that the Department failed to address in its permit application review and decision. (S.T. 878-85). Mr. Glass did not directly contradict the Department's determination that the historic wells were shallow wells that did not penetrate below the Bradford Sands but only offered his opinion that the available information was insufficient to support that conclusion.

Overall, we find Ms. Hurst has not shown that there are wells unaccounted for that penetrate the confining shales above the Onondaga Formation and thereby pose a risk of transporting fluids into the groundwater. She did not produce any well records or map information that definitively demonstrate the existence of any wells deeper than the Bradford Sands, a depth of around 2,200 feet. Her one fact witness on this topic, Mr. Johnson, confirmed that the Pennzoil wells, about which he had personal knowledge, were drilled to around a 2,200-foot depth. Ms. Hurst's expert witness, Mr. Glass, stated that the lack of certain well information left open the possibility that there were deeper wells unaccounted for but had no evidence, either direct or indirect, that this was the case. As such, we find his testimony on this issue speculative at best. In contrast, we found the testimony from the Department staff, particularly Mr. Wurst, and Catalyst's expert, Mr. Wozniak, convincing regarding the limited number of deep wells near the Injection Well and that the historic wells identified in the area of review are likely shallow wells that do not extend deeper than the Bradford Sands. The Department did a reasonable review of the available information, which included its own field investigations, in reaching this decision.

Ms. Hurst raised a concern about existing contamination of the groundwater in the Cyclone area and presented witnesses at both the Supersedeas Hearing and the Merits Hearing who testified about contamination of their water. There is no question that groundwater contamination exists in the area. Helen Dragonette testified that the well she uses for her drinking water contains methane and that this has been confirmed by testing the Department conducted. Catalyst tested the water from 15 water wells within 1,000 feet of the Injection Well to establish baseline conditions prior to injecting fluids. (S.T. 197, 203). Lab reports showing methane along with other potential contaminants in the water from three of those locations were presented at the Supersedeas Hearing. (Hurst Exs. T, PP and QQ). Ms. Hurst also entered evidence pertaining to a water supply

investigation the Department conducted of a well belonging to Jamie Coleman. This water well also showed methane and other potential contaminants in the water. (Hurst Ex. RR). We heard testimony about the Pithole Water Association and water issues with its water supply well. The Pithole Water Association well is located approximately 2,000 feet northeast of the Injection Well and is outside the area of review. (Joint Ex. 2; S.T. 640).

At the Merits Hearing, we heard testimony from Lisa Rice, a Cyclone resident, who lives about a quarter mile from the Injection Well. (M.T. 221). She testified that she believed that the water well at her property was drilled in the early 1960s by her uncle and is 280 to 300 feet deep. (M.T. 227-29). She began experiencing problems with her well water in late June and early July 2025, approximately five months after Catalyst began injection at the Injection Well. She filed a complaint with the Department that there was an odor to her water and a sinkhole in her backyard. Alicia Furey, a Department geologist ("Ms. Furey"), testified about the Department's investigation of Ms. Rice's water. The Department concluded that the alleged sinkhole in Ms. Rice's yard is an old abandoned well. (M.T. 213). Ms. Furey described the odor of Ms. Rice's water as metallic and petroleum-ish. (M.T. 199). Water samples of Ms. Rice's water collected by the Department showed the presence of methane, ethane and propane but at levels that were below the levels that would trigger a stray gas investigation by the Department based on its own lab data. (M.T. 214, 218). The sample data was plotted on a cross-plot that Ms. Furey testified demonstrated that the gas contained in Ms. Rice's water is not similar to Catalyst gas samples and more closely resembles gas samples from older wells in the area that were found to be leaking. (DEP Ex. 41; M.T. 214-17). Ms. Furey was asked if any of the oil and gas waste fluids that are being injected into the Injection Well could result in ethane and methane contamination. She acknowledged that ethane and methane could be present if contamination came from the injection fluids but that she would

also expect to see increased chlorides and TDS (Total Dissolved Solids) which she did not recall seeing in the samples of Ms. Rice's water. (M.T. 215-16). The Department's investigation of Ms. Rice's water was still ongoing at the time of the Merits Hearing but it had concluded that the Injection Well was unlikely to be a source of the contamination in Ms. Rice's water. (M.T. 211; 216-20).

The problem with this evidence of water contamination in the Cyclone area is that Ms. Hurst made no showing that any of the contamination was caused by Catalyst's Injection Well. She presented no expert witness to link the contamination to Catalyst's activities, and the facts do not establish a link. Other than Ms. Rice's well, Catalyst had not begun commercial injection of oil and gas fluids into the Injection Well when the contamination in the water wells was identified. At most, Catalyst had placed/injected limited quantities of water into the Injection Well in order to control the Injection Well during the work it performed on the casing and when it ran the mechanical integrity tests. On one inspection report, the Department stated that brine may have been run down the Injection Well when it was being worked on, but Catalyst disputed that fact and asserted that only water was used. Regardless, there was no evidence presented that showed the limited amounts of fluids that Catalyst placed in the Injection Well during the development stage had any relationship with the identified water well contamination testified to at the Supersedeas Hearing. Further, the testimony addressing the water well contamination at Ms. Rice's well which came to light after Catalyst began injection at the Injection Well does not support a finding that her water issues relate to the injection of fluids at the Injection Well pursuant to the Permit. In fact, the Department has concluded that the Injection Well was unlikely to be a source of the contamination and Ms. Hurst's evidence does not support the opposite conclusion. Short of some evidence of causation, the most that can be said about this line of evidence is that there is a concern

that a bad water situation in Cyclone might be made more problematic if, and only if, there is an issue with the Injection Well. However, given the evidence at both the Supersedeas Hearing and the Merits Hearing, the ongoing groundwater problems in the Cyclone area do not support a finding that the Department improperly issued the Permit.

Environmental Rights Amendment

Ms. Hurst asserts that the Department's issuance of the Permit to Catalyst violates the Environmental Rights Amendment of the Pennsylvania Constitution.[9] She made a limited argument asserting that the Department had violated the ERA in her Supersedeas Brief asserting in general terms alleged violations of various statutes and regulations and recasting them as constitutional violations. She also generally asserts that the Department failed to adequately consider the environmental effects of its permitting decision. (Hurst Supersedeas Brief at 17-18). In her Merits Brief, she focuses on the Department's trustee duties. Specifically, she argues that the Department has not complied with its trustee responsibilities under the ERA because issuance of the Permit constitutes an imprudent delegation of its trust responsibilities. (Hurst Merits Brief at 29-30).

The Board applies the following standard in determining whether the Department has fulfilled its duties under the ERA:

> We first must determine whether the Department has considered the environmental effects of its action and whether the Department correctly determined its action will not result in the unreasonable degradation, diminution, depletion or deterioration of the environment. Next, we must determine whether the Department has satisfied its trustee duties by acting with prudence, loyalty and

[9] The Environmental Rights Amendment provides as follows: "The people have a right to clean air, pure water, and to the preservation of the natural, scenic, historic and esthetic values of the environment. Pennsylvania's public natural resources are the common property of all the people, including generations yet to come. As trustee of these resources, the Commonwealth shall conserve and maintain them for the benefit of all the people." Pa. Const. Art. I, § 27.

> impartiality with respect to the beneficiaries of the natural resources impacted by the Department decision.

Protect PT v. DEP 2025 EHB 386, 445 (citing *Delaware Riverkeeper v. DEP*, 2018 EHB 447, 493). The Department's "duties under Article I, Section 27 are not necessarily coextensive with or limited to ensuring compliance with applicable statutes and regulations[…]." *Delaware Riverkeeper v. DEP*, 2022 EHB 103, 139-40 (citing *Friends of Lackawanna*, 2017 EHB at 1161). See also *Ctr. for Coalfield Justice*, 2017 EHB at 860. However, as a practical matter, an appellant challenging a Department action that is otherwise compliant with the applicable statutes and regulations needs to explain what more the Department should have done to fulfill its responsibilities under the ERA. It will generally not be enough to merely restate the other arguments in the case relating to regulatory violations and reframe them as constitutional violations. *Liberty Twp. v. DEP*, 2024 EHB 36, 140; Delaware Riverkeeper, supra.

Looking first at the ERA arguments set forth by Ms. Hurst at the time of the Supersedeas Hearing, we find that she has not shown by a preponderance of the evidence that the Department violated the ERA in its decision to issue the Permit. As we discussed in detail above, there is no evidence that the Department violated any statutes or regulations in its permitting decision. Ms. Hurst's attempt to say that there are statutory and regulatory violations that create a constitutional violation is not supported by the record and is simply a restatement of her earlier arguments. Besides lacking factual support, these fail as a matter of law as well. She also argues in a general fashion that the Department did not consider the environmental effects of its permitting decision. Again, the record says otherwise. The Department conducted a lengthy and detailed analysis of the potential environmental impacts of its decision as we have discussed in detail in the preceding paragraphs. Department staff considered the surface impacts to the surrounding wetlands and waterways along with the risks that injection might pose to the groundwater used as drinking water

in the Cyclone area. The Permit issued by the Department contained standard language and numerous special conditions intended to safeguard the environmental resources in and around the Site and limit any environmental impact from the Injection Well. We find that the Department correctly determined that the issuance of the Permit will not result in the unreasonable diminution, depletion or deterioration of the environment.

In her Merits Brief, Ms. Hurst did not further address or expand on the ERA arguments she set forth at the time of the Supersedeas Hearing and instead turns her attention to the Department's trustee duties under the ERA. Our analysis of the Department's trustee duties asks whether the Department has acted with prudence, loyalty and impartiality with respect to the beneficiaries of the natural resources impacted by the Department's decision under appeal. In her Merits Brief, Ms. Hurst asserts that the Department has failed to satisfy its trustee duties by improperly delegating those duties to Catalyst. Ms. Hurst cites to the Restatement (Third) of Trusts, § 77 regarding a trustee's duty of prudence stating that a trustee must administer the trust as a prudent person would in light of the purpose, terms, and other circumstances of the trust and the duty of prudence requires the exercise of reasonable care, skill, and caution. (Hurst Merits Brief at 22).

The delegation argument put forth by Ms. Hurst is novel and is one that the Board has not been required to consider before in the context of a Department permitting decision. Catalyst, in its Merits Brief, describes the delegation standard as without precedent and contends that it is incompatible with the Board's established ERA analysis. (*Id.* at 52). As Catalyst points out, the Department, in granting the Permit, has not transferred discretionary authority, policy-making power or its constitutional decision-making authority to Catalyst. Nor has it given up its exclusive authority to issue the Permit, define permit conditions, interpret the Permit and its conditions, require corrective action, suspend operations, and pursue enforcement. (Catalyst Merits Brief at

52-53). While Catalyst is responsible for complying with the terms of its Permit, the Department retains the responsibility to ensure that the permitted activities it authorized do not unreasonably degrade, diminish, deplete or cause the deterioration of the environment. We are not convinced that the issuance of a permit to a permittee such as Catalyst is fairly characterized as a delegation of the Department's trustee duties and, therefore, as a matter of law, we reject, Ms. Hurst's argument that the Department has failed to satisfy its trustee duties by improperly delegating those duties to Catalyst.

Even though we reject Ms. Hurst's novel argument that issuing a permit constitutes the delegation of the Department's trustee duties, for the sake of thorough consideration of the matter as presented, we proceeded to evaluate her position as it would apply under the facts of this case. We find that even if we were to accept her delegation argument, which we do not, the facts do not support us finding that granting the Permit to Catalyst constitutes an imprudent delegation. Relying on the language found at 20 Pa. C.S. § 7777(a), Ms. Hurst asserts that the Department failed to use reasonable care, skill and caution in (1) choosing a delegate;[10] 2) setting conditions on the delegation (the permit conditions); and 3) monitoring the activities of the delegate. (Hurst Merits Brief at 29). In questioning the Department's choice of Catalyst as a delegate, she points to three issues which she claims, "establish a pattern of noncompliance that make it unreasonable for the Department to entrust Catalyst with the Commonwealth's natural resources, especially on a project with as many risks and uncertainties as this one." (*Id.* at 29-30).

[10] We note that the idea of the Department "choosing a delegate" when faced with a permit situation poses a conceptual issue for the Board. In the permitting process, the Department does not instigate the action but instead acts on an application submitted by a regulated party such as Catalyst. The Department's basic choice at that point is to either grant or deny the permit application. This is unlike what we presume would be the case in a typical trust delegation scenario where the trustee initiates the delegation process and potentially chooses from one or more parties to whom it desires to delegate its trust duties.

We first note that all three of the issues she raises are operational activities that arose after the Permit was issued and, therefore, would have been unknown to the Department when it made the delegation decision challenged by Ms. Hurst. Putting that problem aside, we question whether the three issues establish a sufficient pattern of non-compliance to support the finding that the Department acted in an imprudent manner. The first issue involves the problems with pressure monitoring that we have discussed extensively in prior paragraphs. While we do not dispute that there were equipment issues that could and should have been handled better by Catalyst and that the Department should have been more attentive to these issues, we observe that the issues were short-lived, have been corrected at this time, additional safety measures have been put in place and there is no evidence that they resulted in any actual environmental harm.

Ms. Hurst also claims that Catalyst deliberately restricted the information it provides to the Department regarding pressure monitoring data. The record does not support this statement. Catalyst initially provided detailed minute-by-minute pressure data to the Department but after discussions with the Department and other injection well operators in Pennsylvania, it began submitting summary reports of that data (M.T. 62). While Ms. Hurst attempts to portray this change in the report format as a nefarious effort by Catalyst to hide information, there is nothing to support that position. The Permit simply requires that the information be reported monthly in a format acceptable to the Department. (Joint Ex. 4). The change was discussed with the Department and there is no evidence of record that the Department finds the present reporting format unacceptable or otherwise fails to satisfy the Permit requirement.

The last issue that Ms. Hurst points to involves the installation of additional storage tanks at the Site in March 2025. Catalyst informed the Department of its plan to add the additional storage tanks and the Department via email requested that Catalyst delay that work until it received

further guidance from the Department. Catalyst proceeded with the work without waiting to hear back from the Department because it determined that no permits were required. (M.T. 84-87). Catalyst updated its on-site plans to reflect the additional tanks as requested by the Department and a Department inspection shortly after the installation reported that there were no violations. (M.T. 103-111). While the better operational practice by Catalyst may well have been to wait for the Department to get back to it about the additional tanks, there is no evidence that what Catalyst did violated any statutes or regulations or the terms of its Permit. Overall, we find that these three examples offered by Ms. Hurst to support her contention that Catalyst is an untrustworthy delegate do not support her position.

Ms. Hurst does not discuss in detail in this section of her Merits Brief her contention that the Department failed to act reasonably in setting conditions on the delegation. Instead, she states that the inadequacy of the permit conditions to achieve the desired ends in this case is discussed in prior sections of her Merits Brief. Presumably, she is referring to her earlier arguments regarding pressure monitoring and injection rates. We have already addressed those points and found that her specific arguments failed to demonstrate that the Permit was improperly issued. We will not rehash those discussions but refer to our earlier paragraphs adjudicating those issues. Suffice it to say at this point that we reject her position and find that the Department acted prudently in setting the Permit conditions.

Lastly, Ms. Hurst argues that the Department has failed to provide the prudent oversight of the activities of its delegate, Catalyst, that are required of a trustee. The Department has inspected the Site and the Injection Well numerous times, both during the construction phase and the operational phase. It apparently continued to do so right up to the time of the Merits Hearing based on the testimony of Mr. Welsh. In addition, the Permit requires Catalyst to notify the Department

when work is being done and/or changes are made to the structure or operation of the Injection Well so the Department can be present to observe these activities if it so chooses. Catalyst is also required by the terms of the Permit to routinely track operational data and regularly provide reports of certain data to the Department.

Ms. Hurst's principal issues outlined in her Merits Brief are that (1) the Department did not issue notices of violation or take other enforcement action related to certain incidents at the Site and (2) her assertion that inspections have failed to record important incidents or have misrepresented the activities taking place at the Site. (*Id.* at 30). We recognize that there have been times that the Department's decision not to issue a notice of violation or take an enforcement action regarding some of the operational issues is open to question but also note that the Department has a significant amount of enforcement discretion that it appears to have chosen to exercise with regard to certain issues in this case. We might have supported a different choice but are not convinced that that the Department's exercise of its enforcement discretion supports Ms. Hurst's claim that it failed to exercise prudent oversight. Ms. Hurst cites Paragraph 81 of her Proposed Findings of Facts in her Merits Brief that describe two separate inspection reports as supporting her claim that the Department is failing to report important incidents or misrepresenting activities at the Site. The two inspection reports called out by Ms. Hurst make up only a small number of the inspection reports admitted into evidence in this case. We count 16 admitted inspection reports in a quick review of the exhibit lists in the combined hearing transcripts and have little doubt that there were more inspection reports completed by the Department that were not presented as evidence at the hearings. The first example involves a February 12, 2025, inspection report and an issue regarding gravity feeding of the Injection Well as opposed to injecting under pressure. The Department inspector, Doug Welsh, was questioned about a notation

on the inspection report that Catalyst was gravity injecting into the Injection Well at 1.6 barrels per minute. He was then shown data reports that show that Catalyst was injecting fluid under pressure at a later time in the day and asked if he thought that his inspection report accurately described what the operations were like on that day. He answered, "[I] don't know now." (M.T. 168). The testimony here is confusing but as best we can tell, the information on the inspection report accurately reflected the activity during the time Mr. Welsh was on the Site. (M.T. 162-168). The fact that Catalyst increased the injection pressure at some point after Mr. Welsh left the Site does not create an issue with the veracity of the inspection report. The inspector can only report what he observed while present at the Site and the testimony does not, as best we can tell, support Ms. Hurst's allegation.

The second inspection report discussed by Ms. Hurst was dated June 5, 2025 (Joint Ex. 46). She takes umbrage with the fact that the inspection report on that date did not mention that the inspector saw a small leak in a pressure line from the pump to the Injection Well on the preceding day. Instead, the report stated that the Injection Well "was shut down today to work on the facility" without mentioning that the apparent reason for the shutdown was the leak. (M.T. 174-178; 187-188).[11] Mr. Welsh stated that he did not mention the leak in his report because he did not identify a violation related to the leak since it was below the reportable quantity of five gallons in 24 hours and he could not prove that Catalyst was discharging fluid to the waters of the Commonwealth. (*Id*.). He also testified that Catalyst was following its PPC Plan in addressing the issue and that the problem was fixed by the next day. The failure to mention the leak may have been an oversight by the Department inspector and arguably should have been described in the

[11] The testimony was that the leak was minor, 1 to 2 drips a second from a threaded connection and was contained and collected by Catalyst by tying a bucket under the leaking section. Mr. Welsh described the bucket as filling very slowly. (M.T. 176, 189).

report but it is not clear that it constitutes a failure to report important incidents as asserted by Ms. Hurst. We disagree that this one isolated example supports the proposition that the Department has failed to provide prudent oversight of Catalyst. Further, it is clear from the record that regardless of what was described in the inspection report, Mr. Welsh made sure that the leak was addressed appropriately. In conclusion, we reject Ms. Hurst's claim that the Department violated the Environmental Rights Amendment by an imprudent delegation of its trustee duties as a matter of law and as unsupported by the facts that she relies on for her claim.

CONCLUSIONS OF LAW

1. The Environmental Hearing Board has jurisdiction over this matter. 32 P.S. § 693.24(a); 35 P.S. § 691.7; 35 P.S. § 7514; *Cole v. Pa. Dep't of Env't Prot.*, 329 A.3d 1228 (Pa. 2025); *Transcon. Gas Pipe Line Co., LLC v. Pa. Env't Hearing Bd.,* 2023 U.S. Dist. LEXIS 97642 (M.D. Pa. June 5, 2023), aff'd, 108 F.4th 144 (3d Cir. 2024), pet. for reh'g en banc denied, 110 F.4th 612 (3d Cir. Aug. 8, 2024).

2. The Board reviews Department actions de novo, meaning we decide the case anew on the record developed before us. *Borough of St. Clair v. DEP*, 2016 EHB 299, 318; *O'Reilly v. DEP*, 2001 EHB 19, 32; *Warren Sand & Gravel Co. v. Dep't Envtl Res.,* 341 A.2d 556 (Pa. Cmwlth. 1975).

3. As a third-party appellant appealing the Department's issuance of a permit, Ms. Hurst bear the burden of proof. 25 Pa. Code § 1021.122(c)(2); *Friends of Lackawanna v. DEP*, 2025 EHB 182, 218).

4. Ms. Hurst must show by a preponderance of the evidence that the Department acted unreasonably or contrary to the law, that its decision is not supported by the facts, or that the decision is inconsistent with the Department's obligations under the Pennsylvania Constitution.

Brockway Borough Mun. Auth. v. DEP, 2015 EHB 221, 236, aff'd, 131 A.3d 578 (Pa. Cmwlth. 2016); *Friends of Lackawanna v. DEP*, 2017 EHB 1123, 1156.

5. The resolution of evidentiary conflict, witness credibility, and evidentiary weight are matters committed to the discretion of the Board. *EQT Prod. Co. v. Dep't of Env't Prot.,* 193 A.3d 1137, 1149 (Pa. Cmwlth. 2018); *Kiskadden v. Dep't of Env't Prot*., 149 A.3d 380, 387 (Pa. Cmwlth. 2016).

6. A person may not alter an existing well to be a disposal well unless the person: 1) Obtains a well permit under § 78.11; 2) Submits with the well permit application a copy of the well permit, approved permit application and required related documentation submitted for the disposal well to the Environmental Protection Agency; 3) Submits a copy of a control and disposal plan for the disposal well and related facilities that meets the requirements of § 91.34(3) and 4) Submits a copy of an erosion and sedimentation plan for disposal well site that meets the requirements of Chapter 102 and § 78.53. 25 Pa. Code § 78.18.

7. The Department properly determined that Catalyst met the permitting requirements to alter an existing well to a disposal well found at 25 Pa. Code § 78.18.

8. The Department took into consideration the potential for Site development and operational activities to impact wetlands and waterways and placed special conditions into the Permit designed to protect the wetlands and waterways on and near the Site. (Joint Ex. 4).

9. No water permits under the Clean Streams Law, the Dam Safety and Encroachment Act, and the regulations were required for the Site development activities undertaken by Catalyst at the Site.

10. Catalyst satisfied the Permit requirement that it comply with the EPA requirement to demonstrate the mechanical integrity of the Injection Well prior to commencing injection

operations and after replacing the packer in the Injection Well. (Joint Ex. 3; Joint Ex. 4; Joint Exs. 14, 31; S.T. 270-72).

11. Ms. Hurst failed to provide sufficient evidence that the impacts to water wells in the vicinity of the Injection Well and the Site are caused by or related to Catalyst's activities at the Site.

12. The Department fulfilled its duties under the Environmental Rights Amendment by considering the environmental effects of its permitting action and correctly determined that issuing the Permit to Catalyst did not result in the unreasonable degradation, diminution, depletion or deterioration of the environment.

13. The Department satisfied its trustee duties by acting with prudence, loyalty and impartiality with respect to the beneficiaries of the natural resources impacted by its decision to issue the Permit to Catalyst.

14. Ms. Hurst failed to demonstrate by a preponderance of the evidence that the Department acted unreasonably or contrary to the law, that its decision is not supported by the facts or that its decision is inconsistent with the Department's obligations under the Pennsylvania Constitution in issuing the Permit to Catalyst. *Brockway Borough Mun. Auth. v. DEP*, 2015 EHB 221, 236, aff'd, 131 A.3d 578 (Pa. Cmwlth. 2016); *Friends of Lackawanna v. DEP*, 2017 EHB 1123, 1156.

COMMONWEALTH OF PENNSYLVANIA
ENVIRONMENTAL HEARING BOARD

MARY E. HURST *et al.*, and EMMA WRIGHT, *et al.*, Intervenors	**: EHB Docket No. 2024-019-B**
	: Consolidated with: 2024-020-B, 2024-
	: 021-B, 2024-026-B, 2024-027-B, 2024-
v.	**: 030-B, 2024-032-B, 2024-033-B, 2024-**
	: 034-B, 2024-038-B, 2024-041-B, 2024-
	: 043-B, 2024-044-B, 2024-046-B, 2024-
COMMONWEALTH OF PENNSYLVANIA, DEPARTMENT OF ENVIRONMENTAL PROTECTION and CATALYST ENERGY LLC, Permittee	**: 047-B, 2024-048-B, 2024-049-B, 2024-**
	: 050-B, 2024-051-B, 2024-052-B, 2024-
	: 053-B, 2024-054-B, 2024-054-B, 2024-
	: 056-B, 2024-057-B

O R D E R

AND NOW, this 11th day of June, 2026, it is hereby ordered that Appellants' and Intervenors' consolidated appeals are **dismissed**.

ENVIRONMENTAL HEARING BOARD

s/ Steven C. Beckman
STEVEN C. BECKMAN
Chief Judge and Chairperson

s/ Bernard A. Labuskes, Jr
BERNARD A. LABUSKES, JR.
Judge

s/ Sarah L. Clark
SARAH L. CLARK
Judge

s/ MaryAnne Wesdock
MARYANNE WESDOCK
Judge

s/ Paul J. Bruder, Jr.
PAUL J. BRUDER, JR.
Judge

DATED: June 11, 2026

c: **DEP, General Law Division:**
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(via electronic mail)

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