FINAL BRIEF

NOT YET SCHEDULED FOR ORAL ARGUMENT

No. 24-1376

United States Court of Appeals for the District of Columbia Circuit

AMERICAN WATER WORKS ASSOCIATION
Petitioner,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, ET AL.,
Respondents,

NATURAL RESOURCES DEFENSE COUNCIL, ET AL.,
Respondent-Intervenors,

On Petition for Review of Final Action by the United States Environmental Protection Agency – 89 Fed. Reg. 86418 (Oct. 30, 2024)

BRIEF OF AMERICAN ACADEMY OF PEDIATRICS, *ET AL.* AS *AMICI CURIAE* IN SUPPORT OF RESPONDENTS AND RESPONDENT-INTERVENORS

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CERTIFICATE AS TO PARTIES, RULINGS, RELATED CASES, AND RULE 26.1 DISCLOSURE

As required by Circuit Rules 26.1, 28(a)(1), and 29(d), and Federal Rule of Appellate Procedure 26.1, counsel for *amici curiae* hereby certifies as follows:

I. Parties and *Amici*

All parties and intervenors appearing in this Court are listed in the certificates to the Opening Brief of Petitioner and the Opening Brief of Respondents. In addition, the following *amici curiae* (collectively "*Amici*") join this brief:

The **American Academy of Pediatrics ("AAP")** is a national, not-for-profit organization dedicated to improving child and adolescent health. No publicly held company has any form of ownership interest in AAP.

The **American College of Obstetricians & Gynecologists ("ACOG")** is a national, not-for-profit professional organization dedicated to improving the lives of all people seeking obstetric and gynecologic care, their families, and communities. ACOG is a membership organization that represents obstetrician-gynecologists and

other women's health care professionals across the United States and internationally. No publicly held company has any form of ownership interest in ACOG.

The **American College of Physicians ("ACP")** is a national, nonprofit professional organization dedicated to enhancing the quality and effectiveness of health care by fostering excellence and professionalism in the practice of medicine. No publicly held company has any form of ownership interest in ACP.

The **American Public Health Association ("APHA")** is a national, nonprofit professional organization dedicated to promoting optimal and equitable health and well-being for all. APHA is a membership organization that represents public health professionals nationwide. No publicly held company has any form of ownership interest in APHA.

II. Rulings Under Review

References to the agency decision under review appear in the certificates to the Opening Brief of Petitioner and the Opening Brief of Respondents.

III. Related Cases

A description of related cases appears in the certificate to the Opening Brief of Petitioner and the Opening Brief of Respondents.

IV. Separate Brief

Pursuant to Circuit Rule 29(d), *Amici* certify that a separate brief is necessary to provide the Court with the perspective and expertise of the medical professionals and researchers that *Amici* represent. This brief's targeted focus on the health impacts of lead in drinking water, particularly on children and how the "National Primary Drinking Water Regulations for Lead and Copper: Improvements" ("LCRI") is a step forward in mitigating these health risks, is uniquely relevant to the agency action at issue. Accordingly, *Amici* through counsel, certify that filing a joint brief with other potential *amici* would not be practicable.

TABLE OF CONTENTS

TABLE OF AUTHORITIES

Cases **Page(s)**

Statutes

Regulations

Other Authorities

GLOSSARY OF ABBREVIATIONS

CDC	Centers for Disease Control and Prevention
EPA	United States Environmental Protection Agency
LCRI	National Primary Drinking Water Regulations for Lead and Copper Rule: Improvements
ppb	parts per billion
µg/dL	micrograms per deciliter
µg/L	micrograms per liter

STATEMENT OF IDENTITY AND INTEREST[1]

The **American Academy of Pediatrics ("AAP")** is a national, not-for-profit organization dedicated to improving child and adolescent health. AAP is a membership organization that represents over 67,000 primary care pediatricians, pediatric medical subspecialists, and pediatric surgical specialists nationwide. AAP advances child and adolescent health through education, research, advocacy, and the provision of expert advice. AAP is a widely regarded authority in childhood lead poisoning prevention.

The **American College of Obstetricians & Gynecologists ("ACOG")** is a national, not-for-profit, professional organization dedicated to improving the lives of all people seeking obstetric and gynecologic care, their families, and communities. ACOG is a membership organization that represents more than 62,000 obstetrician-gynecologists and other women's health care professionals across the United States and internationally. ACOG advances women's health

[1] This brief was not authored in whole or in part by counsel for a party. No party or counsel for a party and no person, other than amici and their counsel, made any monetary contribution to fund the preparation or submission of this brief.

through education, research, clinical guidance, and advocacy. ACOG's efforts have included producing guidance on lead screening during pregnancy and reducing prenatal exposure to toxic environmental agents, such as lead. ACOG is widely regarded as a leading authority on maternal health, reproductive health, and clinical standards for obstetric and gynecologic care.

The **American College of Physicians ("ACP")** is a national, nonprofit, professional organization dedicated to enhancing the quality and effectiveness of health care by fostering excellence and professionalism in the practice of medicine. ACP is a membership organization that represents more than 163,000 internal medicine physicians, subspecialists, residents, fellows, and medical students worldwide. ACP advances the practice of internal medicine through education, research, clinical guidance, and policy advocacy on issues affecting adult health and the delivery of medical care. ACP is widely regarded as a leading authority on adult medicine, preventive care, and evidence-based clinical practice. ACP has an interest in reducing environmental hazards that affect public health and has published

position papers detailing threats to health caused by environmental toxins, like lead.

The **American Public Health Association ("APHA")** is a national, nonprofit, professional organization dedicated to promoting optimal and equitable health and well-being for all. APHA is a membership organization that represents more than 23,000 public health professionals nationwide. APHA advances public health through education, research, policy advocacy, and the dissemination of scientific information and best practices. APHA is widely regarded as a leading authority on environmental health issues affecting communities. APHA's research efforts have included a nationwide project, Protecting the Health of Children: A National Snapshot of Environmental Health Services, launched in response to the Flint, Michigan water crisis. A national scan of 48 states was conducted to assess the availability of publicly available information about environmental health services, including lead exposure prevention for children. APHA also participated in the launch of the Lead Service Line Replacement Collaborative, a joint effort of 28 national public health, water utility, environmental, labor, consumer, housing, and state and local governmental organizations to

accelerate full removal of the lead pipes that provide drinking water to millions of American homes.

Amici file this brief in order to express their support for the final rule at issue in this litigation, "National Primary Drinking Water Regulations for Lead and Copper: Improvements" ("LCRI" or "the Rule"), 89 Fed. Reg. 86418 (Oct. 30, 2024), JA1. *Amici* are committed to and engaged in efforts to protect the health, well-being, and welfare of children in the United States. *Amici* recognize the danger that lead in drinking water poses to individuals of all ages, but especially to children. The LCRI will help reduce and eliminate significant sources of lead exposure in the United States and thereby help reduce the harmful risks of lead exposure that endanger the health of all Americans, and particularly children.

STATUTES AND REGULATIONS

All applicable statutes and regulations are contained in the Opening Brief of Petitioner and the Opening Brief of Respondents.

INTRODUCTION AND SUMMARY OF ARGUMENT

Medical and scientific evidence continues to show that there is no safe level of lead exposure, especially for children. Nevertheless, one of

the most pervasive sources of lead exposure for children is drinking water. This exposure often occurs because antiquated lead service lines continue to deliver drinking water to many communities throughout the United States. These lead service lines were largely installed before the evidence demonstrating the dangers of lead in drinking water was understood. Despite the widely accepted scientific awareness of the dangers of lead poisoning, millions of families continue to receive their primary water supply through lead service lines, leaving children helplessly exposed to lead every time they turn on their faucets.

The LCRI is an important step toward rebuilding America's water infrastructure to provide clean, healthy drinking water. Relying on modern scientific and medical consensus, the LCRI requires the replacement of lead service lines that have been contaminating our children's drinking water for decades. Lead service line replacement is an essential step toward reducing harmful lead exposure for children, and replacement is far more effective than any alternative. Other elements of the LCRI—again, following the science—correctly recognize the danger that can arise from even low levels of lead exposure. These measures help ensure that cities and water systems act swiftly and

transparently when dangerously high lead levels are detected. The result, if properly implemented, will be a safer, healthier, and more equitable water system in the United States.

Because the LCRI is fully supported by science and reason, this Court should deny the petition for review. There should be no further delay in removing harmful materials from our children's drinking water.

ARGUMENT

I. Lead in Drinking Water Poses a Particular Risk to Children

Exposure to lead can cause numerous health complications in children, including serious cognitive deficiencies and life-altering developmental challenges. Children can be exposed to lead through various mediums, such as lead paint, and one of the most common, and highly preventable, sources of lead exposure for children is drinking water.

A. Lead exposure gives rise to serious and permanent adverse health effects, especially among children.

There is no safe level of lead exposure. Even low levels of lead exposure can cause cardiovascular health issues (such as high blood pressure), kidney and nervous system problems, and an elevated risk of certain cancers. Additionally, lead is "a well-established animal

carcinogen" and can "alter gene expression through epigenetic mechanisms and interact with proteins, which may be another potential means by which [lead] induces carcinogenicity." EPA, *Integrated Science Assessment for Lead*, Appendix 10, 10-1 (Jan. 2024). The LCRI correctly acknowledges that "in adults, health effects [from lead] include elevated risk of heart disease, high blood pressure, kidney or nervous system problems, and cancer." 89 Fed. Reg. at 86419, JA2; *see also* Morri Markowitz, *Lead Poisoning: An Update*, 42 PEDIATRICS IN REV. 302, 304–05 (2021).

Lead exposure, however, poses a particularly significant risk to children and infants. For children, even small amounts of lead in their blood can cause cognitive health effects such as learning challenges and hyperactivity disorders, along with hearing issues and delayed growth, among other adverse health effects. EPA, *Learn About Lead* (last updated Dec. 31, 2025), https://perma.cc/7FQ3-R9U5. Lead exposure is typically measured in "blood lead levels," and in 2012, the CDC developed a system to track the blood lead levels in children to identify communities and populations with greater-than-average risks of lead exposure. CDC, *CDC Updates Blood Lead Reference Value* (Apr. 2, 2024),

https://perma.cc/9NNX-HNSZ; Perri Zeitz Ruckart, et al., *Update of the Blood Lead Reference Value – United States, 2021*, 70 MORB. & MORTAL. WKLY. REP. 1509, 1509–10 (2021). Under the current guidance, a blood lead level at 3.5 μg/dL is considered high risk. *CDC Updates Blood Lead Reference Value, supra.* In other words, even just a few *micro*grams of lead in a deciliter of blood signifies an exceptionally high risk of adverse health effects in children. Lower amounts of lead can still negatively impact health. Ruckart, *supra*, at 1509. As AAP has explained,

> [l]ow-level lead exposure, even at blood lead concentrations below 5 µg/dL (50 ppb), is a causal risk factor for diminished intellectual and academic abilities, higher rates of neurobehavioral disorders such as hyperactivity and attention deficits, and lower birth weight in children. No effective treatments ameliorate the permanent developmental effects of lead toxicity.

Am. Acad. of Pediatrics, Council on Env't Health, *Policy Statement: Prevention of Childhood Lead Toxicity*, 138 PEDIATRICS, no. 1, at 1 (July 2016).

Adverse health effects associated with lead exposure can manifest in many different ways for children. For pregnant women, lead exposure

can cause miscarriages, premature labor, and reduced fetal growth.[2] EPA, *Basic Information About Lead in Drinking Water* (last updated Nov. 21, 2025), https://perma.cc/CN83-MRMU; CDC, *Childhood Lead Poisoning Prevention, Risk Factors and Pregnancy* (Mar. 13, 2025), https://perma.cc/6NSR-WULG. Thus, babies whose mothers are exposed to lead can be "born too early or too small" and can have damaged "brain, kidneys, and nervous system[s]." CDC, *Childhood Lead Poisoning Prevention, Are you Pregnant?* (Mar. 21, 2025), https://perma.cc/8GLE-2AV4.

Infants and toddlers can experience harmful effects at lower lead levels than adults and older children because "[l]ead ingestion and absorption are dynamic during the first 2 years of life." Am. Acad. of Pediatrics, *supra*, at 5. Blood lead levels can "increase rapidly between 6

[2] Lead can also be passed through breastfeeding. *See* Am. College of Obstetricians & Gynecologists, *Lead Screening During Pregnancy and Lactation* (Aug. 2012), https://perma.cc/9AVB-DYDH; *see also* CDC, *Lead and Breastfeeding* (Jan. 27, 2025), https://perma.cc/U8WY-945U. Also, the blood lead levels of concern for pregnant and breastfeeding women are *half* that of children: "Unlike the [blood lead] level of concern of 10 µg/dL for children, which is a communitywide action level, a [blood lead level] of 5 µg/dL" is considered concerning during pregnancy. CDC, *Recommended Actions Based on Blood Lead Level* (Aug. 21, 2025), https://perma.cc/6RUK-CXDG.

and 12 months of age [and] peak between 18 and 36 months." *Id.* A child can suffer a "0.5-IQ point loss for every 1 μg/dL … increase in [blood lead levels]." Markowitz, *supra*, at 304. And even after the first three years, children remain at risk: "Lead toxicity accounts for an estimated total loss of 23 million IQ points among a 6-year cohort of contemporary US children." Am. Acad. of Pediatrics, *supra*, at 3; David C. Bellinger, *A Strategy for Comparing the Contributions of Environmental Chemicals and other Risk Factors to Neurodevelopment of Children*, 120 ENVT'L HEALTH PERSPS. 4, 501, 504 (2012) (noting that experts have estimated that lead exposure causes a cumulative loss of 22,947,450 IQ points among the approximately 25.5 million U.S. children ages zero to five).

Lead exposure is also linked to more indirect health effects in children. Lead exposure has been associated with an increased risk of criminal activity years after initial exposure. Markowitz, *supra*, at 305 (finding that "levels of [lead] exposure have been highly correlated with violent criminal behavior, after correcting for approximately a 20-year lag time" and that "behavioral issues have been linked with [blood lead levels] of 20 μg/dL or greater in school-age children"). A study in 2019, for example, linked lead exposure of preschool students with later school

suspension and juvenile detention data. Anna Aizer & Janet Currie, *Lead and Juvenile Delinquency: New Evidence from Linked Birth, School, and Juvenile Detention Records*, 101 REV. OF ECON. & STAT. 575, 586 (2019). More recently, a 2021 study identified a possible association between childhood blood lead levels and subsequent criminal behavior, likely resulting from "reduced brain volumes in regions responsible for cognition and emotional regulation" caused by lead. TJ Beckwith, et al., *Criminal Arrests Associated with Reduced Regional Brain Volumes in an Adult Population with Documented Childhood Lead Exposure*, 201 ENV'T RSCH. 111559, at 2 (2021). And an earlier study observed that "a history of childhood lead poisoning was the strongest predictor of adult criminality among male individuals in the Philadelphia subsample of the Collaborative Perinatal Project." David C. Bellinger, *Lead*, 113 PEDIATRICS 1016, 1018 (2004).

B. The continued use of lead service lines is a major source of lead exposure in drinking water

Despite extensive efforts to reduce the lead content of drinking water over the past several decades, hundreds of thousands of American children and families are still routinely exposed to lead through drinking water. Morri Markowitz, *supra*, at 306. Many American children

between the ages of one and five have "detectable" blood lead levels above 1 μg/dL, signaling a risk of adverse health effects. *See* Patrick N. Breysse, et al., *Targeting Coordinated Federal Efforts to Address Persistent Hazardous Exposures to Lead*, 112 AM. J. OF PUB. HEALTH S640, S640 (2022); *see also* Marissa Hauptman, et al., *Individual- and Community-Level Factors Associated with Detectable and Elevated Blood Lead Levels in US Children*, 175 JAMA PEDIATRICS 1252, 1253, 1255–56 (2021).

As the United States Environmental Protection Agency ("EPA") has recognized, drinking water is a major source of lead exposure, with estimates suggesting it can comprise up to "20 percent or more of a person's total exposure to lead." EPA, *Basic Information About Lead in Drinking Water*, *supra*. In 1974, Congress passed the Safe Drinking Water Act, which required the EPA to establish national primary drinking water regulations. Safe Drinking Water Act, Pub. L. No. 93-523, 88 Stat. 1660 (1974). Then, in 1986, Congress amended the Safe Drinking Water Act, specifically tasking the EPA with improving drinking water safety and banning the installation of any plumbing material that contains lead. Safe Drinking Water Act Amendments of

1986, Pub. L. No. 99-339, §§ 101–302, 100 Stat. 642. In 1991, to meet the requirements of the Safe Drinking Water Act, the EPA promulgated the Lead and Copper Rule, with the aim of "minimiz[ing] lead and copper in drinking water." EPA, *Lead and Copper Rule* (last updated Jan. 2, 2026), https://perma.cc/5B8E-5MC2; *see also* Maximum Contaminant Level Goals and National Primary Drinking Water Regulations for Lead and Copper, 56 Fed. Reg. 26460, 26460 (June 7, 1991). In the rule, the EPA established a lead action level of 15 µg/L, *see id.* at 26508, and that "the recommended maximum contaminant level should be set at the zero level," *id.* at 26462. Although these regulations, among other measures, reduced the prevalence of lead in drinking water, they failed to grapple with the known reality that there is no safe level of lead in drinking water and that contamination would remain a pervasive problem. *See* Marissa Hauptman, et al., *supra*.

The primary source of lead in drinking water is water delivery through lead service lines. EPA, *Lead Services Lines* (last updated Dec. 10, 2025), https://perma.cc/EZR2-JLC5; *see also* CDC, *About Lead in Drinking Water* (Aug. 20, 2025), https://perma.cc/H8JN-4MDA; Am. Acad. of Pediatrics, *supra*, at 8. Lead service lines connect internal

plumbing to water mains, EPA, *Infographic: Lead in Drinking Water* (last updated Dec. 19, 2025), https://perma.cc/6Y5M-XRX7, and roughly 4 million lead service lines in the United States connect properties to water mains, EPA, *Lead Service Lines*.

When lead plumbing materials corrode, particularly "where the water has high acidity or low mineral content," lead can leach into the water. EPA, *Basic Information about Lead in Drinking Water*, *supra*. Children who live in homes with lead service lines that lack "adequate anticorrosion control" are at a higher risk for developing elevated blood lead levels. Am. Acad. of Pediatrics, *supra*, at 6. Indeed, one recent study found that the prevalence of lead service lines in an area "is associated with higher [blood lead levels] among children aged 0–5 years." Rogelio Tornero-Velez, et al., *Strong Association Between Children's Elevated Blood Lead Levels and Lead Service Lines: A Census Tract-Level Analysis for Two Midwest Cities*, 59 ENV'T SCI. & TECH. 23069, at J (2025). Thus, these lead service lines directly contribute to the presence of lead in drinking water and the subsequent impact such exposure has on the health of children within the United States.

II. The LCRI Is an Important Step Toward Mitigating the Risk of Lead Ingestion Through Drinking Water

In promulgating the LCRI, the EPA advanced its decades-long goal of reducing and eliminating lead in drinking water. The improvements are designed to significantly reduce the amount of lead in the drinking water of millions of Americans and will support public health.

A. Scientific and medical evidence strongly support the LCRI

The scientific and medical evidence surrounding lead exposure and prevention overwhelmingly supports the LCRI. *See Sinclair Wyo. Refin. Co. v. EPA*, 101 F.4th 871, 883 (D.C. Cir. 2024) (courts "give an extreme degree of deference to the EPA's evaluation of scientific data within its technical expertise" (quoting *Am. Fuel & Petrochemical Mfrs. v. EPA*, 937 F.3d 559, 574 (D.C. Cir. 2019))); *Nat'l Ass'n of Mfrs. v. EPA*, 750 F.3d 921, 924 (D.C. Cir. 2014) (denying petition for review where new EPA rule "considered a broad array of scientific sources" and "offered reasoned explanations for how it approached and weighed the evidence"). As set forth below, each of the key elements of the LCRI is supported by research showing the importance and efficacy of taking the steps prescribed in the LCRI.

Notably, there is broad bipartisan support for such measures: Administrations of both parties recognize the importance of replacing lead service lines and have supported significant investments to achieve full replacement within 10 years. *See* EPA, *Biden-Harris Administration Issues Final Rule Requiring Replacement of Lead Pipes Within 10 Years, Announces Funding to Provide Clean Water to Schools and Homes* (Oct. 8, 2024), https://perma.cc/QQ88-QLF6; EPA, *EPA Announces $3 Billion in New Funding for States to Reduce Lead in Drinking Water* (Nov. 25, 2025), https://perma.cc/6457-4XK6. Indeed, Congress allocated $26 billion with bipartisan support to support remedial actions connected with lead in drinking water—with $15 billion specifically allocated to lead service line replacement. EPA, *Five Key Highlights* (last visited Jan. 29, 2026), https://perma.cc/MH8S-ZQRV.

1. The LCRI's requirements for identifying lead pipes and replacing service lines will remove a prime contributor of lead exposure

Medical and scientific evidence supports the LCRI's requirement for water systems to "replace all lead and galvanized requiring replacement service lines under the control of the water system" by

December 31, 2037.[3] 89 Fed. Reg. at 86637–38, JA220–21. Prevention, through reduction or elimination of lead before exposure, is the most reliable and cost-effective way to protect children from lead. *See* Am. Acad. of Pediatrics, *supra*, at 1; Elise Gould, *Childhood Lead Poisoning: Conservative Estimates of the Social and Economic Benefits of Lead Hazard Control*, 117 ENVT'L HEALTH PERSPS. 1162, 1163–66 (2009); *see also* CDC, *Preventing Childhood Lead Poisoning* (June 12, 2024), https://perma.cc/XM3K-XCZ2. The harmful effects of lead exposure are irreversible—no treatments can fully ameliorate its permanent developmental effects. Am. Acad. of Pediatrics, *supra*, at 5. Remediation efforts like chelation or nutritional supplementation are not reliably effective at reversing or diminishing the cognitive impairment or other behavioral or neuropsychological effects of lead. Gould, *supra*, at 1162–67; *see also* Am. Acad. of Pediatrics, *Treatment of Lead Poisoning* (last updated Apr. 1, 2025), https://perma.cc/UT3M-N3X7.

Trying to identify those already exposed and/or attempting to remedy the irreversible toxic effects therefore are inadequate strategies

[3] Medical and scientific evidence suggests that the LCRI actually does not go far enough, because it allows some water systems extensions beyond the 10-year requirement.

for combating the long-term effects of lead exposure. Am. Acad. of Pediatrics, *supra*, at 2. The challenge of remedying lead exposure after the fact was unfortunately highlighted in the aftermath of the tragic Flint, Michigan drinking water crisis of 2014, where many delays affected remedial action. People continued to experience deadly lead exposure for years as public health and utility agencies struggled to reverse the damage caused. Michael Phillis & Tammy Webber, *Flint's Still-Unfinished Lead Pipe Replacement Serves as Cautionary Tale to Other Cities*, AP NEWS (June 29, 2025), https://perma.cc/C372-QDYE.

While lesser steps like flushing and filters can provide temporary or partial solutions, a systemic solution that addresses the root cause is the most effective way to protect American children and their families. *See* Nicole C. Rockey et al., *Impact of Service Line Replacement on Lead, Cadmium, and Other Drinking Water Quality Parameters in Flint, Michigan*, 7 ENV'T SCI.: WATER RSCH. & TECH. 797, 806 (2021); Kai Zhang, et al., *Lead in Drinking Water: Factors Affecting Lead Concentration, Health Effects, and Is Flushing Effective*, BCIT ENV'T PUB. HEALTH J., at 1 (2021) ("Flushing is not a long-term solution in reducing lead concentrations at the tap to below 0.005 mg/L"); Jeannie M. Purchase, et

al., *Household Point-of-Use Faucet Filters for Lead Removal: Field Performance and User Experiences*, 5 ACS ES&T WATER 3045, 3051 (2025) (finding consumer frustration with premature clogging and low flow rates of filters).

The medical and scientific justification for full lead service line replacement has been strengthened by compelling research and studies that were completed after EPA finalized the requirements to replace lead service lines in 2024. For example, a 2025 study concluded that "[lead service lines] result in higher [water lead levels] than homes with non-[lead service lines] and as a result, higher [water lead levels] lead to an accompanying increase in children's Blood Lead Levels." Rogelio Tornero-Velez, et al., *supra*, at J. The study further "estimate[d] that for census tracts with the highest burden of [lead service lines], a reduction of about 1 μg/dL in median [blood lead levels]" was observed following "removal of these [lead service line]s." *Id.* The study also indicated that identifying and replacing lead service lines can aid in the identification of lead exposure hotspots and that replacement "is an effective public health strategy to eliminate this important source of [lead] exposure." *Id.* Findings from a different 2025 study suggest that "residing in a home

with a[] [lead service line] was associated with increased odds of infants having a [blood lead level] of 3.5 μg/dL or greater." Joanna Balza, et al., *Lead Service Lines and Infant Blood Lead Levels*, 8 JAMA NETWORK OPEN, no. 12, at 3 (Dec. 17, 2025). That same study also noted the importance of reducing the impact of lead service lines on prioritizing prevention efforts. *Id.*

Financial analyses of the costs and benefits point in the same direction. In 2017, researchers estimated that removing lead service lines from the homes of children born in 2018 would protect more than 350,000 children and yield $2.7 billion in future benefits, or about $1.33 per dollar invested. Pew Research, *10 Policies to Prevent and Respond to Childhood Lead Exposure* (Aug. 30, 2017), https://perma.cc/6HL7-AFSN. A 2019 cost-benefit analysis estimated that removing all leaded drinking water in Minnesota would yield benefits—including improvement in "mental acuity and IQ" and "increases in lifetime productivity, earnings and taxes paid"—ranging from $4.2 to $8.5 billion, while such removal would cost only $1.5 to $4.1 billion over 20 years. Minn. Dep't of Health, *Lead in Minnesota Water Assessment of Eliminating Lead in Minnesota Drinking Water* (last updated Mar. 8, 2019), https://perma.cc/6EET-

HUYX; *see also* Ronnie Levin & Joel Schwartz, *A Better Cost: Benefit Analysis Yields Better and Fairer Results: EPA's Lead and Copper Rule Revision*, 229 ENV'T RSCH. 115738 (2023).

In addition to directly reducing lead exposure, improving health outcomes, and saving taxpayer money, the complete replacement of lead service lines also eliminates the risk of *increased* lead exposure that can result from lesser measures like partial lead service line replacement. 89 Fed. Reg. at 86641, JA224. Paradoxically, partial line replacement can actually increase (or have no net effect on) the amount of lead in drinking water. Justin St. Clair, et al., *Long-Term Behavior of Simulated Partial Lead Service Line Replacements*, 33 ENV'T ENG'G SCI. 53, 62 (2016). That is because lead service lines that are undergoing maintenance or partial replacement (or are otherwise damaged) can inadvertently release particles of lead into the water. This can happen through "the addition of brass and copper connectors to the passivated lead pipe." *Id.*; *see also* Clement Cartier, et al., *Impact of Treatment on Pb Release from Full and Partially Replaced Harvested Lead Service Lines (LSLs)*, 47 WATER RSCH. 661, 670 (2013); Rogelio Tornero-Velez, et al., *supra*, at C. One study found that "[t]he addition of brass and copper connectors to [a] passivated

lead pipe dramatically increased lead corrosion and subsequent lead in water, apparently by the formation of crevices and galvanic corrosion." Justin St. Clair, et al., *supra*, at 62. At best, "partial [lead service line] replacements yield no clear decrease in lead release at short term (2 months) and also provide no clear benefits over the long-term." Clement Cartier, et al., *supra*, at 2. The LCRI's restriction, then, on most partial lead service line replacements will meaningfully lower lead exposure risks.

Full lead service line replacement that addresses lines owned by third parties and located on private property is therefore required to improve health outcomes and reduce long-term economic costs. The need to replace all lead service lines, both publicly and privately owned, is supported by significant scientific and economic analysis. *See* Balza, *supra*, at 3 (finding that "residing in a home with an [lead service line] was associated with increased" infant blood lead levels); Rogelio Tornero-Velez, et al., *supra*, at J ("[Lead service line] prevalence is associated with higher [blood lead levels] among children . . . [and lead service line] prevalence can enhance the identification of [lead] exposure risk hotspots"). By disallowing most partial service line replacements and

prioritizing full replacements, the LCRI encourages water systems to better prioritize the more effective, and safe, full line replacements.[4]

2. The LCRI's reduction of the threshold for corrective action will benefit communities

The 2024 LCRI's reduced action level better protects children and adults by requiring water systems to reduce lead levels to 10 µg/L as opposed to 15 µg/L. 89 Fed. Reg. at 86636–37, JA219–20. As set forth above, the scientific and regulatory consensus is that there is no safe level of lead for children: Even children with blood lead levels under 5 µg/dL "have shown adverse effects of lead contamination." Benjamin F. Swaringen, et al., *Children's Exposure to Environmental Lead: A Review of Potential Sources, Blood Levels, and Methods Used to Reduce Exposure*, 204 ENVT'L RSCH. 12025 (2022), https://perma.cc/5Z38-DVDC. The LCRI therefore correctly proposes reducing the action level—the concentration of lead in drinking water that requires disclosure to the public, corrosion control treatments, and other remedial measures—to 10 µg/L from the

[4] Although the LCRI is a step in the right direction, the LCRI arguably could go further in eliminating partial service line replacement. 89 Fed. Reg. at 86641, JA224, continues to allow for such partial replacement "as part of an emergency repair or in coordination with planned infrastructure work that impacts service lines."

previous level of 15 µg/L. *See* 89 Fed. Reg. at 86420, JA3; *see also* EPA, *Fact Sheet EPA's Lead and Copper Rule Improvements* at 1 (Oct. 2024), https://perma.cc/CRH2-B3VX. Although *Amici* maintain that *any* amount of detectable lead in drinking water should require such measures, the reduction proposed in the LCRI is a positive step toward alignment with the science detailed above showing the deleterious effects of any lead exposure.

The public education and outreach required when the action level is triggered are important tools in combatting lead exposure through drinking water. The LCRI's notification and public education obligations are critical, as many people exposed to lead have no immediate symptoms. CDC, *Lead Exposure Symptoms and Complications* (Apr. 10, 2024), https://perma.cc/DL2Q-VPSW. And members of the public put great trust in their local water systems: A study conducted by the American Water Works Association—petitioner in this case—found that "seventy percent of respondents said they trust their water utilities 'a lot' or 'some' for information about their water." AWWA, *Consumers Trust Water Utilities, Scientists Most for Information about Tap Water* (July 30, 2024), https://perma.cc/8BEH-KPF6. This public outreach requirement

thus aligns with communities' expectations and beliefs about who is responsible for the safety of their water supply.

3. The LCRI's elimination of the trigger level removes stopgaps that prevent more efficient methods of reducing lead in drinking water

The previous revision to the LCRI rule in 2020 implemented a "trigger" level, in addition to the previous threshold of 15 µg/L, that required water systems to alert the public and take certain action. This trigger level required some protective measures when lead levels exceeded 10 µg/L, but reserved more meaningful impact for when lead levels exceeded 15 µg/L. This two-tiered trigger level merely created a temporary stopgap rather than a long-term solution to high lead levels. Commentators widely acknowledged that this "trigger" level needlessly created confusion for water systems and the public regarding when proper action was necessary. *See, e.g.*, Clean Water Action, *Clean Water Action Comments on EPA's proposed revisions to the Safe Drinking Water Act's Lead and Copper Rule* (Feb. 12, 2020), https://perma.cc/E47C-VNXZ; AIHA, *Recommendations on EPA's Proposed Lead and Copper Rule Improvements (LCRI)* (Jan. 15, 2024), https://perma.cc/4HA9-2Z8H.

The LCRI eliminates this unnecessary complexity and better facilitates full replacement of lead service lines. Removing the trigger

level eliminates discrepancies between water standards and provides greater resources for identifying water lines for priority replacement over the next 10 years. It also prevents public confusion by confirming that drinking-water pipes with any amount of lead are harmful. Removal of the trigger level is therefore an important change that better supports corrective action.

B. The LCRI Supports a Safer and More Equitable Environment for Children

In large part due to aging infrastructure and limited resources, children from low-income and minority households face greater risks of lead exposure than the average child. CDC, *People at Increased Risk for Childhood Lead Poisoning* (Apr. 10, 2024), https://perma.cc/GC6Y-P9AU (detailing that children from "low-income households and those who live in housing built before 1978 are at the greatest risk of lead exposure"). "Minority and low-income communities" are more likely to have lead pipes and "poorer quality drinking water" than other communities. Levin, *supra*, at 9. Low-income Black children are among the most at risk and have been found to "have higher Blood Lead Levels than non-Hispanic white children and those from higher income households." EPA, *Final Strategy to Reduce Lead Exposures and Disparities in U.S.*

Communities, at 5 (last updated Mar. 12, 2025), https://perma.cc/74DL-WZW7 (observing that "significant disparities" in lead exposure exist across "racial, ethnic, and socioeconomic lines"); AWWA, *Tap Water Survey Finds Communication Key to Consumer Perception of Safety* (July 25, 2023), https://perma.cc/V39P-QRVT (detailing that in response to a May 2023 poll conducted by the Association, 23% of Black respondents and 25% of Hispanic respondents considered their tap water to be unsafe, in comparison to just 18% of White respondents). Some research even suggests that "at-risk populations are more susceptible to lead's adverse effects," potentially due to preexisting nutritional deficits. Levin, *supra*, at 9; *see also* Marissa Hauptman, *supra*, at 1253 (finding that "iron deficiency has been associated with a 4- to 5-fold increase in baseline risk of harm from lead because of increased absorption of lead by the divalent metal transporter in the gastrointestinal tract").

The uniform application of the LCRI ensures that all children will equitably receive the benefits of lead service line replacements. Indeed, multiple states have already started taking steps to comply, as required by the Rule and the Safe Drinking Water Act. For example, the policymaking board for the Wisconsin Department of Natural Resources

unanimously approved a rule requiring all water systems to conduct an inventory of their lead pipes by 2027 and replace all lead service lines that contain lead by 2037 to comply with the LCRI. *See* Danielle Kaeding, *Wisconsin Moves to Require Lead Pipes Replaced by 2037*, WIS. PUB. RADIO (2025), https://perma.cc/X9F2-LBH4. Although that rule remains pending as of the time of this brief, it demonstrates that states are taking steps to comply with the LCRI. *Id.* Similarly, in South Carolina, the Charleston Water System sought consent from 1,100 households to remove their lead service lines within the next two years to meet the Rule's 2037 deadline. Justin Kollar, *Charleston Water System Pushes Forward with Lead Pipe Removals*, LIVE 5 WCSC (Mar. 24, 2025), https://perma.cc/4LFU-5Z9R.

Further, even when state and local jurisdictions become aware of the presence of lead pipes in their jurisdictions, they do not always take action. For example, in Chicago, which has the most lead service pipes of any U.S. city, the city government replaced only 280 of its estimated *400,000* lead pipes between 2020 to 2022. Benjamin Q. Huynh, et al., *Estimated Childhood Lead Exposure from Drinking Water in Chicago*, 178 JAMA PEDIATRICS 473, 473 (2024). The LCRI, if it stands, will

minimize the likelihood that state or local governments delay necessary action to address this serious health issue. Erik D. Olson, *Bipartisan Infrastructure Law Means Big Investments in Safe Water and Lead Pipe Removal*, NRDC (Mar. 29, 2022), https://perma.cc/WAV3-8TDU; Goldberg Segalla, *Safer Water Ahead: EPA Announces Funding to Replace Lead Service Lines*, JD SUPRA (Dec. 19, 2025), https://perma.cc/V5FA-LUPL.

By contrast, if the LCRI were vacated, millions of families would be returned to the unsafe status quo. The Rule's science-backed changes, designed to reduce the adverse health outcomes caused by lead, would be rolled back. The action level would revert to 15 µg/L, and water systems could delay corrective action indefinitely. Absent the public notification requirements, Americans would be left unaware about dangerously high lead levels in their drinking water. And, most importantly, without the full lead pipe replacement requirement, generations of U.S. children could continue to experience fully preventable lead exposure for years, with the nation's most vulnerable children left most at risk. Denying the petition for review, though, would support the remedial actions already underway and ensure that the mission of the EPA (and supported by

Amici) of reducing and eliminating sources of lead exposure that threaten the health of American children and families, can be continued and hopefully, realized.

CONCLUSION

For the foregoing reasons, the Court should deny the petition for review.

April 17, 2026

Respectfully submitted,

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CERTIFICATE OF COMPLIANCE

I hereby certify that the foregoing Brief of American Academy of Pediatrics, *et al.* as *Amici Curiae* in support of Respondents and Respondent-Intervenors complies with the type-volume limitations of the Federal Rules of Appellate Procedure 32(a)(7)(B) and 29(d). The brief is composed in 14-point Century Schoolbook. As calculated by Microsoft Word processing software, the Brief (excluding those parts permitted to be excluded under Federal Rules of Appellate Procedure 32(f)) contains 5,624 words.

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CERTIFICATE OF SERVICE

I hereby certify that, on April 17, 2026, the foregoing brief was filed with the Clerk of Court for the U.S. Court of Appeals for the District of Columbia Circuit by using the appellate CM/ECF system, and copies were served of the foregoing via the Court's CM/ECF system on counsel for all parties.

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