EARTHJUSTICE

ALASKA CALIFORNIA FLORIDA MID-PACIFIC NORTHEAST NORTHERN ROCKIES
NORTHWEST ROCKY MOUNTAIN WASHINGTON, D.C. INTERNATIONAL

August 16, 2018

via Federal eRulemaking Portal
John Yowell
National Program Chemicals Division
Office of Pollution Prevention and Toxics
Environmental Protection Agency
1200 Pennsylvania Ave. NW
Washington, DC 20460-0001

Re: Comments on Review of the Dust-Lead Hazard Standards and the Definition of Lead-Based Paint, Proposed Rule (July 2, 2018), EPA-HQ-OPPT-2018-0166

Dear Mr. Yowell,

The following comments on EPA's above-referenced proposed rule are submitted on behalf of A Community Voice, California Communities Against Toxics, Healthy Homes Collaborative, New Jersey Citizen Action, New York City Coalition to End Lead Poisoning, Sierra Club, United Parents Against Lead National, and WE ACT for Environmental Justice (collectively, "Petitioners"). Petitioners are the same organizations who successfully sought a writ of mandamus from the Ninth Circuit Court of Appeals ordering EPA to timely commence this rulemaking. Petitioners welcome EPA's proposal as a first step in the agency's compliance with the Court's mandamus order and the agency's own statutory duties. As set forth in the comments below, however, the proposed rule is inadequate, flawed, and does not do nearly enough to ensure that children in this country are protected from lead exposure resulting from lead-based paint hazards.

BACKGROUND

In 2009, EPA granted a citizens' petition requesting a rulemaking to update the dust-lead hazard standards and the corresponding clearance levels, as well as the definition of lead-based paint.[1] Seven years later, with no rulemaking in sight, the Petitioners filed a Petition for Writ of Mandamus in the Ninth Circuit Court of Appeals ("the Court") asking the Court "to find that

[1] Letter from Rebecca Morley et al. to Lisa Jackson, Adm'r, EPA 2, 5 (Aug. 10, 2009), https://www.regulations.gov/document?D=EPA-HQ-OPPT-2009-0655-0002 ("2009 rulemaking petition") (requesting that EPA lower its dust-lead hazard standards at 40 C.F.R. § 745.65(b), and its "clearance levels for lead in dust at 40 CFR 745.227(e)(8)(viii) and 40 CFR 745.227(h)(3)(i))"). Four of the Petitioners—Healthy Homes Collaborative, New Jersey Citizen Action, Sierra Club, and United Parents Against Lead—were among the signatories of this 2009 rulemaking petition.

EPA ha[d] unreasonably delayed fulfilling its legal obligations and to compel EPA to conclude the rulemaking it initiated."[2]

On December 27, 2017, the Court granted the petition. In its order, which is the basis for this proposed rulemaking, the Court rejected the agency's arguments[3] and found that the agency has a duty to promulgate rulemaking under both the Toxic Substances Control Act ("TSCA") as amended by the Residential Lead-Based Paint Hazard Reduction Act of 1992 ("Paint Hazard Act"), and under the Administrative Procedure Act ("APA"). *See A Community Voice v. EPA*, 878 F.3d 779, 784 (9th Cir. 2017). Specifically, the Court concluded that "EPA is under a duty stemming from the TSCA and the Paint Hazard Act to update lead-based paint and dust-lead hazard standard in light of the obvious need, and a duty under the APA to fully respond to Petitioners' rulemaking petition." *Id.* at 786.

The Court explained in further detail that the statutory framework of TSCA and the Paint Hazard Act indicated Congress's intent that EPA not only set initial standards to identify lead-based paint hazards, but also that the agency "engage in an ongoing process, accounting for new information, and to modify initial standards when necessary to further Congress's intent: to prevent childhood lead poisoning and eliminate lead-based paint hazards." *Id.* at 784. In other words, "Congress set EPA a task, authorized EPA to engage in rulemaking to accomplish that task, and set up a framework for EPA to amend initial rules and standards in light of new information." *Id.* at 785. The Court concluded that "[t]he new information is clear in this record: the current standards for dust-lead hazard and lead-based paint hazard are insufficient to accomplish Congress's goal." *Id.* The agency is therefore legally obligated to respond fully to the 2009 rulemaking petition and to amend the current standards set forth in TSCA and the Paint Hazard Act in order to effectuate Congress's intent to prevent childhood lead poisoning and eliminate lead-based paint hazards.

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[2] Petition for Writ of Mandamus at 1, A Community Voice v. EPA, 878 F.3d 779 (9th Cir. 2017) (No. 16-72816) (appended as Attachment 1). Attached to the Petition are the Declarations of Tom Neltner with 9 accompanying exhibits; the Declaration of Bruce P. Lanphear, M.D., M.P.H. ("Lanphear Decl.") with 17 accompanying exhibits; the Declaration of Philip J. Landrigan, M.D., M.Sc. with 3 accompanying exhibits; as well as the Declarations of Beth Butler, Debra Campbell, Jane Williams, Robina Suwol, Linda Kite, Phyllis Salowe-Kay, Ann Vardeman, Matthew J. Chachere, Aaron Isherwood, Alexandra Sipiora, Zakia Rafiqa Shabazz, Cecil Corbin-Mark, and Stephanie Hoyle. *See also* Petitioners' Reply to EPA's Response in Opposition to Petition for Writ of Mandamus, A Community Voice v. EPA, 878 F.3d 779 (9th Cir. 2017) (No. 16-72816) (appended as Attachment 2); Petitioners' Fed. R. App. P. 28(j) Letter to the Court, A Community Voice v. EPA, No. 16-72816 (9th Cir. June 5, 2017), ECF No. 20 (appended as Attachment 3); Petitioners' Fed. R. App. P. 28(j) Letter to the Court, A Community Voice v. EPA, No. 16-72816 (9th Cir. July 31, 2017), ECF No. 23 (appended as Attachment 4).

[3] *See* EPA's Response in Opposition to Petition for Writ of Mandamus, A Community Voice v. EPA, 878 F.3d 779 (9th Cir. 2017) (No. 16-72816) (appended as Attachment 5); Response to Petitioners' Fed. R. App. P. 28(j) Letter, A Community Voice v. EPA, 878 F.3d 779 (9th Cir. 2017) (No. 16-72816) (appended as Attachment 6).

COMMENTS

Petitioners are pleased to see that EPA continues to view reducing childhood lead exposure as a priority, and that the agency acknowledges that "[c]urrent best available science . . . has evolved considerably since 2001." Review of the Dust-Lead Hazard Standards and the Definition of Lead-Based Paint, 83 Fed. Reg. 30,889, 30,890 (proposed July 2, 2018) (to be codified at 40 C.F.R. pt.745). Nevertheless, Petitioners note that EPA's proposal falls short of what the law and science demand. As explained below, this rulemaking should:

- set clearance standards for dust-lead at the same levels as the dust-lead hazard standards;
- set the dust-lead hazard standards at 5 $\mu g/ft^2$ on floors and 40$\mu g/ft^2$ on window sills;
- revise the definition of lead-based paint to mean paint containing lead in excess of 0.06%, and potentially as low as 0.009%;
- revise the soil lead hazard standards to reflect at least the current blood lead reference level set by the Centers for Disease Control and Prevention ("CDC");
- update the definition of "elevated blood lead level" to similarly reflect CDC's blood lead reference level;
- establish a six-month implementation period;
- consider additional information in the benefit-cost analysis; and
- amend the regulatory definition of target housing to reflect recent amended statutory language.

I. EPA MUST SIMULTANEOUSLY REVISE CLEARANCE LEVELS TO MIRROR THE REVISED DUST-LEAD HAZARD STANDARDS

Although EPA proposes to revise the dust-lead hazard standards, it does not propose to revise the clearance standards—a significant flaw that largely eviscerates the proposed rule and renders it nonsensical. Clearance levels are defined by EPA as "values that indicate the maximum amount of lead permitted in dust on a surface following completion of an abatement activity." 40 C.F.R. § 745.223. Abatement refers to any measures "designed to permanently eliminate lead-based paint hazards." 15 U.S.C. § 2681(1); *see also* 40 C.F.R. § 745.223. As EPA explains:

> The dust-lead level must be less than the applicable [clearance] standard for the surface to pass clearance. Clearance standards are used to evaluate the effectiveness of cleaning following an abatement . . . . If a property fails clearance, it must be recleaned until it passes . . . .

Lead; Identification of Dangerous Levels of Lead, 66 Fed. Reg. 1206, 1211 (Jan. 5, 2001).

Currently, EPA's regulations establish clearance levels that are the same as the current dust-lead hazard standards: 40 $\mu g/ft^2$ for floors and 250 $\mu g/ft^2$ for interior window sills. *See id.* § 745.227(e)(8)(viii); 63 Fed. Reg. 30,302, 30,341 (June 3, 1998). If EPA revises the dust-lead hazard standards without simultaneously revising the clearance levels to at least meet the dust-lead hazard standards, that means inspectors and risk assessors may find that a home contains a dust-lead hazard—that is, dust containing more lead than the proposed 10 $\mu g/ft^2$ on floors and

100 μg/ft^2 on window sills—but abatement of that hazard need only lower the lead in dust in that home to 40 μg/ft^2 on floors and 250 μg/ft^2 on window sills.

This result substantially undercuts the impact of the revised dust-lead hazard standards because dust-lead levels above the dust-lead hazard standards are, by definition, adverse to human health. *See* 15 U.S.C. § 2681(10) (defining "lead-based paint hazard" to include "lead-contaminated dust . . . *that would result in adverse human health effects* as established by [EPA]") (emphasis added); *id.* § 2681(11) (defining "lead-contaminated dust" to mean "surface dust in residential dwellings that contains an area or mass concentration of lead in excess of levels determined by [EPA] . . . *to pose a threat of adverse health effects in pregnant women or young children*") (emphasis added); 66 Fed. Reg. at 1214 (stating EPA's conclusion that "the quantity of lead in dust . . . found to result in conditions that cause exposure to lead that would result in adverse human health effects (i.e., constitutes a lead-based paint hazard) is 'lead-contaminated dust'").

The determination that a dust-lead hazard is present triggers the requirement that any abatement be performed only by personnel certified in accordance with EPA regulations. *See generally* 40 C.F.R. § 745.220. These certified personnel are required to abate dust-lead hazards in the home only to the regulatorily-defined clearance level. That means that if clearance levels are not simultaneously revised in this rulemaking, in homes found to have a dust-lead hazard pursuant to the newly-revised lower dust-lead hazard standards, lead abatement would nevertheless entail lowering the dust-lead hazard only to the current higher levels of 40 μg/ft^2 for floors and 250 μg/ft^2 for window sills, which leaves behind levels of dust-lead in the home that exceed what EPA itself considers hazardous to human health. This type of regulatory framework is plainly antithetical to Congress's intent in enacting the Paint Hazard Act—to prevent childhood lead poisoning and eliminate lead-based paint hazards. *See A Community Voice v. EPA*, 878 F.3d at 784.

Besides substantially minimizing any health-protective impacts of more stringent dust-lead hazards standards, a failure to simultaneously revise the clearance standards also is nonsensical. If clearance levels are defined as "values that indicate the maximum amount of lead permitted in dust on a surface following completion of an abatement activity," 40 C.F.R. § 745.223, and abatement is statutorily defined as any measures "designed to permanently eliminate *lead-based paint hazards*," 15 U.S.C. § 2681(1) (emphasis added), then this proposed rule sets up an irrational and dysfunctional regulatory framework in which achievement of the clearance levels would not eliminate lead-based paint hazards and therefore would not result in abatement.

Perhaps precisely because it makes no sense to divorce the dust-lead hazard standards from the clearance levels in the way that EPA now proposes, the agency's 2001 rulemaking establishing the current standards set both the dust-lead hazard standards and the clearance standards at the same levels. *See* 66 Fed. Reg. at 1211 ("Today's regulation includes two standards for dust: hazard levels for floors (including carpeted floors) and interior window sills (§ 745.65(b)) and clearance standards for floors (including carpeted floors), interior window sills, and window troughs (§ 745.227(e)(8)(viii)."). Likewise, as EPA itself acknowledged in the proposed rule, the 2009 rulemaking petition that prompted the litigation that is the driver of

this current agency action requested that EPA lower its dust-lead hazard standards *as well as* its clearance levels for lead in dust.[4]

The inclusion of the clearance levels in the 2009 rulemaking petition is significant. In granting Petitioners' petition for writ of mandamus, the Ninth Circuit described EPA's "clear duty to act under the APA"—specifically, to "fully respond to Petitioners' rulemaking petition" and "enter a final decision subject to judicial review." 878 F.3d at 784-86. The Court also described EPA's duty under TSCA "to amend initial rules and standards in light of new information." *Id.* at 785. EPA's decision not to propose changes to the clearance standard in this rulemaking is unsupported by any rationale; EPA simply expresses its intent to "review the clearance levels at a later date." 83 Fed. Reg. at 30,895. But because revisions to the clearance levels were requested as part of the 2009 rulemaking petition and new information since 2001 requires the agency to amend these level, punting on the clearance levels to some later unspecified date ignores the Ninth Circuit ruling and violates both the APA and TSCA.[5]

II. THE PROPOSED DUST-LEAD HAZARD STANDARDS ARE INSUFFICIENTLY PROTECTIVE TO COMPLY WITH EPA'S DUTY UNDER TSCA

EPA proposes to lower the dust-lead hazard standards from 40 μg/ft^2 and 250 μg/ft^2 to 10 μg/ft^2 and 100 μg/ft^2 on floors and window sills, respectively, as the 2009 rulemaking petition requested. *See* 83 Fed. Reg. at 30,889. While 10 μg/ft^2 and 100 μg/ft^2 on floors and window sills may have been considered sufficiently health-protective and feasible in 2009 when the rulemaking petition was filed, in the intervening nine years, the evidence demonstrates that even lower standards—specifically, 5 μg/ft^2 on floors and 40μg/ft^2 on window sills—are necessary to protect children's health and are feasible today.

A. Dust-Lead Hazard Standards Lower Than the Proposed Standards Are Critical to Protect Children's Health

In 2012, three years after Petitioners filed the rulemaking petition with EPA requesting that the dust-lead hazard standards be lowered to 10 μg/ft^2 and 100 μg/ft^2 on floors and window sills, respectively, CDC revised the blood lead level of concern—then 10 μg/dL—to a 5 μg/dL reference level and eliminated any reference to a "level of concern" for lead exposure in light of

[4] 83 Fed. Reg. at 30,893 ("The petitioners requested that EPA lower the Agency's [dust-lead hazard standards] issued pursuant to section 403 of TSCA, *and the dust-lead clearance levels issued pursuant to section 402 of TSCA . . . .*") (emphasis added).

[5] EPA relies wholly on the October 2015 Lead Hazard Control Clearance Survey prepared by the Department of Housing and Urban Development ("HUD") as the basis for assessing the technical achievability of its proposed dust-lead hazard standards. *See* 83 Fed. Reg. at 30,895. The agency therefore knows that clearance of dust-lead down to the levels of its proposed dust-lead hazard standards is already occurring in a vast majority of cases using the most common abatement methods. As such, no additional substantive research or studies would be necessary to promulgate clearance standards that mirror the proposed dust-lead hazard standards.

the fact that no safe blood lead level has been identified.[6] Although CDC's current "reference" blood lead level is set at 5 μg/dL, it is a matter of scientific consensus, as EPA has acknowledged, that "there is no evidence of a threshold below which there are no harmful effects on cognition from [lead] exposure."[7] *See also* 83 Fed. Reg. at 30,890 (acknowledging in the proposed rule that "CDC now considers that no safe [blood lead level] in children has been identified" and that the National Toxicology Program "concluded that there is sufficient evidence for adverse health effects in children and adults at [blood lead levels] less than 10 μg/dL, and less than 5 μg/dL").

In a 2009 study published by researchers with the National Center for Healthy Housing and HUD, which evaluated data collected by CDC, researchers estimated that at EPA's current dust-lead hazard standards of 40 μg/ft^2 for floors, there is a 51.8% probability that these children will have a blood lead levels greater than 5 μg/dL.[8] The study also estimates that for the proposed dust-lead hazard standard of 10 μg/ft^2, there is a 23.8% probability that children living in homes with dust-lead at that level will have blood lead levels greater than CDC's current reference level of 5 μg/dL.[9] In other words, EPA's proposal for the dust-lead hazard standards for floors would still result in a nearly 24% chance that children living in a home with dust-lead levels at the standard will have blood lead levels requiring public health action, according to CDC. Put another way, *one in four children* living in homes that have been found to have no dust-lead hazard according to these proposed standards would still develop blood lead levels associated with significant harmful impacts.

By comparison, when EPA established the current dust-lead hazard standards in 2001, it did so on the basis of the agency's estimate that those standards would result in a *one to five percent probability* of a child developing a blood lead level of 10 μg/dL, CDC's level of concern at that time. 66 Fed. Reg. at 1,215. The data shows that to achieve a comparable five percent probability of children in pre-1978 housing acquiring blood lead level of 5 μg/dL or greater, the floor dust-lead level would have to be set at *1.5 μg/ft^2*.[10] At floor dust-lead levels of 5 μg/ft^2, children in pre-1978 housing would have a 14.4% probability of acquiring a blood lead level of 5

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[6] CDC, *What Do Parents Need to Know to Protect Their Children?*, https://www.cdc.gov/nceh/lead/acclpp/blood_lead_levels.htm (last updated May. 17, 2017) (last visited Aug. 14, 2018); *see also* Advisory Committee on Childhood Lead Poisoning Prevention of the CDC, *Low Level Lead Exposure Harms Children: A Renewed Call for Primary Prevention* (Jan. 2012) (appended as Attachment 7); Lanphear Decl. ¶ 11.

[7] EPA, *Integrated Science Assessment for Lead* lxxxviii (2013), http://ofmpub.epa.gov/eims/eimscomm.getfile?p_download_id=518908 (emphasis added); *see also* Lanphear Decl. ¶ 12.

[8] Sherry L. Dixon et al., *Exposure of U.S. Children to Residential Dust Lead, 1999-2004: II. The Contribution of Lead-Contaminated Dust to Children's Blood Lead Levels*, 117 Envt'l Health Perspectives 468, 473 Tbl. 6 (2009) (attached to the Lanphear Decl. at Attachment 1), https://www.regulations.gov/document?D=EPA-HQ-OPPT-2018-0166-0091.

[9] *Id.*

[10] *Id.*

μg/dL[11]—a more acceptable probability than the 24% probability associated with a floor dust-lead level of 10 μg/ft^2, although still far short of EPA's long-standing policy to limit the risk to a one to five percent probability of harm.

EPA acknowledges that "all standards more stringent than the current standard incrementally improve health outcomes above the existing standards." 83 Fed. Reg. at 30,894.[12] Yet, the agency attempts to justify its failure to select more protective standards by claiming "that standards that are too stringent may afford less protection . . . by diluting the resources available to address hazards." *Id.* at 30,896. This rationale fails to account for two well-established facts. First, "[t]he relationship between blood lead concentration and outcomes such as IQ loss has a nonlinear form, such that the decline in IQ per microgram per deciliter increase in blood lead concentration is greater at concentrations below 10 μg/dL than at concentrations between 10 and 30 μg/dL."[13] In other words, at blood lead concentrations less than 10 μg/dL, an increase in blood lead concentrations actually is relatively more harmful than an increase in blood lead concentrations at higher levels of exposure.

Additionally, the so-called prevention paradox calls for standards that protect children at lower levels of exposure. As the American Academy of Pediatrics explained, "[t]he prevention paradox refers to the concept that most disease or disability occurs in low- to moderate-risk groups," such that "if the focus is only on reducing exposure for children who have a blood lead concentration ≥ 5 μg/dL (≥50 ppb), we will fail to preserve more than 20 million (>80% of total) of the 23 million IQ points lost among US children with lower lead exposure because there are so many more children who have low to moderate blood lead concentrations."[14]

B. Clearance to the Dust-Lead Hazard Standards of 5 μg/ft^2 on Floors and 40μg/ft^2 on Window Sills Is Achievable

Not only are 5 μg/ft^2 on floors and 40 μg/ft^2 on window sills more reasonably protective of children's health, the evidence shows that these levels are readily achievable. As detailed below, despite EPA's reliance on the more recent 2015 HUD Lead Hazard Control Clearance Survey as the sole evidence for feasibility, in fact, studies as far back as 2001 have long shown

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[11] *Id.*

[12] *See also* EPA, Office of Pollution Prevention and Toxics, *Economic Analysis of the Proposed Rule to Revise the TSCA Dust-Lead Hazard Standards* ES-6 (June 2018), https://www.regulations.gov/document?D=EPA-HQ-OPPT-2018-0166-0243 ("Estimated net benefits are higher under the more stringent regulatory options.").

[13] Declaration of David C. Bellinger, Ph.D., M.SC. ¶ 21 (Feb. 26, 2018) (appended as Attachment 8); *see also* Lanphear Decl. ¶ 12 (noting the "compelling evidence that lead-associated decrements in intellectual function are proportionately greater at a blood lead level less than 10 μg/dL").

[14] American Academy of Pediatrics, *Council on Environmental Health. Prevention of Childhood Lead Toxicity*, 138 Pediatrics e20161493 at 3-4 (2016), http://pediatrics.aappublications.org/content/pediatrics/138/1/e20161493.full.pdf ("AAP Policy Statement").

the achievability of not only the proposed 10 μg/ft^2 on floors and 100 μg/ft^2 on window sills, but even lower levels. In fact, the most recent research, reflected in a soon-to-be-published peer-reviewed paper, shows that dust-lead loadings of 5 μg/ft^2 on floors and 50 μg/ft^2 on window sills are achievable today.[15]

Back in 2009, at the time of the rulemaking petition requesting revision of the dust-lead hazard standards to 10 μg/ft^2 on floors and 100 μg/ft^2 on window sills, Petitioners made a compelling case that those levels were already achievable.[16] Eight years before that, early findings from an evaluation of the HUD Lead Hazard Control grant program showed that in 931 homes, using a range of interventions, the geometric mean of the average interior floor dust-lead loadings after intervention declined from 25 to 9 μg/ft^2.[17] Strikingly, the study found that the geometric mean of the average window sill dust-lead loading declined from 340 to *19 μg/ft^2*, a 95% reduction, immediately after intervention.[18] A follow-up study published in 2006 that evaluated these HUD-funded lead hazard control treatments at six years post-intervention showed that geometric mean floor dust-lead levels fell from 9.2 μg/ft^2 at six months post-intervention to 4.8 μg/ft^2 at six years post-intervention.[19]

In contrast to these two earlier studies, which either evaluated clearance while aggregating a range of intervention methods, as with the 2001 study, or differentiated between different levels of treatment, as with the 2006 study, the 2015 HUD Lead Hazard Control Clearance Survey on which EPA relies exclusively to support the achievability of its proposed standards concluded that:

> [A] reduction in the federal clearance standard for floors from 40 μg/ft^2 to 10 μg/ft^2 [and] a reduction in the federal clearance standard for windowsills from 250 μg/ft^2

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[15] *See* Comments of Bruce Lanphear, M.D., M.P.H. on Proposed Rule, EPA-HQ-OPPT-2018-0166 (Aug. 16, 2018) ("Lanphear Comments") (incorporated herein by reference).

[16] *See* 2009 rulemaking petition at 4-5.

[17] Warren Galke et al., *Evaluation of the HUD Lead Hazard Control Grant Program: Early Overall Findings*, 86 Environ Res. 149, 152 (2001), http://nchharchive.org/Portals/0/Contents/Early_Overall_Findings.pdf (appended as Attachment 9). This study "examines the range of interventions used by the grant recipients and assesses the effectiveness of the HUD [Lead Hazard Control] Grant Program as a whole based on blood and dust-lead data aggregated across the various interventions." *Id.* at 150.

[18] *Id.* at 153.

[19] Jonathan Wilson et al., *Evaluation of HUD-funded lead hazard control treatments at 6 years post-intervention*, 102 Environmental Research 237, 241-42 (2006), https://pdfs.semanticscholar.org/8742/4e5649d22b93d9b1265178e118716d5147fa.pdf (appended as Attachment 10). This study examined various levels of intervention. Low intensity treatments included cleaning, spot or complete paint stabilization, and possibly floor treatments, while medium intensity treatments included cleaning, complete paint stabilization, floor treatments, window treatments and/or window replacement, and possibly abatement of selected components. *Id.* at 239, Table 1.

> to 100 μg/ft^2 . . . are all technically feasible using the methods currently employed by [HUD] grantees to prepare for clearance. The most common methods used included various types of cleaning as well as sealing of floors, sills and troughs. Overlaying or replacing flooring, and lining of window troughs, were less common. It was further found that the stated reductions in clearance standards for floors and sills are generally feasible using *the more common methods (cleaning and sealing) exclusively.*[20]

In other words, the conclusion of the 2015 HUD clearance survey is based entirely on cleaning and sealing—what is effectively the lowest intensity treatment. This means that EPA has not evaluated what is achievable with the entire range of hazard control practices currently in use.

Even so, it is worth noting that the 2015 HUD clearance survey itself supports dust-lead hazard standards of 5 μg/ft^2 on floors and 40 μg/ft^2 on window sills. EPA cites the study's finding that:

> [f]or floors, 72% of samples showed dust-lead levels at or below 5 μg/ft^2, *85% were at or below 10 μg/ft^2*, 90% were at or below 15 μg/ft^2, and 94% were at or below 20 μg/ft^2. For window sills, 87% of samples showed dust-lead levels at or below 40 μg/ft^2, 91% were at or below 60 μg/ft^2, 96% were at or below 80 μg/ft^2, and *97% were at or below 100 μg/ft^2*.

83 Fed. Reg. at 30,895 (emphasis added). EPA offers no explanation for its inconsistent application of this data to choose a dust-lead hazard standards for floors that is achieved 85% of the time while selecting a dust-lead hazard standard for window sills that is achieved 97% of the time. Rationality would suggest that using this same data, if an 85% clearance rate is acceptable for floors, then the most similar clearance rate for window sill—87%—would call for a dust-lead hazard standard for window sills of 40 μg/ft^2. EPA also does not explain why a 72% clearance rate—a remarkably high rate, considering that it is based on the most common, lowest-intensity practices of cleaning and sealing—appears to rule out a dust-lead hazard standard of 5 μg/ft^2 for floors.

Notably, in a paper to be published shortly in the American Medical Association's journal on pediatrics, researchers have determined that clearance to dust-lead loadings on floors below 5 μg/ft^2 and in window sills below 50 μg/ft^2 was achievable in 100% of cases using a range of intervention methods.[21] Thus, the evidence on feasibility, not to mention the significant harms caused by lead exposure and the agency's duties under TSCA, call for dust-lead hazard standards to be set no higher than 5 μg/ft^2 on floors and 40 μg/ft^2 on window sills.

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[20] HUD, Office of Lead Hazard Control and Healthy Homes, *Lead Hazard Control Clearance Survey* vi (Oct. 2015), https://www.hud.gov/sites/documents/CLEARANCESURVEY_24OCT15.PDF (emphasis added).

[21] Braun JM, Hornung R, Chen A, et al., *A Randomized Controlled Trial to Reduce Childhood Lead Exposure and Lead-Associated Neurobehavioral Deficits*, JAMA Pediatrics (2018) (in press) (attached to Lanphear Comments).

III. EPA MUST REVISE THE DEFINITION OF LEAD-BASED PAINT

EPA's failure to revise the definition of lead-based paint is unsupportable. In the proposed rule, EPA chooses not to revise the definition because it claims it "lacks sufficient information to conclude that the current definition requires revision or to support any specific proposed change to the definition of [lead-based paint]." 83 Fed. Reg. at 30,897. More specifically, EPA claims that it cannot revise the definition of lead-based paint at this time because it lacks sufficient information "to establish a statistically valid causal relationship between concentrations of lead in paint (lower than the current definition) and dust-lead loadings which cause lead exposure." *Id.* As explained below, this statement is contradicted by the regulatory framework, science, and by the Court's decision. Moreover, EPA's contentions about the lack of information on the issue of technological feasibility is belied by readily available information and evidences an apparent intent to flout the Court's order.

A. EPA Does Not Need Additional Information on the Association Between Paint and Dust to Revise the Definition of Lead-Based Paint

The agency claims that it "would need to further explore the availability and application of statistical modeling approaches that establish robust linkages between the concentration of lead in paint below the current definition and floor dust and [blood lead level] before EPA could develop a technically supportable proposal to revise the definition of [lead-based paint]." *Id.* But this claim flies in the face of a regulatory scheme that recognizes the hazards of lead-based paint itself, separate and apart from any association between lead-based paint and floor dust. For the reasons explained below, EPA should revise the definition of lead-based paint to lower the current levels—paint containing "lead equal to or in excess of . . . 0.5 percent by weight"[22]—at least to paint containing lead in excess of 0.06%, the level banned by the Consumer Product Safety Commission ("CPSC") as hazardous in 1978. EPA should consider whether the definition could be lowered even further, to paint containing lead in excess of 0.009%, the level banned by CPSC as of 2009.[23]

Under TSCA, the term "lead-based paint hazard" is defined as:

> any condition that causes exposure to lead from lead-contaminated dust, lead-contaminated soil, [and] lead-contaminated paint that is deteriorated or present in accessible surfaces, friction surfaces, or impact surfaces that would result in adverse human health effects as established by [EPA] under this subchapter.

15 U.S.C. § 2681; *see also* 40 C.F.R. § 745.103. In other words, "lead-based paint hazards" refers to hazard standards for three media: dust-lead, soil lead, and lead-based paint. 66 Fed. Reg. at 1,206; *see also* 40 C.F.R. § 745.63 ("Lead-based paint hazard means hazardous lead-based paint, dust-lead hazard or soil-lead hazard as identified in § 745.65.").

[22] 40 C.F.R. §§ 745.103, 745.223.

[23] *See* 16 C.F.R. § 1303.1(a).

Much as the TSCA regulatory framework identifies dust-lead hazard standards and soil-lead hazard standards, the framework identifies a hazard standard for lead-based paint, referred to as "paint lead hazard," which identifies hazardous lead-based paint. 40 C.F.R. § 745.65(a); *see also* 66 Fed. Reg. at 1210. Specifically, a paint-lead hazard includes any of the following:

> (1) Any lead-based paint on a friction surface that is subject to abrasion and where the lead dust levels on the nearest horizontal surface underneath the friction surface (e.g., the window sill, or floor) are equal to or greater than the dust-lead hazard levels identified in paragraph (b) of this section.
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> (2) Any damaged or otherwise deteriorated lead-based paint on an impact surface that is caused by impact from a related building component (such as a door knob that knocks into a wall or a door that knocks against its door frame.
>
> (3) Any chewable lead-based painted surface on which there is evidence of teeth marks.
>
> (4) Any other deteriorated lead-based paint in any residential building or child-occupied facility or on the exterior of any residential building or child-occupied facility.

40 C.F.R. § 745.65(a); *see also id.* § 745.227(h) (same). In EPA's own words, the agency "has generally designated any amount of deteriorated [lead-based] paint as a lead-based paint lead hazard." 66 Fed. Reg. at 1208. "The purpose of identifying almost all deteriorated lead-based paint as a paint lead hazard is to alert the public to the fact that *all deteriorated lead-based paint should be addressed*." *Id.* at 1210 (emphasis added).

In light of this regulatory framework, it makes little sense for EPA to refuse to revise the definition of lead-based paint because it does not have enough information on the "causal relationship between concentrations of lead in paint (lower than the current definition) and dust-lead loadings which cause lead exposure." 83 Fed. Reg. at 30,897. After all, *any deteriorated lead-based paint* "in any residential building or child-occupied facility or on the exterior of any residential building or child-occupied facility" constitutes a paint-lead hazard under the TSCA regulations. 40 C.F.R. § 745.65(a)(4).

In this context, the definition of "lead-based paint" is plainly critical, and as Petitioners have pointed out, the current definition of lead-based paint as "paint or other surface coatings that contain lead equal to or in excess of 1.0 milligrams per [centimeter squared] or 0.5 percent by weight," 40 C.F.R. §§ 745.103, 745.223, means that paint containing nearly ten times more lead than what has been banned by the CPSC since 1978 as hazardous is *not* considered lead-based paint by EPA under TSCA. When the CPSC banned paint containing more than 0.06% lead in 1978, it also banned toys, other articles intended for children, and furniture articles bearing paint with more than 0.06% lead "in order to eliminate or reduce the unreasonable risk of injury associated with lead poisoning in children." Establishment as Banned Hazardous Products, 42 Fed. Reg. 44,193, 44,193 (Sept. 1, 1977). Yet, more than 40 years later, lead-based

paint containing up to 0.5% lead peeling off of walls and surfaces in homes and childcare centers is not considered hazardous by EPA.

As Petitioners pointed out in their petition to the Court, the CPSC's 1978 ban of paint with lead content exceeding 0.06% is determinative of the lack of safety of paint containing lead exceeding this threshold. In 1976, Congress directed CPSC to determine whether a level of lead in paint greater than 0.06%, but less than 0.5%, was safe. *See* 42 U.S.C. § 4841 (Pub. L. No. 94-317, 90 Stat. 695, amending the Lead-Based Paint Poisoning Prevention Act). In 1977, CPSC announced its decision that "available scientific information is insufficient to establish that a level of lead in paint above 0.06 percent but not over 0.5 percent is safe." Determination of Safe Level of Lead in Paint, 42 Fed. Reg. 9,404, 9,404 (Feb. 16, 1977). In reaching this determination, CPSC pointed to a National Academy of Sciences Report, as well as the recommendations of the Department of Health, Education, and Welfare, CDC, the American Academy of Pediatrics, and medical experts in support of the 0.06% lead level. *Id.* Ultimately, the CPSC concluded, based on these comments and testimony, that it "is unaware of any other data or information sufficient to establish the safety of lead at a level over 0.06 percent." *Id.*

Accordingly, EPA is legally obligated to revise the definition of lead-based paint. As the Ninth Circuit found, information "is clear in this record: the current standards for dust-lead hazard and lead-based paint hazard are insufficient to accomplish Congress's goal [to prevent childhood lead poisoning and eliminate lead-based paint hazards] . . . ." 878 F.3d at 785; *see also id.* at 784 ("The EPA does not dispute that now available information shows the insufficiency of its present standards for achieving Congress's purposes."). EPA cannot now credibly claim that it "lacks sufficient information to conclude that the current definition [of lead-based paint] requires revision . . . ." 83 Fed. Reg. at 30,897. That matter has already been decided by the Court. Since the CPSC concluded 40 years ago that paint with lead levels above 0.06% cannot be considered safe, EPA must revise its definition of lead-based paint to paint containing no more than 0.06% lead—at the highest—or risk violating TSCA and the Court's order.

B. Lack of Knowledge about Technological Feasibility Is Not a Valid Basis for Failing to Revise the Definition of Lead-Based Paint

Neither can EPA legitimately claim that it cannot revise the definition of lead-based paint because "it is currently unknown whether portable field technologies utilized in EPA's [lead-based paint] activities . . . perform reliably at significantly lower concentrations of lead in paint." 83 Fed. Reg. at 30,898. If that is the case, then this rulemaking is precisely the time for the agency to undertake the efforts to answer any questions about feasibility. A substantial portion of the proposal's discussion on the feasibility of revising the definition of lead-based paint is dedicated to explicating the actions EPA "would need to" take to revise the definition of lead-based paint. *Id.* But with no explanation, EPA simply has not taken these actions. In light of the Court's order to the agency, EPA does not have the option to refuse to revise the definition of lead-based paint because it chooses not to research the feasibility of different definitions of lead-based paint.

The X-ray fluorescence ("XRF") instruments and lead test kits that are currently used to determine the level of lead-based paint in walls during inspections, risk assessment, and renovations are specifically calibrated to read only to the regulated level of 0.5% lead. *See, e.g.*, 40 C.F.R. §§ 745.88(c)(2), 745.90(b)(6). That does not mean they are technologically incapable of reading levels of lead lower than 0.5%. It only means that "these instruments would need to be re-evaluated to determine the capabilities of each instrument model available on the market to meet a potentially revised definition of [lead-based paint] . . . ." 83 Fed. Reg. at 30,898. This is precisely the determination that the agency is legally obligated to undertake in this rulemaking so that it can revise the definition of lead-based paint, as ordered by the Court.

Indeed, it appears quite likely that technological feasibility is not a stumbling block to a revision of the definition of lead-based paint. For one thing, other jurisdictions, including California, already define lead-based paint in contexts requiring detection on surfaces in buildings as surface coating containing lead at concentrations greater than 0.06%.[24] Additionally, the Thermo Scientific™ Niton™ XLp 300 XRF hand held analyzer, one of the most common XRF analyzers used in the field, is described as being capable of determining "whether lead is positive (defined by the US EPA as greater than or equal to 1.0 mg/cm^2) or negative," but "[i]f you are in a jurisdiction with more stringent standards, you can easily change the action level to ensure compliance with local regulations."[25] This analyzer displays "[a]ctual lead values," permitting users "to more accurately quantify the hazards associated with particular samples,"[26] and is touted as being "[i]deal for residential lead paint testing" because it has "no inconclusive range."[27] In other words, other jurisdictions already use existing technology to detect lead in paint at levels below the 0.5% identified in EPA's current definition.

IV. EPA MUST REVISE THE SOIL LEAD HAZARD STANDARDS

EPA has a duty under TSCA to "engage in an ongoing process, accounting for new information, and to modify initial standards when necessary to further Congress's intent: to prevent childhood lead poisoning and eliminate lead-based paint hazards." 878 F.3d at 784. This duty demands that EPA update not only the dust and paint components of "lead-based paint

[24] *See* Cal. Code Regs. tit. 8, § 1532.1(d)(4)(C) (2014) ("Objective data for an initial assessment that demonstrate surface coating or material that contain lead at concentrations equal to or exceeding 0.06% lead dry weight (600 ppm) demonstrate the presence of lead surface coatings or material that constitute a health hazard to employees engaged in lead-related construction work."); *see also* S.C. Code Ann. § 44-53-1320(11) (2005) ("'Lead-base substance' means paint . . . containing more than six hundredths of one percent (0.06 percent) lead by weight . . . in the dried paint film applied.").

[25] Thermo Scientific, *Specification Sheet: Niton XLp 300 specification sheet* (March 2010), https://assets.thermofisher.com/TFS-Assets/CAD/Specification-Sheets/NitonXLp300-spec-sheet.pdf.

[26] *Id.*

[27] Thermo Scientific, *Brochure: Environmental Hazards Testing, Niton XRF Analyzers* (July 2010), https://assets.thermofisher.com/TFS-Assets/CAD/brochures/Environmental-Product-Brochure.pdf.

hazards," but also that the agency update the hazard standard for lead in soil. Like the dust-lead hazard standards, the current soil-lead hazard standard of "400 parts per million (μg/g) in a play area or average of 1,200 parts per million of bare soil in the rest of the yard," 40 C.F.R. § 745.65, was set in 2001 and is now long outdated.

In the 2001 rulemaking establishing the present hazard standards, EPA adopted the same policy basis for determining the dust and soil lead hazards: "a 1 to 5% probability of a child's developing a blood lead level of 10[μg/dL]." 66 Fed. Reg. at 1215. As the agency explained, "[t]he choice of 10 [μg/dL]is based on a significant body of scientific evidence, extensively cited in the preamble to the proposed rule, that shows that a number of significant health effects manifest themselves in the 10-15 [μg/dL] range." *Id*. The agency clarified that it "decided not to use a level lower than 10 [μg/dL] because the evidence indicates that health effects at lower levels of exposure are less well substantiated, based on a limited number of children, and observation of subtle molecular changes that are not currently thought to be sufficiently significant to warrant national concern." *Id.* Now seventeen years later, this statement is no longer supportable.

Today, the extensive peer-reviewed research published since 2001 makes clear that levels of lead exposure lower than 10 μg/dL are significant and harmful. Indeed, the American Academy of Pediatrics has described the "[e]xtensive and compelling evidence" that "now indicates that lead-associated cognitive deficits and behavioral problems can occur at blood lead concentrations below 5 μg/dL (50 ppb)."[28] The numerous studies appended to the Declaration of Bruce P. Lanphear, M.D., M.P.H., In Support of Petition for Writ of Mandamus (Attachment 1) are illustrative of the well-established body of scientific evidence demonstrating the extent to which lead exposure significantly harms children at blood lead levels below 10 μg/dL and even 5 μg/dL. In fact, EPA itself concluded that "[i]n children, there is sufficient evidence for adverse health effects in children and adults at [blood lead levels] less than 10 μg/dL, and less than 5 μg/dL," and "[i]n children, there is sufficient evidence that [blood lead levels] less than 5 μg/dL are associated with increased diagnoses of attention-related behavioral problems, greater incidence of problem behaviors, and decreased cognitive performance." 83 Fed. Reg. at 30,890. The basis for the current soil lead hazard standards therefore no longer is valid, and those standards must be revised to reflect the current science.[29]

[28] AAP Policy Statement at 3.

[29] Research shows that children's blood lead concentrations increase by 2.4 μg/dL to 3.5 μg/dL per 1000 ppm increase in soil lead concentration. *See* Bruce Lanphear et al., *The Effect of Soil Abatement on Blood Lead Levels in Children Living Near a Former Smelting and Milling Operation*, 118 Pub. Health Reports 83, 87 (2003) (appended herein as Attachment 11). In 2009, California set its soil lead hazard standard to 80 ppm. *See* Jim Carlisle, *Revised California Human Health Screening Levels for Lead*, California Environmental Protection Agency, Office of Environmental Health Hazard Assessment (Sept. 2009), http://oehha.ca.gov/media/downloads/crnr/leadchhsl091709.pdf.

V. ADDITIONAL CONSIDERATIONS

A. EPA Should Update the Definition of Elevated Blood Lead Level ("EBL")

EPA's definition of EBL under its TSCA regulations also must be revised to reflect current scientific understanding. Specifically, the agency should define EBL to mirror CDC's reference blood lead level. Subchapter IV of TSCA on Lead Exposure Reduction "applies to all individuals and firms who are engaged in lead-based paint activities"—namely, inspection, risk assessment and abatement—"except persons who perform these activities within residential dwellings that they own, *unless* the residential dwelling is occupied by a person or persons other than the owner or the owner's immediate family while these activities are being performed, *or a child residing in the building has been identified as having an elevated blood lead level*." 40 C.F.R. § 745.220. Elevated blood lead level is defined by EPA as "concentration of lead in whole blood of 20 μg/dl (micrograms of lead per deciliter of whole blood) for a single venous test or of 15–19 μg/dl in two consecutive tests taken 3 to 4 months apart." 40 C.F.R. § 745.223.

This definition for triggering when the TSCA regulations apply is wildly out of sync with current scientific understanding. As EPA itself acknowledged in the proposed rule, CDC eliminated any reference to a "level of concern" for lead exposure in light of the fact that no safe blood lead level has been identified, and established 5 μg/dL as a reference level that should trigger a public health response. 83 Fed. Reg. at 30,890. Moreover, HUD amended its Lead Safe Housing Rule in 2017 to align with CDC's reference level, lowering its standard for identifying children with elevated blood lead levels from 20 μg/dL to "a confirmed concentration of lead in whole blood of a child under age 6 equal to or greater than the concentration in the most recent guidance published by the U.S. Department of Health and Human Services (HHS) on recommending that an environmental intervention be conducted." 24 C.F.R. § 35.110. There is no reason why EPA shouldn't similarly set the EBL in its TSCA regulations to reflect CDC's most recent blood lead reference level.

B. EPA Should Adopt a Six-Month Implementation Timeline

EPA is proposing to allow States, territories, and tribes up to two years to implement EPA's new standards, but offers no support for providing such an extended implementation period. *See id*. at 30,899. In light of the Court's finding of the unreasonable delay that has already occurred in revising the current dust-lead hazard standards and the pressing urgency to protect children living in this country's pre-1978 homes, we urge EPA to adopt a six-month implementation period instead.

C. EPA's Economic Analysis Currently Lacks Key Studies and Research

EPA's economic analysis of this proposed rule appears to lack consideration of important data that should inform the benefit-cost analysis. For instance, the agency should incorporate the results of studies that estimate that the annual cost of childhood lead exposure in the United

States is more than $50 billion,[30] and that show that for every $1 invested in reducing lead hazards in housing units, society would benefit by an estimated $17 to $221, a cost–benefit ratio comparable to the cost–benefit ratio for childhood vaccines.[31] EPA also should account for recently-published research estimating that some 256,000 deaths a year from cardiovascular disease and 185,000 deaths a year from ischemic heart disease are attributable to lead exposure, suggesting that "[l]ow-level environmental lead exposure is an important, but largely overlooked, risk factor for cardiovascular disease mortality" in this country.[32]

D. EPA Should Amend its Regulations Defining Target Housing to Make Them Consistent With Recently Amended Statutory Language

In 2017, Congress amended the definition of target housing under TSCA to include 0-bedroom dwellings in which a child under six lives. See Pub. L. No. 115-31, Div. K, Title II, § 237(c), 131 Stat. 789 (May 5, 2017) (amending 15 U.S.C. § 2681 to read "'target housing' means any housing constructed prior to 1978, except housing for the elderly or persons with disabilities or any 0-bedroom dwelling (unless any child who is less than 6 years of age resides or is expected to reside in such housing)"). EPA's regulations under TSCA have not since been updated to reflect the statute's new inclusion of 0-bedroom dwellings inhabited by children, and still defines "target housing" more narrowly as:

> any housing constructed prior to 1978, except housing for the elderly or persons with disabilities (unless any child who is less than 6 years of age resides or is expected to reside in such housing) or any 0–bedroom dwelling.

40 C.F.R. § 745.103; see also id. § 745.223 (same). EPA should address this inconsistency in this rulemaking by revising the regulatory definitions to match the recently amended statutory language.

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[30] Leonardo Trasande & Yinghua Liu, *Reducing The Staggering Costs of Environmental Disease In Children, Estimated At $76.6 Billion In 2008*, 30(5) Health Affairs 863 (May 2011), https://www.healthaffairs.org/doi/pdf/10.1377/hlthaff.2010.1239 (appended as Attachment 12).

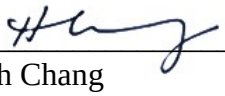
[31] Elise Gould, *Childhood Lead Poisoning: Conservative Estimates of the Social and Economic Benefits of Lead Hazard Control*, 117(7) Environmental Health Perspectives 1162 (July 2009), https://ehp.niehs.nih.gov/wp-content/uploads/117/7/ehp.0800408.pdf (appended as Attachment 13); *see also* Health Impact Project, *10 Policies to Prevent and Respond to Childhood Lead Exposure* (Aug. 2017), http://www.pewtrusts.org/-/media/assets/2017/08/hip_childhood_lead_poisoning_report.pdf (appended as Attachment 14).

[32] Bruce P. Lanphear et al., *Low-level exposure and mortality in US adults: a population-based cohort study*, 3 Lancet Public Health e177 (March 2018), https://www.thelancet.com/action/showPdf?pii=S2468-2667%2818%2930025-2 (attached to Lanphear Comments).

CONCLUSION

The undeniable severity of the impact caused by lead exposure, even at miniscule levels, and its especially detrimental effects on children has long caused lead to rank high among public health threats demanding action. EPA has an opportunity in this rulemaking to make meaningful changes to its regulatory framework that could play a critical role in addressing the significant and persistent problem of legacy leaded paint in homes and childcare facilities throughout this country. We urge the agency to comply with the Court's order and to make the revisions set forth above. If you have any questions, please do not hesitate to contact Hannah Chang at 212-845-7382 or hchang@earthjustice.org.

Thank you for your consideration,



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On behalf of:
A Community Voice
California Communities Against Toxics
Healthy Homes Collaborative
New Jersey Citizen Action
New York City Coalition to End Lead Poisoning
Sierra Club
United Parents Against Lead National
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