



## **Comments of the Natural Resources Defense Council on the Proposed Revisions to the Michigan Lead and Copper Rule**

**March 21, 2018**

On behalf of our more than 2 million members and online activists, including 13,700 members in Michigan, the Natural Resources Defense Council (NRDC) appreciates the opportunity to comment on the Michigan Department of Environmental Quality's (MDEQ) proposed revisions to the Michigan Lead and Copper Rule (LCR).

The Flint Water Crisis is a constant and tragic reminder of what can go wrong when you combine weak drinking water safeguards, an underfunded and politically restrained oversight agency, and grossly inadequate funding for water infrastructure upgrades and repairs. While the proposed revisions to the Michigan LCR will not fix all of these problems, if done correctly, it can provide the vehicle for strengthening the state's lead in drinking water protections.

The Michigan Constitution broadly declares that “The public health and general welfare of the people of the state are . . . matters of primary public concern.”<sup>1</sup> Because of the adverse health effects associated with exposure to lead through drinking water, especially to infants, young children, and pregnant women, removing sources of exposure will provide great benefits to the public health and general welfare.

Knowing that despite the condition of their water in Flint, there were no recorded violations of the federal Safe Drinking Water Act Lead and Copper Rule serves as an indictment for the problems and weaknesses with the federal rule. We appreciate and support that Michigan is not waiting for the U.S. Environmental Protection Agency (EPA) to complete their revision process – whenever that may be – and, instead, the state is striving to provide more protections to Michiganders.

---

<sup>1</sup> Mich. Const. art. 4, §51.

## The Lead and Copper Rule should be a health-based regulation

Unlike many of drinking water contaminants regulated by Michigan, the Lead and Copper rule is not a health-based regulation. The action levels are not health-based standards because there is no known safe level of lead. In fact, the maximum contaminant level goal for lead is zero. To be a truly health-based standard, the rule should set a Maximum Contaminant Level for lead that is as close to zero as is feasible.

Furthermore, the monitoring scheme established by these revisions are not health-based. Significantly greater number of samples need to be taken. And they should be a better representation of the water in the whole system as well as the population overall. We discuss in more detail our comments on the proposed monitoring in this rule below.

### Lead Action Level

If Michigan chooses not to develop a truly health-based standard and to retain the treatment technique and action level framework, then the action level must be lower than the proposed 0.010 mg/l (or 10 ppb). The current lead action level of 15 ppb was established 25 years ago when EPA first promulgated the Lead and Copper Rule. Since EPA established that Action Level, the Centers for Disease Control and Prevention (CDC) has moved from a blood lead level of concern of 25 ug/dL in blood to a “reference level” of 5 ug/dL; CDC emphasizes (as does EPA) that there is no known safe level of lead exposure. Extensive and compelling evidence now indicates that lead-associated cognitive deficits and behavioral problems can occur at blood lead concentrations below 5 ug/dL. CDC’s reference level is based on an acknowledgement that there is no safe level of lead exposure.<sup>2</sup>

In acknowledgement of the extent of lead pipes used in the U.S., we urge Michigan to take an important step toward improving its protection of health by lowering the lead action level to no higher than 5 ppb. Ultimately, we encourage Michigan to work toward a true health-based standard of the absence of lead from drinking water, as any exposure to lead poses serious health risks.

Finally, Michigan residents should not have to wait six years for the new lead action level to take effect. Changing the effective date for the lower action level to 2021 gives water systems two full years to prepare.

The following changes should be made to the proposed rule:

R 325.10401a - Table 1 should read:

---

<sup>2</sup> See American Academy of Pediatrics Council on Environmental Health. “Prevention of Childhood Lead Toxicity”, Pediatrics. 2016 June 20 138(1); 1-15. Available online at <http://pediatrics.aappublications.org/content/pediatrics/early/2016/06/16/peds.2016-1493.full.pdf>

C. Lead and copper (action level for lead is 0.015 mg/l through December 31, 2023~~0~~ and 0.04~~005~~ mg/l beginning January 1, 2024~~1~~; action level for copper is 1.3 mg/l)

R 325.10405 - The table on Page 24 should read:

1) The “Lead” section should read:

Traditional MCL in mg/l, except where noted

AL = 0.015 ~~mg/l~~ through December 31, 2023~~0~~

AL = 0.04~~005~~ mg/l beginning January 1, 2024~~1~~

MCL in CCR units

AL = 0.015 ~~mg/l~~ through December 31, 2023~~0~~

AL = 0.04~~005~~ mg/l beginning January 1, 2024~~1~~

R 325.10420 - Table 1 Page 48 the Lead section should read:

Lead 15.0 µg/l (ppb) until December 31, 2023~~0~~; ~~105.0~~ µg/l (ppb) beginning January 1, 2024~~1~~.

R 325.10604f (1)(c)

Through December 31, 2023~~0~~, the lead action level is exceeded if the ninetieth percentile lead level is more than 0.015 milligrams per liter (mg/l) in tap water samples collected during a monitoring period conducted under R 325.10710a. Beginning January 1, 2024~~1~~, the lead action level is exceeded if the ninetieth percentile lead level is more than 0.05~~10~~ mg/l in tap water samples collected during a monitoring period conducted under R 325.10710a.

## Ban Partial Lead Service Line Replacements

As currently proposed, Michigan’s LCR **will not** increase public health protections unless the state bans partial lead service line replacements (PLSLR). Without a ban on these partial pipe replacements, Michigan residents – particularly those living in low income households and in communities of color - will be subject to an aggressive PLSLR program.

While securing financial resources to implement a health-protective rule is not formally part of LCR public comment process, water utility and local government associations have used these arguments to oppose a strong rule. The Michigan legislature and other elected bodies have made decisions to disinvest in water infrastructure and other public goods and services. Instead, they continue cutting taxes which shrinks the funds available to support these pillars of civil society.

So, not surprisingly, the bill for this investment gap is coming due. Our water systems are decaying along with the public's trust in the safety of our drinking water.

The question isn't whether or not we can afford to make these improvements, the question is how will we work together to secure the funding needed to make these improvements. We need safe drinking water to survive and thrive. It's not optional. Water affordability is a critical piece of ensuring safe drinking water for all. Water rates should ensure that all residents, regardless of ability to pay, have affordable access to safe and sufficient water. Water shutoffs jeopardize public health and place families at risk. Guaranteeing the human right to safe, affordable and accessible water is not optional.

We strongly support the proposed requirement for proactive, full lead service line replacements (LSLR) on a specific timeline in all water systems. However, as noted above, we adamantly oppose the proposed language because it provides off-ramps allowing partial lead pipe replacements.

MDEQ must explicitly ban PLSLRs except in the case of emergency service line repairs involving lead pipes. In these instances, the full LSLR must be completed within 30 days.

Studies have shown that partial lead pipe replacements can be problematic.

As the name suggests, a partial replacement removes parts of lead pipes, but also leaves some lead pipes in the ground. Because lead pipes are a major source of lead contaminated drinking water, failure to remove the entire pipe leaves a source of lead contamination in place. Also, galvanic corrosion can occur when two types of metal are fused together, which can cause more corrosion of the lead pipe thus increasing the risk of lead-contaminated drinking water.

Studies have shown that PLSLRs can be problematic. At best, they waste money because they do not reduce levels of lead in drinking water. At worst, partial replacement can substantially increase lead levels for months – or longer.

There is no financial case to be made for partial lead pipe replacement. Instead, there are significant cost advantages to replacing the entire lead pipe when the construction crew is on site. Ratepayers should demand that water utilities stop this practice unless it is a temporary repair during a water main break or other emergency.

According to the CDC<sup>3</sup>, partial replacements “may be linked to increased incidence of high blood levels in children.” The EPA's Science Advisory Board<sup>4</sup> noted that partial replacements are “frequently associated with short-term elevated drinking water lead levels for some period of time after replacement, suggesting the potential for harm, rather than benefit during that time

---

<sup>3</sup> Important update: Lead-based Water Lines. January 2010 <https://www.cdc.gov/nceh/lead/waterlines.htm>

<sup>4</sup> Science Advisory Board Evaluation of the Effectiveness of Partial Lead Service Line Replacements. September 2011. <https://www.epa.gov/dwstandardsregulations/science-advisory-board-evaluation-effectiveness-partial-lead-service-line>

period.” The Science Advisory Board found that, even while the lead levels might stabilize over time, they could remain at levels consistent with those prior to the partial replacement.

The American Water Works Association (AWWA) *prioritized the removal of existing partial lead pipes* in its November 2017 lead pipe replacement guidance. According to Paul Olson<sup>5</sup>, AWWA’s senior manager of standards:

“The [AWWA] standard continually recommends avoiding partial replacement, if possible. It can cause more problems than it solves. You’re getting rid of some lead, but in the process, you’re disturbing the system and may be stirring up more lead than if you had just left the whole thing alone.”

The only way to protect public health is to remove all of the lead pipes, which is why we are calling for a ban on partial replacements and a mandate to replace the full LSLR.

The final rule must return to the original draft language **prohibiting PLSLR**, unless an exception is granted by the State. The State’s exception should only apply to emergency situations in which a **temporary** partial service line can be installed, and the full LSL replacement must be completed within 30 days. In addition, residences where a PLSLR has taken place must receive notification and certified filters until the entire LSL has been replaced. Those residences must also have access to technical assistance to ensure proper installation and maintenance of those filters. The monitoring in homes where a temporary partial replacement has taken place must be significantly more robust. Studies of lead levels in drinking water after lead service line replacements show that there can be a peak of lead at some point in the water. Just taking a first draw and a sample after 6 liters will not necessarily provide the homeowner with an accurate picture of what is happening in their water. The system should be required to do profile monitoring (i.e. taking a series of sequential samples) for any home where a partial lead service line replacement has taken place. These profile samples should be taken until the partial has been completely removed and replaced.

### Water System Authority Over Service Lines

We agree that supplies that control the entire service line should be required to replace the entire service line at the water supply’s expense. Subrule 6(c). In fact, under the SDWA, the definition of a public water supply includes the “distribution facilities under the control of the operator of such system.” 42 USC §300f(4)(A). Furthermore, the “authority to replace, repair, or maintain the service line” is the appropriate criteria to consider a utility has control over a service line.

---

<sup>5</sup> Lead service line replacement standard coming soon, August 2, 2017.

<https://www.awwa.org/publications/connections/connections-story/articleid/4742/lead-service-line-replacement-standard-coming-soon.aspx>

Municipalities, exercising the authority granted to them by the state over these issues, have passed regulations giving water systems a wide swath of authority to repair, replace, and maintain the entire lead service line. Indeed, many municipal administrative codes in Michigan allow a substantial level of control over the portions of the service line that run through private property. For example, the Warren municipal code provides that “[n]o addition, replacement, alteration, or repair shall be made to the service lines without the expressed permission and inspection of the Water Department.”<sup>6</sup> Perhaps the clearest example of how this authority is exercised in practice comes from municipal codes governing city control over pipe replacement and shutoffs: if government inspection reveals leaks in the water service pipes, the water department is empowered to shut off or replace the leaking pipe.<sup>7</sup> Emergency system management provisions allow for the city water department to ignore the municipal administrative code’s relevant notice provisions in situations that pose immediate danger to life, health, property or public safety, enabling the relevant city department to take immediate action to rectify an issue.

Control and ownership are not synonymous, and the proposed rule should not include ownership as one of the criteria for showing control. For other types of utilities, this is the case. For example, the Michigan Gas Safety Standards require utilities to conduct leakage surveys on customers’ premises at least every three years. 1999 MR 12, R 460.20606(2)(b). It mandates that an activity be performed by a utility on private property, much like the requirement that the water utilities conduct full lead service line replacement regardless of whether they own and/or control the portion of the line falling on private property.

Power utilities may gain entry to private property to conduct maintenance to the extent permitted by property law. That said, utilities may gain entry to property to conduct maintenance through a “prescriptive easement” regardless of whether or not they can demonstrate “ownership or control” or whether the owner consents in the moment to the entry.

The following changes should be made to the proposed rule:

R 325.10604f (5)(c) ~~A water supply shall replace that portion of the lead service line that it owns. If the supply does not own the entire lead service line, the supply shall notify the owner of the line, or the owner’s authorized agent, that the supply will replace the portion of the line at water supply expense. If the building owner does not consent, the supply may replace the portion of the service line it owns.~~ **Because** If a supply controls the entire service line, the supply shall replace the entire service line at the water supply’s expense. **The supply shall offer to the building owner to replace the entire service line.** ~~**If the resident is unavailable or refuses entry to**~~

---

<sup>6</sup> Warren, Michigan, Municipal Code art. III, § 5.; Livonia, Michigan, Code of Ordinances, Tit. 13, Div. 1.

<sup>7</sup> Id.

the house, the water supply must document a minimum of 3 attempts to contact the resident at different times of day using different contact methods over a period of 90 days. The water supply must retain a declination form signed by the resident or signed by a witness that the resident refused to sign, that clearly states the health risks of a partial lead service line replacement, the resident's refusal to provide home access to the water supply, and the water supply's ability to turn off the water or put a lien on the property for refusing the replacement.

R 325.10604f(6)(c) ~~If a supply controls the entire service line,~~ **†**The supply shall replace the entire service line at the water supply's expense.

R 325.10604f (6)(d) A **water** supply is ~~presumed to~~ controls the entire service line. ~~unless the supply demonstrates in writing that it does not have any of the following forms of control over the entire service line, as provided by state statute, local ordinance, public service contract, or other applicable legal authority.~~

- ~~(i) Authority to set standards for construction, repair, or maintenance of the service line.~~
- ~~(ii) Authority to replace, repair, or maintain the service line.~~
- ~~(iii) Ownership of the service line.~~

~~(e) If a supply controls less than the entire service line,~~ **†**The supply shall offer to the building owner to replace the entire service line., ~~including the portion of the service line under the building owner's control, at supply's expense. If the building owner consents, the supply shall replace the entire service line at the supply's expense. If the building owner does not consent, the supply may replace the portion of the service line that it controls as follows:~~ **If the resident is unavailable or refuses entry to the house, the water supply must document a minimum of 3 attempts to contact the resident at different times of day using different contact methods over a period of 90 days. The water supply must retain a declination form signed by the resident or signed by a witness that the resident refused to sign, that clearly states the health risks of a partial lead service line replacement, the resident's refusal to provide home access to the water supply, and the water supply's ability to turn off the water or put a lien on the property for refusing the replacement.**

~~(i) Not less than 45 days before commencing the partial lead service line replacement, the water supply shall provide notice to the owner and residents of all building served by the line explaining that they may experience a temporary increase of lead levels in their drinking water, along with guidance on measures consumers can take to minimize their exposure to lead.~~

(i) The water supply may provide notice less than 45 days before commencing partial lead service line replacement ~~where the replacement is in conjunction with emergency repairs,~~ **but the**

notification must occur concurrent with the partial lead service line replacement. Full lead service line replacements will occur within 30 days.

~~(iii) The water supply shall inform the resident or residents served by the line that the supply will, at the supply's expense, collect a water sample from each temporary partially replaced lead service line for analysis of lead content, as prescribed under R 325.10710a(2)(c), within 72 hours after the completion of the partial replacement of the service line. The supply shall collect the sample and report the results of the analysis to the owner and resident or residents served by the line within 3 business days of receiving the results. Mailed notices postmarked within 3 business days of receiving the results are satisfactory.~~

~~(iv) — Any remaining lead service line, including the privately owned portion, must be documented in the water supply's distribution system materials inventory required under R 325.11604(e).~~

### Water System Financial Responsibility Over Full Lead Service Line Replacements

As discussed above, the water utility has full responsibility over the entire lead service line. As such, public water systems should be required to pay the entire cost of replacing the full lead service line, including for any portion of the line that runs on private property. This responsibility was contemplated by the federal Safe Drinking Water Act, which provides that public water systems include “any...distribution facilities under control of the operator of such system.”<sup>8</sup> Where portions of the lead service line fall on private property, this should not permit a public water system to eschew its responsibility to provide water to consumers. This issue implicates a notion of basic fairness – service lines, and materials used in their composition, were typically approved (and were often required) by the water authority or municipality through plumbing codes, ordinances, and hookup agreements. The current homeowner rarely, if ever, had any say in whether lead was used in the service line.

Potential expenditure of public funds to replace pipes that serve private property does not present a bar to fairly placing responsibility for lead service line replacement squarely on water systems. Since lead service lines are an integral part of the water distribution system as defined by Michigan law (see Mich. Comp. Laws Ann. § 124.251), a utility's or municipality's action to replace them is not implicated by the Constitutional prohibition against engaging in or becoming financially interested in “internal improvements” within the meaning of Article 3, section 6 of the Michigan Constitution. When an undertaking is “in the performance of what is a duty owed by a government to its citizens, for example, like protecting their health and safety or

---

<sup>8</sup> 42 U.S.C. §1401(4).

suppressing crime,” such actions “have never been considered and are not denominated works of internal improvement.”<sup>9</sup>

Assuming that lead service line replacement is implicated by that section at all, it falls comfortably within the exception for “public internal improvements.”<sup>10</sup> The Michigan Constitution’s concept of “public improvement” encompasses lead service line removal and replacement from private property. The determination of what constitutes a public purpose is primarily the responsibility of the Michigan legislature, and the meaning of public purpose has been construed broadly.<sup>11</sup> In that regard, the legislature has already provided broad authority to municipalities to incorporate a water supply system, along with “the right to determine what shall constitute its water supply system and the functions thereof,” and to “determine that its water services shall be furnished to public corporations and/or private consumers.” Mich. Comp. Laws Ann. § 124.260.

Relying on its broad authorities to act in the public interest and to protect public health, Michigan should require systems to pay the entire cost of replacing the lead service line, and should allow they systems to build the costs of those replacements into their rate structure, to accommodate the needs of low-income homeowners.

It is therefore clear that the state can specifically authorize and direct utilities to replace the full length of service lines that run on private property, consistent with the state’s interest in protecting public health. The cost of lead poisoning – for educational assistance, medical treatment, and lost earnings – can reach hundreds of billions of dollars, which does not even include the social cost born by generations of Michigan residents with lowered academic or professional success and diminished quality of life.<sup>12</sup>

Lessening lead exposure through lead service line replacement constitutes a clear public benefit – reducing the costs of special educational and other public interventions, avoiding the lost earnings potential of children suffering lead-induced cognitive impairment, and reducing crime and other social ills that impose substantial costs on municipal and other public budgets.<sup>13</sup>

---

<sup>9</sup> W. A. Foote Mem'l Hosp., Inc. v. Kelley, 390 Mich. 193, 211, 211N.W.2d 649, 655–56 (1973) (internal citation and quotation marks omitted).

<sup>10</sup> See Advisory Opinion Re 1976 PA 295 & 1976 PA 297, 401 Mich. 686, 696, 259 N.W.2d 129, 132 (1977).

<sup>11</sup> Advisory Opinion on Constitutionality of 1975 P.A. 227 (Questions 2-10), 396 Mich. 465, 495-498, 242 N.W.2d 3 (1976).

<sup>12</sup> Gould, E. “Childhood Lead Poisoning: Conservative Estimates of the Social and Economic Benefits of Lead Hazard Control” *Environ Health Perspect.* 2009 Jul; 117(7): 1162–1167.

<sup>13</sup> see <https://yosemite.epa.gov/ee/epa/eerm.nsf/vwGA/491BF1DB78AABA2E8525651B006EFC06> and paper cited in note 3. See also Association of prenatal and childhood blood lead concentrations with criminal arrests in early adulthood,” *PLoS Med.* 2008 May 27;5(5):e101; available online at <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2689664/>; Lane SD, Webster NJ, Levandowski BA, Rubinstein RA, Keefe RH, Wojtowycz MA, Cibula DA, Kingson JE, Aubry RH, “Environmental injustice: childhood lead poisoning, teen pregnancy, and tobacco.” *J Adolesc Health.* 2008 Jan;42(1):43-9. *Epub* 2007 Oct 4; Nevin R, “How lead exposure relates to temporal changes in IQ, violent crime, and unwed

Use of water utility rate revenues to replace the portion of lead service lines would not somehow turn water rates into a tax, rather than a fee, and therefore would not run afoul of the Michigan Supreme Court's decision in *Bolt v. City of Lansing*. Michigan's Safe Drinking Water Act had the intent to "assure the long-term health of its public water supplies." MCL 325.1001a. Specifically, community water systems and nontransient noncommunity water supplies are defined as public water systems that deliver water to residents and individuals. MCL 325.1002(c) and (l). Under the federal Lead and Copper Rule, the definition of optimal corrosion control treatment is "corrosion control treatment that minimizes the lead and copper concentrations at users' taps." 40 C.F.R. §141.2. The water supplies are responsible for delivering safe water to individuals; their responsibility does not stop at the property line. Water supplies must ensure delivery of safe water through the entire service line – from the main to the shut off valve inside the building. When the service line is the source of the problem, then the water supply is responsible for replacing that service line. From the utility's perspective, therefore, the service lines are no different than the water main that runs under the middle of a street. Water utilities' routine use of general rate revenues to replace specific portions of water mains that serve only a subset of a water system's customers does not render the bills of the remaining customers a "tax." Likewise, the use of general rate revenues to replace the service lines of a subset of a water system's customers would not render the bills of remaining customers a tax.

Further, the customers of a water system appropriately share in common the costs of the system's compliance with its legal obligations. A water utility's legal compliance activities provide benefits to all ratepayers – such as avoiding penalties associated with non-compliance that would be passed on to the ratepayers. As described above, any expenses incurred by the utility for replacement of lead service lines running under private property would be spent in furtherance of the utility's legal obligation to provide safe water service to all customers at the tap. Likewise, investing in full lead service line replacements can help reduce the potential liability for the system from customers for lead contaminated water. Therefore, by incorporating the costs of lead service line replacements into the system's total revenue needs, to be recovered through charges paid by all customers based on their water usage, a water utility would be exercising its core authority to charge fees to its users to cover the utility's costs, not levying a tax.

This conclusion is further supported by the fact that all water utility customers can reduce their bills by using less water from the public water system. This stands in contrast to the property owners in *Bolt*, who, according to the Court, had no legitimate opportunity to reduce the stormwater charges at issue in that case by reducing their stormwater runoff into the public sewer system. Nothing in the proposed rule – or in the way that utilities may fund the costs of implementing it – changes this fact. Under *Bolt*, this ability to reduce charges by reducing usage is an important indicator that a charge is a fee, rather than a tax.

---

pregnancy." Environ Res. 2000 May;83(1):1-22; Levin R, U.S. Environmental Protection Agency. Reducing lead in drinking water, 1986, available online at <http://nepis.epa.gov/Exe/ZyPDF.cgi/2000911C.PDF?Dockkey=2000911C.PDF>

## Eliminate the Household Advisory Level

The Household Advisory Level (HAL) – as proposed - does not protect public health. It is not a health-based standard. In fact, it is an arbitrary number. Furthermore, the high amount of lead triggers anemic response that does not address the immediate problem in that residence. Having a HAL also runs the risk of further confusing the public about lead in drinking water. It is reasonable to predict that the public could assume that lead levels in water that are below the action level or below the HAL are safe. Therefore, Michigan should eliminate the HAL. Instead, the actions triggered by an exceedance of the HAL should be triggered by an exceedance of the action level.

If the state decides to keep a Household Advisory Level, then there is no scientific rationale for an HAL other than zero given that is EPA's drinking water Maximum Contaminant Level Goal (MCLG). Anything other than zero, creates an artificial notion that there is a safe level of lead exposure. Further, and as noted in Rule 410 (2)(a)(iii)(D), there is an unpredictability of lead release, so any level of lead indicates there is pathway for exposure to the resident.

Therefore, any detectable amount of lead in the very small number of homes sampled should receive the response identified in R 325.10410(5)(c) along with the provision of filters and filter maintenance training as well as the Department of Health and Human Services escalated response.

Because EPA's MCLG doesn't provide the necessary calculations for a standard, we recommend using California's health-based goal<sup>14</sup> which is 0.2 ppb. In addition to EPA's MCLG of zero, on June 20, 2016, the American Academy of Pediatrics<sup>15</sup> issued a statement calling for a 1 ppb standard for drinking water fountains in schools.

If there is to be a HAL, it should be established at the level of detection. It's hard to imagine the State of Michigan establishing an HAL that arbitrarily determines who is provided with additional resources to protect the household from lead in drinking water exposure.

The following changes should be made to the proposed rule:

### **Either**

Delete R 325.10604f (1)(l) and add to R 325 10604f(5) and (6) the following:

---

<sup>14</sup> [Public Health Goal for Lead in Drinking Water](#), Prepared by Pesticide and Environmental Toxicology Branch Office of Environmental Health Hazard Assessment California Environmental Protection Agency April 2009.

<sup>15</sup> Prevention of Childhood Lead Toxicity, Council on Environmental Health, PEDIATRICS Volume 138, Number 1, July 2016 <http://pediatrics.aappublications.org/content/pediatrics/early/2016/06/16/peds.2016-1493.full.pdf>

- (i) A supply shall provide the consumer notice as soon as practical, but not later than 3 business days after the supply learns of the tap monitoring results. Mailed notices postmarked within 3 business days of receiving the results are satisfactory.
- (ii) A supply shall provide notice of the results to the department and the local health department within 3 business days after the supply learns of the tap monitoring results. The department shall refer the results to the department of health and human services for escalated response.
- (iii) In addition to all information specified in R 325.10410(5)(b)(ii), the notice must include a statement on how the consumer can request blood lead level testing and a household plumbing assessment to diagnose the potential sources of lead in drinking water.

**or**

**Replace** R 325.10604f(1)(l) with the following: The household advisory level for lead is exceeded if ~~the lead level~~ **is detected** at an individual sampling location ~~is more than 0.040 milligrams per liter (mg/l)~~, when collected pursuant to a sampling protocol designed to represent water typically drawn for consumption.

### Household Advisory Level Notification

If there is to be a Household Advisory Level, it should be at the level of detection since there is no safe level of lead exposure. MDEQ's proposed Household Advisory Level is not based in science, and it is indefensible. If lead is detected in a household's tap water, the residents should be notified immediately and given all relevant information and tools to protect them from exposure.

The following changes should be made to the proposed rule:

Rule 325.10410 (5)(b) - **Delete this entire section**

Rule 325.10410 (5)(c) **Any level of** ~~For lead~~ **detected during testing will trigger** ~~results greater than the household advisory level for lead,~~ **and** a supply shall provide the consumer notice as follows:

The Center for Disease Control and Prevention (CDC) notes that recent studies “show that 30 million adults struggle with basic reading tasks....[and] that only 12 percent of consumers have proficient health literacy skills.”<sup>16</sup> In response, CDC has overhauled

many of its public outreach materials, resulting in much more effective communications with the public. Michigan should do the same.

Rule 325.10410 (3)(a) **Michigan must commission a full independent study of the understandability and effectiveness of its public notification, public education, and consumer confidence reports' information on lead in drinking water for different audiences.**

## Monitoring

As mentioned earlier, the monitoring scheme is not health-protective. First, the number of samples that a supply need to collect could represent less than 0.1 percent of the population served by the system (depending on the size of the system). The minimum number of samples taken must increase significantly to provide the water supply with a real understanding of what is happening in its system. At the least, the number of samples required by the rule should reflect a statistically significant representation of the tier 1 homes served by the system. Second, again to ensure a better understanding of the system, the water supply should be required to take samples in diverse locations. Diversity includes water with different chemistry (perhaps treated by different plants) or other types of locations – including multiple family homes. Third, the water supply should spread out the samples collected over time, to account for potential seasonal changes that may not be captured when samples are collected only once every six months (or less frequently).

It is unclear why the proposed rule eliminates from the tier 1 sampling site criteria those residences that contain a copper pipe soldered with lead. It appears that with this elimination, that the monitoring will focus solely on residences that contain lead pipes, but none with copper.

It is unclear why the sampling protocol calls for a second sample to be collected immediately after 5 more liters of water have been drawn after the first 1 liter sample draw. R 325.

10710a(2)(b)(i)(C). If the second sample is designed to sample the water that is in the lead service line, it is not clear how this represents that amount. Homes have different lengths of internal plumbing – depending on their size, the tap sampled, the location of the service line in relation to the tap sampled. While 6 liters might capture the water that sat overnight in some homes' lead service lines, it does not necessarily capture that for all homes.

Given the variability of lead released in the system as noted above, the MDEQ should not reduce the frequency of monitoring. The only systems that should be considered for reduced lead monitoring frequency are small and medium systems that can demonstrate they do not have lead service lines.

The following changes should be made to the proposed rule:

~~R 325.10710a (4)(d)(iii) - A small or medium size water supply without optimal corrosion control treatment installed and that is in compliance with the lead and copper action levels during 3 consecutive years of monitoring may reduce the frequency of monitoring for lead and copper from annually to once every 3 years. A small or medium size water supply without optimal corrosion control treatment installed and collecting fewer than 5 samples as specified in subrule (3) of this rule, that meets the lead and copper action levels during 3 consecutive years of monitoring may reduce the frequency of sampling to once every 3 years. A water supply with optimal corrosion control treatment installed may reduce the frequency of monitoring for lead and copper at the tap from annually to once every 3 years if it meets all of the following requirements: the lead ninetieth percentile computed under R 325.10604f(1)(c) is less than or equal to 0.005 mg/l and the copper ninetieth percentile computed under R 325.10604f(1)(c) is less than or equal to 0.65 mg/l for 3 consecutive years of monitoring and the range of values for the water quality control parameters reflecting optimal corrosion control treatment specified by the department under R 325.10604f(3)(f) are maintained during 3 consecutive years of monitoring.~~ A small or medium system without lead service lines and that is in compliance with the lead and copper action levels during 3 consecutive years of monitoring can reduce its lead monitoring to once every 3 years.

~~(4)(d)(v) A water supply without corrosion control treatment installed that demonstrates for 2 consecutive 6 month monitoring periods that the tap water lead level computed under R 325.10604f(1)(c) is less than or equal to 0.005 mg/l and the tap water copper level computed under R 325.10604f(1)(c) is less than or equal to 0.65 mg/l may reduce the number of samples under subrule (3) of this rule and reduce the frequency of sampling to once every 3 calendar years.~~

## Corrosion Control Treatment (CCT) Requirements

The EPA's Review of the MDEQ Drinking Water Program states: "*MDEQ must ensure all required studies are completed and reviewed and all required treatment, including CCT, is approved and implemented before operations of any new drinking water treatment plant, change in long-term treatment, or addition of a new source, as required by State statutes, rules, and policy.*"

The Michigan LCR **must** require that corrosion control treatment studies be completed in anticipation of a source water or treatment change.

The following changes should be made to the proposed rule:

325.10604f(1)(m)- When notified of a new source or long-term change in treatment as required under R 325.10710d(a)(iii), the department ~~may~~**must** require the supply to conduct any of the following: a new or updated corrosion control study as described in 604f(3)(c), additional

monitoring, or other action the department considers appropriate to ensure the supply maintains optimal corrosion control.

The rule needs to ensure the effectiveness of ongoing corrosion control treatment. With the mandatory replacement schedule, the action level is a smaller trigger to further action to reduce lead exposure systemwide. If the systems that do exceed the action level already have “optimal” corrosion control, they are not required to try to improve corrosion control effectiveness during the 20-year replacement period. There must be a backstop to protect residents who must wait the 20 years or more for replacement of lead service lines.

The overall strategy should be as follows:

- All water supplies **must** complete a corrosion control study prior to changing source water or treatment prior to implementation.
- All small and medium supplies that exceed the lead action level **must** complete a corrosion control treatment optimization study.
- All small and medium supplies applying CCT must maintain treatment after they drop below the action level; if they exceed the action level again they must re-evaluate their optimal corrosion control treatment (OCCT). If small and medium water systems maintain OCCT, cases of re-exceeding the action level should be low.
- All large systems that currently use treatment to meet the OCCT requirements must complete a new CCT study no later than 5 years after the rule is finalized.

## Public notification

If a water system exceeds the lead action level, residents should be notified immediately and given all relevant information and tools to protect the residents from exposure.

The following changes should be made to the proposed rule:

Rule 325.10410 (3)(b) A community water supply that exceeds the lead action level on the basis of tap water samples collected under R325.10710a, and that is not already conducting public education tasks under this rule, shall conduct the public education tasks under this rule either within ~~60~~ **3 business** days of notification by the department of a lead action level exceedance or within ~~6~~**30** days after the end of the monitoring period in which the exceedance occurred, whichever is sooner.

## Water filters

Even if residents are aware of the risks posed by lead pipes, many households with full or partial lead services lines struggle to afford water filters designed to remove lead. To offset these risks, water systems must provide lead-free water to the home.

The following changes should be made to the proposed rule:

Rule 325.10410 (2)(a)(iv)(D) ~~...including the availability of filters certified to remove lead.~~

**Water systems with lead pipes must incorporate into their annual operating budgets the cost of ensuring lead-free water enters the home by providing water filters and filter education to residents with full and partial LSLs until the specified period time following the removal of the full or partial LSL.**

## Public education

The current LCR does little to educate and protect the public from the ongoing threats posed by LSLs and PLSLRs. Further, the public is lulled into believing their water is safe if the minimal number of infrequently collected sample results are under the lead action level of 15 ppb or even 10 ppb. It is well-known that no level of lead in drinking water is safe. All parties charged with ensuring safe drinking water in Michigan should be at the forefront of proactive education to help inform residents about the risks of existing full and partial lead pipes and of the disruptions associated both full and partial LSLRs.

## Health Effects

The existing health effects language is inaccurate and irresponsible. The lead action level is a treatment technique and is not a health-based standard. There is no safe level of lead. Consequently, the MDEQ assertion that lead levels above 15 ppb – or even 10 ppb when the lead action level is lowered – are not causing the health issues is misleading and wrong. The weaknesses in the proposed and current Lead and Copper Rule puts much of the burden of protecting themselves from lead contamination on the general public. Proper education has therefore, become an important component of the rule. And therefore, it is important that the public have accurate information about the effects of lead.

The following changes should be made to the proposed rule:

Table 1 Regulated contaminants on page 24.

“Health effects language” should read: ~~Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this~~

~~water over many years could develop kidney problems or high blood pressure.~~ **Lead is a toxic metal that can be harmful to human health even at low levels. There is no known safe level of lead. Even low levels of lead in the blood of children can result in behavior and learning problems; Lower IQ and hyperactivity; slowed growth; hearing problems; and anemia. In rare cases, ingestion of lead can cause seizures, coma and even death.**

“Major sources in drinking water” section should read: **Lead service lines**, corrosion of household plumbing; erosion of natural deposits

### “Lead-free” plumbing fixture disclosure

Section 1417 of the Safe Drinking Water Act (SDWA) establishes the definition for “lead free” as a weighted average of 0.25% lead calculated across the wetted surfaces of a pipe, pipe fitting, plumbing fitting, and fixture and 0.2% lead for solder and flux. Consequently, it’s misleading to call these lead-free fixtures without informing consumers about the lead content.

The following changes should be made to the proposed rule:

Rule 325.10410 (2)(b)(iii) Tell consumers about the availability of ~~lead-free~~ plumbing fixtures. **with lower lead levels that are labeled lead-free.**

### Websites

All water systems should have a website and any information related to lead – and other contaminant data – should be available on the website.

The following changes should be made to the proposed rule:

Rule 325.10410 (3)(b)(iv) Post material meeting the content requirements of subrule (2) of this rule on the water supply’s website ~~if the supply serves a population great than 1,000.~~

Rule 325.10410 (3)(C)(iii) ~~A~~ **Every** community water supply ~~servng a population great than 1,000~~ shall post and retain material on a publicly accessible web site under subdivision (b)(v) of this subrule.

Rule 325.10410 (3)(d) Within either ~~60~~ **30 business** days of notification by the department of a lead action level exceedance or within ~~60~~ **30** days after the end of the monitoring period in which the exceedance occurred, whichever is sooner unless it already is repeating public education

tasks under subdivision (e) of this subrule, a nontransient water supply shall deliver the public education materials specified by subrule (2) of this rule under all of the following provisions:

### Printed material

Distribution of printed materials should not be optional. The addition of electronic distribution would provide another contact with residents, but email is not a sure means by which to alert residents of the potential for lead in drinking water. Further, email addresses are not as readily available as street addresses used for water service.

The following changes should be made to the proposed rule:

Rule 325.10410 (3)(d)(ii) Distribute informational pamphlets, or brochures, or both, on lead in drinking water to each person served by the nontransient noncommunity water supply. The department may allow the supply to utilize the electronic transmission ~~instead of or~~ combined with printed materials as long as it achieves at least the same coverage.

Rule 325.10410 (5)(b) ~~For lead results less than or equal to the household advisory level for lead, a supply shall provide the consumer notice as follows:~~

- ~~(i) — A supply shall provide the consumer notice as soon as practical, but not later than 30 days after the supply learns of the tap monitoring results.~~
- ~~(ii) The consumer notice shall include the results of lead and copper tap water monitoring for the tap that was tested, an explanation of the health effects of lead and copper, list steps consumers can take to reduce exposure to lead and copper in drinking water and contact information for the water utility. The notice shall also provide the maximum contaminant level goals and the action levels for lead and copper and the definitions for these 2 terms from R 325.10413(4) and (6)~~

### Materials Inventory

Although water systems were to have been tracking the composition of their service lines all along, we believe the creation of the materials inventory is an important component in ensuring a strong LCR. The inventory must be comprehensive.

To ensure the language is protective of public health, the following changes must be made to the final rule:

R 325.11604(c)(i) By January 1, 2020, a supply shall complete and submit to the department, a preliminary distribution system materials inventory in a form and manner specified by the department. The preliminary inventory shall consist of a thorough assessment of distribution system materials based on existing sources of information. **The results of the preliminary inventory will be posted on a searchable database available to the public.**

R 325.11604(c)(ii) by January 1, 2024, a supply shall submit a complete distribution system materials inventory **that includes physical examination best on best practices and guidance developed by the state.** The **inventory will include** the verification methodology, and provide the results of the inventory to the department in a form and manner specified by the department. The materials inventory under this subsection shall identify whether and where construction materials listed in 40 C.F.R. §141.42(d) are present in the piping, storage structure, pumps, and controls used to deliver water to the public, including service lines. **The results of the inventory will be posted on a searchable database available to the public.**

R 325.11604 (c)(iii) - ~~The materials inventory shall include all materials in the service lines, including the privately owned portion. If a customer does not grant access necessary to evaluate the service line, the materials inventory requirements do not apply to the customer owned portion of the service line to which access is not granted.~~ The supply shall maintain a record of customers that fail to grant access **to the interior of the home.** If access is denied, the record shall include the date of the denial, to whom the denial was communicated, and the denial itself ~~if in~~ writing. If the customer does not respond to requests for access, the record shall include the dates when and manner by which access was requested and by whom it was requested.

As noted elsewhere, MDEQ must clarify water system control of the service line.

Furthermore, the notification to customers about doing an evaluation of home plumbing materials should not be tied to just the presence or absence of a lead service line. If the State chooses to retain the language “The notification shall include language encouraging residential customers to have a home plumbing materials evaluation completed,” that notification should be included in reference to the educational material received by all residents in their Consumer Confidence Report.

The following changes should be made to the proposed rule:

R 325.11604 (c)(iv)- If the supply is unable to determine the content of sections of a service line, the supply shall, in writing, notify the owner and occupant **of the premises** of the potential for

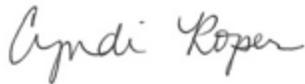
lead in the service line and provide information on lead **in drinking water** hazards and remediation.

R 325.11604 (c)(v) Within 30 days of determining a service line contains lead or is presumed to contain lead, the supply shall provide the owner and occupant of the premises with a written notification of the service line material content. ~~The notification shall include language encouraging residential customers to have a home plumbing materials evaluation completed.~~

R 325.11604 (c)(vi) - A community water supply with lead service lines or service lines of unknown content shall include service line information in their annual consumer confidence report, including the number of lead service lines and number of service lines of unknown material. This information shall also be made available on the supply's website, ~~or upon request if the supply does not have a website.~~

Thank you for the opportunity to comment on the proposed revisions to the Lead and Copper Rule. We are all hopeful that you will be able to improve upon these revisions to finalize a health-based and health-protective Lead and Copper Rule.

Respectfully submitted,



Cyndi Roper  
Michigan Senior Policy Advocate  
Natural Resources Defense Council  
[croper@nrdc.org](mailto:croper@nrdc.org)