

UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF OHIO
EATERN DIVISION

UNITED STATES OF AMERICA,

Plaintiff,

v.

XTO Energy, Inc.,

Defendant.

Civil Action No. 24-4269

COMPLAINT

The United States of America, by the authority of the Attorney General of the United States and acting on behalf of the United States Environmental Protection Agency, files this Complaint against XTO Energy, Inc. (“XTO Energy”) and alleges as follows:

INTRODUCTION

1. On February 15, 2018, XTO Energy lost control of its Schnegg C 7H well in Belmont County, Ohio.
2. During post-fracking operations, the intermediate casing on the well burst and the well began venting gas composed primarily of methane—a hazardous and highly flammable substance—into the atmosphere. The jet of gas ignited, causing the crane stationed above the 7H well to collapse and damage the adjacent 9H well.
3. As the uncontrolled gas continued to vent and burn, an incident command post was set up to respond to the blowout, and surrounding homes were evacuated. The Schnegg C

7H well released raw gas containing methane and other substances for twenty days until it was shut in on or about March 7, 2018.

4. In addition to posing high risks of combustion and explosion, methane is a potent greenhouse gas.

5. Air quality scientists calculate that, by the time it was shut in, the Schnegg C 7H well had released about 60,000 tons of methane—more in 20 days than entire oil and gas sectors for many European countries emit in a year. Put another way, the three-week incident resulted in the release of climate-destabilizing gases on par with a year’s worth of emissions from about 350,000 passenger vehicles.

6. The Schnegg C 7H blowout was a preventable disaster. But XTO failed to properly design and cement the well, failed to properly monitor and manage pressures on the well, and failed to manage the risks associated with simultaneous operations at the well.

7. The United States brings this action for civil penalties and injunctive relief related to the accidental release of a hazardous substance under Section 112(r)(1) of the Clean Air Act.

JURISDICTION AND VENUE

8. This Court has jurisdiction over the subject matter of this action and the Defendant. *See* 42 U.S.C. § 7413(b).

9. Venue is proper in this District under 28 U.S.C. §§ 1391 and 1395(a), because the Defendants conducted business in this District and the incident that give rise to these claims occurred in this District.

10. Authority to bring this action is vested in the United States Department of Justice. *See* 42 U.S.C. § 7605.

STATUTORY AND REGULATORY BACKGROUND

11. Methane is dangerous. *See* 59 Fed. Reg. 4,478 (Jan. 31, 1994) (listing methane as a regulated flammable substance). The principal component of natural gas, methane is extremely flammable and poses a serious fire hazard if accidentally released.

12. As a gas, methane is lighter than air and can spread long distances. An accidental release poses risks of distant ignition or flashback and can cause vapor cloud explosions. 59 Fed. Reg. 4,478 (Jan. 31, 1994). It is colorless and odorless, and can act as an asphyxiant by displacing oxygen in the atmosphere.

13. Methane is also a potent greenhouse gas.

14. Methane's chemical lifetime in the atmosphere is much shorter than carbon dioxide, but methane is more efficient at trapping radiation than carbon dioxide. "One ton of methane in the atmosphere has 80 times the warming impact of a ton of [carbon dioxide], and contributes to the creation of ground-level ozone which is another greenhouse gas." 86 Fed. Reg. 63,110, 63,114 (Nov. 15, 2021) (*citing* Intergovernmental Panel on Climate Change Sixth Assessment Report, *Climate Change 2021: The Physical Science Basis*, Aug. 9, 2021). Even measured over a 100-year period, methane emissions have, pound-for-pound, nearly 30 times the warming impact carbon dioxide. *Id.*

15. Emissions of greenhouse gases, including methane, can endanger public health and welfare. 74 Fed. Reg. 66,496 (Dec. 15, 2009).

16. Section 112(r)(1) of the Clean Air Act sets forth the purpose of Section 112(r) and imposes a general duty of care on owners and operator of certain stationary sources. It provides, in pertinent part:

It shall be the objective of the regulations and programs authorized under this subsection to prevent the accidental release and to minimize the consequences of

any such release of any . . . extremely hazardous substance. The owners and operators of stationary sources producing, processing, handling or storing such [hazardous] substances have a general duty . . . to identify hazards which may result from such releases using appropriate hazard assessment techniques, to design and maintain a safe facility taking such steps as are necessary to prevent releases, and to minimize the consequences of accidental releases which do occur.

CAA § 112(r)(1); 42 U.S.C. § 7412(r)(1).

17. The Senate Report on Section 112(r) of the Clean Air Act describes a hazard assessment as “a formal description of process malfunctions or equipment failures that may result in an accidental release causing a death, serious injury or substantial property damage.” S. Rept. 101-228 at 3605-06.

18. An “accidental release” is “an unanticipated emission of a regulated substance or other extremely hazardous substance into the ambient air from a stationary source.” 42 U.S.C. § 7412(r)(2)(A).

19. Extremely hazardous substances include, but are not limited to, substances listed pursuant to Section 112(r)(3) and “which, in the case of accidental release, are known to cause or may reasonably be anticipated to cause death, injury, or serious adverse effects to human health or the environment.” 42 U.S.C. § 7413(r)(1), (r)(3).

20. Methane is listed pursuant to Section 112(r)(3) and is an extremely hazardous substance for purposes of Section 112(r). 40 C.F.R. § 68.130.

21. A “stationary source” is defined as

any buildings, structures, equipment, installations or substance emitting stationary activities (i) which belong to the same industrial group, (ii) which are located on one or more contiguous properties, (iii) which are under the control of the same person (or persons under common control), and (iv) from which an accidental release may occur.

42 U.S.C. § 7412(r)(2)(C); *see also* 40 C.F.R. § 68.3.

22. Section 113(b) of the Clean Air Act authorizes civil judicial enforcement for violations of any requirement or prohibition of Section 112. 42 U.S.C. § 7413(b).

23. For violations that occurred after November 2, 2015 through January 14, 2018, violators are liable for civil penalties of up to \$95,284 per day. For violations on or after January 15, 2018, violators are liable for civil penalties of up to \$97,229 per day. *See* 42 U.S.C. § 7413(b) (authorizing civil enforcement for the recovery of, among other things, civil penalties); 83 Fed. Reg. 1190, 1193 (adjusting statutory civil monetary penalty amounts pursuant to The Federal Civil Penalties Inflation Adjustment Act of 1990 (as amended through the Federal Civil Penalties Inflation Adjustment Act Improvements Act of 2015)).

GENERAL FACTUAL ALLEGATIONS

XTO's Schnegg C Well Pad Facility

24. Defendant XTO Energy, a private subsidiary of ExxonMobil Corporation, is an American energy company incorporated in Delaware.

25. XTO Energy is a “person” within the meaning of the Clean Air Act. *See* 42 U.S.C. § 7413(b).

26. The Schnegg C Well Pad is located in Belmont County, Ohio (at approximately 39.864°N, 80.861°W).

27. XTO Energy constructed the Schnegg C Well Pad in or around September 2016.

28. The Schnegg C Well Pad includes at least three wells: the Schnegg B 9H, C 5H, and C 7H wells.

29. XTO Energy owned the Schnegg C Well Pad from the time of the facility’s construction until on or near August 5, 2022.

30. XTO Energy operated the Schnegg C Well Pad from the time of the facility's construction until on or near August 5, 2022.

The Schnegg C 7H Well: Design And Cementing

31. XTO's Schnegg C 7H well was designed to include, among other things, a nested series of pipe casings, each supported by surrounding cement along some length of the casing.

32. Ohio's Department of Natural Resources issued XTO several permits that imposed requirements on the design, drilling, and operation of the Schnegg 7H well prior to its construction and/or operation.

33. In particular, the permit to drill the 7H well stated that the casing program for the facility must include "9 5/8" DEEP INTERMEDIATE APPROX. CEMENTED AT LEAST 200 FEET ABOVE THE SEAT OF THE NEXT LARGER DIAMETER [CASING]." The next larger casing was the 13 3/8" casing.

34. The 7H well's 13 3/8" casing was centralized and cemented on or around May 20, 2017. As drilled, the bottom of the 13 3/8" casing of the Schnegg C 7-H well set to a depth of around 2,030 feet.

35. The Schnegg C 7H well's 9 5/8" casing was run on or about May 27, 2017 to a depth of more than 8,000 feet. The 9 5/8" casing was cemented up to a depth of around 4,400 feet.

36. The Schnegg C 7H well's 9 5/8" casing was not cemented to above the seat of the 13 3/8" casing.

37. The 7H well's 5 1/2" casing was run on or about June 2, 2017.

38. The 7H well's 5 1/2" casing was cemented on or about June 3, 2017, to a depth of around 8,500 feet.

39. Cementing of the 7H well's 5 1/2" casing failed to achieve a hydraulic seal.

40. XTO did not cement portions of its Schnegg C 7H well in accordance with the requirements imposed by ODNR's permit for the well.

41. Improper cement placement and design column heights can make the casings more susceptible to external corrosion and will result in additional load transfer to other well infrastructure.

42. Improper cement placements and design column heights may allow gas and/or liquids from uncemented zones to crossflow and expose the annulus to unanticipated pressures.

43. Uncemented pipe is more susceptible to coupling leakage and fatigue failures due to stress changes and distortion when faced with pressure and temperature fluctuations or pressure exceed the pipe rating.

44. Improper cementing practices can leave channels in the cement that allow communication of pressure along a well casing and onto other casings or wellhead infrastructure, and potentially to crossflow between zones with differing pressure gradients. Gaps and/or channels in the casing cement can expose upwell equipment to result in unanticipated gas intrusion from shallow, gas-bearing formations, including any coals.

45. XTO's well design and cementing practices failed to ensure the Schnegg C 7H well's 9 5/8" casing cement created an effective hydraulic seal.

The Schnegg C 7H Well: Pressure Monitoring

46. Pressure on a well casing can be established by measuring the pressure in the "annulus"—the ring-shaped space between the nested well casings.

47. Best practices in the industry direct that a safety valve or monitoring device should be installed on the tubing-casing or casing annulus for all hydraulic fracturing services in

order to ensure the maximum pressure rating for the casing is not exceeded as a result of pressure and temperature changes, coupling leakage, or the ingress of formation gases.

48. The Schnegg C 7H Well had monitoring devices installed to allow monitoring of both the 5 1/2" x 9 5/8" annulus and the 9 5/8" x 13 3/8" annulus.

49. Though the wellhead design allowed for regular pressure monitoring, XTO did not implement a regular annulus pressure monitoring program during completion and clean-out operations as company procedures and industry best practices would dictate.

50. XTO did not monitor annular pressures on the Schnegg C 7H Well with sufficient regularity, nor did the company use the few pressure readings it did collect to properly inform risk assessments, well integrity analyses, or operational decisions.

51. Best practices in the industry direct that operators use pressure testing to ensure well and equipment integrity during all phases of wellwork operations, including well completions, workovers, and production operations, and to expose defective equipment for repair or replacement.

52. In August of 2017, XTO recorded pressures on the 9 5/8" casing of the Schnegg C 7H well at or around 4,100 psi.

53. From August through October 2017, XTO bled pressure from the Schnegg C 7H well's 9 5/8" casing approximately 10 times.

54. Between those pressure-reduction efforts, pressure on the well's 9 5/8" casing would return to around 2,200–3,200 psi.

55. According to XTO Energy's later Malfunction/Closure Report for the 7H well, the well's 9 5/8" casing had "a history of pressures between 2200–4300 psi."

56. Best practices in the industry direct that operators take steps to diagnose the cause of and risks associated with pressures above 1,000 psi on intermediate casings.

57. Despite its pressure history, XTO did not investigate the cause of the high pressure recorded on the 7H well's 9 5/8" casing prior to its completion or the possibility that pressure might also be building up in the 9 5/8" x 13 3/8" annulus.

58. XTO did not assess risks associated with these pressure readings, nor did XTO undertake corrective or adequate mitigative actions to address any well integrity issues at the Schnegg C 7H well.

59. XTO did not monitor and/or record pressure on the 7H well's 9 5/8" or 13 3/8" casings for at least two months between November 1, 2017 and January 1, 2018.

60. In January of 2018, XTO recorded pressures on the 9 5/8" casing at or around 4,300 psi.

61. XTO did not monitor pressure in the 9 5/8" x 13 3/8" annulus at any time between August 17, 2017 and February 15, 2018.

62. XTO did not implement an annulus pressure monitoring program during well completion.

63. XTO did not implement an annulus pressure monitoring program as directed by the company's own Standard Operating Procedures in place at the time.

64. Best practices in the industry direct well operators to perform risk assessment on the effect that increasing wellhead loads and pressure and temperature changes in any trapped fluids could have on the integrity and burst resistance of the surface casing.

65. XTO did not perform such a risk assessment for the Schnegg C 7H well.

66. Best practices in the industry direct well operators to perform a detailed risk assessment and implement risk mitigation measures before undertaking simultaneous operations at wells in close proximity to each other.

67. Where the risk of striking wellheads or production equipment exists while moving or lifting equipment in the vicinity, operators can consider installing cages over exiting well heads, and keep those cages in place until operations on the location are completed and rig has been moved offsite. In addition, operators should consider shutting in any producing wells, bleed off pressure from surface equipment, and keep off-line until equipment has been spotted in its final location.

68. If producing wells are not shut in, operators should perform a risk assessment to consider the worst-case scenario and viable mitigation plans if a breach were to occur.

69. XTO did not perform a risk assessment to evaluate the worst-case scenario and develop a viable mitigation plan for the event of a breach while performing simultaneous operations at the Schnegg C Well Pad in February of 2018.

70. XTO did not shut in the B 9H well prior to performing post-fracking operations at the 7H well.

71. XTO did not adequately protect the B 9H well while performing post-fracking operations at the adjacent C 7H well.

72. XTO did not install a cage around the Schnegg B 9H wellhead prior to performing post-fracking operations at the adjacent C 7H well.

The Schnegg C 7H Well: Blowout

73. On February 15, 2018, XTO Energy lost control of the Schnegg C 7H well.

74. During post fracking coil drill-out operations, the 13 3/8" intermediate casing burst, causing the well to drop approximately one foot. The drop sheared off multiple valves, including the 2-inch flow cross.

75. Gravel and fracking fluids were blown across the Well Pad, and then the Schnegg C 7H well began venting uncontrolled gas.

76. The uncontrolled gas that vented from the Schnegg C 7H well contained, among other materials, methane (CH₄).

77. The uncontrolled gas ignited, causing the crane holding the coil injector head to fall and contact the adjacent Schnegg B 9H well, damaging that well.

78. Below is a frame from a video of the ongoing release captured by Ohio's State Highway Patrol on February 15, 2018:



79. Following the blowout, the immediate area around the well head was not accessible due to safety concerns.

80. Response officials evacuated approximately a two-mile radius surrounding the Well Pad area following the blowout.

81. A unified command involving county and state authorities was established at the nearby Powhatan Point Elementary School to oversee response activities. The command was later relocated to the Belmont County Energy Management Agency offices.

82. The venting of the well was so loud that response workers were required to wear double hearing protection.

83. American Electric Power shut off electricity to many homes in the evacuation radius upon discovery that the distribution line running along near-by Cats Run Road was sparking.

84. On or about February 17, 2018, the exclusion zone was reduced to a one-mile radius surrounding the Schnegg C Well Pad.

85. On or about February 19, 2018, the exclusion zone was reduced to a half-mile radius surrounding the Schnegg C Well Pad.

86. XTO's Malfunction/Closure Report following the C 7H well blowout noted: "the well-head on the [adjacent 9H well] had unknown integrity due to the crane contact. Therefore, time was needed to subsequently kill and repair that wellhead so that the crane could be safely moved out of the way and gain safe access."

87. The leak from the Schnegg C 7H Well lasted 20 days.

88. The C 7H well tree was eventually replaced, and the well was shut in on March 7, 2018.

89. An inspection performed following the shut-in of the C 7H well concluded the 13 3/8" casing had burst due to being over-pressured.

90. It was suspected that a connection leak on the 9 5/8" casing—which had a history of pressure readings between 2,200 and 4,300 psi—allowed pressure to build on the 13 3/8" casing.

91. XTO considered the likely source of the 9 5/8" gas pressure was a cement channel allowing down-hole gas communication through the 9 5/8" x 5.5" annulus to the surface.

92. Independent scientists used satellite imaging technology and conservative analytical methods to calculate the rate and volume of methane emitted from the Schnegg C 7H well blowout. As published in the Proceedings for the National Academy of Sciences, researchers concluded the blowout averaged an emissions rate of 120 ± 32 metric tons per hour and resulted in the emission of about 60 kilotons of methane. *See* Sudhanshu Pandey et al., *Satellite Observations Reveal Extreme Methane Leakage From A Natural Gas Well Blowout*, 116 (52) PNAS 26,376, 26,378–79 (2019) (<https://doi.org/10.1073/pnas.1908712116>).

CLAIM FOR RELIEF

Failures to Identify Hazards, Design and Maintain Safe Facilities, And Mitigate the Effects of Accidental Releases

93. Paragraphs 1–92 are incorporated herein by reference.

94. The Schnegg C Well Pad is a stationary source pursuant to 42 U.S.C. § 7412(r)(2)(C).

95. The Schnegg C 7H well is a stationary source pursuant to 42 U.S.C. § 7412(r)(2)(C).

96. XTO failed to cement, test, and monitor well casings at the Schnegg C 7H well in accordance with the company's own applicable design, state permit specifications, the company's own Standard Operating Procedures, and best practices in the industry.

97. XTO failed to identify and mitigate the risks of an accidental release associated with the loss of control of the 7H well.

98. XTO violated Section 112(r)(1) of the Clean Air Act by failing to design and cement the Schnegg C 7H well in accordance with permit requirements, the necessities of local geology, and best cementing practices.

99. XTO violated Section 112(r)(1) of the Clean Air Act by failing to implement an appropriate annulus monitoring program, failing to assess the risks posed by sustained pressures on the Schnegg C 7H well casings, failing to evaluate the well's integrity in light of those sustained pressures, and failing to take appropriate preventative measures or implement corrective action to prevent an accidental release of natural gas.

100. XTO violated Section 112(r)(1) of the Clean Air Act by failing to assess and mitigate the risks associated with simultaneous operations at the Schnegg C Well Pad and failing to take the necessary precautionary measures such as erecting a protective cage around the Schnegg 9H well during work at the 7H well and/or shutting in the 9H well during post-fracking work at the 7H well. As a result of these failures, efforts to control the Schnegg C 7H well were unnecessarily delayed and the consequences of the accidental release of methane were greater than they should have been.

101. These failures constitute violations of XTO's obligation under Section 112(r)(1) of the Clean Air Act to (1) identify hazards which may result from accidental releases using appropriate hazard assessment techniques, (2) design and maintain a safe facility taking such steps as are necessary to prevent releases, and/or (3) minimize the consequences of accidental releases which do occur. 42 U.S.C. § 7412(r)(1).

RELIEF SOUGHT

WHEREFORE, Plaintiff respectfully prays that this Court:

- A. Enter judgment against the Defendant and in favor of the United States, and assess against the Defendant civil penalties in an amount of up to \$97,229 per day for each day of violation alleged above, pursuant to Section 113(b) of the Act, 42 U.S.C. § 7413(b);
- B. Award the United States injunctive relief pursuant to Section 113(b) of the Act, 42 U.S.C. § 7513(b);
- C. Order Defendant to take other appropriate actions to remedy, mitigate, and offset the harm to public health and the environment caused by the violations of the Clean Air Act alleged above; and
- D. Grant such other relief as this Court may deem just and proper.

Dated: December 17, 2024

Respectfully submitted,

TODD KIM
Assistant Attorney General
Environment and Natural Resources Division
United States Department of Justice

s/ Elias L. Quinn

ELIAS L. QUINN

Senior Attorney

SASHA M. ALVARENGA

Trial Attorney

Environmental Enforcement Section

Environmental and Natural Resources Division

U.S. Department of Justice

P.O. Box 7611, Ben Franklin Station

Washington, DC 20044-7611

(202) 514-2756

Elias.Quinn@usdoj.gov

Sasha.Alvarenga@usdoj.gov

OF COUNSEL

ROBERT M. GUSTAFSON

ROBERT M. PEACHEY

Office of Regional Counsel

United States EPA, Region 5