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Making Bad Decisions with Toxic Emissions: Exploring the Prosecution of Companies for Superfund Crimes

Cover Page Footnote

13 WASH. J. SOC. & ENV'T. JUSTICE 30 (2023)

MAKING BAD DECISIONS WITH TOXIC EMISSIONS: EXPLORING THE PROSECUTION OF COMPANIES FOR SUPERFUND CRIMES

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Dr. Joshua Ozymy**

13 WASH. J. SOC. & ENV'T. JUSTICE 30 (2023)

ABSTRACT

Marginalized communities in the United States bear the brunt of toxic pollution from Superfund sites. Criminal provisions in the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), also known as Superfund, allow prosecutors to seek penalties for environmental crimes involving significant harm and/or culpable conduct, but we know little about how companies have been prosecuted for Superfund crimes. We utilize content analysis of 2,728 environmental crime prosecutions stemming from U.S. EPA criminal investigations from 1983-2021, and select cases of companies prosecuted

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for Superfund crimes. We found that across 41 prosecutions, 126 defendants were prosecuted, resulting in 68 years of probation and over \$47 million in criminal penalties assessed at sentencing, but penalties are significantly impacted by a few large-penalty prosecutions. Fifty-one percent of prosecutions centered on hazardous waste crimes, followed by asbestos crimes (24 percent), chemical spill crimes (15 percent), and emissions crimes (10 percent). We conclude with a discussion of the value of Superfund criminal enforcement for deterring environmental crime and make suggestions for expanding Superfund criminal prosecutions.

INTRODUCTION

Koch Industries operates petroleum refineries near Corpus Christi, Texas.¹ In 1995, the company failed to install emissions control devices to contain dangerous benzene emissions from its oil-water separators and consequently vented large amounts of benzene into the atmosphere. The company failed to report the emissions to the National Response Center.² It was charged with making false statements and indicted on ninety-seven counts of violating the Clean Air Act (CAA)³ and the Comprehensive, Environmental Response, Compensation, and Liability Act (CERCLA), also known as Superfund.⁴ The company was found guilty and sentenced

¹ Koch operates West and East refineries under its Flint Hills Resources subsidiary in Corpus Christi, see *Flint Hills Resources Marks 30 Years in Corpus Christi*, FLINT HILLS RESOURCES, (Nov. 23, 2011), <https://www.fhr.com/newsroom/2011/FLINT-HILLS-RESOURCES-MARKS-30-YEARS-IN-CORPUS-CHR>.

² Koch Industries, Inc. (S.D. Texas, 2001). See also *Summary of Criminal Prosecutions*, EPA, https://cfpub.epa.gov/compliance/criminal_prosecution/index.cfm?action=3&prosecution_summary_id=1079; Reuters, *U.S. Indicts Koch Industries on Pollution Violations in Texas*, N.Y. TIMES (Sept. 9, 2000), <https://www.nytimes.com/2000/09/29/business/us-indicts-koch-industries-on-pollution-violations-in-texas.html> (discussing how Koch was granted a waiver under the CAA for benzene emissions until 1995, when it failed to install required emissions control devices. Prosecutors contended the refinery emitted at least 91 metric tons of uncontrolled benzene in its liquid waste streams, when the approved limit was six metric tons).

³ Clean Air Act, 42 U.S.C. §7401 (1970).

⁴ Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. § 9601(1980). See also

UNITED STATES COAST GUARD NATIONAL RESPONSE CENTER, <https://nrc.uscg.mil/> (last visited Apr. 19, 2018) (discussing how companies, if appropriate, must report the release of oil, chemical, radiological, or other discharges to the National Response Center (NRC), staffed by the U.S. Coast Guard); Roxanne R. Rapson and Scott R. Brown, *Mens Rea Requirements Under CERCLA: Implications for Corporate Directors, Officers and Employees*, 6 SANTA CLARA HIGH TECH. L.J., 377 (1991) (discussing how a company or

to serve sixty months of probation. They were also ordered to pay \$10 million in criminal fines and \$10 million for community projects.⁵

When companies like Koch Industries violate federal environmental laws, the Environmental Protection Agency (EPA) generally takes the approach of attempting to return the violator to compliance through administrative or civil remedies. But in cases where the crimes involve significant harm or “knowing violations,” criminal prosecutions may be used to go beyond an attempt to return to the violator to compliance. Instead, criminal prosecutions put a focus on punishing offenders and deterring future offenses.⁶ Congress intended to create a deterrence mechanism when it added criminal provisions to federal environmental laws, which is particularly evident with its choice to include the possibility of incarceration for environmental crimes.⁷ Given the

its officers may be criminally prosecuted under the CERCLA if they fail to report the release of a hazardous substance, provide false or misleading information to the NRC, or other related crimes).

⁵ *Koch Guilty Plea, Fine Resolves Corpus Christi Refinery Case*, OIL & GAS J., (Apr. 10, 2001), <https://www.ogi.com/refining-processing/article/17263326/koch-guilty-plea-fine-resolves-corpus-christi-refinery-case>.

⁶ See U.S. ENV'T PROTECTION AGENCY, THE EXERCISE OF INVESTIGATIVE DISCRETION, 3–4 (1994), available at <https://www.epa.gov/sites/production/files/documents/exercise.pdf>; see also *Types of and Approaches to RCRA Corrective Action Enforcement Actions*, EPA, (Jan. 5, 2023), <https://www.epa.gov/enforcement/types-and-approaches-rcra-corrective-action-enforcement-actions> (discussing how Superfund crimes often involve hazardous waste and thus approaches to corrective action tend to involve RCRA); Resource Conservation and Recovery Act, 42 U.S.C. §6901 (1976); Robert G. Schwartz, Jr., *Criminalizing Occupational Safety Violations: The Use of “Knowing Endangerment” Statutes to Punish Employers for Maintaining Toxic Working Conditions*, 14 HARV. ENV'T. L. REV., 487 (1990).

⁷ See generally David R. Rich, *Personal Liability for Hazardous Waste Cleanup: An Examination of CERCLA Section 107*, 13 B.C. ENV'T AFF. L. REV. 643 (1986); Mark. R. McPhail, *Environmental Law: CERCLA Liability of Corporate Parents for Their Dissolved or Undercapitalized Subsidiaries*, 44 OKLA. L. REV. 345 (1991); Timothy Holly, *Potential Responsibility under CERCLA: Canadyne-Georgia Corp. v. Nationsbank, N.A. (South) - An Illustration of Why We Need a Common Federal Rule Defining Owned and Operated*, 12 VILLA. ENV. L. J. 119 (2001); Kathryn R. Heidt, *Liability of Shareholders Under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA)*, 52, OHIO STATE L. J. 133 (2001); *Indirect Owner/Operator Liability Under CERCLA*, FINDLAW, (Jan. 11, 2018), <https://corporate.findlaw.com/law-library/indirect-owner-operator-liability-under-cercla.html>; *Superfund Landowner Liability Protections*, EPA, (Dec. 9, 2022), <https://www.epa.gov/enforcement/superfund-landowner-liability-protections>; Rita Cain, *Shareholder Liability under Superfund: Corporate Veil or Vale of Tears*, 17 J. OF LEGISLATION, 1 (1991) (discussing how corporate officers possess a “burden of knowledge” and thus hold an obligation to safeguard their employees and the public from harm from hazardous waste crimes); Barbara DiTata, *Proof of Knowledge Under RCRA*

importance of the criminal enforcement remedies in ensuring companies' compliance with the law, a strong empirical understanding of how companies have been prosecuted for Superfund crimes is needed. Unfortunately, such an understanding is lacking in the literature.⁸

We attempt to fill this gap through a study that relies on a content analysis of 2,728 criminal investigations by the EPA that led to criminal prosecutions from 1983-2021. We then narrow the selection by considering cases where companies were prosecuted specifically for Superfund crimes. Our analysis begins by studying the broader patterns in prosecution and sentencing since 1983. We then examine large-penalty cases to consider their influence on broader punishment patterns. Finally, we categorize the cases to determine what kinds of Superfund crimes have been prosecuted historically.

I. A BRIEF OVERVIEW OF SUPERFUND

Congress passed the Resource Conservation and Recovery Act (RCRA) in the 1970s, along with a number of changes in environmental law to cover various environmental issues,⁹ such as the Clean Water Act (CWA),¹⁰ Safe Drinking Water Act (SDWA),¹¹ Toxic Substances Control Act (TSCA),¹² Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA),¹³ and the Clean Air Act (CAA).¹⁴ RCRA authorized the

and Use of the Responsible Corporate Officer Doctrine, 7 FORD. ENV'T L. REV. 795 (2011).

⁸ For recent empirical research on CERCLA and RCRA criminal enforcement, see Joshua Ozymy & Melissa L. Jarrell, *Failure to Notify: Exploring Charging and Sentencing Patterns in Superfund Criminal Prosecutions*, 50 ENV'T LAW REP. 10723 (2020); Joshua Ozymy and Melissa L. Jarrell, *Does the Criminal Enforcement of Federal Environmental Law Reduce Crime? The Case of the Resource Conservation and Recovery Act*, 11 ENV'T & EARTH L. J. 65 (2021).

⁹ See e.g., Casey Roberts, *D.C. Circuit Affirms EPA Trend Towards Reducing RCRA Requirements for Recycling of Hazardous Secondary Materials*, 32 Ecology L. Quarterly 749, 749-756 (2005). *But see* Solid Waste Disposal Act Amendments: P.L. 3001(b)(2)(A) and 3001(b)(3)(A) (amendments that effectively exempt the extractive industry from regulating under the RCRA); David L. Hippensteel, *The RCRA Exemption for Oil and Natural Gas Exploration and Production Wastes-What you may not Know*, 6 ENV'T GEOSCIENCES 106, 106-109 (1997) (discussing further that when the CERCLA was passed in 1980, Congress also passed the Hazardous and Solid Waste Disposal Amendments, effectively exempting the extractive industry from regulation under RCRA and thus the ability to manage these as hazardous waste is limited).

¹⁰ Clean Water Act, 33 U.S.C. §1251 (1972).

¹¹ Safe Drinking Water Act, 42 U.S.C §300j (1974).

¹² Toxic Substances Control Act, 15 U.S.C. §2601 (1976).

¹³ Federal Insecticide, Fungicide, and Rodenticide Act, 7 U.S.C. §136 (1972).

¹⁴ Clean Air Act, 42 U.S.C. §7401 (1970).

EPA to manage 2.96 billion tons of solid, industrial and hazardous waste.¹⁵

In 1980, Congress passed the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), also known as Superfund, to supplement the RCRA. Superfund empowers the EPA to remediate contaminated sites and address emergency chemical or hazardous waste spills, by acting as a fund for the clean-up of sites when a responsible party cannot be located. Further, Superfund authorized the EPA to find responsible parties to remediate contaminated sites and parties responsible for emergency releases of pollution.¹⁶ The EPA prioritizes sites for remediation and places them on The National Priorities List (NPL), which is administered by the Office of Superfund Remediation and Technology (OSRTI).¹⁷ Superfund was amended in 1986 with the Superfund Authorization and Reorganization Act (SARA), which reauthorized Superfund and the Emergency Planning and Community Right-to-Know Act (EPCRA), creating State Emergency Response Commissions (SERCs) and Local Emergency Planning Committees (LEPCs) to alert residents to potential harm from chemical or hazardous waste emergencies.¹⁸

¹⁵ *Resource Conservation and Recovery Act (RCRA) Overview*, EPA (June 29, 2022), <https://www.epa.gov/rcra/resource-conservation-and-recovery-act-rcra-overview>.

¹⁶ See Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. § 103 (1980); see also *Summary of the Comprehensive Environmental Response, Compensation, and Liability Act (Superfund)*, EPA, <https://www.epa.gov/laws-regulations/summary-comprehensive-environmental-response-compensation-and-liability-act> (Sept. 12, 2022).

¹⁷ See *Superfund: National Priorities List (NPL)*, EPA, <https://www.epa.gov/superfund/superfund-national-priorities-list-npl> (Feb. 21, 2023) (showing that currently there 1,333 NPL sites, with 43 proposed, and 448 since deleted); see also *Superfund Special Accounts*, EPA, <https://www.epa.gov/enforcement/superfund-special-accounts> (Feb. 8, 2023) (explaining that The Superfund Trust fund is funded when the EPA collects monies from responsible parties through litigation, settlements, or other actions. The EPA has historically collected roughly \$8.5 billion in special accounts, and \$5 billion has been spent on remediation or cleanup actions, with \$3.5 billion reserved. The original design of Superfund was to create a master fund that was paid for through taxes on businesses that generated hazardous waste, but Congress did not renew the program in 1995, leading to the EPA taking this alternative approach).

¹⁸ Emergency Planning and Community Right-to-Know Act, 42 U.S.C. § 11001 (1986); see also *Summary of the Emergency Planning and Community Right-to-Know Act*, EPA, <https://www.epa.gov/laws-regulations/summary-emergency-planning-community-right-know-act> (Nov. 21, 2022) [hereinafter *Summary of the EPCRA*].

II. CIVIL AND CRIMINAL REMEDIES FOR NON-COMPLIANCE

If a company violates environmental law, the EPA typically uses administrative or civil remedies to bring it back into compliance.¹⁹ The EPA usually begins by issuing non-compliant companies notices of violation, orders of correction, or fines; in the case of serious violations or continued non-compliance, the EPA may seek civil judicial remedies in court.²⁰

The EPA can also file a civil lawsuit, where a company may be found guilty in court and liable for any damages and costs associated with pollution clean-up and site remediation.²¹

When civil and administrative remedies fail to elicit compliance, the EPA may choose to pursue criminal sanctions to punish companies for violating federal environmental laws.²² In the early 20th century, Congress passed the first federal statutes to assign misdemeanor penalties for violations of environmental law:²³ the Rivers and Harbors Act²⁴ and the Lacey Act;²⁵ the Acts banned the unpermitted alteration, obstruction, or

¹⁹ See e.g., *Types of and Approaches to RCRA Corrective Action Enforcement Actions*, EPA, <https://www.epa.gov/enforcement/types-and-approaches-rcra-corrective-action-enforcement-actions> (Jan. 5, 2023); *Basic Information on Enforcement*, EPA, <https://www.epa.gov/enforcement/basic-information-enforcement> (Nov. 2, 2022); *9th Circuit Concludes that RCRA Corrective Action is a CERCLA Response Action*, FORCHELLI, DEEGAN, & TERRANA, (Aug. 11, 2017), <https://www.forchellilaw.com/9th-circuit-concludes-that-rcra-corrective-action-is-a-cercla-response-action/>; U.S. ENV'T PROTECTION AGENCY, COORDINATION BETWEEN RCRA CORRECTIVE ACTION AND CLOSURE AND CERCLA SITE ACTIVITIES (1996), available at <https://www.epa.gov/enforcement/guidance-coordinating-rcra-corrective-action-activity-and-closure-and-superfund-site>.

²⁰ *Using All Appropriate Injunctive Relief Tools in Civil Enforcement Settlements*, U.S. EPA (Apr. 26, 2021), <https://www.epa.gov/sites/default/files/2021-04/documents/usingallappropriateinjunctiverelieftoolsincivilenforcementsettlement0426.pdf> [hereinafter *Using All Appropriate Injunctive Relief Tools*]; *Summary of the EPCRA*, *supra* note 18.

²¹ A company may also choose to enter into a consent decree with the EPA to avoid being found guilty in court, see *Using All Appropriate Injunctive Relief Tools*, *supra* note 20.

²² U.S. ENV'T PROTECTION AGENCY, THE EXERCISE OF INVESTIGATIVE DISCRETION, *supra* note 6, at 3–4; Raymond W. Mushal, *Up From the Sewers: A Perspective on the Evolution of The Federal Environmental Crimes Program*, 4 UTAH L. REV. 1103, 1103-05 (2009).

²³ Refuse Act of 1899 33 U.S.C. 407 (first federal statute to criminalize environmental violations).

²⁴ Rivers and Harbors Act, 33 U.S.C. § 403, (1899).

²⁵ The Lacey Act, 16 U.S.C. § 403 (1899).

other related activities in the navigable waters of the United States, and prohibited unpermitted interstate wildlife trade.²⁶

However, throughout the 1970s, it became apparent that companies would intentionally and seriously violate environmental laws without stronger sanctions; as a result, a global movement developed in many countries to institute a criminal enforcement regime for environmental law.²⁷

In the United States, Congress added criminal provisions to environmental statutes, beginning with the RCRA in 1984, then the CWA in 1987, and CAA in 1990, among others. By 1978, the EPA and the Department of Justice (DOJ) formed a Hazardous Waste Taskforce initiating 52 civil actions under the RCRA. The development of criminal enforcement at the EPA began in earnest when DOJ attorney, Peter Beeson, was assigned to the EPA, leading to the creation of the Office of Enforcement in 1981, with Beeson serving as director.²⁸ The Office of Enforcement started with only two criminal investigators when it was formed, and hired 20 additional investigators only a year later.²⁹ Later, with the passage of the Medical Waste Tracking Act of 1988,³⁰ full law enforcement authority was granted to criminal investigators, and in 1989 they were allowed to carry firearms in their official capacity.³¹

Another important milestone for institutionalizing policing resources came in 1990, when Congress passed the Pollution Prosecution Act (PPA), giving the EPA authority to hire 200 criminal investigative staff.³² Criminal investigative staff are housed within EPA's Criminal

²⁶ Mushal, *supra* note 22.

²⁷ Michael R. Pendleton, *Beyond the Threshold: The Criminalization of Logging*, 10 SOC'Y & NAT. RES. 181, 191-92 (1997); Celebrezze, et al., *Criminal Enforcement of State Environmental Laws: The Ohio Solution*, 14 HARV. ENV'T. L. REV. 217 (1990) (discussing how some U.S. states also share these concerns).

²⁸ For a history, see Robert I. McMurry and Stephen D. Ramsey, *Environmental Crime: The Use of Criminal Sanctions in Enforcing Environmental Laws*, 19 LOY. L. REV. 1136, 1136-1141 (1986).

²⁹ *About the Office of Enforcement and Compliance Assurance (OECA)*, EPA (Mar. 30, 2023), <https://www.epa.gov/aboutepa/about-office-enforcement-and-compliance-assurance-oeca>.

³⁰ Medical Waste Tracking Act of 1988, Pub. L. No. 100-582.

³¹ See Mushal, *supra* note 22, at 1110-1111; see also U.S. ENV'T PROTECTION AGENCY, MANAGEMENT REVIEW OF THE OFFICE OF CRIMINAL ENFORCEMENT, FORENSICS AND TRAINING, 7 (2003), available at <https://www.epa.gov/sites/production/files/documents/oceft-review03.pdf>.

³² The Pollution Prosecution Act of 1990, P.L. No. 101-593 (set a minimum of 200 investigative staff). See also U.S. ENV'T PROTECTION AGENCY CRIMINAL ENFORCEMENT PROGRAM, AMERICA'S ENVIRONMENTAL CRIME FIGHTERS (2022), available at <https://www.epa.gov/sites/production/files/documents/oceftbrochure.pdf>. (showing that

Investigation Division (EPA-CID), which is EPA's organizational home for criminal investigations.³³

Resources to prosecute environmental crimes might be traced to the founding of the Public Lands Division within DOJ in 1909.³⁴ Yet, it was the organization of the Environmental Crimes Section within the Department of Justice (DOJ-ECS) that institutionalized the processes for prosecuting environmental crimes. The Environmental Crimes Section first began as a three-attorney unit in the Environmental Enforcement Section within DOJ; by 1987, it became its own unit, housed within the Environmental and Natural Resources Division (ENRD) within DOJ.³⁵ The DOJ-ECS was created to specialize in the prosecution of environmental crimes.³⁶ The DOJ-ECS currently employs forty-three attorneys and a dozen support staff.³⁷

Criminal investigators often work with local, state, and/or federal law enforcement when building cases, as well as federal prosecutors.³⁸ When state and federal statutes overlap, cases may be forwarded to state-level prosecutors for investigation.³⁹ EPA criminal investigators build

[the total number of current investigators varies from 145 to around 200, depending on the source; EPA CID Agent Count, PUB. EMP. FOR ENV'T RESP. \(PEER\) \(2019\), \[https://www.peer.org/wp-content/uploads/2019/11/11_21_19-Federal Pollution EPA CID Agent Count.pdf\]\(https://www.peer.org/wp-content/uploads/2019/11/11_21_19-Federal Pollution EPA CID Agent Count.pdf\).](https://www.peer.org/wp-content/uploads/2019/11/11_21_19-Federal%20Pollution%20EPA%20CID%20Agent%20Count.pdf)

³³ *Criminal Enforcement: Special Agents*, EPA, (2021),

<https://19january2021snapshot.epa.gov/enforcement/criminal-enforcement-special-agents.html>; *Criminal Enforcement*, EPA (2022),

<https://www.epa.gov/enforcement/criminal-enforcement>; *Criminal Investigations*, EPA (2022) <https://www.epa.gov/enforcement/criminal-investigations>.

³⁴ *Organization, Mission and Functions Manual: Environment and Natural Resources Division*, U.S. DEPART. OF JUST. (Sept. 21, 2022),

<https://www.justice.gov/doj/organization-mission-and-functions-manual-environment-and-natural-resources-division>.

³⁵ *History*, ENV'T & NAT. RES. DIV. (May 18, 2021) [https://www.justice.gov/enrd/history:Historical Development of Environmental Criminal Law](https://www.justice.gov/enrd/history:Historical%20Development%20of%20Environmental%20Criminal%20Law), ENV'T & NAT. RES. DIV. (May 13, 2015), <https://www.justice.gov/enrd/about-division/historical-development-environmental-criminal-law> [hereinafter *Historical Development of Environmental Criminal Law*].

³⁶ *Historical Development of Environmental Criminal Law*, U.S. DEP'T. OF JUST. – ENV'T & NAT. RES. DIV. (May, 13, 2015), <https://www.justice.gov/enrd/about-division/historical-development-environmental-criminal-law>.

³⁷ *An Overview of Our Practice*, DEPT. OF JUST.- ENV'T & NAT. RES. DIV. (May 13, 2015), <https://www.justice.gov/enrd/overview-our-practice>; *Environmental Crimes Section*, U.S. DEP'T. OF JUST. - ENV'T & NAT. RES. DIV. (Jul. 2, 2021),

<https://www.justice.gov/enrd/environmental-crimes-section>.

³⁸ Joel A. Mintz, *Some Thoughts on the Interdisciplinary Aspects of Environmental Enforcement*, 36 ENV'T L. REP. 10495-10497 (2006).

³⁹ Joel A. Mintz, *Treading Water: A Preliminary Assessment of EPA Enforcement During the Bush II Administration*, 34 ENV'T L. REP. 10912, 10912 (2004).

cases from civil inspector's reports, regulatory disclosures, and former employees of companies acting as whistleblowers. They then confer with federal prosecutors to decide whether to convene a grand jury or file criminal charges in federal court.⁴⁰

Prosecutors may specifically choose to pursue criminal charges for violations of CERCLA if a company fails to notify officials of the release of a hazardous substance, which may be charged solely under the CERCLA or could be charged with a series of related crimes that govern hazardous and other chemical waste, such as the RCRA or the CAA.⁴¹ For criminal violations of the RCRA, a company may be charged with failure to notify of the release of a hazardous substance.⁴² Criminal charges under the CERCLA and the CAA may involve failure to notify and charges related to the release of a hazardous substance, such as when a company engages in unpermitted removal and disposal of asbestos.⁴³ The most significant criminal charges for these environmental crimes are negligence and knowing endangerment, where a company or its officers put another person in imminent danger of death or serious bodily injury.⁴⁴

⁴⁰ Mintz, *supra* note 39, at 10495–97; Michael Hertz, *Structures of Environmental Criminal Enforcement*, 7 *Fordham Env't L. J.* 679 (1996).

⁴¹ 42 U.S.C. 9603.

⁴² See *Criminal Provisions of the Resource Conservation and Recovery Act (RCRA)*, EPA, <https://www.epa.gov/enforcement/criminal-provisions-resource-conservation-and-recovery-act-rcra> (last visited May 7, 2023); see also *Hazardous Waste Manifest System*, EPA, <https://www.epa.gov/hwgenerators/hazardous-waste-manifest-system> (last visited May 7, 2023) (EPA's Uniform Hazardous Waste Manifest is a form required for all generators of hazardous waste when they transport hazardous waste offsite for treatment, recycling, or disposal. The Manifest form is how EPA tracks from generation to disposal).

⁴³ See e.g., *Criminal Provisions of the Clean Air Act*, U.S. EPA, <https://www.epa.gov/enforcement/criminal-provisions-clean-air-act#six> (last visited May 7, 2023) (companies or their officials may also be charged for failure to notify or report the release of asbestos as well as violating workplace standards for asbestos or releasing a hazardous substance into the ambient air without a permit).

⁴⁴ Knowing endangerment occurs when a person knows at the time that their actions placed another individual in imminent danger of death or serious bodily injury. Negligent endangerment occurs when a person is injured because another individual failed to live up to their responsibilities causing a person to be placed in imminent danger of death or serious bodily injury, see Karen M. Hansen, "Knowing" *Environmental Crimes*, 16 *MITCHELL HAMLINE L. REV.* 987, 987–991 (1990); see also *criminal intent*, CORNELL L. SCHOOL, https://www.law.cornell.edu/wex/criminal_intent (last visited May 7, 2023). Corporate officers are responsible for employee safety, particularly from hazardous waste and chemical wastes in this context under the Responsible Corporate Officer Doctrine, where corporate officers are responsible for taking reasonable measures to protect others from being harmed through exposure to hazardous substances, see Robert T. McGovern,

Congress clearly intended the criminality provisions in these statutes to act as deterrents, which explains the severity of the penalties.⁴⁵ Studies show that significant penalties have been secured at sentencing.⁴⁶ Others show prosecutors are motivated to seek stiff penalties for crimes.⁴⁷ Finally, research demonstrates aggregating factors tend to motivate the decision to prosecute environmental offenders.⁴⁸ However, our broader understanding of how prosecutors pursue companies for Superfund

United States v. Johnson & Towers, Inc.: Corporate Employee Criminal Liability under RCRA, 2 PACE ENV'T. L. REV. 316, 316 (1985); David T. Barton, *Corporate Officer Liability Under RCRA: Stringent but not Strict*, 1991 BYU L. REV. 1547, 1548–50 (1991); Ronald M. Broudy, *RCRA and the Responsible Corporate Officer Doctrine: Getting Tough on Corporate Offenders by Sidestepping the Mens Rea Requirements*, 80 KY. L.J. 1055, 1055 (1992); Sidney M. Wolf, *Finding an Environmental Felon Under the Corporate Veil: The Responsible Corporate Officer Doctrine and RCRA*, 9 FLA. S. U. J. LAND USE & ENV'T. L. 1, 1-58 (1993). Holding corporate officers accountable for environmental harm brings up the broader issue of knowing crimes and officer responsibility. An officer can be held accountable, even if they themselves did not commit the crime or were unaware of the offending action, as liability confers to those who are in positions to affect policies and procedures that could have prevented the crime, see John R. Bashaw and Mary Mintel Miller, *The Responsible Corporate Officer Killed the LLC*, AM. BAR ASS'N, (May 7, 2023) <https://www.americanbar.org/groups/litigation/committees/environmental-energy/articles/2016/winter2016-the-responsible-corporate-officer-killed-the-llc/>; Robert G. Schwartz, Jr., *Criminalizing Occupational Safety Violations: The Use of “Knowing Endangerment” Statutes to Punish Employers for Maintaining Toxic Working Conditions*, 14 HARV. ENV'T. L. REV. 487, 487 (1990); Turner T. Smith Jr. and Roszell D. Hunter, *Hazardous Wastes: The Knowing Endangerment Offense*, 2 J. ENV'T. L. 262, 262 (1990).

⁴⁵ Mushal, *supra* note 22, at 1119–1122.

⁴⁶ See e.g., Joshua Ozymy, et al., *Persistence or Partisanship: Exploring the Relationship between Presidential Administrations and Criminal Enforcement by the U.S. Environmental Protection Agency 1983-2019*, 81 Pub. Admin. Rev. 49 (2021). For examples of state and local criminal enforcement studies, see Matthew S. Crow, et al., *Camouflage-Collar Crime: An Examination of Wildlife Crime and Characteristics in Florida*, 34 DEVIANT BEHAV., 635 (2013); Joshua C. Cochran, et al., *Court Sentencing Patterns for Environmental Crimes: Is there a “Green” Gap in Punishment?* 34 J. OF QUANTITATIVE CRIMINOLOGY 37 (2018); Michael J. Lynch, *County-Level Environmental Crime Enforcement: A Case Study of Environmental/Green Crimes in Fulton County, Georgia, 1998-2014*, 40 DEVIANT BEHAV. 1090 (2019).

⁴⁷ David M. Uhlmann, *Prosecutorial Discretion and Environmental Crime*, 38 HARV. ENV'T L. REV. 159, 159 (2014); David M. Uhlmann, *Prosecutorial Discretion and Environmental Crime Redux: Charging Trends, Aggravating Factors, and Individual Outcome Data For 2005-2014*, 8 MICH. J. OF ENV'T & ENERGY L. 312 (2019).

⁴⁸ Joshua Ozymy & Melissa Jarrell, *Why Do Regulatory Agencies Punish? The Impact of Political Principals, Agency Culture, and Transaction Costs in Predicting Environmental Criminal Prosecution Outcomes in the United States*, 33 REV. OF POL'Y RSCH. 71, 71-73 (2016).

crimes and the outcomes of those prosecutions is very limited.⁴⁹ Our analysis begins to address this shortcoming with a study that focuses on exploring charging and sentencing themes for companies prosecuted for Superfund crimes since 1983. We are also able to categorize these prosecutions and develop general themes to bring order to this empirical universe.

III. DATA AND ANALYSIS

The analysis herein relies on the EPA's Summary of Criminal Prosecutions Database as the primary source of data to capture prosecutions resulting from EPA-CID investigations from 1983-present.⁵⁰ We tried various search protocols and found searching by fiscal year (FY) to be the most complete method to capture all prosecutions in the database. We analyzed the database by FY from the first prosecution that was adjudicated in 1983, to April 30, 2022, when data gathering ceased. Altogether, we analyzed data on 2,728 criminal prosecutions, then further selected all cases prosecuted under the CERCLA, and then finally chose all cases where companies were prosecuted under the CERCLA. Ultimately, we selected 41 prosecutions that fit the stated criteria for our analysis.

Once we had our cases organized, we collected the following data from each prosecution summary: FY identifier; brief summary of the case; primary defendant as a case identifier; docket number; whether a company was a defendant in the prosecution; major environmental statutes violated in the case; number of defendants in the case, state identifier; other non-environmental crimes, such as, obstruction, false statements, and conspiracy; and all sentencing data, including, distribution across defendants, total probation in months, and total monetary penalties, including, all fines, fees, assessments, restitutions, and other penalties levied at sentencing.

We utilized content analysis to extract, organize, and understand the data in our analysis. We also used two coders working independently to assign values to the data as appropriate and test-piloted protocols in data gathering for four weeks to resolve any coding issues. The coders worked independently. One author

⁴⁹ See generally Ozymy & Jarrell, *supra* note 8.

⁵⁰ *Summary of Criminal Prosecutions*, EPA <https://www.epa.gov/enforcement/summary-criminal-prosecutions> (last visited April 16, 2023).

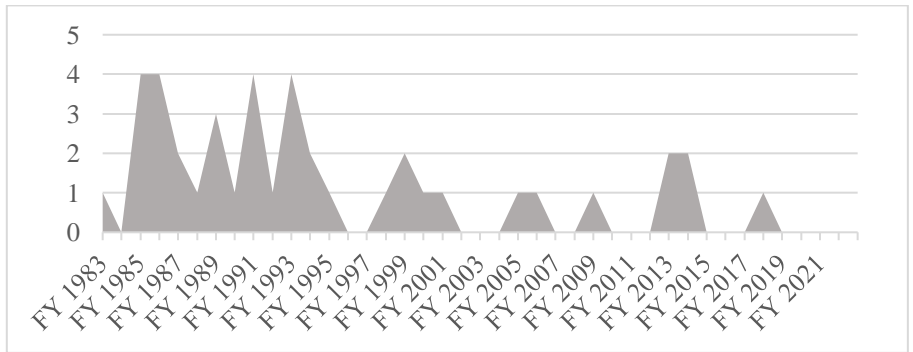
reviewed values for lack of consensus, while both authors analyzed disparities in the data to find points of agreement. Most of these discrepancies came from complex sentencing data or ambiguous data in the case narratives. Inter-coder reliability for the project was about ninety-five percent.⁵¹

IV. RESULTS

Our analysis is divided into three sections. First, we analyzed broader trends in prosecutions and sentencing over time. Second, we explored large-penalty cases that affect overall sentencing trends. Finally, we organized prosecutions into general themes to bring order to the universe of Superfund prosecutions since 1983.

In Figure 1, we explored annual prosecutions of companies adjudicated between 1983-2021. Beginning in 1983, a total of fifteen prosecutions were adjudicated during the decade. Prosecutions rose slightly to sixteen during the 1990s and dropped to five between 2000-2009. From 2010-2021, prosecutions remained at five. A grand total of forty-one prosecutions were adjudicated during our analysis, averaging about 1.05 annually.

Figure 1. Total Superfund Prosecutions of Companies, Adjudicated by Fiscal Year.

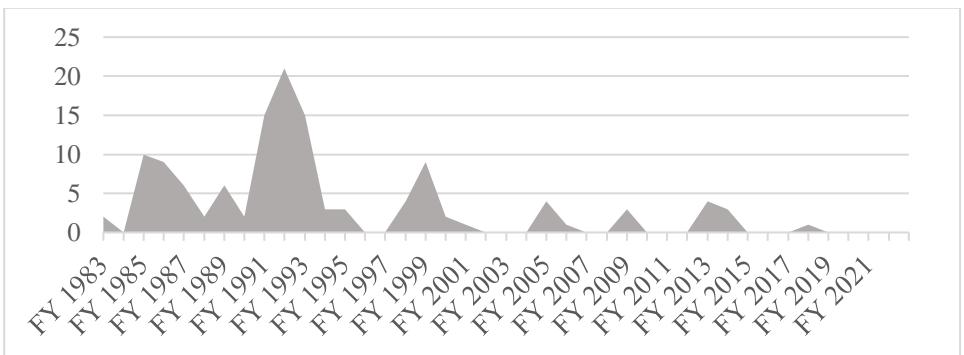


⁵¹ Cliodhna O’Connor & Helene Joffe, *Intercoder Reliability in Qualitative Research: Debates and Practical Guidelines*, 19 INT’L J. OF QUALITATIVE METHODS 1, (2020) (inter-coder reliability is defined as the agreed upon items divided by non-agreed items); see generally Columbia Univ. Mailman Sch. of Pub. Health, *Content Analysis*, subsection of TECHNIQUES, POPULATION, HEALTH METHODS, <https://www.publichealth.columbia.edu/research/population-health-methods/content-analysis> (last visited April 16, 2023).

Source: *EPA Summary of Criminal Prosecutions Database*

In Figure 2, we described the annual number of defendants prosecuted by year between 1983-2021. In the 1980s, we found thirty-five defendants prosecuted, which rose to seventy-two in the 1990s. From 2000-2009, the number of prosecuted defendants plummeted to eleven during the decade, and further still to eight from 2010-2021. A grand total of 126 defendants were prosecuted in our analysis.

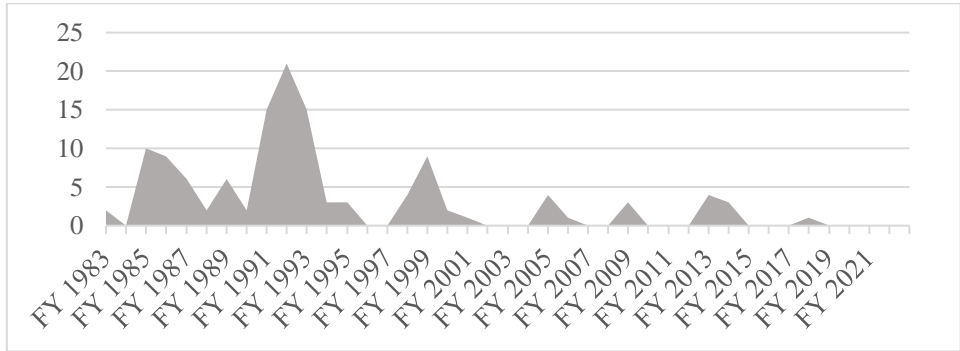
Figure 2. Number of Defendants in Superfund Prosecutions of Companies by Fiscal Year.



Source: *EPA Summary of Criminal Prosecutions Database*

In Figure 3, we analyzed sentencing trends for companies prosecuted for Superfund crimes. We show total probation in months assessed to all companies annually between 1983-2021. In the 1980s, total probation climbed to 186 months by the end of the decade. During the 1990s, total probation increased significantly to 348 months. From 2000-2009, probation declined quite a bit to 120 months, and from 2000-2021, rose slightly to 156 months. We cataloged a grand total of 810 months of probation assessed to companies at sentencing for Superfund crimes in our analysis.

Figure 3. Total Probation Time in Months Assessed to Companies in Superfund Prosecutions by Fiscal Year.

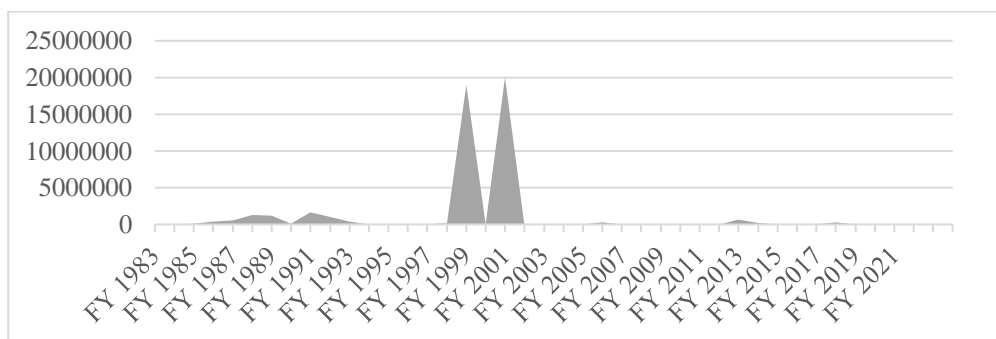


Source: EPA Summary of Criminal Prosecutions Database

In Figure 4, we continued the second section of our analysis by examining total monetary fines levied against companies for Superfund crimes at sentencing between 1983-2021. We found that more than \$3.6 million in monetary penalties were levied at sentencing during this period. During the 1990s, monetary penalties assessed at sentencing increased significantly to over \$22 million.⁵² From 2000-2009, monetary penalties exceeded \$20 million at sentencing. From 2010-2021, penalties decreased to just over \$1 million. A grand total of \$47 million in monetary penalties were assessed to companies at sentencing for Superfund crimes in our analysis.

⁵² Monetary penalties are affected by a few large penalty cases discussed later in the analysis.

Figure 4. Total Monetary Penalties Assessed to Companies in Superfund Prosecutions by Fiscal Year.



Source: EPA Summary of Criminal Prosecutions Database

We now turn to examining large probation sentences assessed to companies in Superfund prosecutions, to give context to the trends previously discussed. The overall pattern of probation was fairly evenly distributed in the data and there were few large penalty cases. For context, we note the largest in Table 1. Nanticoke Homes manufactured prefabricated homes in Greenwood, Delaware. The company generated ignitable hazardous wastes and was prosecuted under the CERCLA for failure to notify officials of the release of a hazardous substance in the environment without a permit and under the RCRA for knowingly storing hazardous waste without a permit.⁵³ The previously mentioned prosecution of Koch Industries for releasing benzene into the ambient air and failing to notify officials resulted in sixty months of probation.⁵⁴ Mazza & Sons, Inc. was prosecuted for dumping construction debris with asbestos containing materials on property with federally designated wetlands.⁵⁵

⁵³ Nanticoke Homes, No. 91-23 (D. Del., 1991). See also *Summary of Criminal Prosecutions*, EPA,

https://cfpub.epa.gov/compliance/criminal_prosecution/index.cfm?action=3&prosecution_summary_id=401 (the company was sentenced to 36 months of probation on both counts, 400 hours of community service, and \$300,400 in penalties and assessments; in a total of seven prosecutions, companies were sentenced to 60 months of probation, with Nanticoke Homes receiving the largest amount of probation assessed at sentencing).

⁵⁴ Koch Indus., Inc., *supra* note 2.

⁵⁵ Mazza & Sons, Inc., No. 5:11CR264DNH (N.D. N.Y., 2013). See also *Summary of Criminal Prosecutions*, EPA,

https://cfpub.epa.gov/compliance/criminal_prosecution/index.cfm?action=3&prosecution_summary_id=2416 (company officials also fabricated a permit and destroyed or concealed documents related to a grand jury subpoena. The defendants were charged with

Table 1. Large Probation Sentences Assessed to Companies in Superfund Prosecutions.

<i>Defendant</i>	<i>Fiscal Year</i>	<i>Crime</i>	<i>Total Probation (Months)</i>
Nanticoke Homes	1991	Hazardous Waste Crime	72
Koch Industries	2001	Emissions Crime	60
Mazza & Sons	2013	Asbestos Crime	60

Source: EPA Summary of Criminal Prosecutions Database

Unlike probation penalties, which were evenly distributed across cases, total monetary penalties were heavily dependent on a few large penalty cases. For context, we discuss these cases in Table 2. The largest monetary penalty assessed at sentencing was during the previously mentioned prosecution of Koch Industries, resulting in \$20 million in fines and community services payments.⁵⁶ The second largest monetary penalty assessed at sentencing to a company for committing a Superfund crime was a \$19 million penalty levied against the Burlington Northern Railroad.⁵⁷ Welco Plating, Inc., a metal coating and plating company in

false statements, obstruction, conspiracy, and violations of CERCLA for failure to notify. Mazza & Sons was sentenced to 60 months of probation and a \$100,000 federal fine).

⁵⁶ Koch Indus., Inc., *supra* note 2 (this prosecution alone represents about 43 percent of total monetary penalties assessed at sentencing in our analysis).

⁵⁷ Burlington N. R.R., No. 4:98CR515 CDP (E.D. Mo., 1999). *See also Summary of Criminal Prosecutions*, EPA, https://cfpub.epa.gov/compliance/criminal_prosecution/index.cfm?action=3&prosecution_summary_id=793 (the company owned a rail car cleaning facility in Cherryville, Missouri that cleaned cars from rail cars used primarily in lead mines. Some 40,000 tons of lead concentrate was dumped on-site and an unknown amount was illegally deposited in the area; lead waste was discharged into Cherry Valley Creek, which ran through the facility. The company was charged for violations of the CWA for the illegal discharge and failure to notify under CERCLA – it was ordered to pay a \$7 million federal fine and \$12 million to remediate the pollution). The Koch and Burlington prosecutions alone are responsible for 83 percent of total monetary penalties levied against companies for Superfund crimes in our analysis. Excluding them leaves only about \$8 million in monetary penalties assessed at sentencing. This finding demonstrates that large penalty prosecutions of companies under CERCLA have been rare and, absent the few that did exist, the total penalties against companies for Superfund crimes are overall not very significant.

Woodville, Alabama, was prosecuted for a number of crimes, including discharging pollutants without a permit, and failure to report the release of hazardous substances under the CERCLA.⁵⁸ The Pennwalt Corporation was prosecuted for violations of the CERCLA and the CWA and was ordered to pay \$1,100,00 in fines and assessments.⁵⁹

Table 2. Large Monetary Penalties Assessed to Companies in Superfund Prosecutions.

<i>Defendant</i>	<i>Fiscal Year</i>	<i>Crime</i>	<i>Total Monetary Penalties</i>
Koch Industries	2001	Emissions Crime	\$20,000,000
Burlington Northern Railroad	1999	Hazardous Waste Crime	\$19,000,000
Welco Plating Incorporated	1988	Hazardous Waste Crime	\$1,300,000
Pennwalt Corporation	1989	Chemical Spill Crime	\$1,100,000

Source: *EPA Summary of Criminal Prosecutions Database*; * Numbers are rounded

In the final section of our analysis, we use our best judgement to categorize each prosecution by what we feel is the primary crime in the case. From there, we attempt to organize these cases around general themes, in an effort to provide some order to the universe of company prosecutions for Superfund crimes over time.⁶⁰ We list these in Table 3.

⁵⁸ Welco Plating, Inc., No. CR-88-H-0019NE (N.D. Ala., 1988). *See also Summary of Criminal Prosecutions*, EPA, https://cfpub.epa.gov/compliance/criminal_prosecution/index.cfm?action=3&prosecution_summary_id=257 (the company was charged under CWA, RCRA, and CERCLA, sentenced to 60 months of probation, and ordered to pay \$1.3 million in clean-up costs).

⁵⁹ Pennwalt Corp., No CR-88-55T, 1989 (W.D. Wash., 1989). *See also Summary of Criminal Prosecutions*, EPA, https://cfpub.epa.gov/compliance/criminal_prosecution/index.cfm?action=3&prosecution_summary_id=356 (on January 2, 1985, a tank containing sodium chlorate ruptured at its Tacoma, Washington plant; the company was charged with making a negligent discharge under CWA, failure to notify of the release of a hazardous substance under CERCLA, and making false statements).

⁶⁰ We use our best judgment to discern the primary crime in each case. We realize this process is imperfect when compared to analyzing trends in prosecutions and sentencing data, which tends to be clear in the case summaries. For Table 3, the only possibility of overlap is with chemical spills and hazardous waste crimes, as both could constitute

Table 3. Primary Themes that Emerge when Companies are Prosecuted for Superfund Crimes.

<i>Theme</i>	<i>Number of Prosecutions</i>	<i>Percentage of Total</i>
Hazardous Waste Crime	21	51
Asbestos Crime	10	24
Chemical Spill Crime	6	15
Emissions Crime	4	10
Total Prosecutions	41	

*Percentages are rounded

Our analysis of Superfund prosecutions shows that prosecutors use failure to notify provisions in the CERCLA either exclusively or in combination with other criminal provisions. The other criminal provisions relied upon typically falls under RCRA, but also includes the CWA, TSCA, and the CAA. Analyzing these prosecutions by the primary crime shows the most common crime to be hazardous waste crimes. In twenty-one prosecutions, or fifty-one percent of total prosecutions in our analysis, the case centered on a hazardous waste crime, typically charged under the RCRA and the CERCLA. We provide case examples with the prosecution of Lackawanna Refuse Removal, Leigh Industries, and Baytank (Houston), Incorporated.

Lackawanna Refuse Removal was prosecuted for making false statements and failure to report the release of hazardous substances under the CERCLA after illegally depositing waste at a landfill.⁶¹ Leigh Industries was prosecuted for illegally dumping barrels of toxic and hazardous wastes.⁶² Baytank (Houston), Incorporated, a marine terminal

hazardous waste, but we wanted to differentiate them as much as was possible with the available case summary data.

⁶¹ Lackawanna Refuse Removal, No. 82-00173 (M.D. Pa., 1983). *See also Summary of Criminal Prosecutions*, EPA, https://cfpub.epa.gov/compliance/criminal_prosecution/index.cfm?action=3&prosecution_summary_id=93 (Lackawanna was prosecuted with co-defendant Northeast Land Development Company, and each were fined \$10,000).

⁶² Leigh Indus., No. 87-CR-116 (D. Colo., 1987). *See also Summary of Criminal Prosecutions*, EPA,

engaged in chemical storage and transfer, was prosecuted alongside its parent company, Odfjell Westfal-Larson (USA), for dumping hazardous wastewater at sea.⁶³

In ten prosecutions, or twenty-four percent of total prosecutions in our analysis, the primary crime involved asbestos-related violations. These tended to be cases where a company engaged in unpermitted removal of asbestos from facilities, falsified lab results related to asbestos, or violated unpermitted removal and/or disposal of asbestos.⁶⁴ We provide case examples with the prosecution of DAR Construction, Cuyahoga Wrecking Corporation, and Parker Environmental Management Group.⁶⁵

DAR Construction was prosecuted for removal of asbestos in violation of the CAA, failure to notify under the CERCLA, and violations of asbestos disposal and workplace

https://cfpub.epa.gov/compliance/criminal_prosecution/index.cfm?action=3&prosecution_summary_id=228 (the company and its president, Gabriel Demshar, Jr., were charged with illegal disposal under RCRA and failure to notify under CERCLA; the company received a \$200 special assessment and \$1 fine).

⁶³ Baytank Inc., No. CR-H-87-220, (S.D. Tex., 1992). *See also Summary of Criminal Prosecutions*, EPA,

https://cfpub.epa.gov/compliance/criminal_prosecution/index.cfm?action=3 (the companies were prosecuted for numerous violations of RCRA, CERCLA, and CWA in a 37-count indictment. Baytank was sentenced to 60 months of probation, fined \$50,000, and given a \$1,000,000 special assessment).

⁶⁴ Asbestos is regulated as a hazardous air pollutant under the National Emissions Standards for Hazardous Air Pollutants (NESHAP). This designation applies during the renovation and demolition of buildings that contain asbestos. If asbestos is available in a structure at regulated levels, the company must notify officials, obtain permits, abide by specified workplace standards, and properly dispose of the affected material. These procedures add significant costs, which provides companies with an incentive to violate the law. Criminal provisions of the CAA apply to these situations. *See Criminal Provisions of the Resource Conservation and Recovery Act (RCRA)*, *supra* note 42; U.S. Env't Prot. Agency, *Overview of the Asbestos National Emissions Standards for Hazardous Air Pollutants (NESHAP)* (Feb. 1, 2023),

<https://www.epa.gov/asbestos/overview-asbestos-national-emission-standards-hazardous-air-pollutants-neshap>; *Criminal Provisions of the Clean Air Act*, *supra* note 43.

⁶⁵ DAR Constr. Inc., No. 88-CR-65 (S.D. N.Y., 1989); Cuyahoga Wrecking Corp., No. 4-89-CR-0281 (N.D. Ohio, 1991); Parker Env't Mgmt. Grp., Inc., No. 01-CR-418-002 (N.D. N.Y., 2005). *See also Summary of Criminal Prosecutions*, EPA,

https://cfpub.epa.gov/compliance/criminal_prosecution/index.cfm?action=3&prosecution_summary_id=350; *Summary of Criminal Prosecutions*, EPA,

https://cfpub.epa.gov/compliance/criminal_prosecution/index.cfm?action=3; *Summary of Criminal Prosecutions*, EPA,

https://cfpub.epa.gov/compliance/criminal_prosecution/index.cfm?action=3&prosecution_summary_id=1170

practices.⁶⁶ Cuyahoga Wrecking Corporation was prosecuted for demolishing structures in violation of Asbestos NESHAP standards under the CAA and failure to notify under CERCLA.⁶⁷ Parker Environmental Management Group and its owner, Andre Parker, were prosecuted for fraud, false statements, conspiracy and CERCLA violations related to illegal asbestos abatement.⁶⁸

In six prosecutions, or fifteen-percent of total prosecutions, the central crime in the analysis focused on chemical spills. These cases could be categorized within the Hazardous Waste Crimes category in Table 3, but we chose to parcel them out to illustrate some of the complexities within the crimes. We illustrate the category with the prosecution of Gary Products, HCI Chemtech, and Pacific Tank Cleaning.⁶⁹ In all of these cases, the central crime involved leaking storage tanks, chemical spills, or explosions resulting in spills.⁷⁰

Gary Products was prosecuted, along with Montgomery Tank Lines, for illegally storing 102,000 gallons of hydrochloric acid, some 5,000 gallons of which leaked into the environment.⁷¹ HCI Chemtech was prosecuted for failing to respond to a spill of 20,000 gallons of sodium hydroxide and the resulting leak into a nearby waterway. It was

⁶⁶ DAR Constr. Inc., *supra* note 65 (the company was fined \$50,000 and given a \$600 assessment).

⁶⁷ Cuyahoga Wrecking Corp., *supra* note 65 (the company was fined \$1,000,000; it was additionally prosecuted multiple times in 1988, 1989, and 1991 for hazardous waste and asbestos violations).

⁶⁸ Parker Env't Mgmt. Grp., Inc., *supra* note 65 (Parker directed employees to perform illegal asbestos abatement on 31 public housing buildings and falsified lab results related to asbestos removal; the company was ordered to serve 24 months of probation and pay a \$4,400 special assessment).

⁶⁹ Gary Products, No. CR-92-17M (N.D. Ind., 1993); HCI Chemtech, No. CR00156-001 (W.D. Mo, 1998); Pac. Tank Cleaning, Inc., No. 14CR0395-H (S.D. Cal., 2014). *See also Summary of Criminal Prosecutions*, EPA,

https://cfpub.epa.gov/compliance/criminal_prosecution/index.cfm?action=3&prosecution_summary_id=496; *Summary of Criminal Prosecutions*, EPA,

https://cfpub.epa.gov/compliance/criminal_prosecution/index.cfm?action=3&prosecution_summary_id=737; *Summary of Criminal Prosecutions*, EPA,

https://cfpub.epa.gov/compliance/criminal_prosecution/index.cfm?action=3&prosecution_summary_id=2580.

⁷⁰ Pennwalt Corp., *supra* note 59; Milk River Coop, No. CR-12-80-GF-SHE (D. Mont., 2013); Wagner Constr., JV, No. 07-CR-3443-IEG (S.D. Cal., 2009). *See also Summary of Criminal Prosecutions*, EPA,

https://cfpub.epa.gov/compliance/criminal_prosecution/index.cfm?action=3&prosecution_summary_id=248; *Summary of Criminal Prosecutions*, EPA,

https://cfpub.epa.gov/compliance/criminal_prosecution/index.cfm?action=3&prosecution_summary_id=1799.

⁷¹ Gary Products, *supra* note 69 (the company was ordered to pay \$150,200 in fines and fees).

charged with false statements, conspiracy, violations of the CWA, and failure to notify under CERCLA.⁷² Pacific Tank Cleaning was prosecuted for failing to report an acid spill at its facility, which leaked into a storm drain.⁷³

While the vast majority of crimes in our data centered on illegal storage, transport, or disposal of hazardous waste, asbestos demolition, removal, and disposal, or chemical spills, with the additional crime of failure to notify officials of the release of a hazardous substance, in four cases companies were prosecuted for illegally releasing emissions into the ambient environment and failing to report the crime. These cases include the prosecution of the Keebler Corporation, Field Products, Inc., and Dyno Nobel.⁷⁴

The Keebler Corporation was prosecuted for releasing methyl chloride and tetrachloroethylene into the environment without notifying officials.⁷⁵ Fields Product, Inc. was prosecuted when 3,300 gallons of xylene were illegally released from a plant that manufactures roofing materials.⁷⁶ Dyno Nobel, Inc. was prosecuted for discharging more than six tons of anhydrous ammonia vapor into the ambient air and failing to notify officials of the release under the CERCLA.⁷⁷

⁷² HCI Chemtech, *supra* note 69 (the company was sentenced to 36 months of probation, ordered to pay \$21,200 in restitution, and fined \$175,000).

⁷³ Pac. Tank Cleaning, Inc., *supra* note 69 (the company was sentenced to serve 36 months of probation, fined \$50,000, and ordered to pay \$11,239 in restitution).

⁷⁴ Keebler Corp., No. 86-104 (D. Colo., 1984); Field Products, Inc., No. CR 93-2244T (W.D. Wash., 1993); Dyno Nobel, Inc., No. CR-63-SI (D. Or., 2018). *See also Summary of Criminal Prosecutions*, EPA,

https://cfpub.epa.gov/compliance/criminal_prosecution/index.cfm?action=3&prosecution_summary_id=196; *Summary of Criminal Prosecutions*, EPA,

https://cfpub.epa.gov/compliance/criminal_prosecution/index.cfm?action=3&prosecution_summary_id=522; *Summary of Criminal Prosecutions*, EPA,

https://cfpub.epa.gov/compliance/criminal_prosecution/index.cfm?action=3&prosecution_summary_id=3095.

⁷⁵ Keebler Corp., *supra* note 74 (the company was charged for failure to notify under CERCLA, sentenced to six months of probation, fined \$5,000, and ordered to pay a \$100 fee. In this case, we assumed, based on the chemical released, that the crime charged was an emissions crime; however, it is possible that the crime fell under another category).

⁷⁶ Field Products, Inc., *supra* note 74 (the company was charged with failure to notify under CERCLA and sentenced to 60 months' probation and fined \$200,000).

⁷⁷ Dyno Nobel, Inc., *supra* note 74 (Dyno Nobel was charged with failure to notify under CERCLA and was sentenced to two years' probation and fined \$250,000); Koch Indus., Inc., *supra* note 2 (Koch Industries was prosecuted for unpermitted benzene emissions).

V. DISCUSSION

The first significant finding in our analysis is that companies were assessed significant penalties at sentencing. A total of sixty-eight years of probation and over \$47 million in penalties were ordered at sentencing, suggesting prosecutors were able to achieve significant results. However, when placed in context, only forty-one prosecutions have taken place since 1983 and two prosecutions make up about eight-three percent of total monetary penalties in our analysis, which shows that the chance of prosecution for Superfund crimes is not terribly significant over time and the probability of receiving a significant penalty at sentencing is also very low. Both of these findings bring into question the overall deterrent power of criminal prosecution for Superfund crimes over time as a mechanism to punish and deter companies that violate the law.⁷⁸

A second finding is that many of the Superfund crimes we analyzed involved significant harm or culpable conduct and a series of aggregating factors. Quantifying these factors is difficult, but if we consider the prevalence of criminal charges in the cases, such as conspiracy, false statements, obstruction, or fraud, we find that a total of fifty-one percent of prosecutions in our analysis contain one or more of these crimes. This finding tends to support past research of the role aggregating factors, such as significant harm and operating outside of the regulatory system, play in the criminal prosecution of environmental crimes.⁷⁹

A third finding of importance is that Superfund prosecutions tend not to follow a linear pattern from the 1980s to present time. In the 1980s, fifteen prosecutions were adjudicated. There was a slight increase in the 1990s, during which sixteen prosecutions were adjudicated. Nonetheless, any momentum of prosecutors using the CERCLA to charge companies for failure to notify in criminal prosecutions seemed to

⁷⁸ This statement would only be true if taken in isolation. The prosecution of companies for related crimes under the CAA, CWA, RCRA and other federal statutes takes place alongside or without using CERCLA to charge offenders, as do state and federal civil judicial remedies and other administrative remedies. See Michael J. Lynch, *The Sentencing/Punishment of Fed. Env't./Green Criminal Offenders, 2000-2013*, 38 DEVIANT BEHAV. 991, 991–95 (2017).

⁷⁹ For studies showing the role of aggregating factors, see David M. Uhlmann, *Prosecutorial Discretion and Environmental Crime*, 38 HARV. ENV'T L. REV. 159 (2014); David M. Uhlmann, *Prosecutorial Discretion and Environmental Crime Redux: Charging Trends, Aggravating Factors, and Individual Outcome Data For 2005-2014*, 8 MICH. J. OF ENV'T & ENERGY L. 297 (2019).

have waned by the end of that decade. From 2000 to 2009, only five prosecutions were adjudicated, with the same from 2010 to 2021. However, it may also follow a broader trend of structural disinvestment in environmental enforcement recognized in other research.⁸⁰ We explore this phenomenon in a bit more detail below.⁸¹

CONCLUSION

As the last thirty years have demonstrated, the EPA's successful advocacy for criminal enforcement regulations has provided the agency credibility and stability even during periods of political hostility. In the 1980s, despite defunding by the Reagan administration, the EPA managed to enhance and standardize sentencing guidelines and hire and train prosecutors specializing in environmental prosecutions.⁸² During the 1980s, bipartisanship was strong enough, at least in the realm of enhancing and standardizing sentencing guidelines, that criminal provisions made their way into environmental law, environmental policing resources were institutionalized within the EPA, and prosecutors were hired and trained to specialize in environmental crime prosecutions within DOJ.⁸³ These changes allowed the criminal enforcement apparatus to institutionalize and even grow throughout the 1990s.⁸⁴ While efforts by the Trump Administration reduced staff at the EPA and interfered with enforcement, the agency was not completely undermined, as it continued to operate, albeit in a restricted manner, in a difficult political situation..⁸⁵ As with the CERCLA, a broader trend of

⁸⁰ Ozymy et al., *supra* note 48, at 49.

⁸¹ For a discussion on this topic, see Joel A. Mintz, *Running on Fumes: The Development of New EPA Regulations in an Era of Scarcity*, 46 ENV'T L. REP. 10510, 10510-19 (2016).

⁸² Cally Carswell, *How Reagan's EPA Chief Paved the Way for Trump's Assault on the Agency*, THE NEW REPUBLIC (Mar. 21, 2017), <https://newrepublic.com/article/141471/reagans-epa-chief-paved-way-trumps-assault-agency>; John Peter Suarez, *Management Review of the Office of Criminal Enforcement, Forensics and Training* (Dec. 15, 2003), <https://www.epa.gov/sites/production/files/documents/oceft-review03.pdf> (when tapped to run EPA, Anne Gorsuch (Buford) functionally abolished criminal enforcement; its functions were dispersed and distributed across the agency until she was removed from office).

⁸³ Mushal, *supra* note 22, at 1107-14.

⁸⁴ *Id.*

⁸⁵ Carswell, *supra* note 82. Trump's war on EPA did have serious effects, the most underappreciated of which is the effect on organizational morale. While it may have been fruitful to unite current and former staffers in opposition to many of these assaults, the

declining prosecutions against companies is present with other statutes.⁸⁶

A brief examination of budgetary support over time, when adjusted for inflation, shows structural disinvestment occurring across parties. For example, while the high water mark for staffing at the EPA was 18,110 in 1999, the high point for budgetary support, adjusted for inflation, occurred between 1978-1980.⁸⁷ Similarly, the ENRD's budget has been stagnant for many years or, if considering inflationary pressures, declining in real terms.⁸⁸ The current push by the Biden Administration demonstrates the problems of expecting Democratic Presidents to make structural investments in environmental agencies and enforcement that will offset this long term trend of disinvestment. The enacted federal budget for FY 2022 for the ENRD at \$133 million and \$9.5 billion for the EPA does not come close to reversing this trend. With funding for an additional 1,025 staff at EPA, numbers do not compare to the high-water mark of the Clinton Era.⁸⁹

aftermath left the agency even further understaffed and underfunded. *See* Elgie Holstein, *The Severe, Real-World Casualties of Trump's EPA Budget Cuts*, ENV'T DEF. FUND (Mar. 3, 2017), <https://www.edf.org/blog/2017/03/03/severe-real-world-casualties-trumps-epa-budget-cuts>;

Jay Michaelson, *The Ten Worst Things Scott Pruitt's EPA Has Already Done*, THE DAILY BEAST (Apr. 28, 2017), <https://www.thedailybeast.com/the-ten-worst-things-scott-pruitts-epa-has-already-done>; Valerie Volcovici, *U.S. EPA Employees Protest Trump's Pick to Run Agency*, REUTERS, (Feb. 6, 2017), <https://www.reuters.com/article/usa-epa-pruitt-idUSL1N1FR1NZ>; Env't Integrity Project, *Trump's War on the Environment*, <https://environmentalintegrity.org/trump-watch-epa/> (last visited Apr. 22, 2023).

⁸⁶ Enforcement received support during the George W. Bush Administration, but these resources became strained after being redirected to the war on terror. *See* David M. Uhlmann, *Strange Bedfellows*, 25 ENV'T L. F. 40, (2008); Mushal, *supra* note 22, at 1107; Joel A. Mintz, *Neither the Best of Times Nor the Worst of Times: EPA Enforcement During the Clinton Administration*, 35 ENV'T L. REP. 10390, (2005).

⁸⁷ Comparing fiscal years 1970-2023. *See* EPA's Budget and Spending, EPA, <https://www.epa.gov/planandbudget/budget> (last visited Apr. 22, 2023); Coin News Media Grp., *U.S. Inflation Calculator*, <https://www.usinflationcalculator.com/> (last visited Apr. 22, 2023).

⁸⁸ Comparing reports through 2022. *See* Budget and Performance, U.S. Dep't of Just. <https://www.justice.gov/doj/budget-and-performance> (last visited April 16, 2023); *Environment and Natural Resources Division: FY 2023 Performance Budget*, U.S. Dep't of Just., <https://www.justice.gov/jmd/page/file/1491706/download> (last visited April 16, 2023).

⁸⁹ *Statement by Administrator Regan on the President's FY 2022 Budget*, EPA (June 2, 2021) <https://www.epa.gov/newsreleases/statement-administrator-regan-presidents-fy-2022-budget>.