IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF ILLINOIS
EASTERN DIVISION

CITY OF EVANSTON, an Illinois municipal corporation,	)	
Plaintiff,	)	**16 C 5692**
v.	)	**Judge John Z. Lee**
NORTHERN ILLINOIS GAS COMPANY, an Illinois corporation, and COMMONWEALTH EDISON COMPANY, an Illinois corporation,	)	
Defendants.	)	

MEMORANDUM OPINION AND ORDER

After several environmental studies, the City of Evanston ("the City") found contaminants known as polycyclic aromatic hydrocarbons ("PAHs") in the soil in the area of James Park, as well as on and around a decommissioned water main that runs along Dodge Avenue ("the Dodge Water Main"). The City also found high levels of methane gas at certain points around James Park. The City attributes these contaminants to the operation of a long-abandoned manufactured gas plant that was owned by predecessors of Defendants Northern Illinois Gas Company ("Nicor") and Commonwealth Edison Company ("ComEd") and located in an area southwest of McCormick Boulevard and Oakton Street in Skokie ("the Skokie MGP").

Believing that the PAHs and methane gas pose an imminent and substantial threat to public safety and the environment, the City has sued Nicor and ComEd, alleging violations of the Resource Conservation and Recovery Act ("RCRA"), 42 U.S.C. § 6901 *et seq*, as well as various state and municipal laws. For their part,

Nicor and ComEd (collectively, "the Utilities") dispute the City's contention that the Skokie MGP was the source of the contamination. They also disagree, based upon their own studies, that the pollutants pose a threat to public health or the environment.

The City has moved for a preliminary injunction as to its claim under RCRA, seeking to require the Utilities to investigate and remediate contamination from the old pipelines used by the Skokie MGP. The parties have submitted voluminous briefs and presented witness testimony and documentary evidence over the course of an eight-day hearing.

After a careful review of the record, the Court finds that the City has not established that it is likely to succeed on the merits of its RCRA claim. In short, the evidence presented during the hearing does not support the City's theory that the Skokie MGP was the source of the contaminants at issue. Furthermore, the City has not shown that the contaminants may present an imminent and substantial endangerment to health or the environment as required under RCRA. It is worth noting, among other things, that the United States Environmental Protection Agency ("EPA") sees no need to take action here, and the City has long held that its drinking water remains safe for public consumption. The Court also finds, based on the evidence, that the City has not demonstrated that it would suffer irreparable harm absent an injunction or that the balance of harms rests in its favor. For these reasons, as will be further explained below, the City's motion for a preliminary injunction is denied.

Procedural Background

The City filed suit in May 2016, alleging that it had discovered oil and methane gas in the area around James Park, Dawes Elementary School, the Levy Senior Center, and surrounding properties in Evanston ("the Impacted Area"). Compl. ¶¶ 2, 10, 41, 49, 51–52, ECF No. 1. It contends that the source of this oil and gas is the now-defunct Skokie MGP, which was built in 1910 and ceased operations in the early 1950s. *Id.* ¶¶ 35–50. According to the City, the wastes from the Skokie MGP ("MG Waste Oils") have (1) threatened contamination of Evanston's drinking water by coating and penetrating the Dodge Water Main, which runs along Dodge Avenue on the eastern boundary of the Impacted Area, and (2) biodegraded in the soil, groundwater, and bedrock over time, releasing methane gas as a byproduct that creates a risk of explosion or asphyxiation. *Id.* ¶¶ 2–4, 12. The City alleges that the Utilities, as the corporate successors to the original owners of the Skokie MGP and its distribution pipelines, are responsible for this contamination. *Id.* ¶¶ 9–10.

The City's complaint sets forth claims under RCRA (Count I), Evanston Code of Ordinances § 9-12-1 *et seq.* (Count II), and Illinois law for trespass (Count III), private nuisance (Count IV), public nuisance (Count V), and breach of contract (Count VI). In January 2017, the Court dismissed Count II and the City's request for civil penalties under Count I. *See City of Evanston v. N. Ill. Gas Co.*, 229 F. Supp. 3d 714 (N.D. Ill. 2017). The City has since moved for a preliminary injunction under Count I, seeking to require the Utilities to investigate and abate the alleged contamination from the Skokie MGP's abandoned pipelines. *See* Pl.'s Mot. Prelim. Inj., ECF No. 216.

The Court held an evidentiary hearing over the course of eight days. Prior to the hearing, both sides filed motions to exclude the other's expert witnesses under the principles espoused in *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993). The Court allowed both sides to make proffers as to their respective experts at the hearing.[1]

As a result, during the evidentiary hearing, the City and the Utilities each presented expert witnesses to support their scientific theories regarding the source of the chemicals and underground methane in the Impacted Area, their respective positions regarding the risk posed by these substances, and their research regarding the Skokie MGP and its history of distributing manufactured gas to the Northshore area. The Court then held oral arguments on January 23, 2019.

Before proceeding to the merits of the preliminary injunction motion, the Court must decide the parties' threshold motions, asking the Court to exclude the testimony of certain experts.

***Daubert* Motions**

The City and the Utilities each seek to exclude certain expert witnesses. The City moves to bar the testimony of Fred Baldassare, Dr. David Crowe, and Robert

[1] Prior to the evidentiary hearing, the Court issued an order barring the City's expert, David Hendron, from offering any testimony regarding risk to human health or the migration of waste oils to the inside of the Dodge Water Main, but otherwise denying the Utilities' motion to exclude Hendron as an expert witness. The order also barred the Utilities' expert, Dan Fox, from testifying about the gas pipeline found along Dodge Avenue to the extent his testimony was based on interpretation of historical drawings, but allowed that testimony to the extent Fox relied on his experience in constructing and maintaining gas distribution systems. *See* Order of Aug. 9, 2018, ECF No. 189.

Nixon, as well as to bar any expert from relying on excluded expert testimony. *See* Pl.'s Mot. Bar Baldassare, ECF No. 144; Pl.'s Mot. Bar Nixon & Crowe, ECF No. 147; Pl.'s Mot. Bar Reliance on Excluded Opinion Testimony, ECF No. 146. In turn, the Utilities seek to exclude testimony from Dr. Alan Jeffrey, Dr. Mark LeChevallier, and Dr. Serap Erdal. *See* Defs.' Mot. Bar Jeffrey, ECF No. 151; Defs.' Mot. Bar LeChevallier, ECF No. 153; Defs.' Mot. Bar Erdal, ECF No. 155.

The admissibility of expert testimony is governed by Federal Rule of Evidence 702 and the Supreme Court's seminal decision in *Daubert*, 509 U.S. 579. *See United States v. Parra*, 402 F.3d 752, 758 (7th Cir. 2005). Rule 702 allows the admission of testimony by an expert—that is, someone with the requisite "knowledge, skill, experience, training, or education"—to help the trier of fact "understand the evidence or [ ] determine a fact in issue." Fed. R. Evid. 702. An expert witness is permitted to testify when (1) the testimony is "based on sufficient facts or data," (2) the testimony is "the product of reliable principles and methods," and (3) the witness has "reliably applied the principles and methods to the facts of the case." *Id.* The proponent of an expert witness bears the burden of demonstrating that the expert's testimony would satisfy the *Daubert* standard by a preponderance of the evidence. *Lewis v. CITGO Petroleum Corp.*, 561 F.3d 698, 705 (7th Cir. 2009).

Under *Daubert*, the Court must act as the evidentiary gatekeeper, ensuring that Rule 702's requirements of reliability and relevance are satisfied before allowing the finder of fact to hear the testimony of a proffered expert. *See Daubert*, 509 U.S. at 589; *see also Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 147–49 (1999). District

courts have broad discretion in determining the admissibility of expert testimony. *See Lapsley v. Xtek, Inc.*, 689 F.3d 802, 810 (7th Cir. 2012).

In considering whether to admit expert testimony, district courts employ a three-part framework that inquires whether: (1) the expert is qualified by knowledge, skill, experience, training, or education; (2) the reasoning or methodology underlying the expert's testimony is reliable; and (3) the expert's testimony will assist the trier of fact in understanding the evidence or determining a factual issue. *See Bielskis v. Louisville Ladder, Inc.*, 663 F.3d 887, 893–94 (7th Cir. 2011).

At the same time, evidentiary rules are relaxed at the preliminary injunction stage, and the Court has substantial discretion to hear and receive evidence intended to "preserve the relative positions of the parties until a trial on the merits can be held," whether or not that evidence complies with formal rules and procedures. *Kos Pharm., Inc. v. Andrx Corp.*, 369 F.3d 700, 718 (3d Cir. 2004) (quoting *Univ. of Texas v. Camenisch*, 451 U.S. 390, 395 (1981)); *see also Dexia Crédit Local v. Rogan*, 602 F.3d 879, 885 (7th Cir. 2010). As a result, the Court's ruling on the *Daubert* motions at this stage should not be taken to reflect how the Court might rule in the event that this case were to proceed to trial.

With this in mind, the Court has considered the testimony offered by the experts at the preliminary injunction hearing and is persuaded that the parties were able to effectively cross-examine each expert on the perceived weaknesses of his or her methodologies to permit the Court to weigh their respective probative weight.[2]

[2] For this reason, the Court rejects any argument by either side regarding the late disclosure of opinions that were not contained within a particular expert's report. Each of

Furthermore, some of the material discussed in the *Daubert* motions did not come up at the hearing at all. And, as the Court has previously informed the parties, for purposes of deciding the preliminary injunction motion, the Court will rely solely on the evidence presented at the hearing, the parties' post-hearing briefs, and statements made at oral arguments; thus, it is unnecessary to resolve these extraneous disputes.

Having considered the testimony from the various experts and exercising its discretion, the Court is satisfied with its ability to resolve disputes regarding the sufficiency of various methodologies and the weight to be given particular expert testimony within the context of its resolution of the preliminary injunction motion. To the extent a party challenges methodologies employed by a particular expert that pertain to issues material to the Court's preliminary injunction decision, the Court will discuss them as they arise. For present purposes, however, the Court will limit its discussion of the *Daubert* motions to threshold disputes regarding the qualifications of the experts upon which the Court relies. The Court denies the *Daubert* motions insofar as they challenge an expert's methodology or his or her ability to assist the trier of fact.

I. City's Motion to Bar Fred Baldassare

The Utilities offer Fred Baldassare as an expert on gas migration and isotopic analysis of gas. The City first contends that Baldassare is not qualified to opine on

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these experts was deposed, and the parties were able to conduct robust cross-examination as to the opinions at issue.

these topics, as he holds only a Bachelor of Science in Geology and has "no formal education or training in molecular biology or microbiology, and no graduate education in organic chemistry." Pl.'s Mem. Supp. Mot. Bar Baldassare at 2, ECF No. 145. The Utilities respond that Baldassare has more than 25 years of experience investigating incidents of stray gas migration and that he is "recognized as one of the leaders in the field of isotopic analysis" of gas. Defs.' Resp. Pl.'s Mot. Bar Baldassare at 1, ECF No. 158. The Utilities have the better argument here.

Neither the Federal Rules of Evidence nor the *Daubert* standard "require that expert witnesses be academics or PhDs." *Tuf Racing Prods., Inc. v. Am. Suzuki Motor Corp.*, 223 F.3d 585, 591 (7th Cir. 2000). Rather, experts may be qualified based on experience. *See Walker v. Soo Line R. Co.*, 208 F.3d 581, 591 (7th Cir. 2000). To be sure, there is testimony—such as from a medical doctor—that would generally require a certain level of education. But the Court is unaware of any requirement, nor has the City cited any, that someone who is an expert on isotopic analysis and migration of gas must have a particular type of education as opposed to learning from a combination of education and experience.

The City next faults Baldassare for not being aware of certain research papers it has found on how methane is generated. The Utilities dispute the relevance of these papers, but in any event, they do not bear on Baldassare's qualification as an expert. Baldassare has relevant experience that can assist the trier of fact in determining issues related to the methane underneath the Impacted Area. Whether or not he is aware of certain research has little bearing for the Court's purposes; in

fact, if the City believed this research to be determinative of an issue in the case, it could offer its own expert to present the substance of these matters.

Finally, the City argues that Baldassare is not qualified to draw conclusions based on Carbon 14 dating, because he ignored an important part of the analysis—determining whether the Carbon 14 data shows that methane was generated from a mixture of different sources. This is really a dispute that goes to Baldassare's methodology, not his qualifications. In any event, Baldassare's report shows that he *did* consider the possibility of mixing. *See* Pl.'s Mem. Supp. Mot. Bar Baldassare, Ex. A, Baldassare Report, at 5 (describing "mixing" as a "secondary process" that can be identified by molecular and isotopic compositions), 8 (drawing conclusions about secondary effects in the various samples).[3]

The City's motion to bar Baldassare for lack of qualifications is denied.

II. Utilities' Motion to Bar Dr. Mark LeChevallier

The City offers Dr. Mark LeChevallier to opine on the mechanism by which contaminants found on the outside of the Dodge Water Main could have gotten *inside* the water main, as well as how the particles then could enter the water supply. Dr. LeChevallier is an "expert on intrusion of contaminants into water lines." Pl.'s Resp. Defs.' Mot. Bar LeChevallier at 2, ECF No. 162. The Utilities, however, argue that Dr. LeChevallier's experience is limited to the intrusion of *microbial*

[3] The City also argues that Baldassare is not qualified based on his reliance on incorrect information about how methane can be generated, otherwise known as "methanogenic pathways." *See* Pl.'s Mem. Supp. Mot. Bar Baldassare at 3–8. This dispute is ultimately immaterial because Baldassare did not rely upon or discuss methanogenic pathways at the hearing, other than when the City brought them up. *See* Hr'g Tr. at 1209, ECF No. 215.

contaminants and that, therefore, he does not have the qualifications to address intrusion of "petroleum products." Defs.' Mem. Supp. Mot. Bar LeChevallier at 1, ECF No. 154.

But as the City points out, Dr. LeChevallier's experience includes 32 years of working for the water utility American Water, where he dealt with "a number of petroleum and organic contaminant spills that impacted American Water systems." Pl.'s Resp. Defs.' Mot. Bar LeChevallier at 3. Accordingly, although his degree is in microbiology, Dr. LeChevallier has experience dealing with many different types of contaminants in water lines. *See id.* at 6–7. As a result, the Court finds that Dr. LeChevallier's experience is sufficient to qualify him for purposes of the hearing in this case.

The Utilities' motion to exclude the testimony of Dr. LeChevallier based on a lack of qualifications is denied.

III. City's Motion to Bar Reliance on Excluded Opinions

Because the Court is denying each of the pending *Daubert* motions except as described below, the City's motion to bar experts from relying on the excluded testimony of other experts is largely moot. Still, because the Court has previously limited the testimony of certain experts—namely David Hendron and Dan Fox—the Court will briefly address the City's motion.

The Court concludes that, although experts on both sides relied on other experts to provide background information and research, each expert formed his or her own conclusions based on expertise, further study, or further research. *See*

Walker, 208 F.3d at 588 (explaining that experts frequently rely on the opinions of other experts and that such testimony should be admitted unless speculative or otherwise faulty). And no expert relied impermissibly on the excluded testimony of Hendron or Fox, or any other expert. Accordingly, the City's motion is denied.

Motion for a Preliminary Injunction

Turning to the merits of the motion, the City seeks a preliminary injunction as to its claim under RCRA. RCRA is a broad remedial environmental statute aimed at controlling the "disposal of solid and hazardous waste in the United States to protect public health and the environment." *Adkins v. VIM Recycling, Inc.*, 644 F.3d 483, 486 (7th Cir. 2011); *see Meghrig v. KFC W., Inc.*, 516 U.S. 479, 483 (1996) ("RCRA's primary purpose . . . is to reduce the generation of hazardous waste and to ensure the proper treatment, storage, and disposal of that waste which is nonetheless generated, 'so as to minimize the present and future threat to human health and the environment.'") (quoting 42 U.S.C. § 6902(b)).

RCRA gives the district court the power to "restrain any person" who has failed to properly dispose of or store such waste, to "order such person to take such other action as may be necessary," or both. 42 U.S.C. § 6972(a). And RCRA contemplates both "mandatory injunction[s], *i.e.* [those] that order[ ] a responsible party to 'take action' by attending to the cleanup and proper disposal of toxic waste," or "prohibitory injunction[s], *i.e.* [those] that 'restrain[ ]' a responsible party from further violating RCRA." *Meghrig*, 516 U.S. at 484.

The City asks the Court to issue an order (1) appointing a three-member Study Panel, supervised by the Court, to investigate and identify the location of the Utilities' remaining abandoned gas pipelines; and (2) requiring the Utilities to (A) investigate the extent of contamination on and in the water lines, in the subsurface in the form of methane, and in excavation areas; (B) study exposure to the public; (C) "undertake a risk assessment as appropriate"; (D) design any remediation plans the Study Panel deems necessary; and (E) "undertake related tasks." *See* Pl.'s Mem. Supp. Mot. Prelim. Inj. at 37–38, ECF No. 217; *see also* Pl.'s Mot. Prelim. Inj., Exs. A & B, Proposed Alternative Implementing Orders. The City also asks that the Utilities be ordered to fund all of these efforts. *See* Pl.'s Mem. Supp. Mot. Prelim. Inj. at 38.

I. Legal Standard

A party seeking a preliminary injunction must show (1) that its case has "some likelihood of success on the merits," and (2) that it has "no adequate remedy at law and will suffer irreparable harm if a preliminary injunction is denied." *Ezell v. City of Chi.,* 651 F.3d 684, 694 (7th Cir. 2011). If the moving party meets these threshold requirements, the district court "weighs the factors against one another, assessing whether the balance of harms favors the moving party or whether the harm to the nonmoving party or the public is sufficiently weighty that the injunction should be denied." *Id.* The district court's weighing of the factors is not mathematical in nature; rather, it is "more properly characterized as subjective and intuitive, one which permits district courts to weigh the competing considerations and mold appropriate

relief." *Ty, Inc. v. Jones Group, Inc.,* 237 F.3d 891, 895–96 (7th Cir. 2001) (quoting *Abbott Labs. v. Mead Johnson & Co.,* 971 F.2d 6, 12 (7th Cir. 1992)).

In the case of mandatory injunctions as opposed to prohibitory injunctions, courts often require a greater showing of need for preliminary relief. *See Liebhart v. SPX Corp.*, 917 F.3d 952, 963 (7th Cir. 2019) (explaining that mandatory injunctions require "careful consideration of the intrusiveness of the ordered act, as well as the difficulties that may be encountered in supervising the enjoined party's compliance"); *Graham v. Med. Mut. of Ohio*, 130 F.3d 293, 295 (7th Cir. 1997) ("[M]andatory preliminary writs are ordinarily cautiously viewed and sparingly issued.") (quoting *Jordan v. Wolke*, 593 F.2d 772, 774 (7th Cir. 1978)); *Christie-Spencer Corp. v. Hausman Realty Co.*, 118 F. Supp. 2d 408, 418 (S.D.N.Y. 2000) (requiring a "clear showing" that plaintiff is entitled to the relief requested). RCRA, however, specifically envisions the use of mandatory injunctions, *see Meghrig*, 516 U.S. at 484, and it would be inaccurate to say that such relief is "sparingly issued" under this particular remedial scheme. Accordingly, although the Court approaches this matter with the caution commensurate with the "extraordinary" nature of the remedy, *see Winter v. Nat. Res. Def. Council, Inc.*, 555 U.S. 7, 22 (2008), no burden is required of the City beyond that typically associated with obtaining preliminary injunctive relief.[4]

[4] The Utilities advocate for a standard that would require the City to come forward with "heavy and compelling" evidence in its favor before receiving a mandatory injunction. *See* Defs.' Resp. Mot. Prelim. Inj. at 3, ECF No. 229. This language, however, comes from a Tenth Circuit case, *SCFC ILC, Inc. v. Visa USA, Inc.*, 936 F.2d 1096, 1097 (10th Cir. 1991),

II. Likelihood of Success on the Merits

The City's claim under RCRA is brought under the "citizen-suit" provision of 42 U.S.C. § 6972(a)(1)(B). In order to prevail on such a claim, the City must establish that (1) "any person . . . including any past or present generator, past or present transporter, or past or present owner or operator of a treatment, storage, or disposal facility," has (2) "contributed or . . . is contributing to the past or present handling, storage, treatment, transportation, or disposal of any solid or hazardous waste," which (3) "may present an imminent and substantial endangerment to health or the environment." *Id.* At the preliminary injunction stage, the City need only demonstrate that it has a "better than negligible" chance of succeeding on the merits so that preliminary relief is justified. *Ty, Inc.*, 237 F.3d at 897.

The Utilities do not dispute that the PAHs found in the Impacted Area are "solid or hazardous waste[s]."[5] Nor do they dispute their status as a past or present generator, transporter, or owner of a treatment, storage, or disposal facility. They argue, however, that they are not the source of either the chemicals found on and around the Dodge Water Main or the methane gas found underneath the Impacted Area and, therefore, have not "contributed" to the hazardous waste at issue in this case. Furthermore, they argue that the City has not made a sufficient showing that

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and the Tenth Circuit has since disavowed the standard, *see O Centro Espirita Beneficiente Uniao Do Vegetal v. Ashcroft*, 389 F.3d 973, 975 (10th Cir. 2004) (en banc).

[5] The Court has previously held that methane gas is not a "solid waste" subject to RCRA in and of itself. *See N. Ill. Gas Co.*, 162 F. Supp. 3d at 659–63. Accordingly, the methane present in the Impacted Area is relevant only insofar as it presents a risk to public health or the environment as a result of the PAHs in the area.

either the chemicals in and around the water main or the underground methane "may present an imminent and substantial endangerment to health or the environment." 42 U.S.C. § 6972(a)(1)(B).

A. Utilities' Contribution to Contamination in the Impacted Area

Beginning in approximately 2004, city workers in Evanston began encountering a "rotting tar" odor associated with a "thick black crust" on the Dodge Water Main, an old cast-iron pipe that has been in place along Dodge Avenue since 1925. *See* Hr'g Tr. at 143–48, 744.[6] In 2014, Tim Bartus, a Distribution Supervisor for the City's Water Department, gave a piece of the black crust to David Hendron, an environmental consultant who had been hired by the City to investigate claims of methane and petroleum coming from a former landfill underneath James Park. *Id.* at 135, 150–51, 286–87, 289–90. Bartus also told Hendron that an "unidentified 24-inch pipeline" had been discovered "all the way along Dodge." *Id.* at 290.

These developments prompted Hendron to investigate the 24-inch pipeline (which will be referred to as the Dodge Gas Line). He opened up a section of the pipeline at three different points along Dodge Avenue, videotaped inside it, took samples in and around it, and had chemical testing done on the samples. *See id.* at 290–91, 338–40; *see also* PX 1020 (map showing portions of the Dodge Gas Line found in red). Hendron observed what he described as "condensate droplets" inside the

[6] The transcript of the hearing is consecutively paginated but divided into nine different volumes on the docket of this case. The page ranges are located as follows: Pages 1–231 at ECF No. 199; 232–401 at ECF No. 200; 402–482 at ECF No. 201; 483–632 at ECF No. 202; 633–832 at ECF No. 207; 833–1020 at ECF No. 208; 1021–1120 at ECF No. 209; 1121–1178 at ECF No. 214; 1179–1289 at ECF No. 215; 1290–1454 at ECF No. 234.

Dodge Gas Line, along with what he believed was corrosion and separation of the pipeline's joints which were joined by old bolts. Hr'g Tr. at 360–63, 374–75. He also noticed stained soil underneath the broken joints and bolts, which had what he described as a "petroleum odor." *Id.* at 381–82. Based on his research, he determined that the Dodge Gas Line had been used by the Skokie MGP to distribute manufactured gas in the early 1900s. *Id.* at 293–95.

Hendron also was able to view the interior and exterior of the Dodge Water Main at various points and found what he described as "tubercles" or "crustal materials" similar to the black crust given to him by Bartus. *Id.* at 434–35. Hendron described the crust as "friable," meaning that it can be broken up with "finger pressure." *Id.* at 434. Hendron soon concluded that the black crust and tubercles in the Dodge Water Main were the result of "waste oils" from the Skokie MGP that had migrated from the Dodge Gas Line to the Dodge Water Main. *Id.* at 442.

The Skokie MGP previously was located in an area bound on the north by Oakton Street and on the east by McCormick Boulevard. It began operating in 1911, and, like many MGPs around the country at the time, used the "Lowe Process" to manufacture gas for distribution to businesses and houses in the area. Hr'g Tr. at 336–37, 949. The parties agree that the Lowe Process (also called the "carbureted water gas" process) used fuel oil instead of coal to create manufactured gas. *See id.* at 336. Accordingly, the Lowe Process resulted in a very thin "carbureted water gas tar" or "CWG tar," as opposed to thick "coal tar" that would result from a coal-based process. *See id.* at 336–37, 494. The Skokie MGP stopped making manufactured gas

around 1931 and ceased operations completely in the 1950s. *See id.* at 948–50; PX 1021 at 608-03–608-05.

In 2012, the Utilities oversaw an environmental remediation of the Skokie MGP property to deal with contamination commonly associated with former MGP sites. *See* Hr'g Tr. at 189–90, 209, 218. The Utilities have since received notice from the Illinois Environmental Protection Agency ("IEPA") that "no further remediation" is needed on the site. PX 1015.

According to the City, the waste oils generated by the Lowe Process at the Skokie MGP, along with raw fuel oil that was not burned in the manufacturing process, were released into the distribution infrastructure that was used by the Skokie MGP—which included the Dodge Gas Line. *See* Pl.'s Mem. Supp. Mot. Prelim. Inj. at 8–9 & n.3. Under the City's theory, the waste oils and raw fuel oil (the City refers to the combination as "MG Waste Oils") leaked out of the Dodge Gas Line and migrated into the surrounding soil and over to the Dodge Water Main. *See id.* The chemicals in the MG Waste Oils, according to the City, then created the crust on the outside of the Dodge Water Main and infiltrated into the water main itself, posing a risk to the City's water system. *See id.* Additionally, the City explains, the MG Waste Oils have migrated to the bedrock below the Impacted Area and biodegraded into methane, which has been measured at high-pressure levels 40 feet below the surface of the Impacted Area. *See id.* at 9; Hr'g Tr. at 1197–98.[7]

[7] The Utilities do not dispute that the Dodge Gas Line was at one point connected to the Skokie MGP. The parties do dispute, however, when the Dodge Gas Line was laid in relation to the Dodge Water Main, and when the Dodge Gas Line stopped carrying manufactured gas. This dispute is ultimately immaterial as it is undisputed that the Dodge

Although the City's theory sounds plausible, it is not supported by the weight of the evidence. First, the City points to the specific chemicals found in the black crust on the Dodge Water Main, as well as in the soil samples taken around the Dodge Gas Line and in the rest of the Impacted Area. Hendron testified that PAHs found in the Dodge Water Main crust were the same as the PAHs found at the Skokie MGP and at other MGP sites; he further noted that the PAHs were found at levels much higher than regulatory "background levels."[8] *See* PX 1003 (table comparing semi-volatile PAHs present in the site samples to those present in former MGP sites); Hr'g Tr. at 349–51, 479. Additionally, Hendron "ruled out" other potential sources of the PAHs, such as the former landfill underneath James Park, a nearby gas station, a nearby crude oil tank, a "Rust-oleum plant," and the possibility of a coal-tar coating applied to the Dodge Water Main to prevent corrosion. *See* Hr'g Tr. at 286–88, 291–93, 437–42, 478–80, 704–06.[9]

Gas Line *did* carry manufactured gas for at least part of the time the Dodge Water Main was operational, and the Court has received no evidence regarding how long it would have taken for leakage from the Dodge Gas Line to create the conditions seen today.

[8] The parties focus on the PAHs that have been defined as "priority pollutants" by the IEPA. *See* Pl.'s Mem. Supp. Mot. Prelim. Inj. at 12 n.5; PX 1059 (table showing maximum "background levels" of PAHs that can be found in metropolitan-area soil, according to the IEPA's "tiered approach to clean-up objectives" or "TACO").

[9] Hendron also relied on a site assessment of a Metropolitan Water Reclamation District ("MWRD") treatment facility near the Skokie MGP that had also experienced oil contamination and methane. From this, Hendron concluded that the "waste oil found in the James Park area was chemically consistent with" the waste found at the MWRD site, suggesting that both the Impacted Area and the MWRD site were contaminated by the Skokie MGP. Pl.'s Mem. Supp. Mot. Prelim. Inj. at 15. But, as the Utilities point out, the cited study concluded that "[t]he most likely source for the contamination [at the MWRD site] is the result of degradation of material present in a landfill or similar source or organic material." PX 1054 at COE0313780.

Hendron's rather simplistic analysis, however, falls short of proving that it was the Skokie MGP that was the source of the PAHs found in the water main crust or in the rest of the Impacted Area. PAHs are ubiquitous throughout the environment and come from a variety of sources, such as vehicle emissions, grilling, asphalt, pavement sealer, burning trash, burning oil, gasoline, and so forth. Hr'g Tr. at 86, 94, 529–30. In fact, the PAHs identified by Hendron are found not only at former MGP sites, but in a number of other sources, such as fireplace emissions and used motor oil. *See* DX 1020. Moreover, Hendron acknowledged that he did not analyze the relative concentration of the PAHs in the water main samples to compare them to samples found at MGP sites, even though he could have. Hr'g Tr. at 533. Accordingly, merely pointing out that certain PAHs detected in the samples at issue also appear in wastes from the MGP manufacturing process, without regard to their relative concentrations or other indicia that permit a more detailed comparison of the samples, does little to show that the PAHs found in the water main and park samples actually came from the Skokie MGP.

Furthermore, as the Utilities explain, Dr. Thomas Gauthier performed chemical analysis that Hendron did not, analyzing gas chromatography results that show the specific chemical makeups of the PAH-containing compounds in question.[10] According to Dr. Gauthier, this analysis affirmatively shows that the Skokie MGP is

[10] Contrary to the City's assertion, Dr. Gauthier analyzed both types of gas chromatography useful for identifying a chemical compound—GC-MS (gas chromatography – mass spectrometry) and GC-FID (gas chromatography with flame-ion detection). *See* Defs.' Resp. Mot. Prelim. Inj. at 7, 12.

not the source of the PAHs in the Dodge Water Main or the soil in the Impacted Area. Instead, the PAHs in the Dodge Water Main, the Dodge Gas Line, and the bedrock samples each showed different chemical compositions. The PAHs on the Dodge Water Main had a pyrogenic (*i.e.*, made from high-temperature processes) "coal tar" signature, Hr'g Tr. at 1131–35; the material in the Dodge Gas Line was a petrogenic (*i.e.*, made from petroleum-related sources at lower temperatures) "fuel oil material," *id.* at 1127; and in the bedrock was a "residual material" or "crude oil material," *id.* at 1141–42.

Dr. Gauthier's testimony is persuasive and largely unrebutted. Although the City's geochemical expert, Dr. Alan Jeffrey, also considered chemical analyses of the PAHs, he did not testify as to the particular chemical signatures they showed, but rather characterized the results as simply "pyrogenic" or "petrogenic." *See id.* at 56–67; Defs.' Mem. Supp. Mot. Bar Jeffrey, Ex. A, Jeffrey Report, ECF No. 152.[11] And even Dr. Jeffrey agreed that this general classification is not, in and of itself, sufficient to identify a PAH compound. *See* Hr'g Tr. at 88–90.[12]

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[11] In fact, the only sample Dr. Jeffrey described with more specificity was a sample taken from the Dodge Gas Line that he characterized as having the petrogenic signature of a "heavy petroleum fuel oil," Jeffrey Report at 2; Hr'g Tr. at 71, which is partially consistent with Dr. Gauthier's conclusions.

[12] The City makes several claims that the PAHs found in the Impacted Area are "chemically consistent" with waste from MGPs. *See* Pl.'s Mem. Supp. Mot. Prelim. Inj. at 7, 11–12; Pl.'s Reply at 5, ECF No. 230. The sources the City cites, however, do not describe any comparison of specific chemical makeups in the samples, or in any other respect rebut Dr. Gauthier's conclusions. Rather, the City cites to tables merely showing the amounts of certain PAHs measured in various samples, gas chromatography results that the Court is unable to interpret without expert testimony, or the testimony of Hendron, who is not an expert in analyzing gas chromatography results.

Not only can the City not explain the different chemical signatures in the various samples, but its theory as to how the chemicals in the Dodge Gas Line would have gotten *to* the Dodge Water Main and to the bedrock also is not supported by the evidence. The Dodge Gas Line sits about 20 to 25 feet across Dodge Avenue from the Dodge Water Main, but the water main is only about 2 to 6 feet deeper than the gas line. *See* Hr'g Tr. at 691–92; *see also* PX 1023 (showing Dodge Gas Line samples in red and Dodge Water Main samples in blue). Accordingly, the MG Waste Oils from the Dodge Gas Line would have had to migrate mostly laterally to reach the Dodge Water Main, and also vertically down to reach the bedrock.

Again, the City relies on Hendron, who opined that the MG Waste Oils are thin and thus can travel through vertical and lateral "pathways," such as man-made "laterals and trenches," electrical and telephone conduits, and cracks and fissures in the soil. *See* Hr'g Tr. at 336–37, 668–69, 694–95. But as the Utilities point out—and despite Hendron's testimony to the contrary—Hendron did not test for PAHs in any of these so-called pathways *between* the Dodge Gas Line and the Dodge Water Main. *See* PX 1002A (highlighting samples taken in conduits in green); DX 1131A (highlighting the corresponding sample locations in relation to the Dodge Gas Line and Dodge Water Main).

The City's primary responses to this criticism are that the Utilities "choos[e] to ignore the many samples *on* the water lines themselves" and that it "makes no sense" that "contaminants would have known to stop migrating at the abandoned water line." Pl.'s Reply at 14. But as Dr. Gauthier testified, if Hendron's lateral

migration theory were correct, one would expect to see the highest level of PAHs at the source—*i.e.*, the Dodge Gas Line. *See* Hr'g Tr. at 1145–46. But here, the reverse is true—PAHs are highest *at the Dodge Water Main*. *See id.*; *see also* PX 1002 (showing PAH results); PX 1023 (showing sample locations).

Hendron's lateral migration theory is also refuted in large part by Jay Vandeven, an environmental consultant whose experience is in investigating and remediating MGP sites. Vandeven explained that MGPs removed dense non-aqueous phase liquids ("DNAPL tars") *i.e.*, tars that have a specific gravity greater than water, before the finished gas left the plant. Hr'g Tr. at 923–24; *see* Defs.' Resp. Mot. Prelim. Inj. at 14–15. In fact, it was "absolutely crucial" for MGPs to remove all of the DNAPL tar before distributing the manufactured gas, because the distribution infrastructure would have "drastically and immediately" become clogged up, and because the tar itself was valuable. Hr'g Tr. at 924. The City's theory, however, relies on the presence of DNAPLs in the Dodge Gas Line, because (as Hendron testified) it is these heavier oils that could travel down through the soil to the bedrock. *See id.* at 447–48, 496. The City's only response to Vandeven's testimony is to point to historical documents suggesting that the process of removing DNAPL tars was difficult and that it might not have always been successful. The point is true enough—Vandeven cannot *prove* that the Skokie MGP successfully removed all of its DNAPL tar—but the Court found his testimony quite convincing, and the fact that such plants thought it "crucial" to remove DNAPLs further undercuts Hendron's theory.

The only other evidence cited by the City is similarly insufficient to prove that the Skokie MGP was the source of the contamination in the Impacted Area. Hendron's observations of the pipes and dark stains in the soil indicate that there may be some contamination in them, but these observations themselves, without more, do not prove the *source* of the observed conditions. Neither do historical documents that discuss the possible ways that materials could have leaked from the Skokie MGP infrastructure but provide little support for the City's migration theory.

For their part, the Utilities have offered a plausible alternative explanation for the black crust found on the Dodge Water Main. They assert that the black crust was from a coal-tar coating of the type applied regularly to water mains in the early 20th century to prevent rust. Robert Nixon, the owner of a consulting firm that specializes in pipeline corrosion prevention and repair for industrial facilities and municipal utilities, observed a section of the Dodge Water Main and explained that the crust material found on it was "a build-up of corrosion product and scale on the interior," which was typical of coal-tar-coated cast-iron water mains. *Id.* at 1045–48. He based this opinion on his decades of experience evaluating physical samples of pipes and his expertise in "pipe construction and coatings, including their long-term corrosion, failure, and condition." Defs.' Resp. Mot. Prelim. Inj. at 10. He also based his opinion on the industry practice in that era—which, as he explained, required every cast-iron pipe (such as the Dodge Water Main) to be "coated inside and out with coal tar pitch varnish." Hr'g Tr. at 1038.

Historical documents from the City corroborate Nixon's testimony and note that the Dodge Water Main was to be "coated in accordance with" the industry standards of the time. *Id.* at 1040–42. And Nixon spoke with City Manager Wally Bobkiewicz, who said he believed that the City's water pipes had some sort of coal-tar coating. *See id.* at 1042–43.

The City takes issue with the Utilities' theory. For instance, it argues that Nixon's visual observation of a pipe is an unreliable method by which to determine if a coal-tar coating is present, and that the subsequent material testing done by Nixon's firm was also unreliable. *See generally* Pl.'s Mem. Supp. Mot. Bar Nixon & Crowe, ECF No. 148. But, even putting aside the material testing performed by Nixon that formed the basis of Dr. David Crowe's testimony, the Court finds that Nixon has sufficient experience in the industry to opine as to whether the black crust on the outside of the water main was indicative of coal-tar coating. *See* Defs.' Resp. Mot. Bar Nixon & Crowe at 2–3, ECF No. 160 (describing Nixon's over thirty years of experience evaluating protective coatings on cast-iron pipes from the 1880s to the 1970s); *Walker*, 208 F.3d at 591 (explaining that experts may be qualified based on experience in their field). Additionally, Nixon has explained that he routinely has relied upon visual observation to identify coal-tar coatings on cast-iron pipes. *See* Hr'g Tr. at 1060–62. This is sufficient foundation for Nixon to offer opinions based upon his observation of the Dodge Water Main.

The City offers a number of additional objections to this theory. First, the City argues that the historical documents cited by Nixon post-date the installation of the

Dodge Water Main or discuss a different type of pipe or coating altogether. *See* Pl.'s Reply at 9.[13] Second, the City contends that the presence of naphthalene in the samples of the water main disprove the Utilities' coal-tar coating theory.[14] Third, the City points to the fluoranthene-pyrene ratio of various samples to support its theory that the PAHs came from the manufactured gas process.[15] As noted, the Utilities have raised responses to these contentions.

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[13] The Utilities respond that, although the documents might post-date the installation of the water main, they indicate that the City generally followed industry practices with respect to the laying of pipes, and there is nothing in the record that the Dodge Water Main was an exception. *See* Hr'g Tr. at 1324–26, 1434–35.

[14] In turn, the Utilities point to two studies—one by the Agency for Toxic Substances and Disease Registry ("ATSDR," a division of the U.S. Department of Health and Human Services) and another by researchers in the Netherlands—that identified naphthalene as a component of coal-tar pitch. *See* DX 1033 at 218 (ATSDR Study, Table 4-7, "Identity of PAH Components of Coal-Tar Pitch"); DX 1054 at 602 ("The Dutch Study," describing naphthalene as one of the most prevalent PAHs found in the coated cast-iron pipes sampled). The City disputes the import of the study relied upon by the ATSDR, pointing out that naphthalene was used as a "standard" in the study; it contends, based on Hendron's testimony, that such a standard would have been *added* to the study as opposed to independently identified. *See* Pl.'s Mem. Supp. Mot. Prelim. Inj. at 14 n.7. But Hendron's testimony was less than clear on this point. *Compare* Hr'g Tr. at 679, *with id.* at 680–81. The City also disputes the Dutch Study findings, contending that the pipes in this study were coated with bitumen, not coal-tar. *See* Pl.'s Reply at 7–8. But the portion of the study the City cites notes that 20 percent of the pipes were coated with coal tar. *See* DX 1054 at 603.

[15] According to Dr. Gauthier, a fluoranthene-pyrene ratio of less than one corresponds to a carbureted water gas tar, while a ratio of greater than one corresponds to a coal tar. Hr'g Tr. at 1130–31. The City, citing Dr. Jeffrey's testimony, argues that "about half" of the samples taken from the Impacted Area have a fluoranthene-pyrene ratio of less than one, indicating that they are from a carbureted water gas process as opposed to a coal-tar coating. Pl.'s Mem. Supp. Mot. Prelim. Inj. at 41; *see* Hr'g Tr. at 64–65. The Utilities counter that the fluoranthene-pyrene ratio is useful only insofar as the compound being tested is *tar*, not some other compound containing PAHs, because many PAHs have fluoranthene-pyrene ratios of less than one. *See* Defs.' Resp. Mot. Prelim. Inj. at 9. Meanwhile, they argue, the fluoranthene-pyrene ratios for the *tar* associated with the Dodge Water Main are all greater than one, indicating the presence of coal tar as opposed to tar from the Lowe Process. *See id.*; Hr'g Tr. at 1130–36.

In the end, while the Court finds that, on balance, the Utilities advance the better arguments, it must be remembered that it is not the Utilities that bear the burden of proving that a source other than the Skokie MGP caused the PAHs; rather, the burden rests with the City to prove that the PAHs came from wastes associated with the Skokie MGP plant and related infrastructure. *See AM Gen. Corp. v. DaimlerChrysler Corp.*, 311 F.3d 796, 803 (7th Cir. 2002) (explaining that the party seeking a preliminary injunction bears the burden of showing an entitlement to relief). At a minimum, the Utilities have presented an appreciable amount of evidence to support their coal-tar coating theory, and the plausibility of the Utilities' alternative theory makes the City's work that much more difficult.

Given the evidence that different chemical compounds are found in the Dodge Gas Line and Dodge Water Main, the dearth of support in the record for the City's migration theory, and the existence of a plausible alternative source, the Court finds that it is unlikely that the City could succeed in proving that the Utilities have "contributed" to the PAHs found in and around the Dodge Water Main.

The same goes for the City's theory that the Utilities have contributed to the below-ground methane, which relies in large part on the same theory of oil migration already discussed. Not only is it unlikely that the MG Waste Oils traveled from the Dodge Gas Line down to bedrock, but the City now acknowledges—agreeing in part with the Utilities' expert Fred Baldassare—that at least some of the underground methane is naturally occurring. *See* Pl.'s Reply at 15–16 (asserting both that the methane is "not naturally occurring" and that it is made from a "*mixture*" of the

Utilities' waste and glacial outwash materials (emphasis in original)). But, unlike Baldassare—who set forth proof in the form of undisputed Carbon 14 data[16] indicating that the methane derives from glacial materials—the City points to little persuasive data indicating that the MG Waste Oils were the source of the methane.[17]

For these reasons, after considering all of the evidence and evaluating the credibility of the witnesses, the Court finds that the City has not demonstrated that it is likely to succeed on its contention that the Skokie MGP was the source of the contamination found at the Dodge Water Main or in the Impacted Area.

B. "Imminent and Substantial" Risk to Health or the Environment

The Court thus moves to the third element of the RCRA claim: whether the contaminants "may present an imminent and substantial endangerment to health or the environment." 42 U.S.C. § 6972(a)(1)(B). The use of the term "may" in this provision renders it fairly expansive, and the City can succeed on this element by showing a *potential* for substantial and imminent harm as opposed to a fully realized injury. *See Liebhart*, 917 F.3d at 958–59; *Maine People's All. v. Mallinckrodt, Inc.*, 471 F.3d 277, 288 (1st Cir. 2006); *United States v. Price*, 688 F.2d 204, 213 (3d Cir.

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[16] The City originally disputed the nature of the Carbon 14 data, claiming that the Carbon 14 age of the methane was older than the age of the last glacial event and thus glaciation could not be a source. *See* Hr'g Tr. at 475. The City now seems to have abandoned that theory in response to Baldassare's explanation that a glaciation event "pick[s] up materials that are older than the actual age of the glaciation." *See id.* at 1167–68.

[17] For example, take PX 1048 and 1058 that depict testing conducted by Hendron in the vicinity of James Park along Oakton Avenue, Dodge Avenue, and the rail line. Some samples do indicate heightened levels of methane (GMP 8, 10, 11), but others, including others along the gas pipe locations and closer to the MGP site, do not. Hr'g Tr. at 472–74. If the methane gas was the result of contamination from wastes from the MGP plant, one would expect a more established pattern consistent with this theory.

1982). Still, Plaintiff must show a "reasonable prospect of a near-term threat of serious potential harm" to succeed. *See Maine People's All.*, 471 F.3d at 296. Contamination that does not currently present a possible threat is insufficient. *See Liebhart*, 917 F.3d at 960–61 (explaining that plaintiffs must show contamination that has the current potential to substantially threaten health, even if the harm will be felt in the future); *Avondale Fed. Sav. Bank v. Amoco Oil Co.*, 170 F.3d 692, 695 (7th Cir. 1999) (concluding that contamination that "may very well present an imminent and substantial danger at some point, but . . . does not present such a danger right now" does not violate RCRA); *Christie-Spencer Corp.*, 118 F. Supp. 2d at 419–20 (same). Here, the Court considers the potential of risk (1) to the City's drinking water from PAHs in the Dodge Water Main, (2) to the public from methane exposure, and (3) to construction workers and the environment from PAHs in the soil.

i. Risk to Evanston's Drinking Water

The City contends that solid material containing PAHs that coat the inside of the Dodge Water Main may endanger Evanston residents if it breaks off and enters the water supply—in fact, it argues, this situation may already be occurring and causing a *current* dangerous situation to public health. In support, the City points to the testimony of Dr. LeChevallier, who explained how contaminants on the outside of the Dodge Water Main could get inside the water main, reattach to the inside of the pipe (thus forming a black crust on the inside), and then detach and "desorb" into the water supply. Hr'g Tr. at 777–87. Dr. LeChevallier explained that common events such as opening fire hydrants, motor traffic on the roads above the water main,

water flowing at high volumes through the water mains, and changes in water chemistry could all cause this detachment to occur. *Id.* at 797–98, 801.

According to Dr. LeChevallier, it is "not reasonable" to think that the PAHs in the interior black crust will never dislodge and enter the water supply at some point in time, but he also said that "the magnitude of the risk posed by the petroleum material would have to be evaluated using a risk assessment." *Id.* at 796, 801. His testimony was supported by Dr. Serap Erdal, an environmental and occupational health sciences professor, who explained that the very existence of the PAHs in the crust inside the Dodge Water Main indicated that an "active exposure route" was present. *Id.* at 875. In other words, she said, "there is a link between" the potential source of contamination and the potential "receptor," or in this case, residents of Evanston. *Id.* But Dr. Erdal also explained that the possible concentration of PAHs that could be released from the black crust is unknown, and thus the resulting level of exposure to citizens is also unknown. *Id.* at 877. Dr. Erdal stated that she is not currently capable of assessing the potential risk without obtaining more information, including the location of all of the water pipes. *See id.* at 881.

What is notable about their testimony is that neither Dr. LeChevallier nor Dr. Erdal could testify as to the magnitude of the risk that they believe could be threatening the water supply—only that a risk assessment should be conducted to find out.[18] Furthermore, all of this testimony was hypothetical; neither

[18] Dr. LeChevallier's framing of his central opinion is particularly noteworthy: "[O]nce absorbed to the interior walls of the drinking water pipe, it is not reasonable to assume that the material would never desorb and pose a public health threat to water customers." Hr'g Tr. at 796. Thus, Dr. LeChevallier says nothing about the probability that any material

Dr. LeChevallier nor Dr. Erdal has actually looked at or studied Evanston's water system, conducted any testing to determine what the level of risk might be, or even calculated the possibility of the black crust dislodging and entering the water supply. Although the level of risk need not be quantified for purposes of a preliminary injunction, it must present a "reasonable prospect of a near-term threat of serious potential harm." *Maine People's All.*, 471 F.3d at 288. Here, even Dr. Erdal could not say that such a prospect exists without further analysis. *See* Hr'g Tr. at 881.

In fact, the tests that have been performed of Evanston's water system have *confirmed that the City's drinking water is safe*. In 2017, Hendron conducted water sampling to determine if any of the "crustal material" had been dissolved into the drinking water. *See* Hr'g Tr. at 1247–48. He tested during four times of the year and found only very low levels of seventeen PAHs (the "priority PAHs" as designated by EPA). *See id.* at 1248–50; *see also* DX 1034 (Hendron water sampling report). And both the EPA and the IEPA have determined that the concentrations of PAHs in Evanston's drinking water are at safe levels. Hr'g Tr. at 1250, 1253–54. In fact, the EPA has preliminarily concluded that the "crustaceous material" in the Dodge Water Main "does not pose an unacceptable threat to public health under the Safe Drinking Water Act." DX 1175. And the fact that the City currently sells its water to other municipalities underscores this conclusion. *See* DX 1177; Hr'g Tr. at 845.

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would dislodge into the water pipe; rather, his opinion is limited to the rather unsurprising (and likely untestable) conclusion that such an event is not an impossibility.

Furthermore, the Utilities' risk expert, Dr. Anderson, conducted a risk assessment and concluded that the black crust inside the Dodge Water Main does not pose any risk to Evanston's drinking water supply. Dr. Anderson relied in part on the testing results confirming low levels of PAHs in the water. But she also calculated that 1.7 tons of PAH-containing crust would need to break off every day to create an unsafe level of PAHs in the water supply. Hr'g Tr. at 1260–61, 1277–78, 1280. There was no evidence that Evanston's pipes even *contain* that much crust, much less that it has ever or will ever dislodge. *See id.* at 1261. Instead, Dr. Anderson explained, the level of PAHs found in Evanston's drinking water is consistent with old, PAH-containing pipes, possibly from coal-tar coatings. *See id.* at 1263.

The City responds that neither the testing that has been done to date nor Dr. Anderson's risk assessment have accounted for the specific circumstances of the crust inside the Dodge Water Main. It argues that both Dr. Anderson and the previous test results improperly assumed a "normal distribution" of PAHs in the water; proper testing, the City argues, must account for the fact that PAHs might travel in waves caused by the types of events described by Dr. LeChevallier that could dislodge entire portions of the crust. *See* Hr'g Tr. at 802–04. But, as Dr. Anderson persuasively explained, in a busy municipal area like the vicinity around James Park, such disruptive events (such as motor traffic, work on water mains, and so forth) are common occurrences. *See id.* at 1262. Thus, it is reasonable to believe that the tests that have been performed to date would have accounted for them in one fashion or another.

The City next contends that a different type of testing is required—that a simple "grab test" of drinking water will not determine if there are particulates entering the water in the distribution system. To do an appropriate test, it states, one would have to flush the water system, potentially sending large amounts of contaminants into the water supply, thereby further risking public health. *See id.* at 819–22. But this is another way of saying that the City *does not know* what the magnitude of the current risk is, if any. The same can be said for the City's argument that Dr. Anderson failed to account for the existence of additional unknown pipes. Nor does the City explain how simply shifting the burden of this testing onto the Utilities would in any way lessen the risk to the public.

The City cannot sustain its burden by pointing to the lack of testing and suggesting that it is this very dearth of information, combined with the theoretical possibility that PAH-containing materials could dislodge into the water system, that creates the type of risk that warrants injunctive relief under RCRA. The mere existence of such substances, without any evidence that they are likely to dislodge and create a health risk, is not enough. Accordingly, the Court finds that the City has failed to show a likelihood of success as to the potential for risk to Evanston's drinking water supply.[19]

[19] Furthermore, counsel for the City has acknowledged that the affected section of the Dodge Water Main has been out of service since 2015. *See* Hr'g Tr. at 812. This further undercuts the City's assertion of risk, despite Dr. LeChevallier's speculation that the PAHs may have traveled elsewhere in the water system. *See id.* at 806, 820–21.

ii. Risk of Methane Exposure

As for methane exposure, the City relies on (1) the capacity of MG Waste Oils to biodegrade into methane, and (2) Dr. Erdal's testimony about the risks associated with methane exposure. In particular, Dr. Erdal stated that when methane mixes with air, it can explode; furthermore, methane displaces oxygen, creating a suffocation risk. Hr'g Tr. at 882. The concern with respect to these risks, Dr. Erdal stated, is that the location of all the methane is unknown. *Id.* at 882–83.

The problem with this theory is largely the same as discussed above—Dr. Erdal did not actually conduct a risk assessment and so cannot say with any specificity what the actual risk is. Additionally, even if the existence of methane does pose a potential risk, that risk is present only if there is an exposure pathway—in other words, a way for the methane to actually reach the surface or otherwise come into contact with an ignition source or the population at large. But, as Baldassare persuasively explained, the methane in this case is "only found at depths of 40 feet or greater," and there is "no pathway" for that methane to reach the surface. *See id.* at 1197–98. The methane is below "confining beds" of clay and is not likely at risk of being released into the environment. *See id.* Additionally, the City has methane detectors in place to alert it if any actionable degree of risk from methane *does* arise, and none has been detected to date. *See* Hr'g Tr. at 661–62, 1198–99.

The City has not offered any evidence that the methane is or will be in any danger of being released, other than the bare possibility that someone might one day drill into it. This speculative potential is not enough. *See Phoenix Beverages v. Exxon*

Mobil Corp., No. 12-CV-3771, 2015 WL 588826, at *5–6 (E.D.N.Y. Feb. 11, 2015) (denying a preliminary injunction under RCRA due to the lack of evidence that methane below a building was likely to "ignite, or is likely to migrate to an enclosed space where ignition can occur"). The City's assertion that it does not know where all the methane is does not change this conclusion; rather, it merely demonstrates the lack of evidence in the record to establish the degree of risk. Accordingly, the City has not shown a likelihood of success on the element of risk with regard to methane exposure.

iii. Risk to Construction Workers and the Environment[20]

The City argues that additional risks may exist from the presence of MG Waste Oils and PAHs in the soil in the Impacted Area. The evidence is undisputed that there are high levels of PAHs in some soil samples near the Dodge Gas Line and Dodge Water Main. *See* PX 1002. Not only are these PAHs above regulatory "background levels," *see* PX 1059 (TACO table for PAH levels in soil)[21], but, the City claims, it is "problematic" for humans to be exposed to these chemicals. *See* Pl.'s Mem. Supp. Mot. Prelim. Inj. at 28; Hr'g Tr. at 872–73. In support, Dr. Erdal testified that workers may be exposed to these chemicals when digging in utility trenches. *See*

[20] Following oral arguments, the Court requested supplemental briefing on the issue of the risk of harm to the environment. *See* Pl.'s Suppl. Br, ECF No. 236; Defs.' Suppl. Br., ECF No. 240.

[21] The parties dispute whether the City has accurately defined the exceedance of PAH background levels in the Impacted Area. The Court does not address this dispute because, even under the City's view, it has not shown that an imminent and substantial risk of environmental endangerment exists.

Hr'g Tr. at 881–82. Furthermore, the PAHs in the soil exceed "worker ingestion and inhalation standards" set by the IEPA. *See* Pl.'s Mem. Supp. Mot. Prelim. Inj. at 28; PX 1043.

Again, the problem with this argument is the lack of probative evidence that the PAHs in the soil are likely to be encountered or cause any actual harm to humans or wildlife. *See Phoenix Beverages*, 2015 WL 588826, at *5–6 (denying a preliminary injunction due to the lack of evidence of a pathway for methane exposure); *Tri-Realty Co. v. Ursinus Coll.*, No. 11-5885, 2013 WL 5298469, at *12 (E.D. Pa. Sept. 19, 2013) (denying a preliminary injunction due to the lack of evidence of an exposure pathway for weathered oil). In addition, as the Utilities point out, the City undertakes precautions to protect workers from such exposures to the extent they could occur. *See* Defs.' Resp. Mot. Prelim. Inj. at 32. There is insufficient evidence in the record for the Court to find that the mere presence of chemicals, even above background levels in some places, establishes an imminent and substantial risk in the Impacted Area without evidence of an exposure pathway.

The City argues that some courts have found that a mere presence of chemicals in soil and groundwater *is* sufficient to establish a possible imminent risk of harm. *See, e.g.*, *U.S. v. Apex Oil Co., Inc.*, No. 05-CV-242-DRH, 2008 WL 2945402, at *79 (S.D. Ill. July 28, 2008) (recognizing the possibility of endangerment through exposure to groundwater); *Raymond K. Hoxsie Real Estate Tr. v. Exxon Educ. Found.*, 81 F. Supp. 2d 359, 367 (D.R.I. 2000) (finding that contamination of groundwater that had the potential to migrate could create an imminent and substantial endangerment

under RCRA); *Fairway Shoppes Joint Venture v. Dryclean U.S.A. of Fla., Inc.*, No. 95-8521-CIV-HURLEY, 1996 WL 924705, at *8 (S.D. Fla. Mar. 7, 1996) (concluding that groundwater contamination in excess of state standards created the possibility of an imminent endangerment); *Lincoln Props., Ltd. v. Higgins*, No. S-91-760DFL/GGH, 1993 WL 217429, at *13–14 (E.D. Cal. Jan. 21, 1993) (same).

But in those cases, the record contained evidence supporting the potential exposure of the public to the contamination via potable water sources; this type of evidence is lacking in this case. The City does suggest in passing that the PAHs here could leach into the water supply, thus providing an exposure pathway. *See* Pl.'s Suppl. Br. at 10–11 n.9. But the City offers no evidence (expert or otherwise) that would allow the Court to assess the magnitude of such a risk.[22] And, even assuming the City could show some negligible likelihood of success on its claim that the PAHs present in the soil and groundwater near Dodge Avenue create a risk of imminent harm to the environment, it has not shown a likelihood of success as to the other requirements of RCRA, as discussed above.

III. Irreparable Harm

The Court's finding that the City is unlikely to succeed on the merits of its RCRA claim has significant consequences for the City's arguments regarding

[22] Moreover, RCRA requires the possibility of an imminent and substantial endangerment, not mere exposure. *See, e.g., Lewis v. FMC Corp.*, 786 F. Supp. 2d 690, 710 (W.D.N.Y. 2011) ("Without any evidence linking [contamination in excess of state standards] to potential imminent and substantial risks to human health or wildlife, reliance on the standards alone presents merely a speculative prospect of future harm, the seriousness of which is equally hypothetical.").

irreparable harm. The City points out that "[e]nvironmental injury, by its nature, can seldom be adequately remedied by money damages and is often permanent or at least of long duration, *i.e.*, irreparable." *Amoco Prod. Co. v. Vill. of Gambell*, 480 U.S. 531, 545 (1987). The corollary, however, is that irreparable harm will typically be found only if "such injury is sufficiently likely." *Id.*; *see Phoenix Beverages*, 2015 WL 588826, at *4 ("Courts should decline granting preliminary injunctive relief if, for instance, the risk of harm is speculative in nature."). The Seventh Circuit has recently clarified that, under RCRA, likelihood of success on the merits and irreparable harm are intertwined—"A RCRA plaintiff either demonstrates irreparable harm or fails to prove his or her case on the merits." *LAJIM, LLC v. Gen. Elec. Co.*, 917 F.3d 933, 945 (7th Cir. 2019).

Even the cases cited by the City are consistent with this approach. In many, injunctive relief was ordered only after a trial on the merits or other determination of liability under RCRA. *See, e.g.*, *Maine People's All.*, 471 F.3d 277 (upholding an injunction requiring further study of the scope of contamination, after a trial on the merits where the evidence established that the defendant had dumped mercury into a river); *EPA v. Envtl. Waste Control, Inc.*, 917 F.2d 327 (7th Cir. 1990) (upholding a permanent injunction entered after the defendant's willfulness had been established). And even in cases involving preliminary relief, courts have recognized that ordering a defendant to fund investigation and remediation is appropriate only if "the traditional balancing process tips *decidedly* in favor of plaintiff." *Price*, 688 F.2d at 213 (emphasis added).

The City points to *Sanchez v. Esso Standard Oil Co.*, where the First Circuit concluded that it was inappropriate at the preliminary stage to summarily establish the defendant's liability, but kept in place a portion of an injunction requiring the defendant to fund a site assessment. 572 F.3d 1 (1st Cir. 2009). But the First Circuit did not eliminate the requirement that liability be *likely*. *See id.* at 19. Moreover, the defendant in *Sanchez* took no issue with funding a site assessment, in contrast with the Utilities in this case. *See id.* at 8.

Accordingly, given the lack of persuasive evidence of any potential endangerment of the public health or the environment, the Court cannot find that the City will suffer irreparable harm in the absence of an injunction. *See LAJIM, LLC*, 917 F.3d at 945. The City, however, seems to argue that it need not show a likelihood of harm since the relief it seeks—a risk assessment—is aimed at that very question. This argument is circular: further investigation *might* reveal that the contaminants in the Impacted Area *might* present a harm; so, according to the City, it will suffer irreparable harm by virtue of not knowing what that possible harm might be. This approach ignores the City's obligation to prove that irreparable harm is *likely* in the absence of injunctive relief. *See Winter*, 555 U.S. at 22.

Compounding this problem are the circumstances under which the City seeks its preliminary injunction. As an initial matter, it is not clear why this preliminary injunction is needed now as opposed to three years ago when the case was filed, five years ago when Hendron discovered the black crust on the Dodge Water Main, fifteen years ago when city employees began encountering the black crust, or fifty years ago

when the Dodge Gas Line was abandoned in place. The City argues that it needed time to investigate its claims, but that argument falls flat when all it has done so far is conduct a preliminary investigation, while refusing to begin the process of investigating or cleaning up any further. This is not to say that the City should have foregone the opportunity to assert its rights under RCRA. But the lack of effort to begin working toward a solution to address the contamination, even while this litigation is pending, suggests that it is not the emergency the City contends it is.

What is more, the City's own actions with respect to the contamination have been inconsistent with the notion of irreparable harm requiring preliminary relief. The City continues to tout the safety of its drinking water to its residents, and even sells its water to other municipalities. *See* DX 1177; Hr'g Tr. at 845. The City responds that "water can be considered safe based on routine monitoring under the Safe Drinking Water Act, while [black crust particles containing PAHs] can still present an imminent and substantial endangerment under RCRA." Pl.'s Reply at 18. But this then begs the question: when would this supposed imminent and substantial endangerment cause the City to stop providing water to its residents? If the City is concerned that there is a current, appreciable risk that its water may be carrying harmful and even carcinogenic chemicals, it is difficult to understand how it can consider that same water safe enough for public consumption.

Similarly, the City continues to use James Park and the surrounding public facilities, despite the alleged risk of methane in the area. The City responds that the methane is far below ground, and therefore does not pose a risk to surface-level

activities; furthermore, it has installed methane alarms to avoid any possible risk. But if the City believes that the methane will not pose a risk to its surface-level activities—and it does not contend that any activities are planned that would reach the methane underground—it cannot seriously contend that it will suffer irreparable harm if an injunction is not granted.

The City's actions are more telling than its words—if it believed that an imminent and substantial risk may exist, one would think it would begin doing everything in its power to protect its residents, even if that meant funding further investigations itself. Based on this record, the Court concludes that the City has not established a likelihood of irreparable harm in the absence of a preliminary injunction.

IV. Adequate Remedy at Law

The City contends that, if a preliminary injunction is not issued, it will have no remedy at law for the costs it will have to expend investigating and remediating the Impacted Area. The Utilities disagree.

As an initial matter, even if preliminary relief is not awarded, the Court may order permanent relief in the form of remediation and, if necessary, further investigation after a finding of liability. *See, e.g.*, *Maine People's All.*, 471 F.3d 277. As for a damages remedy, however, Plaintiffs correctly note that RCRA does not provide for recovery of past clean-up or investigation costs. *See Meghrig*, 516 U.S. at 484–85; *Albany Bank & Tr. Co. v. Exxon Mobil Corp.*, 310 F.3d 969, 974 (7th Cir.

2002); *Avondale Fed. Sav. Bank*, 170 F.3d at 694–95. But that does not mean the City may not have *other* avenues to recover such costs.

A common alternative source of damages would be under the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA"), 42 U.S.C. § 9601 *et seq*. Although the City did not state a claim under CERCLA in its complaint, it did allege violations of CERCLA in its pre-suit notice. *See* Compl., Ex. B, ¶ 58. CERCLA explicitly provides for recovery of "all costs of removal or remedial action," including obtaining any "necessary costs of response" from "any other person who is liable or potentially liable" for the costs. 42 U.S.C. §§ 9607(a)(4), 9613(f)(1). The City, however, now states that CERCLA does not apply, because the act's definition of "hazardous substances" excludes "petroleum" as well as "synthetic gas usable for fuel," such as the manufactured gas made at the Skokie MGP. *Id.* § 9601(14).

The Court is surprised, and not entirely persuaded, by the City's interpretation of the "petroleum exclusion" as it applies to this case. The City cites to a 1997 case from Ohio, in which the district court held that coke oven gas and its condensate were not "hazardous substances" based on the petroleum exclusion. *Helter v. AK Steel Corp.*, No. C-1-96-527, 1997 WL 34703718 (S.D. Ohio Mar. 31, 1997). In particular, that court concluded that a "condensate form" of the coke gas—which was a synthetic gas—was indistinguishable from the gas itself. *Id.* at *9. The City likens this analysis to the case at hand, in which it alleges that a "condensate" from the Dodge Gas Line is the source of the contamination in the Impacted Area. By contrast, the Utilities cite to several cases in which waste from MGPs was treated as a hazardous

substance under CERCLA. *See, e.g.*, *Yankee Gas Servs. Co. v. UGI Utils., Inc.*, 852 F. Supp. 2d 229 (D. Conn. 2012); *N.Y. State Elec. & Gas Corp. v. FirstEnergy Corp.*, 808 F. Supp. 2d 417 (N.D.N.Y. 2011), *vacated in part on unrelated grounds*, 766 F. 3d 212 (2d Cir. 2014). The City retorts that these cases are inapposite because they address contamination from "byproducts from the manufacture of gas, not contamination caused by . . . synthetic gas or synthetic gas condensate itself." Pl.'s Reply at 21.

This argument signifies a significant shift from the City's position in the rest of this litigation. All along, the City has contended that the MG Waste Oils are byproducts of the manufactured gas made at the Skokie MGP; "DNAPL" tars that should have been, but were not completely, *removed* from the finished product. *See* Pl.'s Mem. Supp. Mot. Prelim. Inj. at 8–10; Pl.'s Reply at 10–11. Although the City has spoken of a "condensate" in the Dodge Gas Line, its theory seems to be that the condensate is formed from the wastes that it believes were not entirely removed from the manufacturing process—not that the condensate is formed from manufactured gas "usable for fuel" itself. *See id.* Accordingly, it would seem that the "waste oils" in question are consistent with the wastes at issue in *Yankee Gas Services* and *New York State Electric & Gas*. Accordingly, as a preliminary matter, the Court is skeptical that the City would have no remedy at law under CERCLA.

Even taking the City at its word, though, it has not addressed the matter of its state law claims. The City's complaint seeks (1) compensatory and punitive damages for trespass, (2) compensatory and punitive damages for private nuisance, (3) compensatory and punitive damages for public nuisance, and (4) compensatory

damages for breach of contract. The City has offered no argument why these damages remedies would be insufficient to cover the harm suffered by the City in having to bear the cost of investigating the contamination and performing any necessary remediation. *See Christie-Spencer*, 118 F. Supp. 2d at 425 (concluding that plaintiffs had an adequate remedy at law under the common law as well as CERCLA).

Of course, this is not to say definitively that the City will be able to recover its investigation costs; many other considerations apply. *See, e.g., Albany Bank & Tr. Co.*, 310 F.3d at 975. It is sufficient for present purposes that the City *would* have a remedy with respect to the remediation of the site, as well as for damages under its state-law claims. The mere possibility that the City may not be able to recoup its investigative costs is insufficient to warrant preliminary injunctive relief given this factual record.

V. Balancing of Equities

The final consideration in the preliminary injunction framework is the balancing of harms as between the City and the Utilities. As an initial matter, the parties dispute whether this analysis is even necessary. The City argues that, since it is a government acting on behalf of its citizens, balancing is not necessary. *See Envtl. Waste Control*, 917 F.2d at 333 (explaining that in injunctions involving governmental plaintiffs or "private attorneys general," "injunctive relief is proper, without resort to balancing"). Alternatively, the City argues, the Utilities' conduct has been willful with respect to the contamination, eliminating the need for balancing. *See id.* at 332. But the Court is not inclined to find that the Utilities'

conduct was willful, where the City's likelihood of success on the merits has not been established. And in the Utilities' favor is the principle that the balancing of harms generally comes *after* the moving party meets the threshold requirements for an injunction. *See Ezell*, 651 F.3d at 694.

For the sake of completeness, however, the Court will address briefly the balance of harms. The City asserts that harm to its citizens and the environment is likely without an injunction, and that it also has been prevented from making full use of its property since it does not know where all of the contamination may be located. But, as discussed above, the record does not establish that harm to the residents of Evanston or the environment is at all likely.

By contrast, the relief requested by the City is oppressive in scope and is not truly "preliminary" in any reasonable understanding of the term. The City seeks as *preliminary relief* a full-scale risk assessment that, by its own projections, could take upwards of one to three years to complete. Furthermore, the City appears to be interested in expanding the scope of the investigation beyond the "Impacted Area" that is the focus of its complaint; the City seeks the location of *all* of the Utilities' old gas pipelines and has argued that the contamination may have traveled outside of the Impacted Area. Finally, the City asks the Utilities not just to investigate, but to design a remediation plan for later implementation.

Accordingly, based on this record, the Court finds that the balancing of harms favors the Utilities.[23]

Conclusion

For the foregoing reasons, the City's motion for a preliminary injunction is denied. The City's and the Utilities' motions to exclude expert witness testimony are also denied. The City's motion to bar reliance on excluded expert testimony is denied as moot.

IT IS SO ORDERED. **ENTERED 4/9/19**

John Z. Lee
United States District Judge

[23] Because the Court concludes that a preliminary injunction is not warranted, the Court does not address the parties' arguments regarding the propriety of an injunction bond.