

**IN RE NEW JERSEY DEPARTMENT OF
ENVIRONMENTAL PROTECTION DIRECT
OVERSIGHT DETERMINATION AGAINST
SOLVAY SPECIALTY POLYMERS USA,
LLC**

SUPERIOR COURT OF NEW JERSEY
APPELLATE DIVISION

DOCKET NO. A-000635-20T4

CIVIL ACTION

ON APPEAL FROM ACTION OF
THE COMMISSIONER,
DEPARTMENT OF
ENVIRONMENTAL PROTECTION

**AMICUS BRIEF ON BEHALF OF THE NEW JERSEY
CHAPTER OF THE SIERRA CLUB
IN SUPPORT OF
NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION**

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STATEMENT OF INTEREST OF AMICUS

The Sierra Club is a national, member-supported environmental organization which advocates for clean air, clean water, and protection of public health. The New Jersey Chapter of the Sierra Club has approximately 20,000 members and is the 10th largest of the 65 chapters in the USA, Canada, and Mexico. The mission of the Sierra Club New Jersey Chapter includes promoting the responsible use of the earth's ecosystems and resources and working to protect and restore the quality of the natural and human environments. In pursuit of this mission, it advocates for sound environmental policy, organizes outings to appreciate the wilderness, facilitates social interactions among members, and pursues litigation to protect public health and the environment when necessary.

There are 196 members of the Sierra Club New Jersey Chapter who are residents of Gloucester County and are directly affected by the PFAS contamination of their drinking water and of the surrounding natural environment. As amicus curiae, the Sierra Club New Jersey Chapter submits this brief to advise the Court of the harms that the PFAS contamination has wrought on its members and all New Jersey residents and the need to regulate the release and cleanup of these hazardous substances.

PRELIMINARY STATEMENT

New Jersey has one of the worst PFAS contamination problems in the nation.¹ Between 2007 and 2009, PFNA (a PFAS chemical) levels were higher than any other samples in the world.² Solvay Specialty Polymers USA, LLC ("Solvay") has released dangerous PFAS chemicals into New Jersey's environment for decades and thereby polluted the state's natural resources, worsened air quality, and threatened the public health of the communities around its site in West Deptford Township. As the dominant user of PFAS in the area, Solvay is responsible for the record setting levels of PFNA (a PFAS chemical) contamination near the site. Solvay's operations at its facility in West Deptford have led to the deterioration of the drinking water supply and created ongoing public health risks for the surrounding communities.

The New Jersey Department of Environmental Protection ("DEP") has determined that portions of West Deptford Township³

¹ David Q. Andrews & Olga V. Naidenko, *Population-Wide Exposure to Per- and Polyfluoroalkyl Substances from Drinking Water in the United States*, 7 ENVIRON. SCI. TECHNOL. LETT. 931, 933 (peer-reviewed study conducted by the Environmental Working Group that found drinking water contamination in New Jersey was one of the worst in the country).

² A. RONALD MACGILLIVRAY, DEL. RIVER BASIN COMM'N, CONTAMINANTS OF EMERGING CONCERN IN THE TIDAL DELAWARE RIVER: PILOT MONITORING SURVEY 2007-2009 32 (2012).

³ N.J. DEP'T OF ENVTL. PROT., OVERBURDENED COMMUNITIES UNDER THE NEW JERSEY ENVIRONMENTAL JUSTICE LAW: GLOUCESTER COUNTY & WEST DEPTFORD BOROUGH, (May 20, 2021), <https://www.nj.gov/dep/ej/docs/communities/gloucester-west-deptford-twp-maps->

and nearby Paulsboro Borough,⁴ a municipality less than two miles away from Solvay's West Deptford site, are Overburdened Communities under New Jersey's Environmental Justice Law.⁵ An "overburdened community" is defined in New Jersey's groundbreaking Environmental Justice Act as any census block in the state in which "(1) at least 35 percent of the households qualify as low-income households; (2) at least 40 percent of the residents identify as minority or as members of a State recognized tribal community; or (3) at least 40 percent of the households have limited English proficiency." Environmental Justice Law, N.J.S.A. 13:1D-158 § 2. The Environmental Justice Act seeks to prevent any community from bearing more than its fair share of environmental impacts.⁶ Solvay's actions have made these communities even more vulnerable. Instead of collaborating with DEP and community members to remedy the problems it has caused, Solvay has impeded DEP's investigative efforts and withheld information about its chemicals under the guise of a

obc.pdf (map); N.J.S.A. § 13:1D-157 (underlying Environmental Justice statute).

⁴ N.J. DEP'T OF ENVTL. PROT., OVERBURDENED COMMUNITIES UNDER THE NEW JERSEY ENVIRONMENTAL JUSTICE LAW: GLOUCESTER COUNTY & PAULSBORO BOROUGH, (May 20, 2021), <https://www.nj.gov/dep/ej/docs/communities/gloucester-paulsboro-boro-maps-obc.pdf> (map); N.J.S.A. § 13:1D-157 (underlying Environmental Justice statute).

⁵ Environmental Justice Law, N.J.S.A. 13:1D-158 § 2.

⁶ Id.

confidential business information claim. Solvay's actions necessitate that DEP use its ample authority to place the West Deptford site under its direct oversight.

PROCEDURAL HISTORY AND COUNTERSTATEMENT OF FACTS

Amicus adopts the entirety of the "Procedural History and Counterstatement of Facts" from Respondent DEP's brief filed in this court on May 24, 2021 as supplemented below.

1. PFAS Chemicals Are Hazardous Substances with a Litany Of Adverse Effects on Public Health and the Environment.

Poly- and perflouroalkyl substances, collectively known as "PFAS" chemicals or PFASs, are man-made, non-naturally occurring chemicals that have been used in the United States since the 1940s.⁷

DEP has adopted regulations under the Safe Drinking Water Act ("SDWA") establishing maximum contaminant levels ("MCLs") for two PFAS chemicals used at the Solvay plant - PFNA and PFOA. Both MCLs were recommended by the New Jersey Drinking Water Quality Institute, and both were set at 13 µg/liter or 13 parts per trillion ("ppt"). In September 2018, DEP adopted an MCL for PFNA of 13 ppt. 50 N.J.R. 1939(a) (September 4, 2018). In June 2020, DEP adopted an MCL for PFOA of 13 ppt. 52 N.J.R. 1065(b) (June 1, 2020). The MCLs are codified at N.J.A.C. 7:10-

⁷ U.S. EPA, Basic Information on PFAS (2016), <https://www.epa.gov/pfas/basic-information-pfas>.

5.2(a)5(i) and (a)5(ii), respectively. DEP also adopted both these MCLs in DEP's Groundwater Standards at N.J.A.C. 7:9C-1.1, et seq., Appendix, Table 1. PFNA is also included on DEP's list of hazardous substances. N.J.A.C. 7:1E, Appendix A.

2. PFAS Chemicals Harm Human Health

The ingestion of food and drink is the primary pathway for PFAS exposure in humans.⁸ The presence of PFAS chemicals in groundwater and drinking water pose a sizable threat to human health. The Centers for Disease Control and Prevention ("CDC") have stated that PFAS exposure is linked to pregnancy-induced hypertension and/or pre-eclampsia, decreases in birth weight, increases in cholesterol, increased risk of thyroid disease, decreased antibody responses to vaccines, increased risk of decreased fertility, and increased risk of being diagnosed with asthma.⁹ Perfluorooctanoic acid ("PFOA"), a PFAS chemical, has been classified by the International Agency for Research on

⁸ See, e.g., Poothang et al., *Multiple pathways of exposure to poly- and perfluoroalkyl substances (PFASs): From external exposure to human blood*, 134 ENVTL. INT'L 105244 (2020), <https://doi.org/10.1016/j.envint.2019.105244> (relying upon evidence from multiple studies which tend to show that food and drink is the primary pathway of exposure).

⁹ N.J. DRINKING WATER QUALITY INST., N.J. DEP'T OF ENVTL. PROT., MAXIMUM CONTAMINANT LEVEL RECOMMENDATIONS FOR PERFLUORONONANOIC ACID IN DRINKING WATER: BASIS & BACKGROUND 3 (2015), <https://www.nj.gov/dep/watersupply/pdf/pfna-recommend-final.pdf> (noting negative health effects of PFNA); AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY, U.S. DEP'T. OF HEALTH AND HUMAN SERVICES, TOXICOLOGICAL PROFILE FOR PERFLUOROALKYLS: DRAFT FOR PUBLIC COMMENT 25 (2018). ATSDR develops toxicological profiles pursuant to the statutory mandate under CERCLA. *Id.*, at ii-iii. The draft profile represents ATSDR's best scientific understanding of the toxicological effects of perfluoroalkyls. *Id.* The agency sought comments from health professionals, and notice of availability was published in the federal register. Availability of Draft Toxicological Profile, 83 Fed. Reg. 28849 (June 21, 2018).

Cancer, the specialized cancer agency of the World Health Organization, as possibly carcinogenic, and drinking water contaminated by PFOA has been linked to increased rates of kidney and testicular cancers in communities residing near chemical plants.¹⁰

Children are at a particular risk of harm caused by exposure to PFAS chemicals. PFOA may be transferred to unborn children via the umbilical cord.¹¹ Breastfeeding increases the transfer of PFOA to infants.¹² Furthermore, experimental evidence supports the possibility that exposure to PFASs in early infancy may affect the development of the immune system and may lead to decreased vaccine response later in life.¹³ CDC has found that PFAS exposure may also lead to decreased vaccine response in children.¹⁴ In short, children, who are exposed to PFAS through multiple pathways, may be particularly harmed by PFAS exposure.

¹⁰ Elsie M. Sunderland et al., *A Review of the Pathways of Human Exposure to Poly- and Perfluoroalkyl substances (PFASs) and present understanding of health effects*, 29 J. OF EXPOSURE SCI. & ENVTL. EPIDEMIOLOGY 131, 139 (2019).

¹¹ U.S. EPA, 822-R-16-005, DRINKING WATER HEALTH ADVISORY FOR PERFLUOROOCCTANOIC ACID (PFOA) at 19, 27 (May 2016), https://www.epa.gov/sites/production/files/2016-05/documents/pfoa_health_advisory_final_508.pdf.

¹² *Id.*

¹³ Philippe Grandjean, et al., *Estimated Exposures to Perfluorinated Compounds in Infancy Predict Attenuated Vaccine Antibody Concentrations at Age 5-Years*, 14 J. OF IMMUNOTOXICOLOGY 188, 188-195 (2017).

¹⁴ AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY, *What are the Health Effects of PFAS?*, (June 24, 2020), <https://www.atsdr.cdc.gov/pfas/health-effects/index.html>.

3. PFAS Chemicals Harm the Environment.

The "natural resources" of the State, including "all land, fish, shellfish, wildlife, biota, air, water, and other such resources owned, managed, held in trust, or otherwise controlled by the State" are put at risk by PFAS contamination. N.J.S.A. § 58:10-23.11b (defining "natural resources"). Groundwater has been contaminated by PFAS.¹⁵ The State's surface waters are likewise damaged by PFAS contamination.¹⁶

PFAS chemicals continue to be detected in upper-trophic level¹⁷ aquatic biota and wildlife. The detection of PFASs in the tissues of fish and piscivorous wildlife shows bioaccumulation¹⁸ and biomagnification¹⁹ in aquatic food webs.²⁰ PFAS chemicals bind to the muscle tissue of fish, decreasing survival rates.²¹ Furthermore, bioaccumulation of these hazardous substances has

¹⁵ DIV. OF WATER SUPPLY, N.J. DEP'T OF ENVTL. PROT., DETERMINATION OF PERFLUOROOCTANOIC ACID (PFOA) IN AQUEOUS SAMPLES: FINAL REPORT 5, at 4. (2007).

¹⁶ *Id.*

¹⁷ According to the EPA, "The trophic level of a receptor is the position it occupies in a food chain." U.S. EPA, *EPA EcoBox Tools by Exposure Pathways - Food Chains*, (Mar. 11, 2021), <https://www.epa.gov/node/149563/view>.

¹⁸ "Bioaccumulation is the general term describing a process by which chemicals are taken up by a plant or animal either directly from exposure to a contaminated medium (soil, sediment, water) or by eating food containing the chemical." *Id.*

¹⁹ "Related terms are . . . biomagnification, in which chemical levels in plants or animals increase from transfer through the food web (e.g., predators have greater concentrations of a particular chemical than their prey)." *Id.*

²⁰ McCarthy et al., *Ecological Considerations of Per- and Polyfluoroalkyl Substances (PFAS)*, 3 *Curr Pollution Rep* 289-301 (2017), <http://link.springer.com/10.1007/s40726-017-0070-8>.

²¹ DIV. OF SCI., RESEARCH, & ENVTL. HEALTH, N.J. DEP'T OF ENVTL. PROT., SR15-010, INVESTIGATION OF LEVELS OF PERFLUORINATED COMPOUNDS IN NEW JERSEY FISH, SURFACE WATER, AND SEDIMENT 2-3 (2018); F.A. Gunther et al., *Aquatic Toxicology of Perfluorinated Chemicals*, 202 *REV. OF ENVTL. CONTAMINATION AND TOXICOLOGY* 1-52, 29 (2010).

caused several bird species to have difficulty breeding.²² Given the resistance of PFAS to degradation, as discussed immediately below, these harms are particularly severe.

4. PFAS Chemicals Are Labeled as "Forever Chemicals" Because They Are Ubiquitous and Resistant to Environmental Degradation.

According to the CDC, more than 95 percent of the residents of the United States have PFASs in their bodies.²³ PFASs are highly persistent in the environment, and because they are resistant to metabolic and environmental degradation, they are often referred to as "forever chemicals."²⁴

PFAS chemicals are found in drinking water (typically localized and associated with a specific facility); food (packaged in PFAS-containing materials or grown in PFAS-contaminated soil or water); and living organisms, including, as indicated above, humans.²⁵ A 2020 study conducted by the Environmental Working Group estimated that more than 200 million Americans use tap water contaminated with a mixture of PFOA and PFOS.²⁶ According to sampling done by NJDEP in 2009 and 2010, 67

²² See, e.g., Purbita Saha, *Birds are Living Proof That 'Forever Chemicals' Pollute Our Water Supplies*, AUDUBON (Summer 2019), <https://www.audubon.org/magazine/summer-2019/birds-are-living-proof-forever-chemicals-pollute> (Describing reduced hatching in certain species of birds).

²³ CDC, *Per- and Polyfluorinated Substances (PFAS) Factsheet* (Apr. 7, 2017), https://www.cdc.gov/biomonitoring/PFAS_FactSheet.html.

²⁴ Konwick et al., *Concentrations and Patterns of Perfluoroalkyl Acids in Georgia, USA, Surface Waters Near and Distant to a Major Use Source*. ENV'T'L TOXICOL. CHEM. (2008).

²⁵ U.S. EPA Basic Information on PFAS, *supra* note 7.

²⁶ Andrews & Naidenko, *supra* note 1, at 931-36.

percent of drinking water samples taken from 20 out of 21 counties in New Jersey contained at least one compound from the PFAS class of chemicals.²⁷ One study in 2018 of eleven sites found that all surface water samples and most sediment samples across New Jersey contained multiple PFAS chemicals.²⁸

5. Solvay's Use of PFAS Chemicals Has Been Extensive.

Solvay is a fluoropolymer manufacturer with a plant in West Deptford Township, New Jersey.²⁹ In its manufacturing of a specialty plastic ("PVDF"), Solvay used sodium perfluorooctanoate ("NaPFO") as an emulsifier at its West Deptford site.³⁰ NaPFO degrades into PFOA which contaminates the surrounding area.³¹

Solvay also used a substance called Surflon-111 in its manufacturing process. Surflon-111 is about 74 percent Perfluorononanoic acid ("PFNA"), a PFAS chemical.³² At its West

²⁷ N.J. DEP'T OF ENVTL. PROT., OCCURENCE OF PERFLUORINATED CHEMICALS IN UNTREATED NEW JERSEY DRINKING WATER SOURCES: FINAL REPORT 13 (Apr. 2014).

²⁸ INVESTIGATION OF LEVELS OF PERFLUORINATED COMPOUNDS, *supra* note 21.

²⁹ ABOUT, SOLVAY, <https://www.solvay.com/en/our-company>. Solvay Specialty Polymers USA, LLC is a subsidiary of the international Solvay S.A. company. In this brief, "Solvay" will refer to Solvay Specialty Polymers USA, LLC., not the parent company.

³⁰ Solvay Specialty Polymers USA, LLC., *Perfluoroalkyl Compound Investigation Report: West Deptford Plant* 3-9 (June 30, 2017).

³¹ *Giordano v. Solvay Specialty Polymers U.S., LLC*, 1:19-cv-21573-NLH-KMW (D.N.J. Feb. 26, 2021) (Holding that New Jersey plaintiffs sufficiently pleaded claims against Solvay, 3M, DuPont, and Arkema for water contamination).

³² NEW JERSEY DRINKING WATER QUALITY INSTITUTE HEALTH EFFECTS SUBCOMMITTEE, HEALTH-BASED MAXIMUM CONTAMINANT LEVEL SUPPORT DOCUMENT: PFNA 3 (June 22, 2015), <https://www.nj.gov/dep/watersupply/pdf/pfna-health-effects.pdf>.

Deptford plant, beginning in 1991,³³ Data provided to DEP about PFAS use at the West Deptford plant indicate that Solvay released huge quantities of Surflon (86.6 percent of the 125,069 kg of Surflon-111 - thus PFNA) used there between 1991 and 2010 into the surrounding air and water.³⁴ Solvay continued to use PFNA until 2010, one year after DEP detected the contaminant in public water supplies in the area.³⁵

In or before 2010, Solvay switched to a replacement chemical for PFNA for the production of PVDF.³⁶ Scientists have classified the "replacement" as a type of chloroperfluoropolyether carboxylate ("ClPFPECA") (hereinafter "replacement chemical").³⁷ In 2018, Solvay disclosed to DEP that it had emitted and discharged the replacement chemical at its West Deptford site into New Jersey's air and water for many years.³⁸ Solvay began using the replacement chemical before it stopped using either PFNA or PFOA.³⁹ In a 2020 study, scientists detected the replacement chemical in every soil sample they

³³ Thomas R. Bugey on behalf of Solvay Specialty Polymers, *West Deptford Plant Perfluorocarbon Usage Spreadsheet* (Nov. 15, 2013).

³⁴ Bugey, *supra* note 33.

³⁵ Letter from Charles M. Jones, West Deptford Site Manager, Solvay Specialty Polymers USA, LLC., to TSCA Confidential Business Information Center (Dec. 22, 2015) ("Solvay ceased its use of PFNA in 2010").

³⁶ Bugey, *supra* note 33.

³⁷ Wang et al., *Fluorinated alternatives to long-chain perfluoroalkyl carboxylic acids (PFCAs), perfluoroalkane sulfonic acids (PFASs) and their potential precursors*, 60 ENV'T INT'L 242, 242-248 (2013).

³⁸ Steve C. Gold & Wendy E. Wagner, *Filling gaps in science exposes gaps in chemical regulation*, 368 SCI. 1066 (2020).

³⁹ *Id.*

tested from New Jersey, concluding that their data “strongly suggest atmospheric release” of the chemical from Solvay’s West Deptford site.⁴⁰

Despite the prevalence of this new chemical, little is known about its properties and effects. Specifically, little, if anything, is known about the physicochemical properties, the (bio)degradability, the bioaccumulation potential, the (eco)toxicity, the production and release, and the level of environmental and human exposure of Solvay’s replacement chemical.⁴¹ Solvay nevertheless has continued to use this replacement chemical.

6. Solvay Continues to Use PFAS Chemicals in Vulnerable Communities.

New Jersey is among the most contaminated states with PFAS chemicals.⁴² Solvay is a major contributor to this contamination. A joint study by DEP and USEPA of the area around Solvay’s West Deptford plant found consistently elevated levels of legacy PFAS chemicals, which researchers concluded originated from “a regional, industrial PFAS user.”⁴³ Given Solvay’s decades-long

⁴⁰ Washington et al., *Nontargeted mass-spectral detection of chloroperfluoropolyether carboxylates in New Jersey soils*, 368 SCI. 1103 (2020).

⁴¹ Wang, *supra* note 37, at 244.

⁴² Andrews & Naidenko, *supra* note 1, at 931, 933.

⁴³ James P. McCord et al., *Emerging Chlorinated Polyfluorinated Polyether Compounds Impacting the Waters of Southwestern New Jersey Identified by Use of Nontargeted Analysis*, 7 ENV’T SCI. TECHNOL. LETT. 903-908, 906 (2020), <https://doi.org/10.1021/acs.estlett.0c00640>.

history manufacturing products containing PFAS compounds, DEP is close to scientifically certain this industrial user is Solvay.⁴⁴

In 2009, DEP found PFNA levels of 96 parts per trillion (“ppt.”) in the water supply of Paulsboro Borough,⁴⁵ a municipality less than two miles away from Solvay’s West Deptford site and which DEP has designated as an Overburdened Community under New Jersey’s Environmental Justice Law.⁴⁶ DEP had not established a standard for safe amounts of PFNA in 2009, but in 2015 the New Jersey Drinking Water Quality Institute recommended a health-based maximum contaminant level (“MCL”) for PFNA of 13 ppt.⁴⁷ DEP has now adopted standards that set an MCL for PFOA and PFNA.⁴⁸ These MCLs are both set at 13 ppt. To determine these standards, the Drinking Water Quality Institute’s Health Effects Subcommittee examined sampling data from around New Jersey and considered scientific studies of the negative health effects of PFAS chemicals in mice and rats, including the higher prevalence of tumors in animals exposed to PFAS.⁴⁹ The 96 ppt. level of PFNA found in Paulsboro’s water

⁴⁴ Buggey, *supra* note 33.

⁴⁵ OCCURENCE OF PERFLUORINATED CHEMICALS IN UNTREATED NEW JERSEY DRINKING WATER SOURCES: FINAL REPORT, *supra* note 27, at 9.

⁴⁶ See, *supra* note 4.

⁴⁷ MAXIMUM CONTAMINANT LEVEL RECOMMENDATIONS FOR PERFLUORONONANOIC ACID IN DRINKING WATER, *supra* note 32.

⁴⁸ See, *supra* at pp. 4-5.

⁴⁹ Ground Water Quality Standards and Maximum Contaminant Levels for Perfluorooctanoic Acid (PFOA) and Perfluorooctanesulfonic Acid (PFOS), 51 N.J.R. 437(a) (proposed Apr. 1, 2019) (final rule published at 52 N.J.R. 1165(b)) (codified at N.J.A.C. § 7:9C).

supply was in excess of the recommended MCL of 13 ppt., and this “forever chemical” still lingers in Paulsboro.

7. Industry and Solvay Have Withheld Information from Regulatory Agencies.

Industry has historically withheld information from regulatory agencies. The first known study showing that PFAS chemicals build up in the human blood stream was conducted by 3M in 1950.⁵⁰ Similar studies exposing the toxicity of PFAS chemicals were performed by 3M and DuPont through at least 2003.⁵¹ However, no data was shared with the USEPA until around 1998.⁵² Solvay began animal tests on PFAS toxicity as early as 1998 and human tests in 2011.⁵³ In a 2011 study on lab rats, Solvay found numerous health effects from its replacement chemical, including reproductive organ effects, liver damage, and lung toxicity.⁵⁴ Yet, according to documents submitted to EPA by Solvay, Solvay waited years to disclose the results of any

⁵⁰ *State of Minnesota v. 3M Co.* (Hennepin Cnty. Dist. Ct., Minn. 2018) (No.27-CV-288862), Exhibit 1009, <https://www.ewg.org/pfastimeline>.

⁵¹ ENVIRONMENTAL WORKING GROUP, *For Decades, Polluters Knew PFAS Chemicals Were Dangerous But Hid Risks From Public*, <https://www.ewg.org/pfastimeline>.

⁵² *State of Minnesota v. 3M Co.*, Court File No.27-CV-288862, *Science Publication Strategy*, Exhibit 1535, <https://www.ewg.org/pfastimeline>.

⁵³ See Study 1: 4-Week Oral Toxicity Study in Rats Followed by a 2-Week Recovery Period (March 4, 2011), <https://foiaonline.gov/foiaonline/api/request/downloadFile/Study%201.pdf/d87762b0-057f-4209-b967-8e665c1465ae> (a letter to EPA from Solvay in 2011 describing the rat toxicity tests done in 2005-6); Letter from Solvay Specialty Polymers, to Greg Schweer, Chief, New Chemicals Management Branch, Env't Prot. Agency, re: 15-Day Notice Under 40 C.F.R. § 723.50(i) (Dec. 23, 2019), <https://foiaonline.gov/foiaonline/api/request/downloadFile/Study%209.pdf/15a2e80d-ee08-432f-8eec-39b03d584ebf> (a 2019 letter to EPA from Solvay describing the human tests).

⁵⁴ *Id.*

testing to EPA, DEP, or the local communities whose health is at stake.⁵⁵ At the same time, Solvay's Safety Data Sheets⁵⁶ indicated "a potential for human toxicity when exposed to [the replacement chemical]."⁵⁷ DEP has not determined that there is a safe dose for the replacement chemical.⁵⁸

8. Solvay Withheld Disclosure of its Use of "Replacement" Chemicals by Designating Them "Confidential Business Information."

Solvay has asserted that the specific chemical identities of the "replacement" PFAS compounds Solvay has been using and discharging in West Deptford are confidential, trade secret, and proprietary.⁵⁹ Solvay has made the same claim regarding emissions information, Safety Data Sheets, and

⁵⁵ *Id.*

⁵⁶ Safety Data Sheets are required by OSHA under the Hazard Communication Standard. They are standardized documents that contain occupational safety and health data. The Safety Data Sheets include chemical properties, health and environmental hazards, protective measures, and safety precautions for storing, handling, and transporting chemicals. OSHA, HAZARD COMMUNICATION STANDARD: SAFETY DATA SHEETS, <https://www.osha.gov/sites/default/files/publications/OSHA3514.pdf>.

⁵⁷ N.J. Dep't of Env'tl. Protection, email from Erica Bergman to Timothy Buckley, Director of Exposure Methods & Measurements Div., EPA (June 25, 2019) (accessible online), <https://assets.documentcloud.org/documents/7328854/NJDEP-Toxicity-Email.pdf>.

⁵⁸ McCord, *supra* note 43, at 903 ("The absolute concentration of these chemicals cannot be determined without reference standards, which are unavailable due to the lack of a commercial vendor and the proprietary nature of the chemicals"). The lack of a safe standard is apparent in N.J. DRINKING WATER QUALITY INST., N.J. DEP'T OF ENVTL. PROT., MAXIMUM CONTAMINANT LEVEL RECOMMENDATIONS FOR PERFLUORONONANOIC ACID IN DRINKING WATER: BASIS & BACKGROUND 3 (2015), *supra* note 33; https://www.state.nj.us/dep/watersupply/g_boards_dwqi.html.

⁵⁹ Brief of Solvay Specialty Polymers USA, LLC. In Support of Motion for Stay Pending Appeal, New Jersey Department of Environmental Protection v. Solvay Specialty Polymers USA, LLC. No. A-000635-20(2020), at 12 ("After 2010, Solvay primarily used three proprietary PFAS process aids in its operations".)

toxicology and toxicokinetic studies that describe the health and environmental risks they pose.⁶⁰ Nonetheless, replacement chemicals are being and have been discharged to the water and air for a decade.⁶¹

When DEP received toxicology studies for the replacement chemicals from Solvay in 2019,⁶² documents such as the Safety Data Sheets were marked as CBI, and Solvay redacted the trade names of the chemicals.⁶³ Information regarding chemical structure and biological activities as well as access to analytical standards is not publicly available for chemicals protected as CBI.⁶⁴ Amicus is aware of no public data regarding whether the chemicals subject to CBI have been fully tested before they are put into commercial use. "Scientists and civil society organizations ... supplement regulators and industry, [and assist in] conducting monitoring activities and research into the environmental fate and potential adverse effects of alternatives."⁶⁵ In the absence of the information withheld by

⁶⁰ *Id.*

⁶¹ Buggiey, *supra* note 33.

⁶² N.J. Dep't of Env'tl. Protection, email from Erica Bergman, to Timothy Buckley, Director of Exposure Methods & Measurements Div., EPA (June 25, 2019) (accessible online), *supra* note 57
<https://assets.documentcloud.org/documents/7328854/NJDEP-Toxicity-Email.pdf>.

⁶³ *Id.*

⁶⁴ Scott Coffin, Holly Wyer & J. C. Leapman, *Addressing The Environmental And Health Impacts Of Microplastics Requires Open Collaboration Between Diverse Sectors*, 19 PLOS BIOLOGY 3 (2021),
<https://journals.plos.org/plosbiology/article?id=10.1371/journal.pbio.3000932>

⁶⁵ Goldstein et al., *Minimizing Chemical Risks*, 2013 U.N. ENV'T PROGRAMME Y.B. 37, U.N. Doc. UNEP/GC.27/INF/2.

Solvay, researchers and environmental agencies performed a nontargeted mass-spectral study, a costly and time consuming method of identification, comparing samples from across New Jersey to samples of the known replacement chemical.⁶⁶ The chemical properties of more than 140 unidentified PFAS chemicals bought and sold in the United States are classified as confidential business information ("CBI").⁶⁷

In November, 2020, DEP sued Solvay demanding that the company allow the state agency to release information about the newly discovered chemicals' effects on health and the environment.⁶⁸ After the state filed the lawsuit, and multiple news organizations filed public records requests and argued that federal law prohibits companies from claiming such studies as confidential business information, Solvay has now agreed to make most of the data and information it supplied to DEP public.⁶⁹

9. Congress, USEPA, Seven States, and the European Union Are Strictly Regulating PFAS Chemicals.

Congress, the federal government, individual states, and the European Union have all adopted laws or regulations that limit

⁶⁶ Washington, *supra* note 40, at 1103.

⁶⁷ U.S. EPA, *Basic Information on PFAS: PFAS Laws and Regulations*, *supra* note 7, <https://www.epa.gov/pfas/pfas-laws-and-regulations>.

⁶⁸ The Intercept, *Solvay Withholds Data about PFAS Pollution in New Jersey*; <https://theintercept.com/2020/11/17/pfas-pollution-new-jersey-solvay/>

⁶⁹ The Intercept, *Contaminants in NJ Soil and Water Are Toxic Records Reveal*; <https://theintercept.com/2020/11/25/solvay-new-jersey-pfas-documents/>

or mitigate the harms caused by PFAS contamination in drinking water. They have done so, in part, because of the danger PFAS contamination poses to vulnerable communities.

a. Congress Has Enacted Legislation to Combat PFAS Contamination

Congress enacted the PFAS Act of 2019 which provides for increased study and monitoring of PFAS contaminants, authorizes \$100,000,000 in revolving loans to address contamination, requires a host of PFAS chemicals to be added to toxic release inventories, and directs the EPA to review and continue PFAS research, among other actions aimed at addressing PFAS contamination. PFAS Act of 2019, Pub. L. No. 116-92, §§7301, 7311, 7312, 7321, 7342, 133 Stat. 1198, 2275-78, 2285-86.

In the 2020 National Defense Authorization Act ("NDAA"), Congress directed the Secretary of Defense to enter into cooperative agreements with states to address PFAS contamination related to military installations. *Id.* at §102, 133 Stat. 1198, 1313 (2020).

Additionally, in January 2020, the U.S. House of Representatives passed the bipartisan H.R.535 - PFAS Action Act of 2019 to address PFAS chemical contamination. This bill requires the EPA to regulate PFAS substances.⁷⁰ The bill identifies the dangers posed by PFAS and directs the EPA to

⁷⁰ PFAS Action Act of 2019, H.R. 535, 116th Cong. (2020).

establish a national drinking water standard for PFAS within two years.⁷¹ The PFAS Action Act mandates that the EPA designate certain PFAS substances as hazardous so that the release of those PFAS substances can be remediated.⁷² It would also require polluters to clean up PFAS contamination under CERCLA.⁷³ A bipartisan coalition of representatives has also recently introduced the PFAS Act of 2021, which contains similar provisions.⁷⁴

b. EPA Is Regulating PFAS Chemicals.

EPA has developed and is pursuing a comprehensive PFAS Action Plan to implement a cross-agency, proactive, and national approach to helping states and communities address the ongoing challenges of PFAS contamination.⁷⁵ In January 2021, EPA issued an Advanced Notice of Proposed Rulemaking seeking comments on EPA's intention to list PFOA as a hazardous substance under

⁷¹ Congressional Research Service Report R45793, PFAS and Drinking Water: Selected EPA and Congressional Actions (Feb 26, 2020), <https://fas.org/sgp/crs/misc/IF11219.pdf>.

⁷² Congressional Research Service Report R45986, Federal Role in Responding to Potential Risks of Per- and Polyfluoroalkyl Substances (PFAS) (Oct. 23, 2019), <https://fas.org/sgp/crs/misc/R45986.pdf>.

⁷³ Phil LaRue, *Earthjustice Celebrates Passage of Bipartisan PFAS Action Act*, EARTHJUSTICE (Jan. 10, 2020), <https://earthjustice.org/news/press/2020/earthjustice-celebrates-passage-of-bipartisan-pfas-action-act>.

⁷⁴ PFAS Action Act of 2021, H.R. 2467, 117th. Cong. (2021).

⁷⁵ U.S. EPA, EPA's Per- and Polyfluoroalkyl Substances (PFAS) Action Plan, EPA 823R18004, Feb. 2019, https://www.epa.gov/sites/production/files/2019-02/documents/pfas_action_plan_021319_508compliant_1.pdf.

CERCLA.⁷⁶ The notice also sought comment regarding whether EPA should list additional PFAS compounds.⁷⁷

c. Seven States Have Adopted Regulations to Control PFAS Chemicals.

Seven states⁷⁸ have adopted regulations to control PFAS substances in drinking water. Like New Jersey, these states have based their regulations on data from scientific studies.⁷⁹

For example, Michigan adopted regulations in 2020 that established a maximum contaminant level (“MCL”) for seven types of PFAS chemicals, including significantly more stringent PFNA and PFOA restrictions than New Jersey.⁸⁰ Mich. Admin. Code. R. 325.10604g (2020). Vermont has adopted regulations that establish an MCL of 20 ppt. for five PFAS chemicals combined.⁸¹ 12-030-003-21 Vt. Code R. § 6-6.12. Recently, Vermont, New

⁷⁶ EPA Advanced Notice of Proposed Rulemaking Addressing PFOA and PFOS in the Environment: Potential Future Regulation Pursuant to CERCLA and RCRA, No. EPA-HQ-OLEM-2019-0341, https://www.epa.gov/sites/production/files/2021-01/documents/frl-10019-13-olem_addressing_pfoa_pfos_anprm_20210113_admin-508.pdf.

⁷⁷ *Id.*

⁷⁸ California, Michigan, New York, New Hampshire, New Jersey, Massachusetts, and Vermont.

⁷⁹ *State-by-State Regulation of PFAS Substances in Drinking Water*, BRYAN CAVE LEIGHTON PAISNER (Jan. 22, 2021), <https://www.bclplaw.com/en-US/insights/state-by-state-regulation-of-pfas-substances-in-drinking-water.html>.

⁸⁰ Six ppt. and eight ppt., respectively. In order to establish this level, various Michigan agencies “conducted a year-long review of current scientific and health data about PFAS and consulted several academic, environmental and business stakeholders in the development of the rules.” MICH. PFAS ACTION RESPONSE TEAM, *Michigan adopts strict PFAS in drinking water standards* (Jul. 22, 2020), https://www.michigan.gov/pfasresponse/0,9038,7-365-86513_96296-534663-,00.html.

⁸¹ These MCLs were set based on testing data from water sources in Vermont and in conjunction with safe levels of PFAS consumption for infants. VT. DEP’T OF ENVTL. CONS., *Regulation of PFAS in Public Drinking Water Systems in Vermont*, (May 19, 2020), <https://dec.vermont.gov/sites/dec/files/PFAS/PFAS-Training-05.19.20.pdf>.

Hampshire, and Michigan have brought lawsuits seeking damages as well as injunctive and declaratory relief against those responsible for the use of PFASs.⁸²

d. The European Union Is Regulating PFAS Chemicals

In 2019, the European Parliament and the Council on Persistent Organic Pollutants (“POPs”) adopted regulations that classify PFOA as a POP.⁸³ These regulations establish that the European Union should seek to prohibit or phase out all uses of PFOA for the purpose of protecting human health and the environment.⁸⁴

The European Commission has also adopted a new European Drinking Water Directive.⁸⁵ The Directive sets out steps to regulate and remediate PFAS substances. The Directive requires the European Commission to establish technical guidelines regarding methods of analysis for PFAS, including detection

⁸² Complaint, *Vermont v. 3M Co.*, (Vt. Super. Ct. June 26, 2019) (No. 547-6-19 Cncv), <https://ago.vermont.gov/wp-content/uploads/2019/06/20190626-SOV-v-3M-et-al-Complaint-NON-AFFF-FILE-STAMPED-COPY.pdf>; Complaint, *New Hampshire v. 3M Co.* (N.H. Super. Ct. May 29, 2019) (No. 216-2019-CV-445), <https://www.courts.state.nh.us/caseinfo/pdf/civil/3M-Chemours-445/3M-Chemours-Complaint.pdf>; Complaint, *Michigan v. 3M Co.*, (Mich. 22nd Cir. Ct. Jan. 14, 2020) (No. 2020____-NZ), https://www.michigan.gov/documents/ag/Complaint_2020-01-14_final_678329_7.pdf.

⁸³ Regulation (EU) 2019/1021 of the European Parliament and of the Council of 20 June 2019 on Persistent Organic Pollutants. PFOA has been listed in Annex I of the POPs Regulation after being amended in Commission Delegated Regulation (EU) 2020/784 of 8 April 2020.

⁸⁴ *Id.*

⁸⁵ See generally Directive 2020/2184 of the European Parliament and of the Council of 16 December 2020 on the Quality of Water Intended for Human Consumption, 2020 O.J. (L. 435) (EU).

limits, parametric values, and frequency of sampling by 2024.⁸⁶ The Directive requires European Union member states, in accordance with World Health Organization policies, to “improve access to safe drinking water . . . for the whole population through environmental policies.”⁸⁷ The goal is to “achieve universal and equitable access to safe and affordable drinking water for all.”⁸⁸ Much like New Jersey, the European Union is taking the threats posed by PFAS contamination seriously.

ARGUMENT

I. DEP HAS BROAD AUTHORITY TO REGULATE THE DISCHARGE OF HAZARDOUS SUBSTANCES UNDER THE SPILL ACT.

The New Jersey Spill Compensation and Control Act, N.J.S.A. § 58:10-23.11 *et seq.*, (“Spill Act”), confers broad authority on DEP to require polluters to investigate, control, and clean up hazardous substances through a variety of means. Solvay’s past and current actions, and the harm they have caused, are a prime example of why the legislature granted this authority to DEP, and DEP’s actions in this case fall squarely within its jurisdiction under the Spill Act.

A. DEP Has Broad and Far-Reaching Authority to Enforce the Spill Act by its Own Terms and Pursuant to Judicial Precedent.

Liability under the Spill Act is strict, absolute, joint, and several. It holds “any person” who has discharged a hazardous

⁸⁶ *Id.* at art. 13, § 7.

⁸⁷ *Id.* at pmb1. § 33.

⁸⁸ *Id.*

substance liable. N.J.S.A. § 58:10-23.11. A "discharger" is one who has "discharged a hazardous substance or is in any way responsible" for such a discharge. *Id.* Only limited defenses are available, and even a modicum of involvement in the discharge is enough to incur liability. The New Jersey Supreme Court has held that "[a] party even remotely responsible for causing contamination will be deemed a responsible party under the Act." Matter of Kimber Petroleum Corp., 110 N.J. 69, 85 (1988) (citing State Dep't of Env'tl. Protection v. Ventron Corp., 94 N.J. 473, 501-03 (1983)). Any involvement at all is sufficient to subject a party to strict, joint, and several liability. The New Jersey Legislature viewed the protection of public health through prompt and just remediation of hazardous discharges as a top priority, and passed the Spill Act as both a potent deterrent against discharges and as a means of funding those cleanups. N.J.S.A. § 58:10-23.11a.

DEP has a broad legislative mandate to remediate pollution and protect public health under the Spill Act. Courts have recognized this broad authority. In Kimber, the court held that a DEP directive requiring alleged dischargers to pay for construction of an alternative water supply was implicitly within that broad authority. Kimber, 110 N.J. at 74. The court held that DEP has "the discretion, implicit in its broad implied powers, to require responsible polluters to pay for cleanup costs prior to remedial action." *Id.* This court has held that DEP regulations governing memoranda of

agreement and consent orders were within DEP's broad authority under the Spill Act. E.I. du Pont de Nemours v. DEP, 283 N.J. Super. 331 (1995). The court noted that an agency regulation is "presumptively valid," when the regulation is "within the authority delegated to the agency and is not on its face beyond the agency's power." *Id.* Thus, courts consistently defer to DEP on matters of Spill Act enforcement. Moreover, this court found that powers not expressly within the statute nonetheless are within DEP's implied authority thereunder, and of equal stature to any express powers. *Id.*, at 341-42. Finally, in 2007 this court held that the Spill Act is "quite comprehensive in scope" and vests DEP with broad implied powers. New Jersey Dept. of Environmental Protection v. Exxon Mobil Corp., 393 N.J. Super. 388, 400 (2007). The court also found that "[i]n assessing DEP's claim, we are mindful not only of the Legislature's explicit directive that 'this act . . . shall be liberally construed to effect its purposes,' but also our own longstanding tradition of deferring, where appropriate, to an agency's interpretation of its authority." *Id.* at 401. Thus DEP's authority to regulate discharges like Solvay's, and enforce cleanups of those discharges, is broad, deep, and merits deference.

This case is not unique. All three branches of New Jersey's government have affirmed time and again the importance of protecting communities from the adverse impacts of the discharge of hazardous substances. The Spill Act makes clear that protecting public health

is a priority. New Jersey courts have consequently recognized that DEP needs that authority to protect vulnerable communities like West Deptford and Paulsboro from those like Solvay who pollute those communities.

**B. DEP's Use of Direct Oversight
is Entirely Within its Authority
and is Required by the Spill Act.**

Solvay discharged PFAS chemicals to the air, water, and surrounding environment through its production processes, emissions, and waste disposal practices at the West Deptford site. It had early knowledge about the potential toxicity of PFAS chemicals due to testing it conducted in 2005 and 2011, yet Solvay failed to release that information until years later. DEP issued a PFAS Directive that required Solvay to reimburse DEP for the costs it incurred to investigate, monitor, and treat the contamination around its West Deptford site. Da245-49, ¶63-67 (detailing the remediation costs and actions the Directive requires of Solvay). The Directive also required Solvay to assume responsibility for some areas and conduct remediation according to expedited site-specific timeframes. Da236-51. Solvay has not provided the full reimbursement or assumed full responsibility as detailed in the PFAS directive. Da66-67.

The Spill Act plainly places the burden of paying for all cleanup and removal costs on Solvay. N.J.S.A. § 58:10-23.11g(c). The New Jersey legislature charged DEP with the power to take action to protect vulnerable communities, such as those where Sierra Club

members live, whether through orders for further investigation, demands for cleanup costs, or under direct oversight mechanisms. The legislature in particular empowered DEP to take direct oversight of remediation when, as here, a polluter has failed to remediate and endangered the community. N.J.S.A. § 58:10C-27. The PFAS compounds and later replacement chemicals that Solvay released through wastewater continue to affect the local environment and community.⁸⁹ This ongoing risk to community health mandates DEP action. Solvay's failure to comply with the Directive and its history of withholding necessary information mandates that DEP act. The ongoing threat to community and environmental health from PFAS contamination coupled with Solvay's refusal to cooperate forces DEP to invoke its authority under the Spill Act to begin to address the PFAS contamination caused by Solvay.

CONCLUSION

Solvay has polluted the drinking water of New Jersey with PFAS chemicals for decades. This contamination continues to harm the residents of New Jersey, particularly in those communities immediately surrounding the West Deptford plant. DEP has authority under the Spill Act to require Solvay to clean-up the hazardous substances which have threatened the health and welfare of the people of New Jersey. In doing so, DEP joins a

⁸⁹ See *supra* notes 39-43.

growing number of jurisdictions that are holding polluters accountable for creating hazardous PFAS contamination.

For the foregoing reasons, the Court should uphold DEP's decision to move forward with the remedy to PFAS pollution that is long overdue.

Respectfully submitted,

A handwritten signature in black ink that reads "Edward Lloyd". The signature is written in a cursive, flowing style.

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