

**EPA’S ROLE IN IMPLEMENTING AND MAINTAINING THE
OIL AND GAS INDUSTRY’S ENVIRONMENTAL
EXEMPTIONS: A STUDY IN THREE STATUTES**

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INTRODUCTION

One of the perennial topics of discussion and study in the field of environmental law is the unusual amount of exemptions or exclusions the oil and gas industry has received from our nation's major environmental laws. For the most part, these laws are broadly applicable and aim at certain environmental impacts and considerations, no matter the source. Yet the oil and gas industry is unique in the amount of exemptions and exclusions it has received—and continues to receive—from these laws. The only other industry that seems to come close is agriculture.

With the recent boom in oil and gas production, along with the increased environmental costs, there has been more focus on the oil and gas industry's treatment under our environmental laws. However, much of this focus is on Congress, both in its role in bringing about these exemptions and exclusions and in legislative solutions toward ending them. In two ways, this article aims to add greater detail and better solutions to this conversation. First, while Congress undoubtedly played a central role in enacting these exemptions and exclusions, the United States Environmental Protection Agency ("EPA") laid much of the groundwork for Congress's enactments and has maintained these exemptions through its long inaction and regulatory inertia. Second, these exemptions are not absolute. Congress's enactment of them did not foreclose all future regulation of the oil and gas industry under those laws. Each exemption either gives EPA the means to end the exemption or contains an exception, thereby giving EPA much fuller ability to regulate the oil and gas industry than it chooses to use.

In making this case, this article will examine three exclusions or exemptions to major environmental laws: the oil and gas extraction industry's continued exclusion from the Toxics Release Inventory ("TRI")

of the Emergency Prevention and Community Right-to-Know Act (“EPCRA”), the recent “Halliburton Loophole” to the Safe Drinking Water Act (“SDWA”), and the Bentsen Amendment to the Resource Conservation and Recovery Act (“RCRA”). These exclusions or exemptions are each different in their degree of absoluteness and the power left to EPA. At the same time, across all three, EPA has played a key role in maintaining each of these exclusions or exemptions and has not used its full regulatory power to undo or work within them.

I. THE OIL AND GAS INDUSTRY’S PROCESSES AND IMPACTS

A. *The Main Processes: Exploration and Production and Natural Gas Processing*

The modern oil and gas industry is a vast network of facilities, components, and processes that runs from the exploration for and production of oil and natural gas deposits, to natural gas processing, to transportation, and through to when the processed natural gas and refined petroleum reach the market.¹ For the purposes of this article, and for the purposes of all the exemptions considered here, the oil and gas industry considered is actually a smaller subset: the oil and gas extraction industry. This industrial sector extends from exploration and production at well sites up to the point that the crude oil and/or “pipeline-quality” natural gas are ready to be transported to market.² This includes activities at the well site, such as drilling and hydraulic fracturing (“fracking”); associated components, such as storage tanks, compressor stations, and “gathering” pipelines; natural gas processing facilities; and natural gas liquids fractionation facilities.³ The main components that the oil and gas extraction industry does not include are transportation and transmission

1. U.S. ENVTL. PROT. AGENCY, REGULATORY IMPACT ANALYSIS FINAL NEW SOURCE PERFORMANCE STANDARDS AND AMENDMENTS TO THE NATIONAL EMISSIONS STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR THE OIL AND NATURAL GAS INDUSTRY 2-1 (2012) [hereinafter EPA, RIA], available at http://www.epa.gov/ttn/ecas/regdata/RIAs/oil_natural_gas_final_neshap_nsps_ria.pdf [http://perma.cc/FE6H-RLRU].

2. See *id.*, U.S. Dep’t of Labor, Occupational Health & Safety Admin., *Major Group 13: Oil and Gas Extraction*, OSHA.GOV, https://www.osha.gov/pls/imis/sic_manual.display?id=8&tab=group [https://perma.cc/KV5D-CJQV] (last visited Mar. 25, 2015). ENERGY INFO. ADMIN., NATURAL GAS PROCESSING THE CRUCIAL LINK BETWEEN NATURAL GAS PRODUCTION AND ITS TRANSPORTATION TO MARKET 2-1 (2006), available at http://www.eia.gov/pub/oil_gas/natural_gas/feature_articles/2006/ngprocess/ngprocess.pdf [http://perma.cc/U3TK-AS8B].

3. See EPA, RIA, *supra* note 1, at 2-4–2-8. ENERGY INFO. ADMIN., *supra* note 2, at 2-4.

pipelines, oil refineries, and certain petrochemical plants, like ethane “cracker” facilities.⁴

Within the oil and gas extraction industry, there are two main categories of processes (sometimes broken further down to three): (1) exploration and production at the well site and (2) natural gas processing.⁵ The exploration and production category, as its name suggests, begins with exploration for formations associated with oil or natural gas deposits, and involves geophysical prospecting and exploratory drilling.⁶ Once this exploration has located an economically recoverable field, well development begins with the drilling of one or more wells.⁷ At this stage in the process, operators use a number of drilling muds and fluids, as described in greater detail *infra*, to clean and cool the drill bit, bring drill cuttings back to the surface, and prevent the collapse of the well bore.⁸ Once the well bore has reached a desired depth, the drill bit is steered in order to drill horizontally—usually 1,000 to 6,000 feet outward, but sometimes as far as 10,000 feet from the well.⁹

At this point, the process of fracking typically begins, in which millions of gallons of fluids are pumped into the well under high pressure—sometimes preceded by a charge to form initial fractures—in order to fracture the surrounding formation and release the oil and gas contained within.¹⁰ As described *infra*, these fracking fluids also contain a variety of toxic and hazardous constituents, though many such fluids are proprietary

4. Major Group 13· Oil and Gas Extraction, *supra* note 2. NAICS Ass'n, *NAICS Code Description: 211111 Crude Petroleum & Natural Gas Extraction*, NAICS.COM, <http://www.naics.com/naics-code-description/?code=211111> [<http://perma.cc/MG8F-9QJX>] (last visited April 1, 2015).

5. EPA, RIA, *supra* note 1, at 2-4-2-8. *but see* U.S. ENVTL. PROT. AGENCY, OFFICE OF COMPLIANCE SECTOR NOTEBOOK PROJECT PROFILE OF THE OIL AND GAS EXTRACTION INDUSTRY 15 (2000) [hereinafter EPA, INDUSTRY SECTOR PROFILE] (dividing the industry into four major processes: exploration, well development, production, and site abandonment), *available at* <http://www.epa.gov/compliance/resources/publications/assistance/sectors/notebooks/oilgas.pdf> [<http://perma.cc/XNZ3-GA7Q>].

6. *See* EPA, RIA, *supra* note 1, at 2-4. EPA, INDUSTRY SECTOR PROFILE, *supra* note 5, at 15.

7. *See* EPA, RIA, *supra* note 1, at 2-4. EPA, INDUSTRY SECTOR PROFILE, *supra* note 5, at 16.

8. EPA, INDUSTRY SECTOR PROFILE, *supra* note 5, at 17-18. EPA, RIA, *supra* note 1, at 2-4.

9. SEAN MOULTON & SOFIA PLAGAKIS, THE RIGHT TO KNOW, THE RESPONSIBILITY TO PROTECT STATE ACTIONS ARE INADEQUATE TO ENSURE EFFECTIVE DISCLOSURE OF THE CHEMICALS USED IN NATURAL GAS FRACKING 12 (2012), *available at* http://www.foreffectivegov.org/files/info/naturalgasfrackingdisclosure_med.pdf [<http://perma.cc/8EV5-7YL9>].

10. EPA, RIA, *supra* note 1, at 2-5.

blends for which companies claim protection as trade secrets.¹¹ Finally, mixtures known as “proppants”—typically sand, but also other materials—are also injected in order to “prop” the fractures open.¹² Once a hydraulically fractured well successfully releases natural gas from the oil and gas formation, the pressure of the natural gas pushes the injected fluids as well as the water previously trapped within the formation out of the well at high velocity, typically into a nearby surface impoundment.¹³ Unless this “flowback” is controlled via a “reduced emission completion,” it can result in a significant amount of air pollutants venting directly to the atmosphere.¹⁴

Once natural gas has been extracted from a well, it must be processed to the point of becoming “pipeline-quality” gas—that is, the quality at which it can be transported via high-pressure, long-distance pipelines.¹⁵ Natural gas processing (also known as “conditioning”) is the series of methods that remove contaminants and natural gas liquids from the gas stream, specifically including water vapor, hydrogen sulfide, carbon dioxide, high-vapor-pressure hydrocarbons such as the BTEX compounds, and other gases such as nitrogen.¹⁶ Two of the most common methods involved in natural gas processing are “dehydration,” in which the gas is exposed to a glycol to remove water vapor, and “sweetening,” in which the “sour” natural gas is exposed to an amine solution and heated to remove hydrogen sulfide.¹⁷

B. The Toxic Chemicals the Oil and Gas Industry Uses and Releases

In these two processes—exploration and production and natural gas processing—the oil and gas industry uses and releases a host of toxic chemicals.¹⁸

11. See MINORITY STAFF, COMM. ON ENERGY & COMMERCE, U.S. HOUSE OF REP., CHEMICALS USED IN HYDRAULIC FRACTURING 2 (2011) [hereinafter HOUSE COMM. REPORT], available at <http://democrats.energycommerce.house.gov/sites/default/files/documents/Hydraulic-Fracturing-Chemicals-2011-4-18.pdf> [<http://perma.cc/JT78-8XQ4>] (explaining types of fracking fluid blends).

12. See EPA, RIA, *supra* note 1, at 2-5, 3-5.

13. *Id.* at 3-5.

14. *Id.* at 3-6.

15. *Id.* at 2-7. *Major Group 13: Oil and Gas Extraction, supra* note 2.

16. EPA, RIA, *supra* note 1, at 2-7–2-8. *Major Group 13: Oil and Gas Extraction, supra* note 2.

17. *Major Group 13: Oil and Gas Extraction, supra* note 2. EPA, RIA *supra* note 1, at 2-7–2-8.

18. Although each statute at issue here uses a different terminology for the regulated substances—e.g., RCRA’s “hazardous wastes” and the TRI’s “toxic chemicals”—this article will generally use the term “toxic chemicals,” which seems the most broadly inclusive.

First, oil and gas exploration and production use a wide range of chemicals to drill and frack wells, mobilize additional chemicals within the oil and gas formations, and release these chemicals across nearly all environmental media.¹⁹ The category that is likely most familiar to the public are the chemicals used in fracking fluids, and one of the best sources on these fluids is a 2011 report by the Minority Staff of the U.S. House of Representatives Committee on Energy and Commerce.²⁰ The report looked at voluntary submissions by “the 14 leading oil and gas service companies” of the products and chemicals they used between 2005 and 2009.²¹

From these submissions, the toxic chemicals most used by the companies, based on number of products in which they appeared, were methanol, 2-butoxyethanol, and ethylene glycol.²² The report also specifically identified 29 chemicals used by the companies that are known or possible human carcinogens, regulated under SDWA for risks to human health, and/or listed as hazardous air pollutants (“HAPs”) under the Clean Air Act.²³ These included diesel, naphthalene, xylene, hydrochloric acid, toluene, ethylbenzene, and formaldehyde.²⁴ When used as fracking fluids, these products and chemicals are mixed with a base fluid, typically water or reused wastewater, and anywhere between two to five million gallons of this mixture is injected to frack a single well.²⁵

In addition to fracking fluids, wells use a wide range of muds and fluids for the initial drilling of the wells. One of the most common ingredients in both onshore and offshore drilling muds is barite, which contains primarily barium sulfate but also a host of toxic metals, such as mercury, cadmium, and chromium.²⁶ Additional toxic constituents used in drilling and other well development practices include propargyl alcohol, a common corrosion

19. Petition to Add the Oil and Gas Extraction Industry, Standard Industrial Classification Code 13, to the List of Facilities Required to Report under the Toxics Release Inventory, 79 Fed. Reg. 393 (Jan. 3, 2014) [hereinafter TRI Petition], available at <http://www.regulations.gov#!documentDetail.D=EPA-HQ-TRI-2013-0281-0005> [<http://perma.cc/E7ZQ-CR39>].

20. HOUSE COMM. REPORT, *supra* note 11, at 1, 5.

21. *Id.* at 4–5.

22. *Id.* at 6.

23. *Id.* at 8.

24. *Id.* at 8, Table 3.

25. See Earthworks, *Hydraulic Fracturing* 101, http://www.earthworksaction.org/issues/detail/hydraulic_fracturing_101#.VT1MECFVtkp [<http://perma.cc/8BSR-VUN6>] (last visited Feb. 11, 2015).

26. U.S. ENVTL. PROT. AGENCY, DEVELOPMENT DOCUMENT FOR PROPOSED EFFLUENT LIMITATIONS GUIDELINES AND STANDARDS FOR SYNTHETIC-BASED DRILLING FLUIDS AND OTHER NON-AQUEOUS DRILLING FLUIDS IN THE OIL AND GAS EXTRACTION POINT SOURCE CATEGORY VII-4, VII-6 (1999) [hereinafter EPA, PROPOSED EFFLUENT LIMITATIONS FOR DRILLING FLUIDS].

inhibitor;²⁷ heavy naphtha, a lubricant that contains the toxic BTEX compounds;²⁸ and Duratone HT, a filtration control agent for drilling that contains nonylphenol.²⁹

An additional set of toxic chemicals are those that are already present in the gas formation and will be mobilized as drill cuttings and flowback water.³⁰ Within the Marcellus shale formation, these chemicals include lead, arsenic, barium, chromium, uranium, radium, radon, and benzene.³¹ Drill cuttings can also contain naturally occurring radioactive materials (“NORMs”), which have proven to be a problem for the disposal of these wastes in landfills not capable of handling them.³²

These toxic chemicals are released to all environmental media through a variety of mechanisms. For example, wastewater (i.e., flowback water and produced water) has contaminated groundwater aquifers by leaching through pits and impoundments, faulty well casing, and natural or fracking-related pathways.³³ Surface water discharges have occurred due to well “blowouts,” spills, and other accidents.³⁴ Contamination of surface water also occurs when oil and gas wastewater is improperly sent to public wastewater treatment plants, which are incapable of removing certain

27. See RONALD E. BISHOP, CHEMICAL AND BIOLOGICAL HAZARDS POSED BY DRILLING EXPLORATORY SHALE GAS WELLS IN PENNSYLVANIA’S DELAWARE RIVER BASIN REPORT FOR THE DELAWARE RIVER BASIN COMMISSION EXPLORATORY WELL HEARING 8 (2010) (citing ALFA AESAR, MATERIAL SAFETY DATA SHEET ACC. TO OSHA AND ANSI PROPARGYL ALCOHOL (2008)), available at http://www.damascuscitizensforsustainability.org/wp-content/uploads/2011/12/Bishop-Report_R1.pdf [<http://perma.cc/GNC5-NC4U>].

28. *Id.* at 8–9 (citing AM. AGIP CO., MATERIAL SAFETY DATA SHEET HEAVY NAPHTHA (2006)).

29. GLENN A. MILLER, RISKS ASSOCIATED WITH PERMITTING EXPLORATION WELLS IN THE DELAWARE RIVER BASIN 3 (2010).

30. BISHOP, *supra* note 27, at 9.

31. *Id.* at 9–11 (citing Lisa Sumi, Earthworks, *Shale Gas: Focus on the Marcellus* (2008)).

32. See Anya Litvak, *Marcellus Shale Waste Trips More Radioactivity Alarms than Other Products Left at Landfills*, PITTSBURGH POST-GAZETTE (Aug. 22, 2013), <http://www.post-gazette.com/local/marcellusshale/2013/08/22/Marcellus-Shale-waste-trips-more-radioactivity-alarms-than-other-products-left-at-landfills/stories/201308220367> [<http://perma.cc/MSU3-PXNA>]. OHIO ENVTL. PROT. AGENCY, FACT SHEET DRILL CUTTINGS FROM OIL AND GAS EXPLORATION IN THE MARCELLUS AND UTICA SHALE REGIONS OF OHIO 1–2 (2014), available at <http://oilandgas.ohiodnr.gov/portals/oilgas/pdf/EPA-fact-sheets/DrillCuttingsfromOilandGasExplorationintheMarcellusandUticaShale.pdf> [<http://perma.cc/22QQ-WJGV>].

33. TRI Petition, *supra* note 19, at 39–48. *see also* Dep’t of Envtl. Prot., Commonwealth of Pennsylvania, *DEP Seeks \$4.5 Million Penalty from EQT Production Company for Major Pollution Incident in Tioga County*, PR NEWSWIRE (Oct. 7, 2014), available at <http://www.prnewswire.com/news-releases/pennsylvania-dep-seeks-45-million-penalty-from-eqt-production-company-for-major-pollution-incident-in-toga-county-278371501.html> [<http://perma.cc/Y2E3-QU7J>] (noting the “significant amount of waste released by [well site’s] leaking six million gallon impoundment”).

34. TRI Petition, *supra* note 19, at 48–50.

constituents such as salts and radioactive materials, and end up releasing these materials into the receiving water.³⁵

Operators also send oil and gas wastewater to underground injection wells, of which there are now 172,000 nationwide, and which accept two billion gallons of oil and gas wastewater per day.³⁶ Solid wastes, such as drill cuttings, drilling muds, and fracking sands, are sent to solid waste landfills.³⁷ This has become a problem over the past several years, as the growing amount of oil and gas solid waste has resulted in many private and municipal landfills receiving oil and gas waste that they are incapable of handling.³⁸ Finally, air emissions are also a means of release for these wastes, primarily via evaporative loss from wastewater impoundments.³⁹ The New York State Department of Environmental Conservation recently estimated that a single central impoundment at a well could emit 32.5 tons of methanol per year.⁴⁰

Second, natural gas itself contains a large number of toxic constituents, which the oil and gas industry releases through well completions, leaks, storage, and processing. EPA has estimated—prior to its implementation of certain air controls that will partially address the problem—that the industry releases roughly 127,000 tons of hazardous air pollutants annually.⁴¹ EPA has made several estimates of the toxic constituents in natural gas, depending on the gas stream's stage of production or processing.⁴² These

35. *Id.* at 50–51.

36. *Id.* at 52–53, *see* GOV'T ACCOUNTABILITY OFFICE, U.S. ENVTL. PROT. AGENCY PROGRAM TO PROTECT UNDERGROUND SOURCES FROM INJECTION OF FLUIDS ASSOCIATED WITH OIL AND GAS PRODUCTION NEEDS IMPROVEMENT 1 (June 2014) [hereinafter GAO, UNDERGROUND INJECTION], *available at* <http://www.gao.gov/assets/670/664499.pdf> [<http://perma.cc/M92C-P6ZF>].

37. TRI Petition, *supra* note 19, at 53–55.

38. *Id.* at 54–55.

39. *Id.* at 55–56.

40. *Id.* at 56.

41. U.S. ENVTL. PROT. AGENCY, PROPOSED AMENDMENTS TO AIR REGULATIONS FOR THE OIL AND NATURAL GAS INDUSTRY FACT SHEET 1–2 (2011) [hereinafter EPA, PROPOSED AIR RULE FACT SHEET], *available at* <http://epa.gov/airquality/oilandgas/pdfs/20110728factsheet.pdf> [<http://perma.cc/AGA3-JPZ6>] (using EPA estimate that 38,000 tons per year of hazardous air pollutants represents “a reduction of nearly 30 percent”). For reference, EPA revised the final air rule to reduce the industry's hazardous air pollutant emissions by only 12,000 tons per year, or less than 10% of the industry's emissions. U.S. ENVTL. PROT. AGENCY, OVERVIEW OF FINAL AMENDMENTS TO AIR REGULATIONS FOR THE OIL AND NATURAL GAS INDUSTRY 2 (2012), *available at* <http://www.epa.gov/airquality/oilandgas/pdfs/20120417fs.pdf> [<http://perma.cc/53G4-6DJR>]. Press Release, Env'tl. Integrity Project, 17 Groups Petition EPA for Public Reporting of Chemical Releases from Fracking, Other Oil and Gas Operations (Oct. 24, 2012), *available at* http://www.environmentalintegrity.org/news_reports/documents/2012_10_24TRIPressReleaseFINAL.pdf [<http://perma.cc/48WT-HHQR>].

42. Memorandum from Heather P. Brown, P.E., EC/R Incorporated, to Bruce Moore, EPA/OAQPS/SPPD (July 28, 2011), Regulatory Docket ID No. EPA-HQ-OAR-2010-0505, *available at* <http://www.regulations.gov/#!documentDetail.D=epa-HQ-OAR-2010-0505-0084> [<http://perma.cc/D6JQ-QRDF>] (last visited Apr. 2, 2015).

constituents include hydrogen sulfide, n-hexane, benzene, toluene, ethylbenzene, and xylenes.⁴³

Third, and finally, the industry uses and releases a number of different toxic chemical constituents in its processing of natural gas. For example, dehydrators most commonly use glycols to absorb water from wet gas, including the toxic ethylene glycol.⁴⁴ They also emit a significant amount of hazardous air pollutants, and in particular the BTEX compounds, from leaks and venting during their operation. In EPA's recent air rule, it estimated that its controls on small glycol dehydrators would result in an average reduction of 6.8 tons per year of hazardous air pollutants per unit.⁴⁵ Gas sweetening commonly uses an amine solution—including the toxic diethanolamine—to remove hydrogen sulfide from “sour gas.”⁴⁶ The toxic hydrogen sulfide that is recovered from the process is sometimes captured and sold as elemental sulfur, but also may be vented or flared.⁴⁷

II. THE OIL AND GAS INDUSTRY'S EXEMPTIONS

The oil and gas industry undoubtedly is exempt from a large amount of provisions of environmental laws. Indeed, there are so many exemptions that there are countless articles, guides, and other publications devoted to the topic.⁴⁸ This article does not attempt to rebut this point. Rather, through looking at three specific exemptions—the exclusion of the oil and gas

43. *Id.* at 8, Table 5, 11, Table 8.

44. ENERGY INFO. ADMIN., *supra* note 2, at 4.

45. *See* EPA, RIA, *supra* note 1, at 3-35, Table 3-9 (showing projections for emission reductions and controls).

46. *Id.* at 2-3, 2-8. DOW CHEMICAL CO., GAS SWEETENING PRODUCT SPECIFIER 1 (1998), available at http://msdssearch.dow.com/PublishedLiteratureDOWCOM/dh_0039/0901b803800391f8.pdf?filepaepath=gastreating/pdfs/noreg/170-01395.pdf&fromPage=GetDoc [<http://perma.cc/LT8W-VJH6>].

47. *See* EPA, RIA, *supra* note 1, at 2-8. U.S. ENVTL. PROT. AGENCY, STATIONARY POINT AND AREA SOURCES 5.3.2 (5th ed. 1995), available at <http://www.epa.gov/ttn/chief/ap42/ch05/index.html> [<http://perma.cc/T3X6-8NPH>].

48. *See, e.g.*, RENEE LEWIS KOSNIK, EARTHWORKS, THE OIL AND GAS INDUSTRY'S EXCLUSIONS AND EXEMPTIONS TO MAJOR ENVIRONMENTAL STATUTES 2 (2007), available at <http://www.earthworksaction.org/files/publications/PetroleumExemptions1c.pdf> [<http://perma.cc/JJL8-EAR9>]. *See, e.g.*, William J. Brady & James P. Crammell, *Hydraulic Fracturing Regulation in the United States: The Laissez-Faire Approach of the Federal Government and Varying State Regulations*, 14 VT. J. ENVTL. L. 39 (2012). EARTHWORKS, LOOPHOLES FOR POLLUTERS THE OIL AND GAS INDUSTRY'S EXEMPTIONS TO MAJOR ENVIRONMENTAL LAWS (2011), available at http://www.earthworksaction.org/library/detail/loopholes_for_polluters#.VT1WTSFVikp [<http://perma.cc/5R4D-UW8D>]. Env'tl. Working Group, *Free Pass for Oil and Gas: Oil and Gas Industry Exemptions*, EWG.ORG, <http://www.ewg.org/research/free-pass-oil-and-gas/oil-and-gas-industry-exemptions> [<http://perma.cc/6H7H-2MCT>] (last visited Mar. 25, 2015). Env'tl. Def. Ctr., *Fracking – Federal Law: Loopholes & Exemptions*, EDCNET.ORG, http://www.edcnet.org/learn/current_cases/fracking/federal_law_loopholes.html [<http://perma.cc/X4RQ-HC3W>] (last visited Mar. 25, 2015).

industry from the TRI, the Halliburton Loophole to SDWA, and the Bentsen Amendment to RCRA—this article aims to add two key points.

First, EPA has played a major role in developing these exemptions and keeping them in place. While Congress enacted the exemptions, EPA had involvement in maintaining the exemptions and, in two cases, laying the groundwork for Congress's enactment. Second, the exemptions are not the end of the story. That is, the passage of additional laws to undo the exemptions is not the only solution; EPA retains great power to undo or lessen the exemptions and to work within them.

That being said, it is helpful to understand the greater context of the oil and gas industry's exemptions. There are a number of other exemptions outside the three discussed in this article, and each is worthy of its own article and set of solutions.

A. The Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA" or "Superfund") governs the notification and cleanup of hazardous substance releases, including provisions for liable parties, reporting, and the federal "Superfund" that pays for abandoned site cleanup.⁴⁹ Given that the law's key provisions hinge on the release of a "hazardous substance" having occurred,⁵⁰ Congress wrote CERCLA's hazardous substance definition to broadly incorporate by reference substances deemed hazardous or toxic by other environmental laws.⁵¹ The one exception to this is that the definition "does not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a hazardous substance" under the referenced environmental laws, "and the term does not include natural gas, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel."⁵² This exemption has come to be known as the "petroleum exclusion."⁵³

In spite of the petroleum exclusion's direct and unique aim at petroleum and natural gas, which "gives oil and gas companies little incentive to prevent and clean up spills,"⁵⁴ there is room to argue that the exclusion has gaps that could be used to address releases at modern gas wells.

49. Brady & Crannell, *supra* note 48, at 51.

50. 42 U.S.C. §§ 9601(9), (22), 9603(a), 9607(a)-(c) (2012). 42 U.S.C. §§ 9607(a)-(c) (2006). KOSNIK, *supra* note 48, at 4.

51. 42 U.S.C. § 9601(14).

52. 42 U.S.C. § 9601(14)(F).

53. KOSNIK, *supra* note 48, at 5.

54. Brady & Crannell, *supra* note 48, at 52.

Specifically, the natural gas provision of the exclusion does not include the “any fraction thereof” language in the petroleum provision, and it includes the modifier “usable for fuel.” As discussed *supra*, natural gas is not transported to market—i.e., usable for fuel—until processing has removed hydrogen sulfide, a number of other toxic constituents, and natural gas liquids.⁵⁵ For this reason, one could argue that a release of unprocessed natural gas or a release of the constituents removed by processing is not exempt and still should trigger CERCLA’s liability and notification provisions.

B. The Clean Water Act

Congress enacted the Clean Water Act with the goal “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.”⁵⁶ The primary mechanism by which the Act is meant to achieve this goal is the prohibition on discharges into waters of the United States, unless permitted by EPA or a state permitting authority.⁵⁷ Congress supplemented this authority in 1987, adding the ability for EPA and the states to issue permits for stormwater pollution.⁵⁸ At the same time, Congress exempted stormwater from “oil and gas exploration, production, processing, or treatment operations or transmission facilities” from these permitting requirements, provided that such stormwater does not come into contact with any wastes on site.⁵⁹

After EPA (correctly) read this provision as requiring the permitting of sediment-laden stormwater resulting from the construction of oil and gas sites, Congress amended the Act again, via the Energy Policy Act of 2005.⁶⁰ In this amendment, Congress redefined the Clean Water Act’s definition of “oil and gas exploration and production” to include construction of oil and gas sites.⁶¹ Under Congress’s theory, this would have exempted well pad construction from the Clean Water Act’s stormwater permitting, but once again Congress’s language did not go far enough to achieve that. Environmental groups challenged the resulting EPA rule that exempted oil and gas construction stormwater on this basis, and

55. See *supra* Part II. A.

56. 33 U.S.C. § 1251(a) (2012).

57. 33 U.S.C. §§ 1311(a), 1342(a).

58. Brady & Crannell, *supra* note 48, at 48.

59. 33 U.S.C. § 1342(l)(2) (2006). see also KOSNIK, *supra* note 48, at 10.

60. KOSNIK, *supra* note 48, at 11. see *infra* Part IV.A. for discussion of the Energy Policy Act’s enactment of the Halliburton Loophole.

61. 33 U.S.C. § 1362(24).

the U.S. Court of Appeals for the Ninth Circuit agreed, finding that the language of the Clean Water Act did not provide for such an exemption.⁶²

Accordingly, even though Congress has made two attempts at exempting it, contaminated stormwater from oil and gas facilities is still covered by the Clean Water Act's permitting requirements.⁶³

C. *The Clean Air Act*

The Clean Air Act is the environmental law that regulates emissions from stationary sources, mobile sources, and area sources.⁶⁴ The Act achieves this by setting National Ambient Air Quality Standards, which state environmental agencies meet and implement through their State Implementation Plans, and through the National Emission Standards for Hazardous Air Pollutants.⁶⁵

The issue for the oil and gas industry comes about with respect to the Clean Air Act's provision that allows smaller sources to be "aggregated" and regulated as a major source, provided that they are "within a contiguous area" and "under common control."⁶⁶ This is important, given that these smaller sources collectively may have a large hazardous emissions footprint without individually meeting the required thresholds for regulation under the Clean Air Act.⁶⁷

While this aggregation provision would seem to be appropriate for the regulation of large groups of oil and gas wells operated by one company,⁶⁸ the Clean Air Act specifically exempts oil and gas wells, compressor stations, and pump stations from aggregation as major sources, "whether or not such units are in a contiguous area or under common control."⁶⁹ The Act also exempts most oil and gas wells from consideration by EPA as small "area sources," another means by which EPA could attempt to regulate the wells.⁷⁰ Congress added an additional exemption in 1991 when it struck hydrogen sulfide from the list of hazardous air pollutants.⁷¹

62. Brady & Crannell, *supra* note 48, at 49.

63. *Id.*, see also U.S. Env'tl. Prot. Agency, *Regulation of Oil and Gas Construction Activities*, WATER.EPA.GOV, <http://water.epa.gov/polwaste/npdes/stormwater/Regulation-of-Oil-and-Gas-Construction-Activities.cfm> [<http://perma.cc/9GFF-WEWY>] (last updated Mar. 9, 2009).

64. Brady & Crannell, *supra* note 48, at 50. KOSNIK, *supra* note 48, at 12–13.

65. KOSNIK, *supra* note 48, at 12–13.

66. Brady & Crannell, *supra* note 48, at 50.

67. *Id.* at 51.

68. See *infra* notes 119–120 and accompanying text for a discussion of such groups of wells in the context of the TRI.

69. 42 U.S.C. § 7412(n)(4)(A) (2006).

70. 42 U.S.C. § 7412(n)(4)(B).

71. See 42 U.S.C. § 7412(b)(1) (hydrogen sulfide not listed), see also Pub. L. No. 102–187, 105 Stat. 1285 (codified at 42 U.S.C. § 7412(b)(1)). KOSNIK, *supra* note 48, at 14.

Hydrogen sulfide is a common pollutant at oil and gas operations that produce “sour” gas, and it has particularly dangerous human health impacts, including rapid death.⁷²

For these reasons, most oil and gas wells are effectively exempt from the Clean Air Act’s hazardous emissions regulations.⁷³

D. The National Environmental Policy Act

The National Environmental Policy Act (“NEPA”) establishes the decision-making framework for considering a “federal action’s” alternatives and full range of environmental impacts.⁷⁴ This is important for oil and gas operations, as many of them occur on federal lands and are therefore federal projects. In 2005, the Energy Policy Act—which also enacted exemptions under the Clean Water Act and SDWA—enacted an exemption under NEPA for certain oil and gas exploration and development occurring on lands managed by the Department of the Interior or the Department of Agriculture.⁷⁵ Under this exemption, there is a “rebuttable presumption” that such activities should be considered a “categorical exclusion” and therefore not given the full analysis under NEPA.⁷⁶ The effect is that these oil and gas activities on federal public lands may go forward without a proper analysis of their reasonable alternatives, impacts, and effects.

E. The Exemptions Investigated in this Article: TRI, SDWA, and RCRA

This article will examine exemptions and exclusions under three other environmental laws toward demonstrating the premises that EPA has played a key role in implementing and maintaining these exemptions and that there is still much that EPA can do on its own to undo these exemptions and work within them.

First, the oil and gas industry’s exclusion from the TRI is the least of the three like a “traditional” exemption, and it is also the one in which EPA maintains the most power to act. Second, the Halliburton Loophole of SDWA is the most like a traditional exemption and the one in which EPA has the least discretion. At the same time, EPA laid much of the

72. KOSNIK, *supra* note 48, at 14; Mike Lee, ‘That Stuff Can Get You So Fast’ – Deadly Gas on the Rise in Oil Fields, E&E NEWS (Oct. 21, 2014), http://www.eenews.net/special_reports/danger_zone/stories/1060007591 [<http://perma.cc/KEA3-G46T>].

73. Brady & Crannell, *supra* note 48, at 51.

74. *Id.* at 52.

75. *Id.* (citing 42 U.S.C. § 15942(a) (2006)).

76. 42 U.S.C. § 15942(a) (2012).

groundwork for the exemption, and it still has authority to work within the exemption, which it has used in only the barest way. Third, the Bentsen Amendment to RCRA is a complicated middle ground between the first two. Congress enacted the exemption on the basis of EPA's reasoning, but it also provided EPA with certain ways to undo or work within the exemption. For nearly three decades, EPA has opted not to use either of these mechanisms.

III. THE TOXICS RELEASE INVENTORY

The first exemption this article considers—the TRI—is also the simplest of the three and the least like a traditional exemption. For this same reason, it is also the one over which EPA has the most control and the least restrictions. To state it in the simplest terms, the oil and gas industry—or, more specifically, the oil and gas extraction industry, as defined *supra*—is not currently one of the industry sectors whose facilities must comply with the TRI.⁷⁷

This is because when Congress enacted the TRI as part of EPCRA in 1986, it did not include the oil and gas extraction industry among the list of industries required to report. At the same time, Congress did not *exclude* the industry from future addition. Rather, Congress left EPA with wholly unrestricted power to add the oil and gas extraction industry or any other industry sector to the TRI as the agency saw fit.

Since the TRI's enactment, EPA has only added additional industries to the TRI *once*, when it added seven sectors in 1997. Among the sectors that EPA deferred adding was the oil and gas extraction industry. While EPA stated at that time that it would revisit the oil and gas extraction industry in the future, it has never done so, nor has it formally added or considered any additional industry sectors since then. In a way, because EPA has unrestricted yet unused power, this is the clearest example of this article's themes: (1) the exemption's force is sustained entirely by EPA's inaction, and (2) there is still much that EPA can do to improve the oil and gas extraction industry's regulation under the TRI.

77. See *supra* Part II. A.

A. *How We Got Here: The Oil and Gas Extraction Industry's Continued Exclusion from the TRI*

Congress enacted the TRI as section 313 of EPCRA in 1986.⁷⁸ EPCRA was largely “in response to concerns regarding the environmental and safety hazards posed by the storage and handling of toxic chemicals,” which had come about in the aftermath of the 1984 “Bhopal disaster.”⁷⁹ In that case, a Union Carbide pesticide manufacturing plant accidentally released a cloud of methyl isocyanate gas, killing nearly 4,000 people and injuring tens of thousands more.⁸⁰ A subsequent toxic chemical release from a similar Union Carbide chemical plant in West Virginia solidified the call for a greater public “right to know” and better emergency planning, leading to EPCRA’s 1986 passage.⁸¹

As enacted, section 313 of EPCRA requires facilities within certain industry sectors to report their annual releases of certain toxic chemicals to the TRI, provided the facilities used over a certain threshold amount of each chemical to be reported and employed ten or more regular employees.⁸² As of the date of this article’s publication, “[t]he current TRI toxic chemical list contains 594 individually-listed chemicals and 31 chemical categories (including four categories containing 68 specifically-listed chemicals),” for a total of 689 TRI-listed chemicals and chemical categories.⁸³

Congress initially applied the TRI’s requirements only to facilities within the manufacturing industry sectors, as identified by Standard Industrial Classification Codes (“SIC Codes”) 20 through 39, likely due to the role of manufacturing plants as impetus for EPCRA.⁸⁴ At the same time, Congress gave EPA the ability to add (or delete) industry sectors as the

78. Emergency Planning and Community Right-to-Know Act, Pub. L. No. 99-499, § 313, 100 Stat. 1741–47 (codified at 42 U.S.C. § 11023).

79. U.S. Env’tl. Prot. Agency, *What is EPCRA?*, EPA.GOV, <http://www2.epa.gov/epcra/what-epcra> [<http://perma.cc/BM4Y-EE35>] (last updated Jan. 28, 2015).

80. *Id.* U.S. Env’tl. Prot. Agency, *25 Years of EPCRA*, EPA.GOV, <http://www.epa.gov/oem/content/epcra/epcra25.htm> [<http://perma.cc/BL8X-UGVA>] (last updated Nov. 15, 2013). W. Va. Univ., *The EPCRA Project*, <http://www.wvu.edu/~lawfac/pmcgimley/EPCRA/EPCRA%20Project.html> [<http://perma.cc/ZHR6-8WZ5>] (last visited Apr. 3, 2015).

81. *25 Years of EPCRA*, *supra* note 80.

82. 42 U.S.C. §§ 11023(a), (b)(1)(A) (2006).

83. U.S. Env’tl. Prot. Agency, *TRI-Listed Chemicals*, EPA.GOV, <http://www.epa.gov/toxics-release-inventory-tri-program/tri-listed-chemicals> [<http://perma.cc/S7GK-6JZ6>] (last updated Mar. 2, 2015).

84. 42 U.S.C. § 11023(b)(1)(A).

agency saw fit, provided that such addition or deletion “is relevant to the purposes of this section.”⁸⁵

In other words, EPA has broad authority to add any additional SIC Codes to the requirements of the TRI, bound only by the directive that any such addition be relevant to the purposes of the TRI. As articulated by EPA, the purposes of the TRI program are also broad: “(1) [p]roviding a complete profile of toxic chemical releases and other waste management activities; (2) compiling a broad-based national database for determining the success of environmental regulations; and (3) ensuring that the public has easy access to these data on releases of toxic chemicals to the environment.”⁸⁶

In spite of this nearly unrestricted authority, EPA did not act on it for almost ten years after the enactment of EPCRA. Then, in 1995, President Clinton issued a memorandum to EPA entitled “Expediting Community Right-to-Know Initiatives,” in which the President noted his “commit[ment] to the effective implementation of this law” and EPA’s “substantial authority to add to the Toxics Release Inventory under EPCRA . . . new classes of industrial facilities.”⁸⁷ For this reason, President Clinton directed EPA to continue rulemaking to add to the list of TRI industry sectors “on an expedited basis” and to complete this rulemaking “on an accelerated schedule.”⁸⁸

EPA followed on this directive in 1996 with a proposed rule in which the agency proposed to add seven new industry sectors to the TRI.⁸⁹ Specifically, EPA proposed to add the metal mining, coal mining, electric utilities, commercial hazardous waste treatment, chemicals and allied products-wholesale, petroleum bulk stations-wholesale, and solvent recovery services industry sectors.⁹⁰ EPA chose these seven sectors through an in-depth screening process, starting first with the overall group of non-

85. 42 U.S.C. § 11023(b)(1)(B), *see also* 42 U.S.C. § 11023(b)(2) (granting EPA broad discretion to add additional facilities to the TRI if EPA “determines that such action is warranted on the basis of toxicity of the toxic chemical, proximity to other facilities that release the toxic chemical or to population centers, the history of releases of such chemical at such facility, or such other factors as [EPA] deems appropriate”).

86. U.S. Envtl. Prot. Agency, Addition of Facilities in Certain Industry Sectors, Revised Interpretation of Otherwise Use, Toxic Release Inventory Reporting, Community Right-to-Know, 62 Fed. Reg. 23,834, 23,836 (May 1, 1997) [hereinafter Final Sector Addition Rule].

87. Memorandum from the Office of the President to the Administrator of the EPA and the Heads of Executive Departments and Agencies on Expediting Community Right-to-Know Initiatives, 60 Fed. Reg. 41,791 (Aug. 8, 1995).

88. *Id.*

89. Addition of Facilities in Certain Industry Sectors, Toxic Chemical Release Reporting, Community Right-to-Know, 61 Fed. Reg. 33,588 (June 27, 1996) [hereinafter Proposed Sector Addition Rule].

90. *Id.*

manufacturing sectors that were not yet required to report to the TRI.⁹¹ From there, EPA reviewed the data available to determine the volume of TRI-listed toxic chemicals used and released by each sector. Over 99% of the chemicals released came from 25 industry sectors, which EPA called the “Tier I” list.⁹²

Rather than just adding these 25 sectors, thereby covering the vast majority of toxic chemical releases not yet reported to the TRI and arguably fulfilling both President Clinton’s directive and the purposes of the TRI, EPA decided to narrow the list further. To do so, the agency looked at the manufacturing industry sectors already covered by the TRI and compared these to the 25 Tier I sectors, in order to determine “those industries that either supply or otherwise manage chemicals and related materials both to and from the point of manufacturing.” EPA’s rationale was that “fill[ing] in gaps associated with chemical management activities currently reported” was a “primary objective” of its rulemaking.⁹³ This resulted in narrowing the sectors to ten candidates.

Again, EPA did not simply add the industry sectors from this smaller list, but continued to screen the candidate sectors against a further series of considerations, including “overlay of regulatory definitions and developments, existing program guidance, and any exemptions pertinent to activities identified for the primary candidates,” and input from representatives of the industry sectors.⁹⁴

Finally, “after the application of the screening process,” EPA used several “additional considerations” to exclude certain industry sectors.⁹⁵ It was one of these additional considerations that resulted in EPA deferring the addition of the oil and gas extraction sector.⁹⁶ While EPA “believed” that the oil and gas extraction industry “conduct[ed] significant management activities that involve EPCRA section 313 chemicals,” it opted to “defer[] action to add this industry group at this time because of questions regarding how particular facilities should be identified.”⁹⁷ Specifically:

This industry group is unique in that it may have related activities located over significantly large geographic areas. While together these activities may involve the

91. *Id.* at 33,591.

92. *Id.*

93. *Id.*

94. *Id.* at 33,592.

95. *Id.*

96. *Id.*

97. *Id.*

management of significant quantities of EPCRA section 313 chemicals in addition to requiring significant employee involvement, taken at the smallest unit (individual well), neither the employee nor the chemical thresholds are likely to be met.⁹⁸

EPA stated that it “will be addressing these issues in the future,” and ultimately opted not to include the oil and gas extraction industry in the group of industry sectors proposed for addition to the TRI.⁹⁹

Although EPA did not explicitly say so, the question of how to define facilities within the oil and gas extraction industry ties in directly with a set of three primary factors that EPA also developed in the proposed rule “to consider in determining whether the statutory standard would be met by addition of the candidate facilities in industry groups under EPCRA section 313(b)(1)(B).”¹⁰⁰ As discussed earlier, Congress provided EPA with broad authority to add industry sectors to the TRI, subject only to the requirement that such addition be “relevant to the purposes of” the TRI.¹⁰¹ EPA agreed this discretion was “broad,” echoing a strong sentiment put forward by the U.S. Government Accountability Office (“GAO”) in an earlier report that critiqued EPA’s failure to use this authority.¹⁰² But EPA apparently had expressed “concerns” about using this authority and later, in the final rule, characterized its authority as “not unlimited.”¹⁰³

For this reason, EPA interpreted the language of the statute to develop three factors it would use in deciding whether to add a candidate industry to the TRI: (a) “Whether one or more toxic chemicals are reasonably anticipated to be present at facilities within the candidate industry group” (the “chemical factor”); (b) “whether facilities within the candidate industry group ‘manufacture,’ ‘process,’ or ‘otherwise use’ these toxic chemicals” (the “activity factor”); and (c) “whether facilities within the candidate industry group can reasonably be anticipated to increase the information

98. *Id.* see also U.S. ENVTL. PROT. AGENCY, ADDITIONAL CONSIDERATIONS IN SELECTING INDUSTRIES FOR ADDITION TO EPCRA SECTION 313 at 3 (1996).

99. Proposed Sector Addition Rule, *supra* note 89, at 33,592.

100. Final Sector Addition Rule, *supra* note 86, at 23,836.

101. 42 U.S.C. § 11023(b)(1)(B), see also MOULTON & PLAGAKIS, *supra* note 9 and accompanying text.

102. See Proposed Sector Addition Rule, *supra* note 89, at 33,593 (citing U.S. GOV'T ACCOUNTABILITY OFFICE, TOXIC CHEMICALS EPA'S TOXIC RELEASE INVENTORY IS USEFUL BUT CAN BE IMPROVED (1991)).

103. Proposed Sector Addition Rule, *supra* note 89, at 33,593. Final Sector Addition Rule, *supra* note 86, at 23,836.

made available pursuant to EPCRA section 313, or otherwise further the purposes of EPCRA section 313” (the “information factor”).¹⁰⁴

The first and second factors are seemingly straightforward, and EPA found that the oil and gas extraction industry clearly met them.¹⁰⁵ The problem seems to have been that, if “facilities” are defined as the smallest possible units—individual wells—then these facilities may not exceed the necessary chemical or employee thresholds needed for a facility to require reporting.¹⁰⁶ This issue ties in with the “information factor” since the addition of an industry is meant to give the public more information. If facilities within a candidate industry will not actually *report* to the TRI because they cannot meet the reporting thresholds, EPA’s theory is that this would weigh against the industry’s addition to the TRI.¹⁰⁷

Even though it may be useful for purposes of rulemaking to have these factors, using the “information factor” in this way seems like an unnecessary constraint on EPA’s authority and is at odds with the overall purposes of the TRI. For example, even if individual oil and gas wells fit within the proper definition of “facilities,” and this results in the majority or entirety of the industry not reporting to the TRI, it still does not make sense for EPA to exclude the entire industry sector from the TRI. If just one facility from the industry were to report to the TRI, this would certainly increase the information made available to the public.

Congress did not command EPA to only add industry sectors that have a certain number of reporting facilities. Rather, Congress left the decision completely up to EPA, so long as the addition would further the purposes of the TRI.¹⁰⁸ Indeed, many of the industries that Congress added in its own original sweep of SIC Codes 20 through 39 have very few reporting units. For example, in reporting year 2013, the apparel industry sector only had three reporting facilities, and the leather manufacturing industry sector only had 27 reporting facilities.¹⁰⁹ In fact, even industries that EPA chose to add in the 1996–97 rulemaking have less than 100 reporting facilities: coal mining had 59 facilities in reporting year 2013, and metal mining had 88.¹¹⁰

104. Final Sector Addition Rule, *supra* note 86, at 23,836.

105. Proposed Sector Addition Rule, *supra* note 89, at 33,592.

106. *Id.* see also *infra* notes 119–120 and accompanying text.

107. Proposed Sector Addition Rule, *supra* note 89, at 33,594.

108. 42 U.S.C. § 11023(b)(1)(B), see also MOULTON & PLAGAKIS, *supra* note 9 and accompanying text.

109. Results obtained using EPA’s TRI Program software and 2013 TRI data. Results on file with the author. See U.S. Env’tl. Prot. Agency, *Toxic Release Inventory (TRI) Program: Learn About Toxic Chemicals in Your Community*, EPA.GOV, <http://perma.cc/5RVG/BL3M> (last visited Apr. 1, 2015) (providing software tool for examining TRI data in specific communities across the country).

110. *Id.*

As demonstrated *infra*, the oil and gas extraction industry has at least hundreds of large facilities that would report to the TRI, if not thousands.¹¹¹

As the GAO stated in its 1991 report:

[TRI] data must be as comprehensive as possible, with the data from additional emissions sources and on additional toxic chemicals. The concerns EPA expressed should be carefully considered. However, these concerns *should not override* efforts to make the inventory more comprehensive—especially since policymakers and the public need the data to establish environmental priorities and to better measure progress in reducing pollution.¹¹²

Of course, it would be useful for EPA to make a decision on how facilities within a specific industry should be defined, so that it can assist operators in determining whether and how facilities should report. This is a procedural consideration though, and should not keep EPA from adding an industry sector to the TRI, particularly where that sector “conduct[s] significant management activities that involve [toxic] chemicals.”¹¹³

In any case, EPA opted not to include the oil and gas extraction industry sector in its 1996 proposed rulemaking and, in spite of its intention to “address[] these issues in the future,” has not formally reconsidered the industry since then.¹¹⁴ In fact, the addition of the seven industry sectors in the 1997 final rulemaking was the only time EPA has added *any* industries to the TRI.

Although EPA has “broad authority” to add industry sectors to the TRI, and it has received encouragement from the President and the GAO to use this authority freely, it has only done so once in the TRI’s nearly 30 year history.

B. Ways Forward: How EPA Can Undo the TRI Exclusion

From the history of the TRI, the first premise of this article is apparent: the continued exclusion of the oil and gas extraction industry from the TRI is mostly—if not entirely—due to EPA. Unlike the exemptions under

111. See *infra* Part III. B., note 121 and accompanying text.

112. Proposed Sector Addition Rule, *supra* note 89, at 33,593 (quoting GOV’T ACCOUNTABILITY OFFICE, TOXIC CHEMICALS: EPA’S TOXIC RELEASE INVENTORY IS USEFUL BUT CAN BE IMPROVED (1991)) (emphasis added).

113. Proposed Sector Addition Rule, *supra* note 89, at 33,592.

114. *Id.*

SDWA and RCRA, discussed *infra*, Congress' exclusion of the oil and gas extraction industry from the TRI was merely a starting point, not an exemption.¹¹⁵ Congress left EPA with virtually unlimited authority to add the oil and gas extraction industry or any other industry sector to the TRI, subject only to the requirement that such addition be relevant to the purposes of the TRI. For reasons known only to EPA, the agency has used this authority exactly once in almost 30 years.

Turning to the second premise of this article, there is much that EPA can do to improve the TRI exclusion. In fact, unlike SDWA and RCRA, EPA can completely undo the oil and gas industry's exclusion. There are no external restrictions to EPA's ability to act. If it so chose, it could propose rulemaking to add the industry tomorrow.

This is what EPA recently appears to have been doing—albeit in very early and informal stages—for several other industry sectors that were excluded in 1996. In late 2011, EPA commenced an online “discussion forum” in order to “define the scope of a potential forthcoming rule” for the addition of six industry sectors to the TRI: “Iron Ore Mining, Phosphate Mining, Solid Waste Combustors and Incinerators, Large Dry Cleaning, Petroleum Bulk Storage, and Steam Generation from Coal and/or Oil.”¹¹⁶ Notably, all but one of these six sectors in the discussion forum were either sectors that EPA previously had deferred adding—like the oil and gas extraction industry—or expansions of sectors added in the 1996 and 1997 rulemakings.¹¹⁷ Although the oil and gas extraction industry was not included among these six sectors, one commenting organization noted the absence of significant contributors, such as the oil and gas extraction industry, and recommended that “EPA should take immediate steps to review and add such polluting industry sectors to TRI.”¹¹⁸

On October 24, 2012, the Environmental Integrity Project and sixteen other organizations made this request formally, submitting a “Petition to Add the Oil and Gas Extraction Industry, Standard Industrial Classification Code 13, to the List of Facilities Required to Report under the Toxics Release Inventory” (“Petition”) to EPA Administrator Lisa Jackson.¹¹⁹ The

115. *Id.* at 33,589.

116. Although the discussion forum website is no longer active, an archived version is available on the *Internet Archive Wayback Machine*. U.S. Env'tl. Prot. Agency, *TRI Industry Sectors Expansion*, <https://web.archive.org/web/20120819003819/http://exchange.regulations.gov/topic/trisectorsrule> (last visited Apr. 1, 2015).

117. Proposed Sector Addition Rule, *supra* note 89, at 33,592. Final Sector Addition Rule, *supra* note 86, at 23,859.

118. See TRIPETITION, *supra* note 19, at 21.

119. *Id.* at 1.

Petition specifically requested that EPA revisit its 1996 decision and initiate formal rulemaking to add the oil and gas extraction industry to the list of industry sectors required to report to the TRI.

In particular, the Petition noted that, even if EPA had made the correct decision in 1996 (to omit oil and gas extraction from the TRI), the industry had changed and expanded so much in the intervening decade and a half to warrant its addition to the TRI.¹²⁰ The Petition addressed EPA's chemical and activity factors, noting the wide variety of chemicals used and released in drilling, fracking, natural gas processing, and other industry activities and facilities.¹²¹

With respect to the "information factor," the Petition approached this in three main ways. First, the Petition addressed the existing federal and state laws that cover the oil and gas industry, noting in particular the number of exemptions in federal laws, the lack of uniformity in state disclosure rules, and therefore how the industry's addition to the TRI would greatly increase public information.¹²² Second, the Petition looked specifically at well pads as individual facilities and the amount of TRI-listed toxic chemicals they use that exceed the TRI's 10,000-pound chemical threshold. For example, the Petition noted that individual Marcellus shale wells have released as much as 26,000 pounds of methanol across all environmental media.¹²³ Third, the Petition addressed the question of whether multiple well pads could constitute a single facility. To this end, the Petition considered certain areas, such as Dimock, Pennsylvania, and the Jonah Field of Wyoming, in which single oil and gas operators collectively operate large, concentrated groups of well pads. For example, the Petition noted that Cabot Oil and Gas Corporation operated nearly 140 wells within a 3.5-mile radius in Dimock, Pennsylvania.¹²⁴ Similarly, Encana Oil and Gas USA, Inc. operated over 1,700 wells on Wyoming's Jonah Field, with 90 of these wells located within just one square mile.¹²⁵

In a submission to the Petition's regulatory docket in January 2014, Petitioners addressed the information factor from another angle: that there are hundreds if not thousands of large facilities in the oil and gas extraction industry that are clearly well-defined facilities and would certainly exceed

120. *Id.* at 9.

121. *Id.* at 22–24 (describing how the industry meets the factors generally), 25–30 (describing constituents of natural gas), 30–32 (describing chemicals used and released in processing), 32–56 (describing chemicals used and released in well development).

122. *Id.* at 60–66.

123. *Id.* at 77–78.

124. TRI PETITION, *supra* note 19, at 68–69.

125. *Id.* at 70.

the chemical thresholds.¹²⁶ Looking at a sample of six states with a large oil and gas industry presence, Petitioners reviewed air emissions data reported by certain oil and gas facilities, such as natural gas processing plants, compressor stations, natural gas liquid fractionators, and wastewater processing facilities.¹²⁷ From this data, Petitioners found that nearly 400 facilities released at least one TRI-listed toxic chemical above the chemical threshold on an annual basis, clearly enough reporting facilities that the information to the public would be greatly increased by the industry's addition.¹²⁸

These numbers are even more notable if one considers: (1) that these facilities are within just six states, and (2) because only emissions data was available, Petitioners calculated the threshold numbers from the chemicals *released* by the facilities, rather than the chemicals *used*.¹²⁹ The TRI requires that the threshold calculation be based on the chemicals used, a number which is invariably much higher than the ultimate amount released.¹³⁰ If Petitioners had the data on the amount of chemicals used by the facilities (i.e., the “throughput”), the number of facilities exceeding the chemical threshold would undoubtedly be much higher.¹³¹

The letter also noted a matter of arbitrariness at the heart of the oil and gas extraction industry's exclusion from the TRI. That is, the TRI covers (or excludes) industry facilities on the basis of their SIC Codes, and the SIC Codes, as a matter of necessity, have drawn lines between certain processes and facilities.¹³² For this reason, certain downstream oil and gas facilities are required to report—such as oil refineries and ethane steam cracking facilities—because their SIC Codes are within the set of manufacturing sectors.¹³³ Slightly upstream, the facilities within the oil and gas extraction industry that provide the oil, natural gas, and natural gas liquids that serve as the feedstock for refineries and petrochemical plants need not report to

126. Letter from Eric Schaeffer & Adam Kron, Env'tl. Integrity Project, to Steve Knizner, U.S. Env'tl. Prot. Agency, at 1, 3–5 (Jan. 30, 2014), Regulatory Docket ID No. EPA-HQ-TRI-2013-0281 [hereinafter Facility Emissions Letter], available at <http://www.regulations.gov/#!documentDetail.D=EPA-HQ-TRI-2013-0281-0007> [<http://perma.cc/47VY-JXZ7>].

127. *Id.* at 1–2, 8, Table 2.

128. *Id.* at 3–4.

129. *Id.*

130. See U.S. ENVTL. PROTECTION AGENCY, TOXIC CHEMICAL RELEASE INVENTORY REPORTING FORMS AND INSTRUCTIONS REVISED 2014 VERSION 23–24 (2014), available at http://www2.epa.gov/sites/production/files/2015-01/documents/rfi_ry2014_111914.pdf [<http://perma.cc/L6UF-X8UE>] (explaining how to calculate thresholds).

131. Facility Emissions Letter, *supra* note 126, at 1.

132. *Id.* at 4.

133. *Id.*

the TRI.¹³⁴ The public is able to access TRI reports from one part of the supply chain, but not the other. EPA's continued choice to exclude SIC Code 13—the oil and gas extraction industry—perpetuates this arbitrariness.

On January 7, 2015, over two years after filing the Petition with no formal response from EPA, Petitioners filed a lawsuit against EPA for its “unreasonable delay” in making this required response.¹³⁵ On April 24, 2015, Petitioners and EPA filed a joint motion to stay all the case, in consideration of EPA's statement that it would finally respond to the Petition by October 30, 2015.¹³⁶ While this does not guarantee that EPA will finally add the oil and gas extraction industry to the TRI, it would be the first formal action taken by the agency with respect to the oil and gas extraction industry—or, for that matter, for any industry sector currently excluded from the TRI—for the first time in almost 20 years.

The oil and gas extraction industry's exclusion from the TRI is the least like an “exemption,” in the traditional sense, of the three statutes discussed in this article. Congress did not specifically exempt the oil and gas extraction industry from the TRI's coverage, but rather added the manufacturing sectors and gave EPA nearly unlimited authority to add the remaining industry sectors. In nearly 30 years, EPA has used this broad authority exactly once, and even then it sought out ways in which it could narrow and add constraints to this authority to make a small and limited addition of sectors.

In this way, one can see that EPA bears almost complete responsibility for implementing, maintaining, and failing to undo this particular exemption of the oil and gas industry.

IV. THE SAFE DRINKING WATER ACT AND THE “HALLIBURTON LOOPHOLE”

The second exemption explored here is the most in line with what one expects of an oil and gas industry exemption. In 2005, Congress specifically amended SDWA to exclude fracking from the definition of “underground injection,” thereby exempting it from SDWA's Underground Injection Control (“UIC”) program.¹³⁷ The limited exception Congress left

134. *Id.*

135. Compliant at ¶ 17, *Envtl. Integrity Project v. U.S. Env'tl. Prot. Agency*, No. 15-cv-00017 (D.D.C. Jan. 7, 2015).

136. Joint Motion to Stay Proceedings at ¶ 4, *Envtl. Integrity Project v. U.S. Env'tl. Prot. Agency*, No. 15-cv-00017 (D.D.C. April 24, 2015).

137. 42 U.S.C. § 300h(d)(1)(B) (2012).

in place is where fracking uses diesel fuel.¹³⁸ For this reason, of the three exemptions explored in this article, the SDWA exemption is the one that EPA has the least discretion to undo. Absent a subsequent amendment by Congress, EPA is stuck with this very limited authority for the foreseeable future.

That being said, this exemption also clearly demonstrates this article's premise: first, EPA paved the way for this exemption. It avoided using its SDWA authority to regulate fracking for decades, strongly argued against the fact that it possessed this authority, and drafted a report demonstrating why the authority was unnecessary.¹³⁹ Congress's enactment of the exemption merely fulfilled what EPA had been attempting to do for decades. Second, even under this exemption, EPA has unused authority. Namely, EPA has the ability and responsibility to regulate fracking that uses diesel fuel. In the ten years since the enactment of the exemption, however, neither EPA nor the state agencies have issued a single UIC permit to a fracking operation that uses diesel fuel.

In short, while the surface-level perception of the SDWA exemption may be that it was an injustice done by Congress at the behest of oil and gas interests, the story both leading up to, and since, the exemption entirely belongs to EPA.

A. *How We Got Here: The Road to the Halliburton Loophole*

Congress enacted SDWA in 1974, with the goal of protecting the quality of public drinking water.¹⁴⁰ Because of the importance of groundwater sources of drinking water, Part C of SDWA established the UIC program and required EPA to promulgate minimum standards for state UIC programs.¹⁴¹ In order for a state to administer its own UIC program, including permitting and enforcement, it must demonstrate to EPA that it is capable of meeting these minimum requirements.¹⁴² Included within these minimum requirements is the requirement that the state "shall prohibit . . . any underground injection . . . which is not authorized by a permit issued by

138. 42 U.S.C. § 300h(d)(1)(B)(ii).

139. MARY TIEMANN & ADAM VANN, CONG. RESEARCH SERV., R41760, HYDRAULIC FRACTURING AND SAFE DRINKING WATER ACT REGULATORY ISSUES 15–16, 19 (2013), available at <https://www.fas.org/sgp/crs/misc/R41760.pdf> [<http://perma.cc/8YT8-YAX9>].

140. Brady & Crannell, *supra* note 48, at 43.

141. Legal Envtl. Assistance Fed'n. (LEAF) v. U.S. Envtl. Prot. Agency, 118 F.3d 1467, 1469 (11th Cir. 1997), 42 U.S.C. § 300h(a).

142. LEAF, 118 F.3d at 1469–70.

the State.”¹⁴³ As enacted in 1974, SDWA broadly defined “underground injection” as “the subsurface emplacement of fluids by well injection.”¹⁴⁴

For the purposes of the eventual exemption, the problem arose in that a plain reading of this definition appears to include fracking. From SDWA’s 1974 enactment until the 1990s, however, neither EPA nor the states regulated fracking under the UIC program.¹⁴⁵ Simultaneously, fracking was beginning to find a niche as a key technique to increase natural gas production from coalbed methane (“CBM”) formations.¹⁴⁶ Within a few years, the number of CBM wells in the United States had increased rapidly, from less than 100 wells in 1984 to over 8,000 wells in 1990.¹⁴⁷

Because of this rapid growth and lack of any permitting under the State of Alabama’s UIC program, the environmental organization Legal Environmental Assistance Federation (“LEAF”) petitioned EPA in 1994 to withdraw its approval of Alabama’s program.¹⁴⁸ LEAF specifically raised the minimum requirement that a state must prohibit any underground injection that “is not authorized by a permit issued by the State.”¹⁴⁹ Given that Alabama neither permitted fracking under its UIC program, nor prohibited it without such a permit, LEAF claimed that Alabama’s UIC program violated this minimum requirement.¹⁵⁰

In 1995, EPA denied LEAF’s petition on the grounds that fracking did not fall within SDWA’s definition of “underground injection.”¹⁵¹ In EPA’s view, the definition covered “only those wells whose ‘principal function’ is the underground emplacement of fluids.”¹⁵² Because CBM wells’ principal function is the production of natural gas, EPA asserted that they did not fall under the definition.¹⁵³

LEAF challenged EPA’s decision in the U.S. Court of Appeals for the Eleventh Circuit, and in 1997 the court agreed with LEAF that SDWA covers fracking.¹⁵⁴ Looking at SDWA’s definition of “underground injection”—“the subsurface emplacement of fluids by well injection”—the

143. 42 U.S.C. § 300h(b)(1)(A). *LEAF*, 118 F.3d at 1469–70 (citing 40 C.F.R. §§ 144.11, 145.11(a)(5)).

144. *LEAF*, 118 F.3d at 1470. Pub. L. No. 93-523, § 1421(d)(1), 88 Stat. 1660, 1676 (1974).

145. TIEMANN & VANN, *supra* note 139, at 15.

146. *Id.* at 2.

147. *Id.* As of 2008, EPA has identified over 56,000 CBM wells in the United States. *Id.*

148. *Id.* at 15. CLEAN WATER ACTION, REGULATING OIL & GAS ACTIVITIES TO PROTECT DRINKING WATER: THE SAFE DRINKING WATER ACT’S UNDERGROUND INJECTION CONTROL PROGRAM—OVERVIEW AND CONCERNS 5 (2015).

149. *LEAF*, 118 F.3d at 1474. 42 U.S.C. § 300h(b)(1)(A).

150. *LEAF*, 118 F.3d at 1471.

151. TIEMANN & VANN, *supra* note 139, at 15. *LEAF*, 118 F.3d at 1471.

152. *LEAF*, 118 F.3d at 1471.

153. *Id.*

154. *Id.* at 1474–75. *see also* TIEMANN & VANN, *supra* note 139, at 15–16.

court determined that “hydraulic fracturing obviously falls within this definition, as it involves the subsurface emplacement of fluids by forcing them into cracks in the ground through a well.”¹⁵⁵ The court found EPA’s “principal function” argument to be unpersuasive, noting the “plain meaning of the definition” and the lack of any authority in the statute to suggest that EPA should be allowed to exclude an activity on the basis that the well is used for another activity as well.¹⁵⁶

Additionally, although the court believed that the plain meaning of the statute was enough to decide the case, it briefly entertained EPA’s arguments regarding the legislative history of SDWA, noting that “far from evidencing a legislative intent contrary to the plain meaning of the statute, the legislative history supports it” and that “Congress intended to cast a wide regulatory net in enacting the UIC program.”¹⁵⁷

On this basis, the court found EPA’s grounds for denying LEAF’s petition to be invalid and remanded the petition to EPA.¹⁵⁸ While EPA reinitiated its review of Alabama’s UIC program in compliance with this order, it also began to work on a report “to evaluate the environmental risks to underground sources of drinking water from hydraulic fracturing practices associated with CBM production.”¹⁵⁹ Perhaps unsurprisingly for an agency that sought to avoid SDWA regulation of fracking for decades, the report concluded that fracking “poses little or no threat” to underground sources of drinking water and that no further study was required.¹⁶⁰ The one area of concern EPA identified was that “[t]he use of diesel fuel in fracturing fluids poses the greatest potential threat to USDWs because the BTEX constituents in diesel fuel exceed the [federal drinking water maximum contaminant level] at the point-of-injection.”¹⁶¹

Much like the RCRA Report to Congress and Regulatory Determination discussed *infra*, a number of gaps and contradictions existed in EPA’s CBM report.¹⁶² First, EPA found that “very little documented research had been done on the environmental impacts of injecting fracturing fluids,” an admission that not only points to a data gap in the report, but

155. *Id.* at 1474–75.

156. *Id.* at 1475.

157. *Id.*

158. *Id.* at 1478.

159. TIEMANN & VANN, *supra* note 139, at 19.

160. *Id.* at 19. Brady & Crannell, *supra* note 48, at 44 (quoting U.S. ENVTL. PROT. AGENCY, EVALUATION OF IMPACTS TO UNDERGROUND SOURCES OF DRINKING WATER BY HYDRAULIC FRACTURING OF COALBED METHANE RESERVOIRS EXECUTIVE SUMMARY 1 (2004) [hereinafter EPA, CBM Report]).

161. *See* TIEMANN & VANN, *supra* note 139, at 19 (quoting EPA, CBM REPORT, *supra* note 160, at 4–19).

162. *See infra* Part VI. A.

also seems at odds with the conclusion that no further study is necessary.¹⁶³ Second, EPA limited the focus of its report just to fracking of CBM formations and “did not review the use of hydraulic fracturing in other geologic formations, such as the Marcellus Shale or other tight oil and gas formations.”¹⁶⁴ In part because of these gaps and contradictions, the report received a large amount of criticism from “internal staff, federal legislators, and respected peers,” including claims that the report was unsupportable and scientifically unsound.¹⁶⁵ In particular, one EPA scientist wrote a letter to Congress and the EPA Inspector General, noting that “EPA has conducted limited research reaching the unsupported conclusion that this industry practice needs no further study at this time.”¹⁶⁶

Roughly a year later, Congress largely “codified [the report’s] finding” when it amended SDWA as part of the Energy Policy Act of 2005.¹⁶⁷ The amendment modified the definition of “underground injection” to add the following exclusions:

- (B) excludes—
 - (i) the underground injection of natural gas for purposes of storage; and
 - (ii) the underground injection of fluids or propping agents (other than diesel fuels) pursuant to hydraulic fracturing operations related to oil, gas, or geothermal production activities.¹⁶⁸

This exemption has come to be known as the “Halliburton Loophole,” after Vice President Dick Cheney’s former position as CEO of the oil and gas services company Halliburton, which pioneered fracking and continues to be a major manufacturer of fracking fluids, as well as the purported role that Cheney’s Energy Task Force played in the exemption.¹⁶⁹

163. *Id.*

164. *Id.*

165. Brady & Crannell, *supra* note 48, at 45. KOSNIK, *supra* note 48, at 10.

166. Union of Concerned Scientists, *EPA Findings on Hydraulic Fracturing Deemed “Unsupportable”*, UCSUSA.ORG, <http://www.ucsusa.org/our-work/center-science-and-democracy/promoting-scientific-integrity/oil-extraction.html#.VT13eyFVikp> [<http://perma.cc/44QY-2TZ6>] (last visited Mar. 24, 2015); Letter from Weston Wilson, U.S. Env’tl. Prot. Agency, to Sen. Wayne Allard et al. (Oct. 8, 2004), *available at* <http://media.trb.com/media/acrobat/2004-10/14647025.pdf> [<http://perma.cc/AH63-KYS6>].

167. Brady & Crannell, *supra* note 48, at 45.

168. 42 U.S.C. § 300h(d)(1)(B).

169. See Earthworks, *The Halliburton Loophole*, EARTHWORKSACTION.ORG, http://www.earthworksaction.org/issues/detail/inadequate_regulation_of_hydraulic_fracturing#.VRMaZCIN3zI [<http://perma.cc/EA94-JUZ3>] (last visited Apr. 1, 2015).

With the exemption in place, it was now clear that EPA lacked authority under SDWA to require UIC permits for fracking operations. At the same time, it was also clear that EPA could require such permits for operations that fracked with diesel fuels. Yet it was not until February 2014, nine years after the passage of the Energy Policy Act, that EPA finally issued guidance on what compounds actually constituted “diesel fuels” and how state agencies should permit these operations.¹⁷⁰

Even though it was now responsible for just a small piece of its SDWA authority over fracking, EPA still took nearly a decade to issue the guidance that state agencies needed to permit and regulate the types of operations that EPA saw as such a “potential threat” in 2004. In fact, there was a stretch of years during which “EPA took no official position regarding the regulation of hydraulic fracturing using diesel fuel under the SDWA.”¹⁷¹ As of December 2014, neither EPA nor state agencies with delegated authority have issued any permits to operations that frack with diesel fuel.¹⁷²

B. Ways Forward: How EPA Can Work Within and Around the Halliburton Loophole’s Fracking Exemption

As the SDWA exemption is a congressionally enacted exemption that leaves no authority for EPA to “undo” it in any way—unlike the TRI or, to some extent, RCRA—it will remain in place unless a future Congress chooses to lift it. Over the years, there have been several attempts to pass such a bill—most recently via an amendment introduced by Senator Kirsten Gillibrand to the Senate’s Keystone XL pipeline bill in January 2015—but these bills have not yet made much headway.¹⁷³ That said, EPA still has SDWA authority over the oil and gas industry in two major ways.

170. U.S. ENVTL. PROT. AGENCY, PERMITTING GUIDANCE FOR OIL AND GAS HYDRAULIC FRACTURING ACTIVITIES USING DIESEL FUELS—DRAFT UNDERGROUND INJECTION CONTROL PROGRAM GUIDANCE #84, at 9 (May 2012) [hereinafter EPA PERMITTING GUIDANCE], available at <http://water.epa.gov/type/groundwater/uic/class2/hydraulicfracturing/upload/hfdieselfuelsguidance.pdf> [<http://perma.cc/GD5M-HLU3>].

171. TIEMANN & VANN, *supra* note 139, at 21.

172. Telephone conversation between Mary Greene, Envtl. Integrity Project, and Stacey Banks, U.S. Envtl. Prot. Agency, Office of Inspector General (Dec. 10, 2104). *see also* MARY GREENE, ENVTL. INTEGRITY PROJECT, FRACKING BEYOND THE LAW 1 (Aug. 2014), available at <http://environmentalintegrity.org/wp-content/uploads/Fracking-Beyond-the-Law.pdf> [<http://perma.cc/LT2N-LEZL>].

173. *Current Legislation: S. Amdt. 48 to S. Amdt. 2 – 114th Cong. (2015-2016)*, CONGRESS.GOV, available at <https://www.congress.gov/amendment/114th-congress/senate-amendment/48/text> [<https://perma.cc/2Q4Q-WM2B>] (amending S.1). TIEMANN & VANN, *supra* note 139, at 22. Brady & Cramell, *supra* note 48, at 45.

1. EPA and the States Must Regulate Fracking with Diesel Fuels

First, under the Energy Policy Act's diesel exception, EPA and the delegated state agencies still have authority to regulate and permit fracking operations that use diesel fuels.¹⁷⁴ In fact, given this clear authority, any state that fails to permit such operations and prohibit unpermitted operations is in violation of the minimum requirements for delegated programs, as discussed *supra* in the context of the LEAF case.¹⁷⁵ As of December 2014, however, neither EPA nor the state agencies have used this authority to issue a single permit to such operations.¹⁷⁶

This would not be a problem if fracking operations no longer used diesel, as industry representatives have repeatedly asserted for years.¹⁷⁷ However, based on a recent review of the industry's own disclosure reports, there are still hundreds of wells that have used diesel fuel as part of their fracking fluids in the last four years. In August 2014, the Environmental Integrity Project published a report in which it reviewed thousands of self-reported disclosures by oil and gas operators to FracFocus, the industry's preferred disclosure mechanism and database.¹⁷⁸ The organization compared these disclosures against the five chemicals that EPA had identified as constituting "diesel fuel" in its February 2014 guidance and found that 351 wells in 12 states used at least one of these products between 2010 and mid-2014.¹⁷⁹

The organization then contacted each of the state agencies responsible for UIC permitting in those states, as well as Region 3 of EPA, which retains primacy for UIC permitting in Pennsylvania, and found that "no permit applications had been received and no permits had been issued for any of the [351] wells."¹⁸⁰ In a follow-up investigation several months later, the Environmental Integrity Project further investigated the FracFocus reports, looking specifically for fracking products known to contain one of the five diesel fuel chemicals and finding an additional 243 wells fracked with these products between 2011 and August 2014.¹⁸¹

174. 42 U.S.C. § 300h(d)(1)(B).

175. 42 U.S.C. § 300h(b)(1)(A). *see also supra* note 66 and accompanying text.

176. *See supra* note 87 and accompanying text.

177. GREENE, *supra* note 172, at 6.

178. *Id.* at 8–9.

179. *Id.*

180. *Id.* at 19, n.1.

181. *See* Environmental Integrity Project, *Investigation Reveals 243 Additional Wells Fracked with Diesel in 12 States*, ENVIRONMENTALINTEGRITY.ORG (Oct. 6, 2014), <http://environmentalintegrity.org/archives/7017> [<http://perma.cc/EJ4Y-7VAR>].

This is clearly a problem of EPA's own making. After the enactment of the Halliburton Loophole and the diesel exception, EPA finally had the clarity—and the limited authority—that it desired. Yet rather than acting quickly to promulgate the necessary regulations or guidance to ensure that state authorities could implement and enforce this authority, EPA waited and “took no official position” for years.¹⁸² During this time, the agency failed even to use its own implementation and enforcement authority in states in which it retained primacy, such as Pennsylvania.¹⁸³

In 2010, EPA admitted that fracking with diesel was subject to the permitting requirements for Class II UIC wells, but did not propose to revise the minimum requirements for state UIC programs at that time or to issue any guidance in the interim.¹⁸⁴ In 2012, EPA chose to issue draft guidance rather than full regulations, and followed with the final version of this guidance in February 2014.¹⁸⁵ In fact, the final guidance narrowed the proposed guidance's coverage: from six chemicals—as well as their “associated common synonyms”—to just five chemicals, identified only by their Chemical Abstracts Services Registry Numbers.¹⁸⁶ The distinction is important, since what actually constitutes “diesel fuel” is a surprisingly broad category of substances, with a variety of different product names and synonyms.¹⁸⁷

To improve this situation, in which hundreds of wells use diesel fuels and still do not have UIC permits, EPA simply needs to act. As a permitting authority in states where it retains primacy, EPA can finally start to issue UIC permits to wells that continue to frack with diesel. In states with delegated authority, EPA must use its oversight power to ensure that those states are issuing UIC permits to wells that require them. If those states choose not to issue such permits, they are not meeting the minimum requirements of a delegated UIC program, and must revoke their authority.¹⁸⁸

Finally, EPA should revise its UIC and state program regulations.¹⁸⁹ The guidance is a good step in the right direction, but EPA should formally revise the regulations to clarify what is required for the permitting and regulation of wells fracked with diesel and to ensure that all state programs must comply with these requirements.

182. TIEMANN & VANN, *supra* note 139, at 21.

183. *See supra* note 95 and accompanying text.

184. TIEMANN & VANN, *supra* note 139, at 21.

185. *Id.*, GREENE, *supra* note 172, at 6–7.

186. GREENE, *supra* note 172, at 6–7.

187. *Id.*, EPA PERMITTING GUIDANCE, *supra* note 170, at 9–11.

188. 42 U.S.C. § 300h(b)(1)(A). *see also supra* note 66 and accompanying text.

189. 40 C.F.R. parts 144, 145 (1980).

2. EPA Must Improve its Regulation of Wastewater Injection Wells

Another area in which EPA can still act in the aftermath of the Halliburton Loophole is in its regulation and oversight of the UIC program for Class II injection wells. Class II wells are defined by the fact that they accept injection of oil and gas wastewater: i.e., the “flowback” and “produced water” that returns to the surface during drilling and fracking operations.¹⁹⁰ Class II wells accept this wastewater for two primary purposes: “enhanced recovery” of oil and gas through the injection of wastewater and permanent disposal of wastewater.¹⁹¹ Although fracking is a *type* of enhanced recovery, the Halliburton Loophole only exempted “hydraulic fracturing operations related to oil, gas, or geothermal production activities” from the UIC program.¹⁹² EPA continues to have its full authority over Class II wells used for disposal and enhanced recovery, so long as fracking for oil and gas production is not involved.¹⁹³

The reason these Class II wells are important is because of the large and increasing role they play in accepting wastewater from fracking operations. Each day, the nation’s 172,000 Class II wells accept at least two billion gallons of oil and gas production wastewater.¹⁹⁴ This wastewater contains the full range of fracking fluids discussed *supra*, as well as chemicals from the oil and gas formations, such as chlorides, lead, arsenic, and naturally occurring radioactive materials.¹⁹⁵ These wells have proliferated in just the last decade, as oil and gas operators have sought out new ways to dispose of the millions of gallons of wastewater associated with fracking.¹⁹⁶ One unexpected result of this increased use of Class II wells has been the number of earthquakes caused by the wells’ “induced seismicity.”¹⁹⁷

The Class II program and the problems it seeks to address are not new, however. For example, in EPA’s 1988 Regulatory Determination under RCRA, discussed *infra*, the agency specifically relied on the capabilities of the UIC program as a reason that increased regulation of oil and gas wastes

190. CLEAN WATER ACTION, *supra* note 148, at 4, U.S. Env’tl. Prot. Agency, *Class II Wells – Oil & Gas Related Injection Wells*, WATER.EPA.GOV, <http://water.epa.gov/type/groundwater/uic/class2/> [<http://perma.cc/9L9D-925F>] (last visited Mar. 25, 2015).

191. *Id.*

192. *Id.*, 42 U.S.C. § 300h(d)(1)(B).

193. *Id.*

194. GAO, UNDERGROUND INJECTION, *supra* note 36, at 1, 3.

195. *Id.* at 1, BISHOP, *supra* note 27, at 9–11.

196. Scott Detrow, *Explaining Pennsylvania’s Link to Ohio Earthquakes*, STATEIMPACT.NPR.ORG (Apr. 4, 2012 at 10 00 AM), <http://stateimpact.npr.org/pennsylvania/2012/04/04/pennsylvanias-link-to-ohio-earthquakes/> [<http://perma.cc/4VC8-V9LP>].

197. *Id.*, GAO, UNDERGROUND INJECTION, *supra* note 36, at 35.

under RCRA was not necessary.¹⁹⁸ At the same time, EPA recognized that improvements to the UIC program were necessary to address certain gaps that the agency had identified.¹⁹⁹

In June 2014, the GAO published a report in which it reviewed EPA's oversight of the Class II program.²⁰⁰ The GAO found two specific deficiencies, on which it urged EPA to take action. First, the GAO found that EPA was not consistently conducting annual on-site reviews of state programs, as is required by EPA's own guidance.²⁰¹ Such reviews are important, given the key role that state agencies with delegated authority play in implementing and enforcing the Class II UIC program. At present, 39 states have delegated authority to administer their own Class II UIC programs.²⁰² EPA responded that it did not have the funding to conduct such annual reviews as required by the guidance. In turn, the GAO urged EPA to revise its guidance. Given that the guidance was last revised in 1983, a new revision could modernize such evaluations and make them more efficient, while also "identify[ing] priority activities that are needed to oversee programs and ensure their effectiveness."²⁰³ At the very least, such a modern revision would ensure "that state class II programs are being managed effectively and . . . achieving their purpose of protecting underground sources of drinking water."²⁰⁴

Second, the GAO found that EPA was also not keeping its regulations up to date to incorporate state program requirements.²⁰⁵ While EPA largely relies on the states to conduct their own enforcement, there are instances in which EPA must step in, either of its own initiative or at a state's request. In those cases, EPA is only able to enforce those state requirements that it has incorporated into its own regulations.²⁰⁶ In certain cases, EPA "never incorporated any state program requirements into federal regulations."²⁰⁷ EPA's rejoinder was that the incorporation process is "burdensome and time-consuming," but the GAO pointed out that the incorporation requirement is one that EPA imposed on itself. If it so desired, EPA could

198. Regulatory Determination for Oil and Gas and Geothermal Exploration, Development and Production Wastes, 53 Fed. Reg. 25,446, 25,447 (July 6, 1988) [hereinafter Development and Production Wastes].

199. *Id.*

200. GAO, UNDERGROUND INJECTION, *supra* note 36, at 1.

201. *Id.* at 39.

202. *Id.* at 15.

203. *Id.* at 40–41.

204. *Id.* at 41.

205. *Id.*

206. GAO, UNDERGROUND INJECTION, *supra* note 36, at 41, 43.

207. *Id.* at 42.

revise its regulations to make this process much easier and streamlined.²⁰⁸ According to EPA officials, however, the agency “has not evaluated alternatives to its current approval process.”²⁰⁹

These are two actions by which EPA could greatly improve its Class II UIC program and ensure that the two billion gallons of oil and gas wastewater injected every day are handled safely and effectively and do not endanger sources of drinking water. EPA needs no congressional authorization to conduct these actions; of its own accord, it could issue the revised guidance document rapidly and the revised regulations within a year or two. For better or worse, the discretion lies wholly with EPA.

Of the three exemptions discussed in this article, the Halliburton Loophole is the most “classic” exemption: Congress clearly took away most of EPA’s UIC authority over fracking and left it with no regulatory mechanism to undo the exemption. It is easy to frame Congress as the bully here, acting at the behest of Vice President Cheney’s oil and gas interests and unilaterally taking away EPA’s ability to protect the public from fracking. But it is not that simple.

First, EPA laid the groundwork for the Halliburton Loophole. Over 30 years, the agency avoided acting on its authority, legally interpreted SDWA in a way to show that it should not have this authority, and then published a scientifically unsound report to demonstrate why it did not need this authority. Even after Congress cut this authority down to a manageable piece, EPA still would not act for another ten years.

Second, the enactment of the Halliburton Loophole is not the end of the story. While it would be most ideal for the protection of the public if Congress later chooses to close the loophole, there is still much that can be done within the limited authority left by the Loophole. EPA and the delegated states can finally issue permits for fracking operations that use diesel and prohibit any such operations without permits. EPA can also act in the areas that the Halliburton Loophole left untouched, improving the Class II UIC program to better regulate the billions of gallons of fracking wastewater injected underground every day across the nation.

V. THE RESOURCE CONSERVATION AND RECOVERY ACT

The final exemption considered in this article is the exemption of wastes associated with oil and natural gas exploration and production (“E&P”) from regulation under the hazardous waste provisions of RCRA.

208. *Id.* at 44–45.

209. *Id.* at 45.

This exemption falls somewhere between the very traditional exemption of the Halliburton Loophole and the more liberal TRI exemption. Because of its place as a “middle-ground” exemption, the exemption under RCRA is a complicated one.

The exemption is a statutory one, enacted by Congress in order to constrain EPA’s authority over E&P wastes. However, Congress also left EPA with a mechanism to undo the exemption, as well as authority to regulate E&P wastes under RCRA’s non-hazardous provisions. In spite of the exemption’s complicated nature, the two themes remain at play: (1) the exemption’s force is sustained in large part by decades of EPA inaction, and (2) as a consequence of this, there is still much that can be done to improve regulation of E&P wastes.

A. How We Got Here: The Bentsen Amendment and EPA’s Regulatory Determination

The complicated story of the E&P waste exemption begins in 1976, when Congress amended the Solid Waste Disposal Act of 1965 to enact RCRA.²¹⁰ RCRA most notably differed from the prior Solid Waste Disposal Act in its addition of the hazardous waste provisions under Subtitle C, which provided for what has become known as “cradle-to-grave” management of hazardous wastes.²¹¹ To this end, Congress mandated that, within 18 months of RCRA’s enactment, EPA would “promulgate regulations identifying the characteristics of hazardous waste, and listing particular hazardous wastes” that would be subject to the provisions of Subtitle C.²¹²

EPA responded to this mandate in 1978, proposing regulations not only for identifying and managing hazardous wastes, but also identifying a set of “special wastes” for which EPA would defer regulation under the hazardous waste provisions until it had conducted additional studies.²¹³ These “special wastes” fell into six main categories:

1. Cement kiln dust;
2. Utility waste (e.g., coal ash);

210. LINDA LUTHER, CONG. RESEARCH SERV., BACKGROUND ON AND IMPLEMENTATION OF THE BEVILL AND BENTSEN EXCLUSIONS IN THE RESOURCE CONSERVATION AND RECOVERY ACT EPA AUTHORITIES TO REGULATE “SPECIAL WASTES” 2–3 (2013), *see also* Pub. L. No. 94-580, 90 Stat. (1976) (codified as amended at 42 U.S.C. § 6901 (2006)).

211. LUTHER, *supra* note 210, at 3.

212. 42 U.S.C. § 6921(b)(1) (2006).

213. *Id.*, U.S. Env’tl. Prot. Agency, Hazardous Waste Guidelines and Regulations, 43 Fed. Reg. 58,946, 58,991–92 (Dec. 18, 1978).

3. Phosphate mining waste;
4. Uranium mining waste;
5. Other mining waste; and
6. Oil and gas drilling muds and oil production brines.²¹⁴

EPA's primary reasoning was that these wastes occurred in particularly large volumes, the hazards were relatively low, and the wastes were not particularly amenable to control techniques for traditional facilities.²¹⁵ Somewhat contradictorily, EPA also stated that it had "very little information on the composition, characteristics, and the degree of hazard posed by these wastes."²¹⁶

In other words, even before the E&P waste exemption existed—indeed, while EPA was under a clear-cut mandate to identify and regulate *all* hazardous wastes—EPA was proposing ways in which it could avoid regulating E&P wastes under Subtitle C. As discussed *supra*, the lead-up to the Halliburton Loophole involved a very similar interplay between EPA and Congress.²¹⁷ In 1980, EPA finalized the rule and promulgated the E&P exemption regulation that still stands today.²¹⁸

It is worthwhile to note briefly the differences between the Subtitle C provisions, which apply only to wastes that are identified as hazardous, and the Subtitle D provisions, which apply to all other "solid wastes." Subtitle C contains stringent "cradle-to-grave" standards, which "regulate hazardous waste from its initial point of generation to its ultimate point of disposal (and beyond, if disposal leads to contamination of air, soil, or water)."²¹⁹ These standards apply to generators of hazardous waste, transporters, and facilities that treat, store, and dispose of hazardous waste (known as "TSDFs").²²⁰ EPA has primary authority to implement and enforce the Subtitle C program, but states may obtain authority to implement and enforce the program, with EPA's approval.²²¹

Solid waste that is *not* identified as hazardous waste—including those wastes that are "explicitly deemed not a hazardous waste," such as the "special wastes"—is regulated under Subtitle D rather than Subtitle C.²²²

214. 43 Fed. Reg. at 58,991–92.

215. *Id.* LUTHER, *supra* note 210, at 4.

216. 43 Fed. Reg. at 58,991.

217. *See supra* Part V. A.

218. Hazardous Waste Management System Identification and Listing of Hazardous Waste, 45 Fed. Reg. 33,084, 33,120 (May 19, 1980) (codified at 40 C.F.R. § 261.4(b)(5) (2006)).

219. LUTHER, *supra* note 210, at 3.

220. *Id.* (citing 42 U.S.C. §§ 6922–25).

221. *Id.*

222. *Id.* at 8.

While Subtitle C includes standards from cradle to grave, including transportation, treatment, and storage, Subtitle D primarily covers the *disposal* of solid waste.²²³ Furthermore, while EPA has primary authority over the Subtitle C program, “EPA’s authority to regulate solid waste under Subtitle D is limited.”²²⁴ EPA promulgates the Subtitle D regulations, including the standards distinguishing between permitted sanitary landfill facilities and prohibited “open dumping” of solid waste, but it is up to the individual states to implement and enforce these standards.²²⁵

Because EPA cannot directly enforce the standards, and in fact cannot force states to adopt the standards, the Subtitle D regulations are written to be “self-implementing”: that is, in a detailed enough manner that an operator of a disposal facility can read and comply with them.²²⁶ In other words, the Subtitle D program is a much looser and less stringent program than the strict, “cradle-to-grave,” and federally enforceable Subtitle C program.

Several months after EPA finalized its special wastes deferral in 1980, Congress enacted the Solid Waste Disposal Act Amendments, which followed on EPA’s lead to amend RCRA with respect to these “special wastes.”²²⁷ Congress’ decision to revisit RCRA was apparently driven by opinions both for and against EPA’s deferral of the special wastes. On the one hand, regulation of special wastes under Subtitle C could lead to high costs to industry, “given uncertainties of risks associated with such wastes,” as well as “conflicts with other federal law.”²²⁸ On the other hand, there were also concerns over the “precedent that would be set by giving preferential treatment to certain industries to be exempt from strict Subtitle C requirements.”²²⁹

The result of the debate was that Congress opted to enact EPA’s special waste deferrals as statutory exemptions, at least temporarily. With respect to E&P wastes, the relevant provision is what has been called the “Bentsen Amendment,” after its sponsor Senator Lloyd Bentsen, which exempted “drilling fluids, produced waters, and other wastes associated with the exploration, development, or production of crude oil or natural gas or geothermal energy” from regulation under Subtitle C for at least two years.²³⁰

223. *Id.*

224. *Id.*

225. LUTHER, *supra* note 210, at 8.

226. *Id.* at 9.

227. Pub. L. No. 96-482, 94 Stat. 2335 (1980).

228. LUTHER, *supra* note 210, at 4.

229. *Id.*

230. 42 U.S.C. § 6921(b)(2)(A).

In conjunction with this exemption, Congress required EPA to take three main actions. First, EPA would conduct a study on E&P wastes and transmit the resulting report to Congress two years after the enactment of the exemption—by October 1982. The study would consider the effects of E&P wastes on human health and the environment; “the adequacy of means and measures currently employed by” the oil and gas industry and government “to prevent or substantially mitigate such adverse effects”; and the alternatives to such measures, along with their costs.²³¹

Second, based on this study, EPA would determine either to regulate E&P wastes under Subtitle C’s hazardous waste provisions or determine “that such regulations are unwarranted.”²³²

Third, EPA would transmit this determination, along with any necessary Subtitle C regulations, to Congress. The regulations would “take effect only when authorized by Act of Congress.”²³³

Following Congress’ enactment of the exemption, and in spite of the statutory deadline of October 1982, EPA did not actually complete and transmit the required Report to Congress until December 1987.²³⁴ In fact, EPA only complied with this belated deadline after a nonprofit organization sued EPA for its violation of the deadline and entered into a consent decree with the agency.²³⁵

EPA followed on the report with its Regulatory Determination in July 1988, in which it determined that E&P wastes did not require regulation under Subtitle C of RCRA.²³⁶ The Determination itself is an interesting document. First, while the Determination considers in detail “three key factors” relating to the oil and gas industry, the ultimate decision is based on six “reasons” that only partially overlap with these factors.²³⁷ Most notably, the reasons do not include anything to do with the hazardous characteristics of E&P wastes. Second, EPA’s actual analysis of the hazardous characteristics of E&P waste, within the major factors, is rife with contradictions, data gaps, and failures to assess certain waste streams. Above all, one comes away from the Determination with the sense that EPA approached the issue with great reluctance to regulate E&P wastes under Subtitle C.

231. 42 U.S.C. §§ 6921(b)(2)(B), 6982(m)(1)–(2).

232. 42 U.S.C. § 6921(b)(2)(B).

233. 42 U.S.C. § 6921(b)(2)(C).

234. Development and Production Wastes, *supra* note 198, at 25,447–48. James R. Cox, *Revisiting RCRA’s Oilfield Waste Exemption as to Certain Hazardous Oilfield Exploration and Production Wastes*, 14 VILL. ENVTL. L.J. 1, 4 (2003).

235. Development and Production Wastes, *supra* note 198, at 25,447.

236. *Id.* at 25,447–48.

237. *Id.* at 25,447, 25,454–56.

First, looking at the “reasons” versus the “factors,” the three key factors EPA considered were the hazard assessment of E&P wastes, an economic impact analysis of Subtitle C regulations on the oil and gas industry, and the adequacy of existing federal and state laws and regulations.²³⁸ EPA drew these factors from the Bentsen Amendment’s required areas for coverage in the Report to Congress.²³⁹

By contrast, EPA’s six stated reasons for deciding not to regulate E&P wastes under Subtitle C were that (1) Subtitle C is not flexible enough to consider costs and avoid serious economic impacts to the industry; (2) Existing state and federal regulatory programs are “generally adequate” in controlling E&P wastes; (3) Subtitle C permitting would “hinder new facilities” and “disrupt[] the search for new oil and gas deposits;” (4) Subtitle C regulation would strain the capacity of existing Subtitle C facilities; (5) Subtitle C regulation would duplicate state authorities; and (6) Subtitle C regulation would impose a “permitting burden” on regulatory agencies.²⁴⁰

What is most apparent from these reasons is that they overlap with only two of the “key factors”—the economic impact analysis and the adequacy of existing laws and regulations—but not the hazard assessment. EPA does not state in the reasons, for example, that E&P wastes are not hazardous enough to warrant regulation under Subtitle C. It partially makes this case within its analysis of the factors, as discussed *infra*,²⁴¹ but chooses to omit this when it gets to its actual reasoning.²⁴² In a certain way, these reasons are more of a policy argument against the entire Subtitle C framework than its specific application to E&P wastes. In fact, with minor edits, one could quite easily use these same reasons to exclude nearly any waste stream from regulation under Subtitle C.

Second, EPA’s analysis of the key factors—and in particular the “hazard assessment” of E&P wastes—contains a numbers of gaps and contradictions that undermine the conclusions EPA reached. The problem is best encapsulated in what one commentator has called “the most overt contradiction” in the Regulatory Determination. That is, although EPA found the risks of E&P wastes to be “relatively low,” this conclusion is contradicted by other findings of risk elsewhere in the Determination as

238. *Id.* at 25,446.

239. 42 U.S.C. § 6982(m).

240. Development and Production Wastes, *supra* note 198, at 25,447.

241. *See supra* note 158 and accompanying text.

242. There are parallels with EPA’s 1996 decision not to add the oil and gas extraction industry to the TRI. In that instance, while EPA found that the industry certainly used and released large amounts of TRI-listed toxic chemicals, it similarly opted not to include the industry on the basis of other factors not related to this toxic nature. *See supra* Part II. A.

well as EPA's own admission that the study it relies on does not cover the predominance of the risks.²⁴³

More specifically, EPA's analysis did *not* consider landspreading, roadspreading, disposal of associated wastes, or "storage of produced water in unlined pits"—all of which are major sources of risk and are directly relevant to whether E&P wastes should be managed "cradle to grave" or under the less-stringent standards of Subtitle D.²⁴⁴ EPA itself conceded that these practices and waste streams "may pose higher risks" and "contain constituents that are similar in chemical composition and/or toxicity to other wastes currently regulated under RCRA Subtitle C."²⁴⁵

Similarly, there were "vast uncertainties and statistical inaccuracies in the studies" that EPA relied upon.²⁴⁶ From these studies, EPA could only "roughly estimate" how much E&P waste would be considered hazardous: "approximately 10 to 70 percent of large-volume wastes and 40 to 60 percent of associated wastes could potentially exhibit RCRA hazardous waste characteristics."²⁴⁷ As Professor Cox stated, "[i]t is difficult to envision why a federal agency whose mission is to protect human health and the environment on the basis of scientific principles would attempt to draw *any* conclusions from data containing a range of uncertainty of 60%."²⁴⁸

Another contradiction exists at the heart of the analysis of existing state and federal programs, which EPA found to be "generally adequate" and gave great weight in its determination that regulation under Subtitle C was unnecessary.²⁴⁹ At the same time, EPA freely admitted that "[m]ost State regulations do not include specific controls for the management of [associated] wastes," certain states had relaxed controls for "land application of large-volume wastes," and damage cases had occurred even under "currently applicable State and Federal requirements."²⁵⁰ Still, EPA found these programs to be adequate in their regulation and enforcement over E&P wastes. As Cox stated, "it is difficult to comprehend how EPA . . . can conclude that '[s]tate . . . regulations are generally adequate to control

243. Cox, *supra* note 234, at 19 (quoting 53 Fed. Reg. at 25,448–49).

244. *Id.* at 20, 30 (quoting 53 Fed. Reg. at 25,454).

245. *Id.* at 20 (quoting 53 Fed. Reg. at 25,454), 19 (quoting 53 Fed. Reg. at 25,455). The Congressional Research Service similarly has noted that EPA considered "[n]either the volume nor the nature of wastewater produced during shale gas extraction," though this is more due to the industry practices that have arisen since the 1988 Determination, rather than a contemporaneous weakness in the analysis. LUTHER, *supra* note 210, at 6.

246. *Id.* at 21.

247. Development and Production Wastes, *supra* note 198, at 25,455.

248. Cox, *supra* note 234, at 21.

249. Development and Production Wastes, *supra* note 198, at 25,446, 25,455.

250. *Id.* at 25,454–55. Cox, *supra* note 234, at 23 (quoting 53 Fed. Reg. at 25,446).

the management of oil and gas wastes.”²⁵¹ In spite of these contradictions, gaps in the practices and wastes studied, and data quality issues—even by EPA’s own admission—the agency saw fit to exempt a vast category of wastes from Subtitle C’s cradle-to-grave controls.

One could conclude from this disjunctive mix of factors, reasons, and contradictions that EPA’s decision was somehow influenced or that other forces were at play. Contemporaneous accounts support this conclusion.²⁵² According to two EPA staff members, EPA leadership “relied on ‘solely political reasons’ to reject a staff recommendation that some oil and gas drilling wastes be more strictly regulated.”²⁵³ While the majority of an EPA staff working group apparently had recommended that a small category of E&P wastes be regulated as hazardous, “EPA Administrator Lee Thomas and J. Winston Porter, EPA’s assistant administrator for solid waste and emergency response, . . . had decided that all oil and gas drilling wastes would remain exempt from hazardous waste rules,” given that “removing any portion of the exemption would be too disruptive and burdensome to both the regulated industry and the regulating agencies.”²⁵⁴

The effect was that E&P wastes would remain exempt from regulation under Subtitle C, thereby leaving the previously promulgated regulatory exemption in place.²⁵⁵ However, as a necessary component of this Determination, EPA stated that it would implement a “three-pronged approach toward filling the gaps in existing State and Federal programs that regulate the management of wastes from the crude oil, and natural gas, industries.”²⁵⁶ This approach would include working with the states to improve the strength and uniformity of their programs; working with Congress to secure any additional statutory authority; and, most importantly, improving federal authorities under the Clean Water Act, SDWA, and RCRA’s Subtitle D regulations.²⁵⁷ As to this last element, EPA laid out an extensive plan for how it would develop “tailored” Subtitle D standards that would “augment” the program and “focus on gaps in existing State and Federal regulations.”²⁵⁸

251. Cox, *supra* note 234, at 23 (quoting 53 Fed. Reg. at 25,446).

252. See, e.g., Jennifer Dixon, *EPA Said to Bow to Political Pressure in Wastes Ruling*, ASSOCIATED PRESS (July 19, 1988, 12:49 AM), <http://www.apnewsarchive.com/1988/EPA-Said-To-Bow-To-Political-Pressure-In-Oil-Wastes-Ruling/id-87790d67435a0ba3eb1e5ecc5ce86c9c> [<http://perma.cc/6MNU-GB74>].

253. *Id.*

254. *Id.*

255. 40 C.F.R. § 261.4(b)(5).

256. Development and Production Wastes, *supra* note 198, at 25,456.

257. *Id.*

258. *Id.* at 24,457–58.

Nearly three decades later, these tailored regulations still do not exist, nor is there any evidence that EPA took *any* action on them whatsoever. That is, EPA's announcement of this bold initiative appears to be its last word on it as well. No efforts to seek comments, collect data, or propose changes to the criteria at 40 C.F.R. Part 257 are apparent in the Federal Register or elsewhere. In fact, the only other time in which EPA formally addressed E&P wastes under RCRA again, it merely "clarified" the scope of oil and gas wastes exempted from Subtitle C, but did not discuss or even mention the status of efforts to tailor the Subtitle D regulations.²⁵⁹ Other than this clarification, EPA has taken no official action on E&P wastes for 27 years.

B. Ways Forward: How EPA Can Work Within and Around the Bentsen Amendment

From this historical background, one can see that EPA has played a central role both in implementing and maintaining the Subtitle C exemption. While it is true that Congress enacted the Bentsen Amendment in 1980, EPA laid much of the groundwork leading up to that point and has since then done very little to improve the situation. Indeed, even after stating that the generic Subtitle D regulations are inadequate to handle the specific issues of E&P wastes and needed tailoring by EPA, the agency has taken no public action to make good on this promise.

With this history in mind, we turn to the second premise of this article: there is still much that EPA can do to improve the regulation of E&P wastes under RCRA. Unlike certain exemptions, EPA has a relatively large amount of unused power under the restrictions of the Bentsen Amendment.

1. EPA Must Promulgate the Necessary "Tailored" Regulations under Subtitle D

First, EPA could finally act on its stated intent to promulgate tailored regulations for E&P wastes under Subtitle D. As EPA stated in the Regulatory Determination, the "existing Federal standards under Subtitle D of RCRA provide general environmental performance standards . . . but these standards do not fully address the specific concerns posed by oil and gas wastes."²⁶⁰

259. U.S. Evtl. Prot. Agency, Clarification of the Regulatory Determination for Wastes From the Exploration, Development and Production of Crude Oil, Natural Gas and Geothermal Energy, 58 Fed. Reg. 15,284 (March 22, 1993) [hereinafter 1993 Clarification].

260. Development and Production Wastes, *supra* note 198, at 25,446–56.

To rectify this issue, EPA envisioned tailored Subtitle D regulations that would focus primarily on “gaps in existing State and Federal regulations.”²⁶¹ EPA flagged certain examples of these gaps, including the broad category of “associated wastes” and the management practices and facilities used for “large-volume wastes” (e.g., wastewater), such as roadspreading, landspreading, and impoundments.²⁶² A particular area of concern for EPA were centralized and commercial facilities that treat, store, and dispose of E&P wastes in concentrated form—and especially the pits and impoundments at these facilities.²⁶³ Although the oil and gas industry has changed greatly between 1988 and the present, all of these facilities and practices continue to remain issues for surrounding individuals, communities, and the environment.²⁶⁴

If EPA wished to promulgate these tailored regulations, it could begin immediately. There is nothing in the Bentsen Amendment constraining EPA’s ability to regulate E&P wastes under Subtitle D. In fact, the opposite is true: EPA has an ongoing duty to review and, if necessary, revise the regulations. Under the requirements of section 2002(b) of RCRA, each regulation “shall be reviewed and, where necessary, revised not less frequently than every three years.”²⁶⁵ Given EPA’s determination in 1988 that revisions to the Subtitle D regulations were necessary and its stated intention to undertake these revisions, the agency was required to have completed these necessary revisions by July 6, 1991 at the latest.²⁶⁶

Even if EPA had not determined revisions to the Subtitle D regulations to be necessary, it would still be in violation of the requirements of section 2002(b), as it has failed to review the Subtitle D regulations for oil and gas wastes for almost nine successive three-year deadlines. As one court has stated with respect to EPA’s dereliction of another statute’s similar “ongoing, periodic review and revision” requirements, “EPA has not merely missed a deadline, it has nullified the congressional scheme for a fixed interval review and revision process.”²⁶⁷

2. Regulation under Subtitle C: More Complicated, but Still Possible

Another option is for EPA to revisit the Subtitle C exemption and determine that E&P wastes should be regulated under Subtitle C. This is the

261. *Id.* at 25,457.

262. *Id.*

263. *Id.*

264. *See supra* Part II. B.

265. 42 U.S.C. § 6912(b) (2012).

266. *Id.*, Development and Production Wastes, *supra* note 198, at 25,457.

267. *Am. Lung Ass’n v. Browner*, 884 F. Supp. 345, 347-48 (D. Ariz. 1994).

“most obvious means” for EPA to achieve clear-cut regulation of E&P wastes under RCRA, as well as the preferred mechanism from the perspective of greatest environmental protection.²⁶⁸ That being said, there are also more complexities involved with revisiting the Subtitle C exemption, given the Bentsen Amendment’s provision that Subtitle C “regulations shall take effect only when authorized by Act of Congress.”²⁶⁹ Although this provision is connected to the time-specific Report to Congress and Regulatory Determination provisions, some have interpreted this as imposing an ongoing requirement that *any* Subtitle C regulations at any point in the future require the consent of Congress.²⁷⁰

For this reason, achieving regulation of E&P wastes under Subtitle C may be “the most difficult [option] to achieve politically.”²⁷¹ With that in mind, there are several initiatives and options to achieve Subtitle C regulation of E&P wastes.

First, in 2010, the Natural Resources Defense Council (“NRDC”) submitted a rulemaking petition to EPA requesting that the agency initiate proceedings to revisit the Subtitle C exemption and to promulgate necessary regulations.²⁷² In the petition, NRDC noted that “EPA never intended the Regulatory Determination to be its final word on E&P waste”; that EPA had failed to implement the Determination’s promised “three-pronged plan,” which included the never-realized tailored Subtitle D regulations; and the growing regulatory gaps in the decades since the Determination.²⁷³ NRDC’s petition included, in particular, the toxicity of various E&P wastes, including fracking fluids, wastewater, drill cuttings, and associated wastes;²⁷⁴ a survey of the gaps and weaknesses in existing state regulatory mechanisms;²⁷⁵ and an analysis demonstrating that E&P wastes meet RCRA’s criteria for “hazardous waste.”²⁷⁶ Over four years later, EPA has failed to issue a formal response to the petition.

Second, there are numerous wastes associated with the oil and gas industry that fall outside the Bentsen Amendment and can be regulated

268. Cox, *supra* note 234, at 28.

269. 42 U.S.C. § 6921(b)(2)(C).

270. Cox, *supra* note 234, at 29. LUTHER, *supra* note 210, at 7.

271. Cox, *supra* note 234, at 28.

272. NATURAL RES. DEF. COUNCIL, PETITION FOR RULEMAKING PURSUANT TO SECTION 6974(A) OF THE RESOURCE CONSERVATION AND RECOVERY ACT CONCERNING THE REGULATION OF WASTES ASSOCIATED WITH THE EXPLORATION, DEVELOPMENT, OR PRODUCTION OF CRUDE OIL OR NATURAL GAS OR GEOTHERMAL ENERGY at 4, 41 (2010) [hereinafter NRDC PETITION], available at http://docs.nrdc.org/energy/files/ene_10091301a.pdf [<http://perma.cc/FZ7J-DW9Q>].

273. *Id.* at 6.

274. *Id.* at 7–12.

275. *Id.* at 17–30.

276. *Id.* at 37–41.

under Subtitle C. As EPA clarified in 1993, for a waste to be exempt from regulation under Subtitle C, “it must be *associated with* operations to locate or remove oil or gas from the ground or to remove impurities from such substances and it must be *intrinsic to* and *uniquely associated with* oil and gas exploration, development or production operations.”²⁷⁷

Since that time, EPA has expanded on the types of wastes that are not “intrinsic to” and “uniquely associated with” exploration and production. For example, “lubricants and solvents” produced at other industrial facilities are not exempt, nor are used synthetic pit liners, as many other types of operations use such liners as well.²⁷⁸ These are both significant clarifications, given that solvents and lubricants often have hazardous characteristics, and the disposal of used pit liners on site—contaminated with whatever E&P solid and liquid wastes occupied the pits—is historically a common industry practice.²⁷⁹

Perhaps even more significantly, EPA has clarified that the exemption does not apply to “unused products that are leaked and spilled, such as unused drilling mud or fracturing fluid spilled on the ground.”²⁸⁰ Indeed, “exempt wastes may be regulated if they are mixed with non-exempt wastes. For example, storage of produced/flowback waters would generally be regulated if commingled with a listed hazardous waste.”²⁸¹ This is a very large area outside the exemption, as there are many incidents involving spilling of fracking fluids, drilling muds, and other products prior to their use.²⁸² Similarly, if fracking wastewater, which is often stored and reused in future fracking operations, is mixed with unused fracking fluids, lubricants,

277. 1993 Clarification, *supra* note 259, at 15,284.

278. Letter to Sen. Benjamin L. Cardin from Arvin Ganesan, U.S. Env'tl. Prot. Agency, at 5 (Mar. 8, 2011) [hereinafter Cardin Letter]. Letter to Michael S. Freeman, Earthjustice, from Robert Dellinger, U.S. Env'tl. Prot. Agency 1–2 (Sept. 15, 2010).

279. *See, e.g.*, BISHOP, *supra* note 27, at 8–9 (discussing uses and toxicity of heavy naphtha). Letter from Michael Freeman, Earthjustice, to Maria P. Vickers, U.S. Env'tl. Prot. Agency 1 (Apr. 27, 2010), *available* at [http://yosemite.epa.gov/osw/rcra.nsf/6f3756c16d517d7185256f2a007818ee/5E05F52F27A7DE60852577BC006C78A7/\\$file/14816.pdf](http://yosemite.epa.gov/osw/rcra.nsf/6f3756c16d517d7185256f2a007818ee/5E05F52F27A7DE60852577BC006C78A7/$file/14816.pdf) [<http://perma.cc/639P-HR59>] (last visited Apr. 2, 2015). David Ludlam, *COGCC Pit Liner Burial Rule Supported by COGA*, COLO. OIL & GAS ASS'N (Feb. 21, 2015, 2:44 PM), <http://www.wscoga.org/node/48> [<http://perma.cc/K3Q8-6PFL>].

280. Cardin Letter, *supra* note 278, at 5.

281. *Id.*

282. *See, e.g.*, *DEP Investigating 13,000+ Gallon Frack Water Spill In Lycoming County*, NORTHCENTRALPA.COM (Nov. 22, 2010), http://www.northcentralpa.com/feeditem/2010-11-22_dep-investigating-13000-gallon-frack-water-spill-lycoming-county [<http://perma.cc/ZA3P-C36J>] (last visited Feb. 24, 2015). *see, e.g.*, Brendan DeMelle, *Exxon Fracking Fluid Spill In Pennsylvania Dumps Estimated 13,000 Gallons Into Nearby Waterways*, DESMOGBLOG.COM (Nov. 22, 2010, 6:55 PM), <http://www.desmogblog.com/exxon-fracking-fluid-spill-pennsylvania-dumps-13000-gallons-nearby-waterways#> [<http://perma.cc/Y9AT-TEY3>].

or solvents, this entire commingled waste should fall outside the exemption until it is used.

This is significant, as it should allow the full range of Subtitle C controls for storage and handling to be applied to certain areas of oil and gas operations, such as tanks and impoundments. If EPA is willing to employ this authority, it has far greater power over oil and gas operations than it currently uses.

A third option—albeit outside of EPA's hands—is the Closing Loopholes and Ending Arbitrary and Needless Evasion of Regulations (“CLEANER”) Act, which was introduced by Representative Matt Cartwright in the 113th Congress in 2013.²⁸³ If enacted, the Act would have removed the Bentsen Amendment, required EPA to revisit the Subtitle C exemption within one year, and required EPA to promulgate Subtitle D regulations pertaining to facilities that “receive drilling fluids, produced waters, or other wastes associated with” oil and gas exploration and production within one year.²⁸⁴ Although the bill “died in committee” and did not receive a vote by the U.S. House of Representatives, there is a chance that Representative Cartwright could reintroduce the CLEANER Act in the current Congress.²⁸⁵

C. Learning from Experience: Coal Ash and the Beville Amendment

If EPA decides to move forward on regulating E&P wastes, one advantage it has is that it will not be starting from scratch. On December 19, 2014, EPA finalized tailored Subtitle D regulations for coal combustion waste (also known as “coal ash”).²⁸⁶ Although the regulatory framework and history for coal ash under RCRA is slightly different than for E&P wastes, there are enough similarities to give EPA guidance on how to proceed with promulgating tailored Subtitle D regulations for E&P

283. See Press Release, Rep. Matt Cartwright, Cartwright Introduces Legislation to Eliminate Oil and Gas Toxic Waste Loophole (July 26, 2013), available at <http://cartwright.house.gov/media-center/press-releases/cartwright-introduces-legislation-to-eliminate-oil-and-gas-toxic-waste> [<http://perma.cc/5L8M-BHCY>] (describing the introduction of the Act by Representative Cartwright in 2013).

284. *Id.*, CLEANER Act of 2013, H.R. 2825, 113th Cong. (2013).

285. See Major Actions H.R.2825 – Closing Loopholes and Ending Arbitrary and Needless Evasion of Regulations Act 2012, 113th Congress (2013-2014), CONGRESS.GOV, <https://www.congress.gov/bill/113th-congress/house-bill/2825/actions> [<https://perma.cc/2UV6-BXWG>] (last visited Mar. 25, 2015) (noting reference of the bill to the Subcommittee on Environment and the Economy on July 25, 2013 as the bill's latest action).

286. U.S. Env'tl. Prot. Agency, *Coal Ash – 2014 Final Rule: Disposal of Coal Combustion Residuals from Electric Utilities*, EPA.GOV, <http://www2.epa.gov/coalash/coal-ash-rule> [<http://perma.cc/4QWL-2YK6>] (last updated Mar. 31, 2015) [hereinafter *Coal Ash Pre-Publication Final Rule*] (providing access to pre-publication version of the coal combustion residuals final rule).

wastes—as well as the regulatory delays and pitfalls it should seek to avoid this time around.

Like E&P wastes, EPA categorized coal ash as a “special waste” in 1978 and deferred regulating it under Subtitle C.²⁸⁷ Congress followed on this deferral in 1980 by exempting coal ash under the Bentsen Amendment’s counterpart, the Bevill Amendment.²⁸⁸ The main difference between the two amendments is that the Bevill Amendment does not include the Bentsen Amendment’s requirement that any necessary Subtitle C regulations be authorized by an act of Congress.²⁸⁹

Unlike E&P wastes, which have had a relatively simple history of the 1987 Report to Congress and the 1988 Regulatory Determination, EPA’s determinations and rulemakings for coal ash have had a number of starts and stops over the years. For coal ash, EPA submitted two Reports to Congress, in 1988 and 1999, each followed by a separate Regulatory Determination, in 1993 and 2000.²⁹⁰ Under both Regulatory Determinations, EPA decided to keep the Subtitle C exemption in place—although the 2000 Determination apparently reached this conclusion only after review and revision of the draft Determination by the White House Office of Management and Budget (“OMB”).²⁹¹

Like the E&P Regulatory Determination, the 2000 coal ash Regulatory Determination concluded that revision to Subtitle D regulations for coal ash landfills and impoundments would be appropriate.²⁹² Also like the E&P Regulatory Determination, EPA made no immediate move to act on this conclusion. It was only after a Tennessee Valley Authority coal ash impoundment released over one billion gallons of coal ash slurry in December 2008—and subsequent public outcry—that EPA finally decided to revisit its conclusion.²⁹³

287. LUTHER, *supra* note 210, at 3. EPA, Hazardous Waste Guidelines and Regulations, 43 Fed. Reg. 58,946, 58,991–92 (Dec. 18, 1978).

288. LUTHER, *supra* note 210, at 4.

289. *Id.* at 7. 42 U.S.C. § 6921(b)(2)(C).

290. *Appalachian Voices v. McCarthy*, 989 F. Supp. 2d 30, 40 (D.D.C. 2013). U.S. Envtl. Prot. Agency, Notice of Regulatory Determination on Wastes From the Combustion of Fossil Fuels, 65 Fed. Reg. 32,214 (May 22, 2000). U.S. Envtl. Prot. Agency, Final Regulatory Determination on Four Large-Volume Wastes From the Combustion of Coal by Electric Utility Power Plants, 58 Fed. Reg. 42,466 (Aug. 9, 1993).

291. *See Appalachian Voices*, 989 F. Supp. 2d at 39 (indicating that the exemption remained after each determination).

292. U.S. Envtl. Prot. Agency, Notice of Regulatory Determination on Wastes from the Combustion of Fossil Fuels, 65 Fed. Reg. 32,214, 32,221 (May 22, 2000).

293. LUTHER, *supra* note 210, at 1–2. *see also* Letter from Lisa Evans & Abigail Dillen, Earthjustice, to Lisa Jackson, Admn., U.S. Envtl. Prot. Agency RE 60-Day Notice of Intent to Sue for Failure to Perform Nondiscretionary Duties under the Resource Conservation and Recovery Act (Jan. 18, 2012), *available at* http://earthjustice.org/sites/default/files/NOI_RCRA_1_18_12.pdf [<http://perma.cc/5MEN-AQT2>].

In June 2010, after nearly seven months of revision by OMB, EPA released its proposed regulations.²⁹⁴ While EPA initially planned to propose regulations under Subtitle C, OMB's revisions resulted in a unique proposed rule with "two alternative regulations": one in which EPA would lift the exemption and regulate under Subtitle C, and one in which it would promulgate tailored regulations under Subtitle D.²⁹⁵

Fearing additional years of delay, a coalition of environmental groups filed a lawsuit against EPA under the section 2002(b) deadline provision of RCRA, requesting the court to set a deadline for EPA's final revision of the rules.²⁹⁶ After a ruling by the court in favor of the groups, EPA entered a consent decree with the groups in early 2014.²⁹⁷

On December 19, 2014, over two decades from its first Regulatory Determination, 14 years since its second Regulatory Determination, and almost exactly six years since the disaster in Tennessee, EPA promulgated tailored regulations for coal ash under Subtitle D of RCRA.²⁹⁸ Members of Congress have already promised bills to block the new rule, and litigation is likely.²⁹⁹ Nonetheless, coal ash stands as the first "special waste" to have achieved tailored regulations under Subtitle D of RCRA.

There are several lessons one can take from the long history of the coal ash rulemaking. For one, EPA has the ability, both legally and pragmatically, to promulgate tailored Subtitle D regulations for special wastes. While there are political and institutional forces that will inevitably push back against such regulations, EPA ultimately can get these regulations done. Additionally, these same forces have made regulation of special wastes under Subtitle C an apparent nonstarter for the near future.

The final lesson is that EPA has a *duty* to make these revisions. EPA conceded as much in the lawsuit, and the court agreed, following a long line

294. Hazardous and Solid Waste Management System. Identification and Listing of Special Wastes. Disposal of Coal Combustion Residuals from Electric Utilities, 75 Fed. Reg. 35,128 (June 21, 2010). Ctr. for Effective Gov't, *Commentary: White House Misadventures in Coal Ash Rule* (May 18, 2010), <http://www.foreffectvegov.org/node/11001> [<http://perma.cc/86WC-WAFE>] (last visited Apr. 1, 2015).

295. 75 Fed. Reg. 35,128. LUTHER, *supra* note 210, at 8. Ctr. for Effective Gov't, *supra* note 294.

296. *See Appalachian Voices*, 989 F. Supp. 2d at 39 (explaining the suit and time constraints).

297. *Id.* at 56. Consent Decree at 1, *Appalachian Voices v. McCarthy*, 989 F. Supp. 2d 30 (D.D.C. 2013) (No. 1:12-cv-00523-RBW).

298. *Coal Ash Pre-Publication Final Rule*, *supra* note 286.

299. *See, e.g.*, Press Release, Energy & Commerce Comm., U.S. House of Rep., Subcommittee Continues Work Toward Pro-Jobs, Pro-Recycling Coal Ash Solution (Jan. 22, 2015), *available at* <http://energycommerce.house.gov/press-release/subcommittee-continues-work-toward-pro-jobs-pro-recycling-coal-ash-solution> [<http://perma.cc/26VQ-XCWZ>], Tim Devaney, *GOP Finds Its Secret Weapon*, THEHILL (Jan. 19, 2015), *available at* <http://thehill.com/regulation/legislation/229936-gop-finds-its-secret-weapon> [<http://perma.cc/X99G-89PW>].

of case law.³⁰⁰ Once EPA has determined that revisions are necessary, as it did for E&P wastes and coal ash, these revisions are due within three years. In cases where EPA has not yet made such a determination, it must at the very least review the regulations every three years to ascertain whether such a revision is necessary. If it determines that revision is necessary, it has not earned a reprieve from the deadline; both review and any necessary revision must occur within the three-year window.³⁰¹

Of the three exemptions and exclusions investigated in this article, the exemption of E&P wastes is the most complicated. While Congress enacted the exemption, at least temporarily, it also left EPA with the possibility of undoing it, as well as unrestricted power to regulate the wastes under its non-hazardous Subtitle D. Through this background and power, one can see both of this article's premises at play.

First, EPA has played a central role in laying the groundwork for Congress to enact the Bentsen Amendment and then in keeping the exemption in place as enacted for 35 years. EPA created the deferral for "special wastes" when it had unrestricted power under RCRA, and Congress used the agency's reasoning to enact the deferral as the Bentsen and Bevill Amendments. In its Regulatory Determination, EPA opted to leave the exemption in place on the grounds that it could craft necessary regulations under its unaffected Subtitle D powers to regulate E&P wastes properly. But the record shows no further action by EPA on this promise.

Second, unlike certain exemptions, EPA has a relatively large amount of unused power under the restrictions of the Bentsen Amendment. There is no question that EPA has the power to promulgate the tailored Subtitle D regulations. EPA has a clear guide forward through its recent promulgation of Subtitle D regulations for coal ash, another of the "special wastes." The only obstacle toward taking this action for E&P wastes is EPA's own political will.

CONCLUSION

The oil and gas industry has a unique amount of exemptions and exclusions from our environmental laws, and these exemptions and exclusions have stood for far too long. With the modern oil and gas production boom, the industry's toxic footprint and environmental impacts have increased many times over, and the continued exemptions now have a greater cost on our environmental and public health.

300. *Appalachian Voices*, 989 F. Supp. 2d at 53-54.

301. *Id.* at 54.

Toward the goal of ending or lessening the burden of these exemptions and exclusions, this article has sought to demonstrate two key points. First, Congress enacted each of these provisions, but EPA has played a key role in laying the groundwork, making the case for their enactment, and most importantly maintaining these exemptions and exclusions for decades. Where Congress left EPA the regulatory power to undo the exemptions, EPA has failed to use this power. Where Congress left EPA with the ability to regulate some aspect of the industry's practices and impacts outside the exemption, such as in SDWA, EPA has also failed to act.

Second, in connection with these points, there is much more that can be done without the action of Congress. While the best-case scenario certainly would be one in which Congress has a change of heart and opts to repeal its exemptions, this is not the only way forward. None of these exemptions is absolute. Each of these exemptions and exclusions either leaves a regulatory "escape hatch" that EPA has authority to use, such as promulgating tailored Subtitle D regulations under RCRA or adding the oil and gas extraction industry to the TRI, or leaves EPA and the delegated state agencies with remaining areas of authority, such as regulating fracking with diesel under SDWA.

As with the history leading to these exemptions and keeping them in place, the responsibility for their solution is in EPA's hands.