

**Results of EPA's Section 610 Review of the Final Rule for
Lead; Renovation, Repair, and Painting Program**

EPA Office of Pollution Prevention and Toxics

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Summary

On April 22, 2008, EPA published the final rulemaking “Lead; Renovation, Repair, and Painting Program” (73 FR 21692), hereinafter referred to as the “RRP” rule. EPA promulgated this rule primarily to address lead-based paint hazards created by renovation, repair, and painting activities that disturb lead-based paint in target housing¹ and child-occupied facilities². Pursuant to Section 610 of the Regulatory Flexibility Act (RFA), EPA has completed a review of the RRP rule to determine whether the provisions that could affect small entities should be continued without change, or should be rescinded or amended to minimize adverse economic impacts on small entities. In this report, EPA exercised its discretion to consider not only the original RRP rule, but also actions taken to amend it in 2010 and 2011, as well as comments EPA received pursuant to information requests regarding lead test kits in 2015 and 2016. More specifically, this document addresses comments the Agency received from May 14, 2015 to July 6, 2015 and December 21, 2015 to February 19, 2016 pursuant to lead test kits, and June 9, 2016 to September 7, 2016 pursuant specifically to the Section 610 Review. The Agency concluded that the RRP rule should remain unchanged without any actions to amend or rescind it.

The Agency based its conclusion on a review of stakeholder comments, other data that EPA reviewed that are relevant to the factors set forth under Section 610, and the stated objectives of TSCA § 402(c)(3) to reduce hazards associated with lead in paint. If EPA were aware of changes that would reduce burdens that were consistent with Congress’s objectives, the Agency would consider adopting them. Following a review of relevant evidence, EPA did not identify such potential changes that would reduce burden on a substantial number of small entities in a manner consistent with the stated objectives of TSCA. With respect to lead test kits, the Agency acknowledges that a lead test kit meeting the rule’s positive response criterion has not come to market. Based on a reexamination of the costs of the RRP rule, the available evidence indicates that the benefits continue to exceed its costs even if lead test kits meeting the positive response criterion are not developed in the foreseeable future. Consequently, EPA is not initiating a rulemaking to amend the RRP rule.

Background

As EPA began to develop the rule, the Agency formally evaluated the potential impacts of the program on small businesses according to the requirements of the Small Business Regulatory Enforcement Fairness Act (SBREFA), which is part of the Regulatory Flexibility Act. During this process, we assessed the potential impact of the rule on the types of small entities that would be directly affected by the rule including, but not limited to - building construction contractors/remodelers, specialty trade contractors, real estate lessors and managers who either contract to or directly perform maintenance work on target housing or child-occupied facilities properties that they lease, child day care service providers, elementary and secondary school staffs, technical and trade school training providers, and engineering service firms. EPA determined that many companies in these categories met the Small Business Administration criteria of small entities, and we took the additional steps specified by the RFA and SBREFA to identify and address concerns of these small entities. A federal Interagency SBREFA Panel was convened to consider the available information from small entities and other sources. The Panel made several recommendations for EPA to consider in the rule, and the Agency proposed and took comment on these recommendations.

¹ Section 401(17) of TSCA defines target housing 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 for the elderly or persons with disabilities) or any 0-bedroom dwelling.”

² §745.83 and §745.223 defines child-occupied facility to mean “a building, or portion of a building, constructed prior to 1978, visited regularly by the same child, under 6 years of age, on at least two different days within any week (Sunday through Saturday period), provided that each day's visit lasts at least 3 hours and the combined weekly visits last at least 6 hours, and the combined annual visits last at least 60 hours.”

Discussion of the Five Statutory Factors

EPA reviewed the RRP with respect to the five factors set forth in Section 610 of the Regulatory Flexibility Act (5 U.S.C. 610). In conducting this review, the Agency also considered amendments made in 2010 (75 FR 24802) and 2011 (76 FR 47918) to eliminate a provision for contractors to opt-out of prescribed work practices and to affirm the qualitative clearance of renovated or repaired spaces, respectively, as well as comments it received regarding lead test kits in 2015 (80 FR 27621) and 2016 (80 FR 79335).

1. Continued Need for the Rule

The Agency considered the continued need for the rule in light of the passage of time since its promulgation. The reexamination of the benefits of the Lead RRP rule is an important part of the consideration of the continued need for the rule. Exposure to lead dust resulting from renovation, repair, or painting activities can cause a variety of serious health effects in children. The adverse health effects of lead are well documented. In children especially, cognitive effects including effects on attention, executive functions, language, memory, learning, and visuospatial processing with attention and executive function effects have been observed. These effects have not changed since the rule was promulgated. In fact, adverse health effects have been shown to occur at even lower blood lead levels than when the rule was first promulgated³.

When Congress enacted Title X of the Housing and Community Development Act of 1992, Public Law 102-550, it established a national goal of eliminating lead-based paint hazards in housing as expeditiously as possible. EPA believes the RRP rule minimizes exposure to lead-based paint hazards to help achieve the stated goal of the statute. EPA concludes that the rule continues to appropriately take into account reliability, effectiveness, and safety.

2. Nature of Complaints or Comments Received Concerning the Rule

EPA received fifteen public comments during the 610 review period from June 9, 2016 to September 7, 2016. The Agency also exercised its discretion by responding to twenty public comments received in 2015 and 2016 during two separate lead test kits comment periods. Specific responses to the thirty-five comments are found in this report, but comments fell into the following general categories: lead test kits and alternative technologies; training and the minor amendments rule; rule implementation, recertification, and enforcement; qualitative/quantitative post-job clearance testing; EPA's conduct of the Section 610 review; rule scope; economic analysis; removal of the option to opt-out of using rule-mandated work practices in target housing and child-occupied facilities; and comments that were beyond the scope of this review.

With respect to lead test kits and alternative technologies, the Agency responded that TSCA does not require that benefits of the RRP rule exceed its costs. Rather, TSCA § 402(c)(3) requires EPA to address lead-based paint hazards created during renovation, remodeling and painting activities, taking into account reliability, effectiveness, and safety. The statute defines lead-based paint hazards as "any condition that causes exposure to lead . . . that would result in adverse human health effects," which are currently identified by regulation at 40 CFR 745.65. EPA acknowledges that no lead test kit meeting the

³ *Low Level Lead Exposure Harms Children: A Renewed Call for Primary Prevention – Report of the Advisory Committee on Childhood Lead Poisoning Prevention of the Centers for Disease Control and Prevention*, Advisory Committee on Childhood Lead Poisoning Prevention, Centers for Disease Control and Prevention, January 4, 2012, https://www.cdc.gov/nceh/lead/acclpp/final_document_030712.pdf.

rule’s positive response criterion has come to market. EPA has reexamined the costs of the RRP program using a false positive rate of 63% to 84%, which is the high end of the rate for EPA-recognized test kits that are currently available nationally. This results in an estimate that the annualized cost of the RRP program is roughly \$1 billion. While this is higher than EPA originally estimated in 2008 and 2010, the quantified annualized benefits are roughly \$1.5 billion to \$5 billion. Thus, the available evidence indicates that the benefits of the RRP rule continue to exceed its costs even if lead test kits meeting the positive response criterion are not available in the foreseeable future. EPA is also aware of two lead test kits currently under development that aim to meet the lead test kit performance criteria. EPA continues to monitor the progress of these technologies.

Table 1. Total costs and benefits of RRP Program (\$ million) based on test kits with 63% to 84% false positive rate			
Annualized costs		Annualized benefits	
3% discount rate	7% discount rate	3% discount rate	7% discount rate
\$956 -- \$1,063	\$1,026 -- \$1,139	\$1,547 – \$4,731	\$1,645 – \$5,036

With respect to training and minor amendments made to the rule, the Agency received comments addressing the 2016 change that now allows renovators to complete refresher training online. One commenter thought the change made the rule too complicated. Another commenter supported the addition of online training. EPA reaffirmed its conclusion that online training reduced burden and costs to industry and clarified language for training providers.

Commenters criticized the Agency’s implementation of the rule, recertification practices, and enforcement actions. Commenters stated that the Agency allows too many people who are not trained renovators and who do not comply with rule standards to conduct business without a penalty. The commenters reported that the lack of enforcement places an undue burden on compliant firms by making their bids less competitive than non-compliant firms. In the Appendix to this document, the Agency provides data to quantify its enforcement activities, and encourages individuals to report violations through EPA’s website.

Some commenters requested that the Agency revisit its decision not to require quantitative post-job clearance. One commenter claimed that requiring quantitative clearance would improve the rule’s effectiveness and another stated that they considered the current requirement for qualitative clearance to be adequate. The Agency reaffirms the conclusion it reached in 2011. EPA does not support imposing a dust wipe testing or a clearance requirement on renovations. EPA is convinced that the work practices established in the 2008 rule are reliable, effective, and safe, and that imposing a dust wipe testing or clearance requirement is unwarranted.

One commenter objected to the Agency’s conduct of the 610 review. Among other things, the commenter stated that the description of the rule in the regulatory agenda was deficient and that the Agency failed to explain the rule’s “legal basis.” EPA’s process for this review complies fully with the requirements of the Regulatory Flexibility Act, and is consistent with how the Agency has handled the Section 610 review for other rulemakings. EPA did not withdraw this notice and there are no plans to undergo a second comment period on the report on the Agency’s 610 review process.

With respect to the rule’s scope, some commenters stated that they believed residences and child-occupied facilities constructed between 1960 and 1978 should not be regulated under RRP. Commenters suggested that the Agency change the scope of the rule to include residences and child-occupied facilities constructed before 1960 exclusively. Commenters also stated that some job types currently covered by the rule, namely window replacements, should not be included under RRP. With respect to the vintage of homes, the Agency concluded that, because some target housing and child-occupied facilities built

between 1960 and 1978 contain lead-based paint, EPA does not have a record basis to conclude that exempting them from the rule would address lead-based paint hazards taking into account reliability, effectiveness, and safety. With respect to replacing windows, since evidence suggests that activity generates lead hazards, the Agency declined the commenter's request.

Some commenters criticized the Agency's original economic analysis. They claimed that the analysis was flawed because it inaccurately estimated what compliance would cost renovation firms. Others reported that the Agency failed to adequately account for the economic impact of amendments to the rule and the lack of an improved lead test kit that could meet the specified performance criteria. Some of these commenters claimed that a new economic analysis would show that the rule's costs exceed its benefits. In summary, they claim that EPA should conduct a new economic analysis for the RRP program. If the new analysis were to show that costs exceed benefits, they argue that EPA should amend or rescind the rule.

As described above and shown in Table 1, EPA's reexamination of the costs of the RRP program using a test kit false positive rate of 63% to 84% indicated that the annualized cost of the RRP program is roughly \$1 billion compared to quantified annualized benefits of roughly \$1.5 billion to \$5 billion. Thus, even with the uncertainties in the estimates, the magnitude of the differential suggests that the benefits of the rule exceed its costs.

Some commenters thought that the Agency should reinstate the provision of the rule that allowed homeowners to opt-out of RRP requirements for all homes, regardless of housing vintage. Some commenters suggested reinstating the option to opt-out of rule provisions only in residences and child-occupied facilities constructed after 1960. The "opt-out" provision allowed homeowners to opt-out of the 2008 RRP Rule's requirements in certain limited situations. Specifically, the firm performing the renovation has obtained a statement signed by the owner that the renovation will occur in the owner's residence, no child under age six resides there, no pregnant woman resides there, the housing is not a child-occupied facility, and the owner acknowledges that the renovation firm will not be required to use the work practices contained in EPA's renovation, repair, and painting rule. In both cases, the Agency reaffirmed the conclusion it reached when it removed the option to opt-out of rule provisions in 2010.

EPA concluded that reinstating the opt-out provision of the rule's work practices would make the RRP rule less protective and effective. TSCA § 402(c)(3) requires EPA to address lead-based paint hazards created during renovation, remodeling and painting activities, taking into account reliability, effectiveness, and safety. The statute defines lead-based paint hazards as "any condition that causes exposure to lead . . . that would result in adverse human health effects," which are currently identified by regulation at 40 CFR 745.65. EPA does not have a record basis to conclude that reinstating the opt-out would address lead-based paint hazards, taking into account reliability, effectiveness, and safety.

Some comments did not address issues related to the RRP rule or its amendments. The Agency responded to these comments but did not substantively address them because they were beyond the scope of this review.

3. Complexity of the Rule

The Agency considered the complexity of the rule under review. Although effectively achieving the objectives of TSCA § 402(c)(3) required the Agency to establish a number of regulatory provisions, EPA coordinated the various requirements and worked with industry participants, large and small, to facilitate implementation. Partially as a result of these groups' participation, a rule amendment included a provision aimed at easing the burden of compliance for all regulated entities by accommodating online recertification. Further, EPA developed a Small Entity Compliance Guide following the publication of the final rule, which provided descriptions of the regulations and small entity provisions, questions and

answers, and other helpful compliance information. EPA has tried not to make the rules overly complicated. The provisions that EPA has included to offer flexibility to the regulated community while achieving the objectives of the statute do add some degree of complexity, but those requirements are not overly complex. The Agency concludes that the rule does not need to be amended or rescinded due to its level of complexity.

4. Extent to Which the Rule Overlaps, Duplicates, or Conflicts with Other Federal, State, or Local Government Rules

The Agency considered the extent to which the rule overlaps, duplicates, or conflicts with other federal, state, or local government rules. EPA considered the relationship between its regulation of lead-based paint activities and those regulated by the Department of Housing and Urban Development (HUD) and the Occupational Safety and Health Administration (OSHA). EPA has continued to consult with these agencies since 2008 to avoid overlapping, duplicating, or conflicting with their regulations. As it did at the time of the rule's initial promulgation, the Agency continues to believe that those agencies' statutes and subsequent regulations differ substantially from EPA's and do not overlap, duplicate or conflict with EPA's regulations. However, in 2009, EPA and HUD completed a joint model training curriculum designed to address the requirements of EPA's RRP regulation as well as HUD's Lead Safe Housing regulation. EPA does not believe similar synergies exist between the EPA/HUD programs and OSHA's requirements. Therefore, EPA has concluded that neither HUD's nor OSHA's regulations overlap, duplicate, or conflict with RRP. The Agency specifically addresses this issue in response to commenters who suggested that EPA collaborate more closely with OSHA to develop a shared training curriculum.

The Agency also considered the impact of states that operate their own RRP programs under delegated authority from EPA. Since these programs are developed in cooperation with Agency staff and, when approved, operate in lieu of the federal program, EPA believes that they do not overlap, duplicate, or conflict with the federal program. However, the Agency responded to a commenter who incorrectly alleged that the state of Illinois requires RRP paint-chip sampling be conducted by a third party. Therefore, at this time, EPA is not aware of any overlap, duplication, or conflict with other similar programs.

5. Relevant Changes to Technology, Economic Conditions, or Other Factors

Finally, the Agency considered the degree to which technology, economic conditions, or other factors have changed in the area affected by the rule under review in light of the length of time since it has been evaluated. Although no improved lead test kit is available, the Agency believes alternatives (i.e., XRF instrument, paint chip sampling) to an improved lead test kit exist. During this review, EPA was also notified of two developing lead test kit technologies that may be able to meet the lead test kit performance criteria in the RRP rule. EPA will continue to monitor the progress of these technologies. Whether or when these lead test kits are eventually recognized by EPA will depend on the success of the entities that are developing them.

EPA does not believe that there have been any changes that have introduced any significant additional burdens on small entities subject to this rule. In fact, economic conditions have improved since the rule's analysis was conducted in 2008. In the response to comments, EPA provides evidence to show that the adverse impacts alleged by some commenters have not prevented increases in employment among people who work in renovation and construction since 2008. Renovation, repair, and painting activities still rely on the same basic technologies that EPA considered at the time of the 2008 rulemaking, such as cutting, sawing, drilling, scraping, sanding, component removal, and window replacement. EPA is not aware of any evidence that contradicts its 2008 findings (based on the 2007 Dust Study) that these activities can create lead-based paint hazards. Nor is EPA aware of any new technologies that can substitute for the

containment, cleaning, cleaning verification, and other requirements in the RRP rule and achieve the goal of minimizing exposure to lead-based paint hazards created during renovation, remodeling and painting activities, taking into account reliability, effectiveness, and safety. EPA is not aware of any new technologies that would lead the Agency to revise the conclusion it made in 2010.

Conclusion

Based on EPA's Section 610 review of the 2008 RRP final rule, its amendments, and comments pursuant to lead test kits, the Agency has concluded that there is still a need to mitigate lead-based paint hazards, that no new technology has superseded the need for the rule, that it serves a purpose that is distinct from state and local governments' as well as other agencies' rules, that it is not too complex, that there have not been any changes that have introduced any significant additional burdens on small entities subject to it, and that it continues to be reliable, effective, and safe. Therefore, the rule will be continued without change. As part of any future rulemakings related to these industries, EPA will continue to work with small-entity representatives to minimize any potential unfavorable impacts while continuing to discharge the Agency's statutory mandate of eliminating lead-based paint hazards in housing and child-occupied facilities as expeditiously as possible.

Response to Comments

In the Appendix to this document, EPA responds to the thirty-five comments it received pursuant to the Section 610 Review of the RRP rule as well as to the invitation for comments on lead test kits in 2015 and 2016. Prior to each response, the Agency summarized commenters' concerns and cited the docket number(s) associated with them (citations are structured 20XX [year]-XXXX [docket number]-XXXX [document number]. These numbers refer to docket IDs headed EPA-HQ-OPPT-[year] - [docket number]-[document number] at www.regulations.gov). In some cases, the Agency elected to address multiple commenters' concerns in a single response. In those cases, the Agency cites all the comments associated with the response. The Agency appreciates the time and effort invested by the commenters who provided comments on these issues.

Appendix: Response to Comments

Comment: Several commenters (Commenters #2016-0126-0011, #2016-0126-0012, #2015-0780-0010, #2015-0780-0011, #2015-0780-0012, #2015-0780-0027 and #2015-0780-0024) claimed that EPA must perform a new economic analysis because there is no lead test kit on the market that meets the false positive criteria that EPA set in 2008. According to these commenters, a new analysis would indicate much higher costs than EPA originally estimated. As evidence, the commenters point to EPA’s estimates of the first-year costs of the rule (before new lead test kits meeting the false positive standard were assumed to come on the market). According to these commenters, EPA should amend or rescind the rule if a revised economic analysis shows that costs exceed benefits.

Response: For this review, EPA considered the evidence presented by public commenters and utilized existing available data to reexamine the 2008 Lead RRP rule and the 2010 Amendment. EPA recalculated the cost of the rule using a test kit false positive rate reflective of the EPA-recognized test kits that are currently available nationally. (These rates are higher than EPA assumed in its original analyses.) One of these EPA-recognized test kits has a false positive rate of 22%, while the other has a rate of 63% to 84%. EPA used the rate for the more sensitive test kit (63% to 84%) and, for purposes of this calculation, assumed that improved test kits do not enter the market in the future. This results in an estimate that the annualized cost of the RRP program is roughly \$1 billion, as shown in the table below. While this is higher than EPA originally estimated in 2008 and 2010, the table also shows that the quantified benefit estimates (taken from EPA’s previous Economic Analyses) are still at least 1.5 times the new cost estimates. Thus, even with the uncertainties in the estimates, the magnitude of the differential suggests that the benefits of the rule exceed its costs even if the lead test kits do not meet the positive response criterion.

Total costs and benefits of RRP Program (\$ million) based on test kits with 63% to 84% false positive rate			
Annualized costs		Annualized benefits	
3% discount rate	7% discount rate	3% discount rate	7% discount rate
\$956 -- \$1,063	\$1,026 -- \$1,139	\$1,547 – \$4,731	\$1,645 – \$5,036

This calculation does not reflect the current availability of an EPA-recognized lead test kit with a false positive rate of approximately 22%. Furthermore, XRF testing and paint chip sampling have much lower false positive rates than test kits. These technologies provide feasible approaches to testing for lead-based paint, and can be cost-effective methods for reducing compliance costs – particularly for large jobs in buildings where there is a low probability of disturbing lead-based paint. (This issue is addressed in detail later in this document.) Finally, the estimates in the table above do not include the modest savings due to EPA’s 2016 amendments to allow renovator refresher training to be taken periodically without a hands-on component.

The total costs in the table above are based on EPA’s existing cost estimates for containment and cleaning. EPA disagrees with industry commenters who have claimed that EPA has substantially underestimated the costs of the work practice standards. EPA summarizes some of the misconceptions and errors in those claims later in this document, and has provided detailed explanations in other documents.⁴

⁴ See *Response to Public Comments. Lead; Amendment to the Opt-out and Recordkeeping Provisions in the Renovation, Repair, and Painting Program*. U.S. Environmental Protection Agency. April 2010. EPA-HQ-OPPT-2005-0049-1134.

The reexamination of the benefits of the Lead RRP rule is an important part of the consideration of the continued need for the rule. Exposure to lead dust resulting from renovation, repair, or painting activities can cause a variety of serious health effects in children. The adverse health effects of lead are well documented. In children especially, cognitive effects including effects on attention, executive functions, language, memory, learning, and visuospatial processing with attention and executive function effects have been observed. These effects have not changed since the rule was promulgated. In fact, adverse health effects have been shown to occur at even lower blood lead levels than when the rule was first promulgated⁵.

Furthermore, the table above only includes the quantified benefits estimates. EPA notes that EO 12866 and Circular A-4 stress the importance of considering unquantified effects.⁶ As described in EPA's economic analyses for the 2008 and 2010 rulemakings, there are numerous benefits to reducing lead exposure that were not quantified. These include additional types of benefits to populations included in the analysis, due to decreases in:

- IQ loss in children resulting from prenatal and breast milk exposure;
- Medical costs to treat very high levels of lead;
- Additional education costs for special and remedial education due to IQ impacts;
- Behavioral problems;
- Blood pressure effects due to the 2008 rule; and
- Other health effects (e.g., immune and renal system effects).

Nor do the quantified estimates include benefits from avoided negative health effects in other populations that were not included in the analysis, such as those who:

- Live near houses that are renovated (other than occupants in houses that are contiguous and attached to a renovated house eligible for the opt-out provision, evaluated in the 2010 analysis); or
- Spend time in a friend's or relative's house that is renovated.

These comments have focused on the costs of the rule but, as noted by EO 12866, it is essential to consider both the quantified and unquantified benefits of the rule.

EPA promulgated the Lead RRP rule because it was required to do so by statute. The work practice requirements were necessary to address lead-based paint hazards and were based (as directed by the statutory standard) on studies of renovation activities. Based on the results of the four-phase study entitled "Lead Exposure Associated with Renovation and Remodeling Activities," EPA concluded that all renovations that disturb lead-based paint in target housing and child-occupied facilities create lead-based paint hazards. Upon making this finding, EPA was obligated to issue regulations under TSCA § 402(c)(3) that addressed those hazards, taking into account reliability, effectiveness, and safety. EPA reviewed a number of studies in developing work practice requirements, but the Characterization of Dust Lead Levels After Renovation, Repair, and Painting Activities (the "Dust Study") was EPA's primary work practice resource in crafting the requirements of the final RRP rule. EPA concluded in 2008 that the training, containment, cleaning, and cleaning verification requirements achieve the goal of minimizing exposure to lead-based paint hazards created during renovation, remodeling and painting activities, taking

⁵ *Low Level Lead Exposure Harms Children: A Renewed Call for Primary Prevention – Report of the Advisory Committee on Childhood Lead Poisoning Prevention of the Centers for Disease Control and Prevention*, Advisory Committee on Childhood Lead Poisoning Prevention, Centers for Disease Control and Prevention, January 4, 2012, https://www.cdc.gov/nceh/lead/acclpp/final_document_030712.pdf.

⁶ "Costs and benefits shall be understood to include both quantifiable measures (to the fullest extent that these can be usefully estimated) and qualitative measures of costs and benefits that are difficult to quantify, but nevertheless essential to consider." Executive Order 12866, *Regulatory Planning and Review*, September 30, 1993.

into account reliability, effectiveness, and safety. The requirements in the RRP rule were consistent with the stated objectives of the statute. Following this review, EPA has seen no new evidence to change that conclusion, so it would not be consistent with those objectives to rescind the rule.

The commenters appear to believe that EPA's adoption of the requirements in the 2008 rule was predicated on the presumed availability of lead test kits with a lower false positive rate. That is not the case. EPA's economic analysis indicated that there were other less costly options available, but EPA concluded that those alternatives did not achieve the stated objectives of the statute.

As discussed elsewhere in this document, commenters have suggested various amendments (such as exempting post-1960 housing from the RRP rule, reinstating the opt-out provision, allowing the opt-out for post-1960 housing, or requiring disclosure of renovation activities when the owner opted out of the RRP requirements). EPA does not have a record basis to conclude that these options would address lead-based paint hazards, taking into account reliability, effectiveness, and safety. Some commenters also indicated that changes to the work practice requirements might be appropriate, but they did not identify specific changes or provide supporting data. EPA does not have a record basis that would lead the Agency to revise its 2008 conclusion that the required work practices (containment, cleaning, and cleaning verification) are needed to minimize exposure to lead-based paint hazards created during RRP activities.

EPA does not believe that the evidence indicates that it should amend or rescind the rule. Section 610 of the Regulatory Flexibility Act explains that, "The purpose of the review shall be to determine whether such rules should be continued without change, or should be amended or rescinded, consistent with the stated objectives of applicable statutes, to minimize any significant economic impact of the rules upon a substantial number of such small entities." The threshold question is whether potential amendments to the rule that would minimize any significant economic impact of the rule upon a substantial number of such small entities are consistent with the stated objectives of the statute. At this time, EPA does not intend to initiate a rulemaking for reasons described in this document.

Complying with the Section 610 requirements does not require revising the rulemaking record for earlier rulemakings. Instead, EPA's focus is on determining whether there are factual grounds to conclude that changes to the rule are warranted and would be consistent with the statutory objectives. If evidence supported such potential changes, EPA would initiate a rulemaking. EPA has determined that initiating such a rulemaking is not necessary.

EPA has already amended the RRP rule to provide renovators with more flexibility and reduce compliance costs.⁷ If EPA were aware of changes that would reduce burdens that were consistent with Congress's objectives, the Agency would consider adopting them. While a lead test kit that meets the positive response criterion has not come to market, the available evidence indicates that the benefits of the RRP rule exceed the costs of the rule even if lead test kits meeting the positive response criterion are not developed in the foreseeable future. EPA believes that the reanalysis described above is sufficient to address the comments about the impact of the test kit false positive rate on the rule's costs.

Comment: Commenters #2016-0126-0011 and #2015-0780-0010 stated that EPA should amend or rescind the rule if a revised economic analysis shows that costs exceed benefits. According to the commenter, under EO 12866, agencies should only adopt regulations whose benefits exceed their costs.

⁷ For example, EPA's 2011 amendments to the RRP rule allowed a certified renovator to collect paint chip samples for analysis instead of using a test kit (76 Federal Register 47918, August 5, 2011). And the 2016 amendments allowed a renovator to take refresher training without a hands-on component every other training cycle, with a shorter certification period (81 Federal Register 7987, February 17, 2016).

The commenter claimed that it is unclear whether the benefits of the rule would still exceed the costs if EPA performed an economic analysis without assuming that the lead test kit false positive rate improved. The commenter claimed that if a revised economic analysis showed that the rule's costs exceed its benefits, EPA may need to consider reinstating some form of the opt-out provision limiting the applicability of the rule to pre-1960 housing, revising the lead-safe work practices, and revisiting the training and recertification requirements.

Response: As EPA has addressed elsewhere in this document, EPA estimates that the benefits of the RRP rule exceed its costs even if the lead test kits' false positive rate is not improved. Furthermore, the commenters' contention that EPA should amend or rescind the rule if the costs exceed the benefits is based on an incorrect reading of the applicable requirements. The Regulatory Flexibility Act, and the Toxic Substances Control Act (TSCA) do not require monetized benefits to exceed monetized costs.

Section 610 of the Regulatory Flexibility Act states that:

The purpose of the review shall be to determine whether such rules should be continued without change, or should be amended or rescinded, *consistent with the stated objectives of applicable statutes*, to minimize any significant economic impact of the rules upon a substantial number of such small entities.⁸

Regarding the lack of a requirement in TSCA that the benefits of this rule exceed its costs, as the U.S. Court of Appeals for the District of Columbia explained in response to a petition from this same commenter for review of EPA's final rule removing the opt-out provision:

We note first that EPA does not have a statutory duty to demonstrate that the benefits of the amended rule outweigh its costs. The TSCA was passed in 1976 with the following preface: "It is the intent of Congress that the Administrator shall carry out this chapter in a reasonable and prudent manner, and that the Administrator shall consider the environmental, *economic*, and social impact of any action the Administrator takes or proposes to take under this chapter." 15 U.S.C. § 2601(c). Although the TSCA thus "expressly requires the Administrator to consider" the "economic consequences" of action taken under the Act ... this does not mean that the regulation's benefits must outweigh its costs ... Indeed, when Congress amended the TSCA in 1992 to authorize regulations addressing lead-paint hazards, it instructed EPA to "tak[e] into account reliability, effectiveness, and safety" -- but did not mention cost. 15 U.S.C. § 2682(a)(1).⁹

Before EPA expends resources conducting an economic analysis of potential revisions to the rule, the threshold issue is whether the alternatives suggested by the commenters are consistent with the statutory objectives. If the suggested alternatives are inconsistent with the statutory objectives, there is no reason to initiate an action to amend the rule or prepare an economic analysis.

EPA notes its previous explanation about whether available evidence demonstrates that alternative options would fulfill the statutory directives. In removing the opt-out provision, EPA stated that:¹⁰

The Agency believes that it should only allow provisions such as the opt-out for situations where the information available to EPA indicates that the RRP rule work practices are not necessary to minimize exposure of occupants to lead paint hazards. Because lead paint dust exposure can cause adverse health effects for populations other than just children under age 6 and renovations can result in lead dust levels

⁸ Regulatory Flexibility Act as amended by Small Business Regulatory Enforcement Fairness Act. Section 610: Periodic review of rules (emphasis added in the quoted language).

⁹ Nat'l Ass'n of Home Builders v. EPA, 682 F.3d 1032, 1040 (D.C. Cir. 2012) (emphasis added in the quoted language).

¹⁰ 75 Federal Register 24806, May 6 2010.

many times higher than the hazard standard, EPA believes the work practices should be followed in target housing without regard to the age of the occupants.

Moreover, EPA believes that implementing the regulations without the opt-out provision promotes, to a greater extent, the statutory directive to promulgate regulations covering renovation activities in target housing. Among other things, TSCA section 402(c)(3), directs EPA to promulgate regulations that apply to renovation activities that create lead-based paint hazards in target housing. Pursuant to section 403 of TSCA, EPA has identified dust-lead hazards in target housing and child-occupied facilities as surface dust that contains a mass-per-area concentration of lead equal to or exceeding 40 $\mu\text{g}/\text{ft}^2$ on floors or 250 $\mu\text{g}/\text{ft}^2$ on windowsills. In the RRP rule, EPA found that renovation, repair, and painting activities that disturb lead-based paint create lead-based paint hazards. Thus, renovations in target housing that create lead-based paint hazards should be covered unless there is a record basis to conclude that coverage is unnecessary.

Shortly after promulgating the RRP rule, the RRP rule, and specifically the opt-out provision, was challenged. EPA decided to settle the lawsuit. As part of the settlement, EPA agreed to issue a proposed rule removing the opt-out. In turn, as part of this rulemaking, EPA requested information or data that would shed any light on the reliability, effectiveness, or safety of the opt-out or any variation thereof in relation to EPA's lead hazard standards. EPA did not receive any information in response to its request.

EPA's Dust Study demonstrated and EPA found that renovation, repair, and painting activities produce lead dust above the regulatory hazard standards. In fact, many renovation activities create large quantities of lead dust. The Dust Study shows that renovation activities result in lead levels many times greater than the hazard standard when the RRP rule containment and cleanup procedures are not followed. It also demonstrated that work practices other than those restricted or prohibited by the RRP rule can leave behind lead dust well above the hazard standards when the RRP rule requirements are not followed. The Dust Study also showed that alternative practices (broom cleaning, not using containment) were not effective or safe in relation to EPA's lead hazard standards. Under the opt-out, contractors performing renovations would have no obligation to minimize or clean up any dust-lead hazards created by the renovation. Indeed, contractors would not be prevented from using practices that EPA has determined create hazards that cannot be adequately contained or cleaned up even when following the RRP rule requirements. The Agency also took these factors into consideration in its decision to remove the opt-out provision in this final rule...

... Based on the data available to EPA (e.g., the Dust Study), the Agency cannot now conclude that the opt-out nor that the alternative approaches are safe, reliable or effective because none of these would sufficiently minimize exposure to lead-based paint hazards. In sum, when the RRP work practices are not used, residents and visitors are exposed to the lead hazards created by the renovation, and therefore these approaches would not protect older children, women of childbearing age, or other adults currently residing in the home and can result in exposure to children under the age of 6 and pregnant women to lead-based paint hazards. Again, although EPA specifically requested information or data that would shed any light on the reliability, effectiveness, or safety of these options in relation to EPA's lead hazard standards, the Agency did not receive any. The Agency took these factors into consideration in deciding not to adopt these alternatives.

EPA is not aware of any information, based on comments submitted during this review, that would allow it to conclude that the alternative options offered by the commenters during this Section 610 review would sufficiently minimize exposure to lead-based paint hazards. Therefore, EPA does not have a record basis to conclude that these options (including exempting post-1960 housing, reinstating the opt-out provision, allowing the opt-out provision for post-1960 housing, or requiring disclosure of renovation activities when the owner opted out of the RRP requirements) would address lead-based paint hazards, taking into account reliability, effectiveness, and safety.

Regarding the commenter's suggestion that EPA revise the lead-safe work practices, and revisit the training and recertification requirements, the commenter has not provided any new data about the safety,

reliability, and effectiveness of the required work practices. Therefore, EPA does not have a basis to change its conclusions about what activities are necessary to achieve the objectives of the rule.

As EPA explained in 2008¹¹:

The primary objective of the rule is to minimize exposure to lead-based paint hazards created during renovation, repair, and painting activities in target housing and child-occupied facilities ... the Agency concludes that the training, containment, cleaning, and cleaning verification requirements in the final rule achieve the goal of minimizing exposure to lead-based paint hazards created during renovation, remodeling and painting activities, taking into account reliability, effectiveness, and safety.

EPA is not aware of information demonstrating that alternative work practices or training and certification requirements would meet these objectives. As one commenter stated, “Since the final rule was promulgated, there have been, to our knowledge, no additional studies published that would refute EPA’s findings from 2008.”¹²

When Congress enacted Title X of the Housing and Community Development Act of 1992, Public Law 102-550 it established a national goal of eliminating lead-based paint hazards in housing as expeditiously as possible. EPA does not have a record basis to conclude that amendments suggested by the commenters would address lead-based paint hazards, taking into account reliability, effectiveness, and safety.

Comment: Commenter #2016-0126-0011 claimed that the new renovator recertification requirements are unnecessarily complex and burdensome. According to the commenter, EPA’s February 17, 2016 amendment to the RRP rule (which allows renovators to take refresher training without a hands-on component under certain circumstances) creates additional burdens for renovators, and contradicts the Agency’s goals by reinstating burdens it sought to avoid.

Response: The 2016 amendment to the training requirement will not increase the burden for renovators compared to the original requirements in the RRP rule. Limiting to three years the period for which refresher training without a hands-on component is valid does not create additional burdens for renovators because all renovators still have the option of being certified for five years each training cycle if they take a refresher training class that includes a hands-on component. Moreover, renovators that take an online refresher training course without the hands-on training component will save the time and expense needed to travel to a training facility. Furthermore, training providers may pass along to renovators some of the savings from offering classes without the hands-on training component. EPA estimates that the savings in time and travel costs alone for online training average \$144 per renovator.¹³ While the final rule provides less burden reduction than the proposed rule, it is still a burden reduction.

A renovator who can take the class online saves the time and associated costs incurred by traveling to a training site. The farther renovators would have had to travel, the greater the savings from taking the class online. The travel savings may not outweigh the shorter certification period for renovators who travel only a short distance to a training site. But those renovators can continue to take the hands-on component every training cycle and be certified for five years.

¹¹ *Final Regulatory Flexibility Analysis for the Lead; Renovation, Repair, and Painting Program*. U.S. Environmental Protection Agency. March 2008, page 1.

¹² Environmental Defense Fund, *Section 610 Review of the 2008 Lead Renovation, Repair, and Painting Program (RRP)*, August 26, 2016. EPA-HQ-OPPT-2016-0126-0008.

¹³ *Economic Analysis for the Lead-Based Paint Program Minor Amendments Final Rule*. U.S. Environmental Protection Agency. February 2016.

The 2016 amendment does not increase or reinstate burdens for renovators because the five-year certification is still available to any renovator that takes refresher training with a hands-on component. Therefore, the amendment does not contradict the Agency's goals. The amendment reduces costs for renovators who faced high travel costs, while allowing renovators with low travel costs (who would not save money under the amended provisions) to continue taking refresher training with a hands-on component on a five-year cycle. The resulting burden reduction was acknowledged by another commenter that stated it does not think that hands-on training is necessary for recertification, but nevertheless said that it "welcomes the recent change to the recertification requirement and applauds EPA for listening to the remodeling sector's concerns to make the rule less burdensome."¹⁴

The revised rule merely allows renovators additional flexibility, which is consistent with the principles of the Regulatory Flexibility Act and EO 12866. The commenter acknowledged this additional flexibility earlier in 2016 when it stated that "As a longtime advocate for a simplified recertification process, NAHB Remodelers appreciates that the EPA's changes provide some flexibility ..."¹⁵ The commenter has not explained or justified the switch from its position in February 2016 that the change to the training requirements provides some flexibility for renovators (albeit not as much flexibility as the commenter would have liked) to its September 2016 claim that the change creates additional burden for renovators. The evidence indicates that the 2016 amendment will reduce burden for those renovators that choose to take advantage of the additional flexibility in refresher training.

Comment: Commenter #2016-0126-0015 stated that in the initial rulemaking EPA used data from only nine firms to estimate the rule's compliance costs for over 323,000 firms. According to the commenter, by using data from the first nine firms that responded, EPA used a convenience sample. The commenter stated that random samples, rather than convenience samples, should be used to develop generalizations about a target sample.

Response: EPA's data collection was based on a random sample, not a convenience sample. Examples of convenience samples include TV viewers who call in response to TV polls to vote their opinions on a particular topic; students who volunteer to participate in a laboratory experiment in response to flyers posed on school bulletin boards; friends and relatives asked to complete a questionnaire; and shoppers at a mall, truck drivers visiting a weigh station, attendees at a conference, or visitors at a website.^{16, 17} By contrast, EPA collected data by randomly selecting businesses in SIC 172101 (Painting Contractors), 1521 (General Contractors – Single-Family Houses), and 1522 (General Contractors – Residential Buildings Other Than Single-Family), which are industry sectors subject to the rule. EPA randomly selected the businesses it contacted from an online service that contains contact information for 14 million U.S. businesses.¹⁸ The commenter appears to have confused the sample size with the derivation of the sample frame. Using data from the first X firms that respond does not mean that the methodology is based on a convenience sample instead of a random sample, whether X is 900 or 90 or 9. And this is irrespective of the size of the population being sampled.

¹⁴ *Statement of the National Lumber and Building Material Dealers Association on Review of the 2008 Lead Renovation, Repair and Painting Program*; September 7, 2016. EPA-HQ-OPPT-2016-0126-0015, p. 7.

¹⁵ *NAHB Moves Needle on EPA Online Lead Paint Training, But Remodelers Still Face Challenges*. February 11, 2016. <http://www.nahb.org/en/news-and-publications/Press-Releases/2016/02/nahb-moves-needle-on-epa-online-lead-paint-training-but-remodelers-still-face-challenges.aspx>.

¹⁶ Paul P. Biemer and Lars E. Lyberg, *Introduction to Survey Quality*, John Wiley & Sons, 2003, p.309.

¹⁷ *Questions and Answers When Designing Surveys for Information Collections*, Office of Information and Regulatory Affairs, Office of Management and Budget, January 2006, p. 30.

¹⁸ *Economic Analysis for the TSCA Lead Renovation, Repair, and Painting Program Final Rule for Target Housing and Child-Occupied Facilities*. U.S. Environmental Protection Agency, March 2008, page 4-72.

EPA used the information from the nine respondents to estimate the extent to which the containment and cleaning practices required by the rule were used prior to the RRP rule.¹⁹ This is referred to as the baseline for the work practices. The baseline rate of these work practices was used to estimate both the incremental costs and the incremental benefits of the rule, which reflect the difference between the policy scenario and the baseline scenario. To the extent that the actual baseline differed from the estimated baseline, it would affect estimates of both costs and benefits in the same direction. For instance, the firms that were questioned reported that they covered the floor within the work area with taped down sheeting in 77% of jobs. So EPA estimated that the rule would result in additional labor costs for taping down sheeting in the 23% percent of jobs where taped down sheeting was not already being used. Similarly, EPA estimated benefits by assuming that requiring taped down sheeting in the RRP rule would reduce exposure to lead dust in the 23% of jobs where this was not already being done. To the extent that the actual baseline rates differed from the estimated values, it would affect the estimates of both costs and benefits. If, for example, only 40% of jobs were actually performed using taped down sheeting prior to the rule, both incremental compliance costs and incremental benefits would be higher than EPA estimated.

EPA performed a sensitivity analysis in the 2008 Economic Analysis calculating the effect on estimated net benefits if the work practices required by the rule were used in the baseline with 50 percent greater or lesser frequency than indicated by the responses from the 9 renovators. The sensitivity analysis showed that net benefits are not sensitive to the baseline use of the work practices. A change in the assumed baseline level of work practice use increased both benefits and costs at about the same rate. A 50 percent change in the baseline work practices changed the net benefits estimate by only 5 percent, and net benefits were still approximately \$1.2 billion per year.

Alternative Net Benefits Estimate: Baseline Level Use of Required Work Practices (Annualized, 3 percent discount rate, millions 2005\$)		
Description	Estimate	Percent Change
Primary Estimate	\$1,266	
50% Higher Baseline Work Practice Use	\$1,205	-5%
50% Lower Baseline Work Practice Use	\$1,198	-5%
Source: <i>Economic Analysis for the TSCA Lead Renovation, Repair, and Painting Program Final Rule for Target Housing and Child-Occupied Facilities</i> . U.S. Environmental Protection Agency, March 2008, Table 7-10, page 7-7.		

While the baseline level of the required work practices influences the *magnitude* of the benefits and costs, it has little impact on the relative *relationship* between benefits and costs. Thus, it is unlikely that gathering data from more respondents would have changed the conclusion that the benefits of the RRP rule significantly outweigh the costs.

EPA notes that it resorted to questioning a random sample of nine firms only after it failed to receive responses from the industry in an earlier attempt to gather information about baseline work practices. The 2006 proposed RRP rule had specific requests for information in the section of the preamble discussing the Economic Analysis (71 Federal Register 1621). Among the 11 questions asked were the following:

The work practice requirements of this proposal cover 3 general categories of activities: Containing the work area, cleaning up the work area after the project has been completed, and verifying that the clean-up was adequate. Costs associated with these work practice requirements are primarily related to the cost of materials, such as the plastic used to cover the floors, and the cost of the labor needed to establish

¹⁹ The cost of the specific work practices was estimated from other sources, not the responses from the nine firms.

containment before the project, clean the work area afterwards, and perform the post-renovation cleaning verification step.

To further improve the analysis for the final rule, the Agency is also specifically interested in comments and supporting information on the following questions related to assumptions used in the Agency's analysis:

- To what extent do renovators/contractors already conduct any of the individual activities described in the proposed rule, and under what renovation, repair or painting circumstances are any of these activities routinely or rarely conducted? Do any contractors already perform all of the lead-safe work practices described in this proposal? ...
- To what extent do renovators/contractors or homeowners already use vacuums equipped with HEPA filters to clean-up debris created during renovation, repair or painting activities?
- Under what circumstances do renovators/contractors use plastic sheets or other methods to isolate and collect dust and debris, during or after renovation, repair or painting activities?

However, EPA did not receive data about the use of these work practices from any industry commenters on the 2006 proposed rule. In its response to the current request for comments, the commenter does not provide estimates about the rates at which renovators used the required work practices prior to the RRP rule taking effect. In addition, the commenter does not indicate whether they think the rates were higher or lower than EPA estimated. Some commenters have continued to claim that the work practice requirements are very expensive, but these claims do not specifically discuss the work practices being used in the baseline. If their cost estimates are based on the assumption that there was little to no use of basic practices to control dust (such as containing the work area before the job and cleaning it afterwards) prior to the RRP rule, incremental compliance costs would be higher than EPA estimated but as demonstrated by EPA's sensitivity analysis benefits would also be higher than estimated so there would be little impact on estimated net benefits.²⁰

Comment: Commenter #2016-0126-0012 stated that EPA decided it did not need to quantify some opportunity costs associated with implementation of the rule, and did not include estimates for three categories of opportunity costs: social welfare costs, transitional costs, and other indirect costs. According to the commenter, some opportunity costs affecting consumer and supplier resources and potential unemployment should have been considered in estimating the costs.

Response: EPA disagrees with the commenter's conclusions about the economic analysis. Basing the analysis of the RRP rule on direct costs would only be an issue if there was some evidence that the other categories of potential social cost are more likely to be significant for this rule than for other Agency rules where the analysis was also limited to direct costs. This is not the case. In conducting the original analyses, EPA concluded that it was not necessary to attempt to quantitatively analyze all of these types

²⁰ EPA believes that many renovators did some containment and cleaning before the RRP rule was promulgated. Indeed, EPA received comments from the renovation industry on the original RRP proposed rule claiming that customers demanded clean job sites. For example, "It is essential that [professional remodelers] 'clean-as-you-go' during any project, simply because the customer will not tolerate the nuisance of high dust levels in the rest of the home." [Comment submitted by Susan Asmus, National Association of Home Builders. *RE: EPA Regulatory Docket number EPA-HQ-OPPT-2005-0049*. April 16, 2007. EPA-HQ-OPPT-2005-0049-0682, page 10.] Also, "several studies show that remodeling done by professionals leaves homes 'cleaner' than prior to the renovation." [*NAHB Comments on EPA Docket EPA-HQ-OPPT-2005-0049*. Susan Asmus, National Association of Home Builders, July 5, 2007. EPA-HQ-OPPT-2005-0049-0838, page 11.] The only way they could do so was by using some containment and cleaning, although this baseline activity may have been insufficient to remove all lead hazards.

of potential costs. Some types of opportunity costs simply do not apply to the RRP rule. In other cases, EPA did not believe that potential costs were sizable enough to make a difference in the conclusions drawn from the analysis. Even where an effect may occur, the necessary data were not always available to make quantitative estimates. The commenter did not provide evidence or identify specific instances of significant examples of social welfare losses, transitional costs, or other indirect costs due to the RRP rule. EPA continues to believe its conclusions from 2008 and 2010 are correct that, even if such costs exist, their magnitude is not sufficient to be significant or relevant.

Comment: Commenter #2016-0126-0012 stated that EPA did not quantify social welfare costs associated with implementation of the rule.

Response: It was appropriate for EPA's economic analysis not to quantify social welfare losses for the RRP rule. Partial equilibrium models that quantify social welfare losses (lost producer and consumer surplus) are data-intensive and usually not available "off-the-shelf" for use in economic analysis. In practice, other methods such as compliance cost are often used in economic analysis when data on supply and demand elasticities for the affected market are lacking to construct a partial equilibrium model. Compliance costs can be considered a reasonable approximation of social cost where the regulation is not expected to *significantly* impact the behavior of producers and consumers, as is the case for the RRP rule.

For the RRP rule, EPA estimated that the cost of the common work practices for the various types of model jobs in the economic analysis varied from \$35 to \$400 per job if the renovator did not perform any cleaning or containment in the baseline, and significantly less than that when factoring in typical baseline rates of cleaning and containment. (EPA estimated that the average incremental cost of complying with the rule's work practice requirements ranged from \$8 to \$124.) To put these costs into context, a study by Harvard's Joint Center for Housing Studies found that the average expenditure for a professional home improvement job in 2013 was \$9,713.²¹ While there can be considerable differences from one job to another, the typical cost of compliance with the RRP rule is small compared to the rest of the cost of a renovation, even if there was no cleaning or containment in the baseline. Because typical incremental compliance costs were estimated to be small compared to the other renovation costs, EPA did not expect significant shifts in the equilibrium quantity or price of renovations. Therefore, EPA does not believe that it was necessary to attempt to quantify changes in consumer surplus due to changes in quantity and price from these additional costs.

The change in social welfare resulting from fees paid to the government is also small. The rule requires renovation firms to become certified by EPA or an EPA-approved state RRP program in order to perform renovation, repair or painting activities for compensation in target housing or child-occupied facilities. EPA is required by law to charge firms a certification fee that covers the government's cost of administering the program. Firm certification is valid for 5 years. The fee for most firms is \$300²², which is equivalent to a cost of \$60 per year. This is a small cost compared to the value of work performed by an RRP firm during the course of a year, so it will not result in significant shifts in the equilibrium quantity or price of renovations. Thus, EPA does not expect a significant change in consumer surplus due to the economic impact of the RRP rule fees.

²¹ Harvard Joint Center for Housing Studies. *Emerging Trends in the Remodeling Market* (2015), Table A-2. The \$9,713 value for renovation expenditures has not been adjusted for inflation to match EPA's compliance cost estimates, which were in 2005 dollars. The average post-rule renovation expenditure of \$9,713 is nearly unchanged from the average value of \$9,620 in 2005, prior to the RRP rule (*Harvard Joint Center for Housing Studies, Foundations for Future Growth in the Remodeling Industry* (2007), Table A-2.

²² The combined firm certification fee for renovation and lead-based paint activities is \$550, and fee for tribal firms is \$20.

Comment: Commenter #2016-0126-0012 stated that EPA did not estimate the costs to markets that are indirectly affected by the rule.

Response: EPA disagrees with the implication that it should have attempted to make such estimates. It is standard practice to limit the analysis to the directly affected markets. EPA concluded that the social costs of the RRP rule could be measured with sufficient accuracy by limiting the modeling to the directly affected market. The professional judgment of EPA's staff was that the level and type of analysis it performed for the RRP rule was appropriate for the issues at hand. Importantly, the commenter did not identify any markets other than the renovation, repair, and painting industry that might potentially be affected, or whether the magnitude (if any) of such costs would justify an attempt at quantification.

Comment: Commenter #2016-0126-0012 stated that EPA's cost analysis did not include transitional costs, a category of opportunity costs, and some opportunity costs affecting consumer and supplier resources and potential unemployment should have been considered in estimating the costs.

Response: Transitional costs are resources that are displaced while the economy reallocates resources from one market to another. The commenter provided no evidence on the existence or magnitude of transitional costs associated with the RRP rule. Four types of transitional effects are frequently included in EPA analyses: firm closings and unemployment; shifts of resources to other markets; transaction costs; and disruptions in production. There was no need for EPA's analysis to estimate costs for the effects, as they either do not apply to this rulemaking or were not expected to be significant. The limited available data confirms those conclusions, as described below.

Firm closings and unemployment: In most cases, involuntary unemployment and plant closings are consequences that are difficult to model using a conventional partial equilibrium framework. Predicting these specific consequences would require far more detailed analysis and data than are usually available for practical assessments. EPA did not have the data to attempt to include such modeling for the analysis of the RRP rule. Furthermore, EPA has seen no retrospective data showing that the RRP rule has caused firm closings and unemployment, much less the extensive level of such impacts that could be addressed meaningfully in a conventional partial equilibrium model. Actually, the unemployment rate in the construction industry peaked at the beginning of 2010 (before renovators were required to comply with the RRP rule), and has trended downward since then. Employment in the construction industry is predicted to continue to grow in the future. For example, according to the Bureau of Labor Statistics, employment of construction laborers and helpers is projected to grow 13 percent from 2014 to 2024, nearly twice as fast as the average for all occupations, which is predicted to increase by 7 percent.²³

²³ *Occupational Outlook Handbook, 2016-2017 Edition: Construction Laborers and Helpers, Job Outlook.* Bureau of Labor Statistics, U.S. Department of Labor.

Unemployment Rate in the Construction Industry



Source: Bureau of Labor Statistics. (Unadj) Unemployment Rate - Construction Industry, Private Wage and Salary Workers. Series LNU04032231.

Furthermore, as described elsewhere in this document, the number of renovations, the value of renovations, the number of renovation firms, and employment in renovation firms have all increased since April 2010 (when renovators had to start complying with the RRP rule) due largely to improving economic conditions.²⁴

The actual increase in the number of renovation firms and the decrease in unemployment since renovators had to comply with the RRP rule requirements does not support the claim that the RRP rule would result in significant firm closures and unemployment that should have been estimated in EPA's analysis.

Shifts of resources to other markets: As noted above, employment in the renovation industry has been increasing since the RRP rule went into effect. And the RRP rule does not require existing equipment to be scrapped. EPA does not expect shifts in resources to other markets outside of the contracting industry as a result of the rule. While industry commenters have claimed in the past that the RRP rule would cause a shift from professional renovations to Do-It-Yourself (DIY) work²⁵, the share of DIY projects has not increased.²⁶ As mentioned above, numerous metrics indicate that the renovation market has improved since April 2010, so resources have been

²⁴ This employment growth is expected to continue in the future. According to the Bureau of Labor Statistics, employment of construction laborers and helpers is projected to grow 13 percent from 2014 to 2024, which is nearly double the 7 percent average growth rate for projected all occupations. Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook, 2016-17 Edition*, Construction Laborers and Helpers, <http://www.bls.gov/ooh/construction-and-extraction/construction-laborers-and-helpers.htm> (December 17, 2015).

²⁵ For instance, "This will provide an incentive for homeowners to do the work themselves or not have it done at all." Gerald M. Howard, Executive Vice President and Chief Executive Officer. *Comments by the National Association of Home Builders regarding EPA's Proposed Rule: Lead; Renovation, Repair, and Painting Program*, Published in the *Federal Register*, January 10, 2006 at 71 FR 1587, EPA Docket ID: EPA-HQ-OPPT-2005-0049, May 25, 2006, page 27. EPA-HQ-OPPT-2005-0049-0536

²⁶ According to the Harvard Joint Center for Housing Studies, the DIY share of total home improvement spending trended down from about 25 percent in the late 1990s to just 17 percent in 2013. *Emerging Trends in The Remodeling Market*, 2015.

flowing into the professional renovation market – not out of it – since the RRP rule requirements took effect for renovators.

Transaction costs: These costs are encountered with incentive-based policies, such as with a tradable permits program. The RRP program does not utilize an incentive-based policy such as a tradable permits program, so transaction costs are not relevant to the RRP rule.

Disruptions in production: This may take place when new equipment is installed or new production processes or inputs are applied. These costs can be estimated as the amount of time the production line is stopped or slowed down to account for the necessary changes to comply with the new policy regulations. RRP activities do not use a production line. However, renovators cannot conduct RRP activities during the 8-hour initial training they must take (a one-time activity) or the 4-hour refresher training (every 3 or 5 years). EPA's Economic Analysis did account for the value of the renovator's time during the training, as well as while they travel to training. But these time commitments are not significant enough to be separated out as disruptions in production.

Since these four effects (firm closings and unemployment; shifts of resources to other markets; transaction costs; and disruptions in production) were not expected to be significant for the RRP rule, there was no need for EPA to include them in its cost estimates.

Comment: Commenters #2016-0126-0012 and #2015-0780-0012 stated that EPA's economic analysis excluded additional contractor liability insurance costs. According to the commenters, it's clear that paying for additional liability insurance in performing renovation, repair and painting work on residential housing is an additional cost, yet EPA failed to include this as part of the costs associated with the rule.

Response: The commenter has not provided evidence indicating that the RRP rule has caused liability or insurance costs to increase. The RRP rule does not require firms to purchase additional insurance. Some renovators may voluntarily choose to purchase insurance coverage for lead pollution. While renovators have complained that this insurance is expensive, a GAO report written before EPA had published lead hazard standards or lead abatement regulations concluded that the lack of lead abatement standards was one of the primary reasons that limited the availability of insurance for abatement firms and increased its cost.²⁷ GAO concluded that lead abatement insurance would be easier to obtain and less expensive once EPA published standards for lead abatement. GAO's conclusion that regulatory requirements reduce uncertainty and decrease insurance costs is still applicable and is relevant to the RRP rule.

An article in a trade press magazine for the building industry acknowledged the beneficial effect of the RRP rule on reducing renovator liability:

Q: Doesn't the RRP rule leave contractors vulnerable to potential lawsuits?

No. On the contrary, actually. If you've been working in older homes, you have already been assuming liability for the results of your remodeling work. (In other words, you could have been sued if your work endangered a child.) Adopting lead-safe work practices will reduce rather than increase the likelihood that your remodeling work will be linked to a case of lead poisoning, thereby lowering rather than increasing your liability. If you're certified and have documented the process properly, you're actually better protected from such suits.²⁸

²⁷ *Lead Based Paint Hazards: Abatement Standards Are Needed to Ensure Availability of Insurance*, (RCED-94-231), General Accounting Office, 1994.

²⁸ *The EPA's new Renovation, Repair, and Painting Rule*, Fine Homebuilding, July 2010, No. 212, p.82.

Renovators had a potential liability when they disturbed lead-based paint prior to the RRP rule because they may have been exposing other individuals to lead-based paint hazards. Adhering to the rule's work practices decreases the potential for such lead exposures. To the extent that this regulation establishes a "standard of care" for the industry, contractors who follow the requirements of the regulation will have evidence that they have not been negligent with respect to how they handled lead-based paint. As a result, the regulation lessens the potential liability of renovation contractors.

Comment: Commenter #2016-0126-0012 stated that EPA-recommended work practices were excluded from the costs the Agency used to justify the residential rule. These "recommended" work practices were not included in EPA's cost estimate but costs associated with "required" work practices were included. These cost estimates did not include standard work practices for renovation, repair, and painting activities such as attaching plastic sheeting to the window's exterior. By excluding compliance costs associated with the rule, EPA further understated the compliance costs for the regulated community that were used as justification for the renovation, repair, and painting program for residential buildings.

Response: It was appropriate for EPA to limit the economic analysis to activities that were required by the rule. The recommended work practices are merely suggestions, so EPA cannot take enforcement actions against firms that do not perform recommended work practices. Because the use of recommended work practices is not required to *comply* with the RRP rule, excluding the costs of these activities does not understate the compliance costs for the regulatory community.

The commenter stated that the cost estimates did not include some "standard work practices." To the extent that some RRP firms already perform certain activities as a standard practice, those firms do not incur additional costs if EPA then recommends or requires the use of such practices. EPA's analysis accounted for the baseline use of the required work practices.

EPA notes that it also excluded the benefits of the recommended work practices from its analysis, and including them in the analysis would increase the quantified benefits.

Comment: Commenter #2016-0126-0004 stated that the \$200 million drop in costs after the first year projected by the EPA in its economic analysis likely never materialized given that new and improved lead test kits meeting the criteria in the rule have yet to be developed and approved by the EPA. According to the commenter, the extra \$200 million per year estimate has grown to \$246.83 million in 2016 based on inflation. The commenter calculates that based on inflation rates from mid-2011 through 2016, the estimated cumulative burden to consumers is over \$1.3 billion.

Response: It is not clear what the commenter is trying to demonstrate with its calculation, other than that cumulative costs increase with time and inflation such that aggregating costs over multiple years yields a larger number. As explained elsewhere in this document, combining the benefits estimates from EPA's economic analyses of the initial RRP rule and the opt-out rule yields a total benefit estimate of \$1.5 billion to \$4.7 billion per year. When inflating and aggregating this range over the 2011 to 2016 time-period, the results is a cumulative value of \$11 billion to \$34 billion, which is significantly larger than the commenter's cost estimate of \$1.3 billion. As explained elsewhere in this document, the benefits of the RRP program exceed the costs even if the lead test kits continue to have a high false positive rate. That is the case whether the comparison is made on an annual basis or a cumulative one.

Comment: Commenters #2016-0126-0004 and #2016-0126-0012 claimed that EPA underestimated the cost of complying with the RRP rule. Both commenters made claims about the cost for a window replacement job. Commenter #2016-0126-0012 claimed that complying with the rule costs at least \$90 per window opening (more than \$1,000 for a project replacing 12 windows), but did not provide details on how it arrived at this estimate. Commenter #2016-0126-0004 submitted calculations from 2010 claiming that the RRP rule would result in a window replacement job incurring additional materials and labor costs of \$729 to replace 6 windows (\$121.50 per window). The industry cost calculations were based on a job where a contractor and an assistant replaced 6 windows in 3 rooms measuring 11 feet by 11 feet, in a house with exterior dimensions of 55 feet by 25 feet. The commenter claimed that 12 hours of additional labor would be required (at a rate of \$50 per hour), and \$179 of disposable materials. Adjusting for inflation, the cost per window in 2016 is \$134.31. Assuming a typical house with 15 windows, that equates to \$2,014.65 per house job.

Response: EPA does not believe that the claims made by the commenters are accurate, or that they represent the typical incremental costs of complying with the requirements of the RRP rule. EPA cannot respond in detail to claims by Commenter #2016-0126-0012 that the rule costs \$90 per window because the commenter did not provide supporting details describing how it arrived at that value. However, Commenter #2016-0126-0004 provided a table with the time and costs it claims are needed for a variety of activities. There are a number of issues with this commenter's estimates.

The commenter made its estimate in 2010 and uses a labor rate of \$50 per hour for both a contractor and an assistant. EPA's original economic analysis used Bureau of Labor Statistics (BLS) data on the average wages and benefits for construction supervisors (\$31.64/hour in 2005 dollars) and construction laborers (\$16.94/hour). The BLS data represents national average wages and benefits, and EPA believes that this is the best available data. Adjusting the BLS rates for inflation between 2005 and 2010 would make up some of the difference. But based on the BLS data on national average wages, the \$50 per hour labor rate assumed by commenter would still be somewhat high for the renovator and quite high for an assistant.

The commenter's estimate does not specifically address which, if any, of the activities required by the RRP rule were already performed in the baseline. The commenter appears to be assigning all containment and cleaning costs to the RRP rule, instead of assuming that some of these activities occurred prior to the rule.²⁹ If so, this is not realistic. In discussions with EPA prior to the promulgation of the RRP rule, individual renovators stated that they often performed some containment and/or cleaning activities. Previous industry commenters have indirectly acknowledged this. In the past, the renovation industry repeatedly claimed that professional renovators left job sites cleaner than when they started.³⁰ If true, this

²⁹ For example, most of the commenter's labor estimate is due to setting up and tearing down the containment, which was likely to have been incurred by many firms in the baseline simply to control nuisance dust.

³⁰ For example, the National Association of Home Builders stated in 2007 that "several studies show that remodeling done by professionals leaves homes 'cleaner' than prior to the renovation ... The most significant finding within NAHB's research is remodeling activities, when performed by a trained professional remodeler, will significantly reduce pre-existing lead-dust levels." [NAHB Comments on EPA Docket EPA-HQ-OPPT-2005-0049. Susan Asmus, National Association of Home Builders, July 5, 2007. EPA-HQ-OPPT-2005-0049-0838, pages 11 and 12.] Numerous forms letters submitted during the opt-out rulemaking stated that "Previous studies have shown that a professional remodeler improves the conditions of a home. And in the case of lead paint, the work *and thorough clean up can reduce lead paint dust in the home, minimizing potential exposure*" (*emphasis added*). See, for example, comments submitted by Home Check Plus (EPA-HQ-OPPT-2005-0049-0998), Gandolfi & Associates, Inc. (EPA-HQ-OPPT-2005-0049-1000), Menold Construction and Restoration (EPA-HQ-OPPT-2005-0049-1001), Kessler Construction (EPA-HQ-OPPT-2005-0049-1003), and Thompson Building Associates (EPA-HQ-OPPT-2005-0049-1009), among others.

implies that they must have been doing significant cleaning (and probably containment) in these cases. EPA's 2007 Dust Study found that not using exterior containment resulted in high lead levels following exterior renovations. Similarly, the Dust Study found that not using both interior containment and specialized cleaning (including the use of a HEPA vacuum) resulted in high lead levels following interior renovations.³¹ In order for renovators to leave behind a moderately clean job site in the baseline they must often have been using some containment and cleaning, even if it may have been insufficient to prevent the creation of lead-based paint hazards.

The largest material cost in the commenter's estimate is for plastic, but this cost may have been incurred in the baseline by some renovators (perhaps with related costs such as duct tape and painter's tape). Most of the commenter's labor estimate is due to setting up and tearing down the containment, which is likely to be incurred by many firms in the baseline (because set up and tear down labor is expended whether the containment material is reused or disposed of). By contrast, testing for lead-based paint and performing cleaning verification seem unlikely to have been performed in the baseline. The commenter reported only modest materials costs for these activities, and labor costs also appear to be low.³² Many of the remaining activities described by the commenter seem likely to represent costs that would be incurred in the absence of the RRP rule.

Furthermore, industry sources such as Commenter #2016-0126-0016 claim that in order to comply with OSHA requirements, renovators already take steps (including using HEPA vacuums to clean the workplace and posting warning signs) for some jobs where lead is present. To the extent this is the case, then some of the costs in the commenter's estimate were likely already being incurred in the baseline and thus are not incremental costs of the RRP rule. The more jobs where these practices are used to comply with OSHA requirements, the lower the incremental cost of EPA's rule.

In addition, the commenter's estimate includes costs for disposable coveralls and latex gloves. The RRP rule does not require the use of such personal protective equipment.³³

EPA notes that the commenter's cost table contains a number of mathematical mistakes. The commenter provides the labor hours for each task, but these only sum to a total of 11 hours, not the 12 hours claimed by the commenter. Also, the listed labor costs for each task sum to \$625, not \$600 as the commenter claims. And one of the tasks is listed in the table as taking 1.5 hours at a cost of \$150, but 1.5 hours at a labor rate of \$50 per hour is only \$75. Finally, the commenter states that the sum of \$179 for materials and \$600 for labor is \$729, but \$179 plus \$600 actually equals \$779.

There is other evidence that claims such as those made by Commenters #2016-0126-0004 and #2016-0126-0012 (\$90 or \$121.50 per window replaced) overstate the cost of compliance. Using the specific example of window replacements used by these commenters, an article in a trade journal by a small general contractor stated:

³¹ *Revised Final Report on Characterization of Dust Lead Levels After Renovation, Repair, and Painting Activities*. Prepared by Battelle for U.S. Environmental Protection Agency, OPPT, National Program Chemicals Division, Program Assessment and Outreach Branch. November 13, 2007. EPA-HQ-OPPT-2005-0049-0857.

³² The commenter reported materials costs of \$23 for lead test kits and \$10 for cleaning verification wipes. Labor costs are the undisclosed fraction accounted for by verification in the combined 4 hours claimed for cleaning and verification.

³³ Such personal protective equipment may be needed to comply with OSHA requirements to protect workers from exposure to lead dust but it is not mandated by the RRP rule. More discussion about why the Agency's estimate does not include work practices that are recommended but not required by EPA is provided elsewhere in this document.

Back when the RRP was first introduced, I asked a representative of a large replacement window installer how the new rule was going to affect his company's business. He explained that staff members had examined the law carefully and found ways to reduce compliance costs to about \$25 per window, a cost that they felt they could absorb.³⁴

Other commenters also made statements that support the conclusion that the incremental cost of the rule is low. Commenter #2016-0126-0005 states that "It is important to understand that the burden of this rule have been minimal for any contractor who as a part of their service would ordinarily seek to prevent the dissemination of dusts and who would incorporate avoiding harmful contamination as part of doing business."³⁵ Commenter #2016-0126-0017, a training provider that has trained more than 20,000 students, claims that complying with the RRP protocol creates reductions in other costs that partially offset compliance costs. According to this commenter:

The first, and most important, item that should be stressed is that every estimate we have seen of costs to contractors to conduct their work in a lead-safe manner is way over stated. Many of our contractors have found savings in the RRP protocol that offset some, if not much, of the additional expense created. The use of HEPA vacuum attachments has saved so much of the normal non-lead clean up costs that many of our trained contractors now use them on all jobs. These savings on all jobs are not calculated in lead-safe estimates.³⁶

Commenter #2016-0126-0004 made its original cost estimate of \$121.50 per window in March of 2010, before the work practice requirements of the RRP program went into effect. Thus, its estimates do not reflect actual experience complying with the rule, or the potential for the rule to reduce certain job costs as explained by Commenter #2016-0126-0017.

Typical replacement windows can cost consumers from \$339 to \$1,200 apiece.³⁷ The incremental costs due to EPA's rule are a relatively modest and affordable addition to the cost of the rest of the job.

The statements by Commenter #2016-0126-0004 and other industry commenters regarding testing methods also suggest that they are overstating the incremental cost of the rule's work practice requirements. Many of the industry commenters expressed concern about the accuracy of the existing lead test kits, and the potential cost of having the paint tested using X-Ray Fluorescence (XRF) technology. EPA previously estimated that hiring a certified inspector or risk assessor to test for the presence of lead-based paint (LBP) would typically cost \$100 to \$300 for a single room and \$300 to \$500 for an entire house.³⁸ It would not be cost-effective for a renovator to spend \$400 for XRF testing in order to avoid \$122 in incremental work practice costs (EPA's cost estimate). But it would be cost-effective to spend \$400 for XRF testing in order to avoid \$729 or \$1,000 or \$2,000 in work practice costs (the commenters' cost estimates for replacing multiple windows), particularly in the post-1960 housing that the commenters state is unlikely to contain lead-based paint. The fact that the industry commenters have indicated that using XRF technology is not cost-effective is further support for the conclusion that their estimates of the work practice costs are significantly overstated.

³⁴ *RRP Compliance for Small Jobs: You can work safely and still compete with uncertified remodelers by understanding the rule.* Journal of Light Construction. January 2012.

³⁵ Rick Reibstein, The Regulated Community Compliance Project. EPA- HQ-OPPT-2016-0126-0005.

³⁶ James F. Stump, Seagull Environmental Management Company, Inc. EPA- HQ-OPPT-2016-0126-0017.

³⁷ *New Windows: See Your Choices*, Washington Consumers' CHECKBOOK, Summer/Fall 2010.

³⁸ *Economic Analysis for the Renovation, Repair, and Painting Program Proposed Rule.* U.S. Environmental Protection Agency, February 2006, p. 4-37.

Comment: Commenter #2016-0126-0004 claims that the estimated increased cost to replace windows in a house determined to have lead-based paint, using the EPA Lead Renovation, Repair and Painting rule, was \$121.50 per window in 2010. Adjusting for inflation, the cost in 2016 is \$134.31. If one assumes a typical house with 15 windows, then that equates to \$2,014.65 per house job. This exceeds the EPA's initial estimated overall average cost of \$35 per house job by 5,656 percent.

Response: EPA has addressed elsewhere in this document why the commenter's claim that the rule cost \$121.50 per window in 2010 is overstated. Setting that aside, the commenter's comparison to the \$35 figure and its statement that compliance cost exceeds EPA's estimate by 5,656 percent is inaccurate and inappropriate for various reasons.

As EPA has explained previously, the figure of \$35 per job (which was not part of EPA's cost calculations) was intended to explain the average incremental compliance cost across all renovation jobs subject to the rule.³⁹ So it includes the compliance cost in houses that test negative for lead-based paint (and thus incur costs for testing but do not incur work practice costs for containment, cleaning, or cleaning verification) as well as the cost for renovations that test positive for lead. This alone means that the \$35 figure should not be compared to the commenter's estimate, which is only for a house that has lead-based paint. Furthermore, the \$35 figure is an average across all jobs, which means that it includes many commonly-performed small jobs, such as creating an opening in a single wall for a plumbing, electrical, or HVAC repair, or repainting part of a house. This is very different from replacing all the windows in a house, which is a very large job requiring both interior and exterior containment of the entire house. Replacing all the windows also occurs less frequently than many other small jobs, where compliance is less expensive. Furthermore, EPA's cost estimates represent incremental costs (subtracting out the cost for required activities that were already being performed prior to the rulemaking), while the commenter's cost claim does not appear to reflect baseline practices.

EPA's analysis was based on a range of renovation types, sizes, and circumstances. For replacing windows in a home, EPA's analysis reflected the costs and benefits of the rule when replacing one, three, or 12 windows. EPA did not include a job with 15 windows, as the commenter's calculation does. It would typically cost more to apply the rule's work practices to a job with 15 windows than a job with 12 windows. However, the amount of lead dust generated per household also goes up as the number of windows increases. So the benefits of the rule's work practices are higher for a job replacing 15 windows compared to one with only 12 windows, all other things being equal.

The commenter exacerbated the lack of comparability between the two values because it increased the value of its claimed costs to reflect inflation from 2010 to 2016, and then compared that inflated figure to the \$35 figure reflecting average incremental costs denominated in 2005 dollars.

Finally, EPA notes that the commenter made its original cost claim in March 2010, before renovators were required to follow the rule's work practices.⁴⁰ So its claim is not based on experience complying with the rule. While various industry commenters stated that there is now six years of experience complying with the rule, EPA did not receive any new data or evidence based on this experience. In this case, the commenter did not provide additional costs firms have actually incurred in practice in complying with the RRP rule, or what other savings they have accrued. Instead, the commenter increased its original

³⁹ *Response to Public Comments. Lead; Amendment to the Opt-out and Recordkeeping Provisions in the Renovation, Repair, and Painting Program.* U.S. Environmental Protection Agency. April 2010 EPA-HQ-OPPT-2005-0049-1134.

⁴⁰ Letter from Richard G. Walker (President and CEO of the American Architectural Manufacturers Association) to David Rostker (Policy Analyst, Office of Information and Regulatory Affairs) dated March 26, 2010, *Re: EPA LRRP*.

claim (1) to account for inflation, and (2) to increase the assumed number of windows being replaced in a house from six windows (in the original 2010 estimate) to 15 windows (in the current estimate).

Comment: Commenter #2016-0126-0009 claimed that the opt-out provision would not pose a risk to public health. The commenter went on to say that the opt-out provision posed virtually no risk to children. Another commenter (Commenter #2016-0126-0015) claimed that removing the opt-out provision did nothing to improve safety. And Commenter #2016-0126-0012 said that, “EPA has stated on numerous occasions that their goal is to protect pregnant women and children from lead exposure” and that the opt-out provision was limited to homeowners where “no at-risk individuals occupied the home.”

Response: EPA disagrees with the commenters’ characterization of EPA’s goals, the populations at risk from lead exposure, and the effect of an opt-out on public health. EPA initially promulgated the opt-out provision as part of the 2008 RRP rule, based on the hypothesis that limiting the applicability of the opt-out provision to owner-occupied target housing where no children or pregnant woman resided would be sufficient to protect public health. However, subsequent analysis indicated that this was not the case. EPA’s 2010 analysis found that removing the opt-out provision would reduce IQ losses in children under the age of six that live contiguous to attached housing that could be renovated under the opt-out provision, move into a house that could be renovated under the opt-out provision, or receive childcare in such housing. It would also reduce blood pressure effects in older individuals living in these houses, as well as in their own housing that would qualify for the opt-out. The quantified benefits to these populations of removing the opt-out provision is shown in the table below. There were additional benefits that were not quantified, as summarized in the table. Given these results, the commenter’s contention that allowing the opt-out would pose virtually no risk to children or adults is clearly incorrect. Furthermore, the stated purpose of the Residential Lead-Based Paint Hazard Act of 1992 (which added subchapter IV to TSCA) is to “develop a national strategy to build the infrastructure necessary to eliminate lead-based paint hazards in *all housing* as expeditiously as possible.” See P.L. 102-550, § 1003(1), (October 28, 1992) (emphasis added).

Annualized Benefits from Removing the Opt-out Provision			
Population	Individuals Protected (millions)	Monetized Benefits (\$ millions)	
		3% Discount Rate	7% Discount Rate
Quantified Benefits*			
(1) Reside in renovated housing	5.2	\$657 to \$2,626	\$699 to \$2,795
(2) Live contiguous to attached renovated housing	0.3	\$134	\$143
(3) Move into renovated housing	0.05 to 0.2	\$68 to \$273	\$73 to \$290
(4) Receive childcare in renovated housing	0.02	\$7 to \$28	\$7 to \$29
Subtotal for Quantified Benefits	5.6 to 5.7	\$866 to \$3,061	\$920 to \$3,258
Unquantified Benefits			
Benefits were quantified for decreases in lifetime income due to IQ loss in children under the age of 6, and blood pressure effects in other individuals. Unquantified effects include:			
<ul style="list-style-type: none"> • Other benefits to these populations due to decreases in: IQ loss in children resulting from prenatal and breast milk exposure; medical costs to treat very high levels of blood lead; additional education costs for special and remedial education due to IQ impacts; behavioral problems; and other health effects (e.g., immune and renal system effects). • Health effects in other populations, including those who: live near house renovated under opt-out provision, other than contiguous attached housing; spend time in friend's or relative's house renovated under opt-out provision; and adverse effects on animals, including family pets. 			
Source: Tables 5-4, 5-5, 5-6, 5-7, 5-8, and 5-11. <i>Economic Analysis for the TSCA Lead Renovation, Repair, and Painting Program Opt-out and Recordkeeping Final Rule for Target Housing and Child-Occupied Facilities</i> . U.S. Environmental Protection Agency. April 2010.			

Comment: Several commenters (including #2016-0126-0004, #2016-0126-0011, #2016-0126-0012, and #2016-0126-0015) claimed that there is no adequate existing field test alternative to lead test kits. These commenters claimed that no existing lead test method can serve as an adequate substitute for a qualifying lead test kit (one that meets both the negative response and positive response criteria). In the absence of a qualifying lead test kit, renovators reportedly assume the presence of lead in pre-1978 housing and adhere to the lead-safe work practices. The commenters acknowledge that the presence of lead-based paint can be determined with paint-chip analysis and hand-held XRF testing. However, these commenters stated that paint chip samples must be sent to a certified laboratory for analysis, which costs money and causes project delays, and that the state of Illinois requires paint-chip sampling to be conducted by a third-party. These commenters claimed that there are practical, economic, and regulatory barriers to using XRF testing, including the cost of the XRF device, certification and training requirements to operate the device, and delays in not having enough XRF devices and certified staff to perform timely testing at all potential job sites. Commenter #2016-0126-0011 stated that EPA evaluated both these methods in developing the 2008 RRP rule but dismissed them as infeasible and too expensive.

Response: EPA disagrees with the commenters' characterizations. Under the RRP rule, renovators have the flexibility to choose among four strategies: use either (1) a lead test kit, (2) an XRF instrument, (3) paint chip sampling to indicate whether lead-based paint is present; or (4) assume that lead-based paint is present and follow all the work-practice requirements. Both XRF testing and paint chip sampling have low false positive rates for detecting the presence of lead-based paint.⁴¹ Despite the claims of the

⁴¹ EPA notes that there is a test kit on the market with a false positive rate of 22%. While that rate is higher than XRF testing or paint chip sampling, that test kit is a quick inexpensive field test. Renovators using that test kit do not need to perform the planning or scheduling that they may need to do to use the alternate testing technologies.

commenters, EPA believes that both paint-chip analysis and XRF testing are feasible alternatives to lead test kits.

These commenters dismiss the feasibility of XRF testing based on the cost of purchasing and operating the XRF unit. However, the price of purchasing and operating an XRF device does not preclude their use for renovation projects, since renovators can rent an XRF unit or hire a third party to conduct XRF testing.⁴² Hiring a certified inspector or risk assessor to test for the presence of LBP would typically cost \$100 to \$300 for a single room and \$300 to \$500 for an entire house.⁴³ As explained in an article in a trade journal:

In the hands of a certified operator, a portable X-ray fluorescence (XRF) analyzer can quickly determine lead levels in many surfaces without cutting into the paint or coating. The cost for testing is reasonable — typically in the \$100 to \$150 range for a limited inspection. It's well worth the cost if the test confirms that there's no lead present. I've become such an advocate of lead testing that I became a licensed lead inspector and purchased an XRF analyzer (a good machine costs about \$20,000). When I do lead testing for other contractors in the Dallas–Fort Worth area, I check only those components that will be disturbed — not the whole house — which helps lower the inspection cost.⁴⁴

Contrary to the claim of Commenter #2016-0126-0011, when EPA was developing the RRP rule it did not dismiss paint chip and XRF testing as infeasible and too expensive. EPA concluded that renovators were more likely to use an inexpensive lead test kits than to pay \$100 to \$500 for a third-party to perform XRF testing. As EPA stated in 2006, “The benefits of the lower false positive rates associated with XRF testing are likely to outweigh the higher testing costs only in a few cases. Thus, the expected savings from avoiding the RRP rule’s work practice costs are generally lower than the \$100 to \$500 cost of XRF testing.”^{45, 46} However, EPA acknowledged at the time that alternative methods for indicating the presence of lead-based paint could be cost-effective in some circumstances, noting that: “The benefits of a lower false positive rate are increasing with the costs of using LSWP and decreasing with the likelihood of LBP (i.e., the larger the job and the newer the house, the more likely that a RRP purchaser can avoid paying extra for LSWP by having an XRF test).”⁴⁷

EPA also believes that it is feasible for renovators to use paint chip sampling, which is why the Agency amended the RRP rule in 2011 to allow a certified renovator to collect paint chip samples instead of using a test kit (76 Federal Register 47918, August 5, 2011). In addition, EPA has included instructions about how to collect paint chip samples in the model training course for RRP renovators.

⁴² This is analogous to renovators needing excavation work done hiring a subcontractor with a backhoe, rather than purchasing a backhoe themselves. While few renovators own their own backhoe, that doesn't mean that all excavation work must be done with a shovel, or that it is too complicated to schedule time for the backhoe operator to do the work. Renovators don't need to operate their own laboratories in order to use paint chip sampling. Nor do they need to purchase an XRF unit themselves in order to avail themselves of the speed and accuracy of XRF testing.

⁴³ *Economic Analysis for the Renovation, Repair, and Painting Program Proposed Rule*. U.S. Environmental Protection Agency. February 2006. Page 4-37.

⁴⁴ *RRP Compliance for Small Jobs: You can work safely and still compete with uncertified remodelers by understanding the rule*. Journal of Light Construction. January 2012.

⁴⁵ *Economic Analysis for the Renovation, Repair, and Painting Program Proposed Rule*. U.S. Environmental Protection Agency. February 2006. Page 4-37.

⁴⁶ EPA estimated that the average incremental work practice cost for a typical job in a single-family home ranged from \$8 to \$124, depending on the size and nature of the job. *Renovator, Repair, and Painting (RRP) Rule, Frequent Questions*, Question (23002-17725).

⁴⁷ *Economic Analysis for the Renovation, Repair, and Painting Program Proposed Rule*. U.S. Environmental Protection Agency. February 2006. Page 4-37.

Several commenters expressed concern about the cost of the RRP work practices (particularly for window replacement jobs), and the low probability of disturbing lead-based paint in post-1960 housing. For instance, Commenter #2016-0126-0012 claims that complying with the rule easily adds more than \$1,000 to the cost of each project, and states that only 14% of windows and doors in post-1960 housing contains lead-based paint. As described elsewhere, EPA believes that the industry cost estimates are overstated. But if the cost claims were accurate, such jobs would be prime candidates for XRF testing, since spending \$300 to \$500 would result in an 86% chance of saving more than \$1,000 or even \$2,000 (the amount that another commenter has claimed the work practices cost for window replacement jobs).

The cost of hiring a third party to conduct XRF testing depends on factors such as travel time for the third-party to reach the site, whether surfaces in the entire house are tested, and the size of the work area. Renovators can adopt strategies to reduce the cost of XRF testing. According to an article in a trade publication, “Testing for lead is not expensive. It should add little cost if the consultant is already present and if the entire building does not need to be tested. In those cases, the key to paying less is saving the consultant’s time. Be flexible on scheduling so the consultant is able to avoid a special trip... Providing your consultant with a group of job sites that can be tested the same day in an efficient route is another good approach.”⁴⁸

Using paint chip sampling avoids some of the concerns that certain commenters have expressed about XRF testing. In many jurisdictions a certified renovator can collect the samples themselves, and the testing is inexpensive. (EPA estimates that the laboratory costs associated with testing can range from \$12 to \$25 per paint chip sample.⁴⁹ Laboratory testing costs depend on the turnaround time and the number of samples tested. According to the Department of Housing and Urban Development, costs are in the range of \$6 to \$25 for a single sample with 3-day turnaround. While costs for a single sample can be significantly higher for same day service, large volume pricing can reduce the cost for same-day pricing to the range of \$4.50 to \$7.00 per sample.⁵⁰) And according Commenter #2016-0126-0008 and Commenter #2016-0126-0010, laboratories offer turnaround times of as little as three hours so that lab results can be available the next business day.

Depending on the number of samples to be tested (which in turn depends upon the individual renovation job), paint chip sampling may be much less expensive than XRF testing of an entire house. If, as the commenters claim, many renovators are not using paint chip sampling, this is further support for the proposition that the work practice requirements are less expensive than commenters have claimed (e.g., \$1,000 or \$2,000 per job). EPA estimated that the average incremental work practice cost for a typical job in a single-family home ranged from \$8 to \$124, depending on the size and nature of the job. At \$12 to \$25 per sample, the upper end of the work practice cost range is equivalent to 5 to 10 paint chip samples. It would not be cost-effective to spend \$125 in paint chip sampling costs to save \$124 in work practice costs. But it would be worthwhile to spend \$125 in testing costs if there is a high probability of saving \$1,000 or \$2,000 in work practice costs. This suggests that either the incremental cost of the work practices for a typical job are less than the commenters have claimed, or that paint chip testing is feasible in some situations.

Some commenters dismissed third-party testing (XRF testing or lab analysis of a paint chip) as being disruptive to project scheduling. For example, Commenter #2016-0126-0004 claimed that submitting

⁴⁸ F. Stephen Masek. *Lead Paint: EPA Steps Up Enforcement; Noncompliance carries hefty fines—and even the threat of prison—but it’s not difficult to follow the rules.* *Cleaning & Restoration*. May 2013, Vol. 50 No. 4.

⁴⁹ EPA communication with AMA Analytical Services Inc., Environmental Hazards Services LLC, Martel Laboratories, and Schneider Laboratories Inc. on February 27, 2015.

⁵⁰ *Lead Hazard Control Clearance Survey Final Report*. Prepared by QuanTech, Inc. for the U.S. Department of Housing and Urban Development, Office of Lead Hazard Control and Healthy Homes. October 2015. Page 11.

paint chip sampling for outside testing takes time and is not necessarily conducive to customer demands for project scheduling. Commenter #2016-0126-0004 stated that sending paint chip samples to a certified laboratory for analysis creates project delays, and that there are not enough XRF devices and certified staff to perform timely testing at all potential job sites. Commenter #2016-0126-0012 indicated that the need to bring in a qualified professional to conduct XRF testing costs additional time. Commenter #2016-0126-0014 wrote that sending paint chip samples to a lab is an unacceptable solution as it creates a delay in work. And according to Commenter #2016-0126-00015, XRF testing leads to delays as the certified remodeler must coordinate with someone certified to perform the testing.

However, it is not uncommon in other contexts for contractors to schedule activity by a third party when planning a project. For example, numerous states require that notice must be given several days before beginning any excavation project so that buried utility lines can be flagged, and these notices are often valid for only two or three weeks. As another example, many jurisdictions require an inspection by a building inspector at different stages of project completion to determine whether the building meets building code requirements. And it is very common for a contractor to have to schedule work by subcontractors, such as plumbers or electricians, as part of a project.

Given the ability of contractors to incorporate the time to conduct these other third-party activities in their jobs, it is reasonable to conclude that there are numerous instances where the project schedule can incorporate the time for a laboratory to test paint-chip samples, or for a third-party inspector to conduct an XRF test. Several of the renovation industry commenters used window replacements to make claims about the cost of the RRP rule. For instance, Commenter #2016-0126-0004 bases its cost estimates on a job replacing all the windows in a house. Yet replacing all the windows in a house is not usually an emergency job that is undertaken with no advance warning. There is typically time to prepare, especially as windows may be made-to-order, allowing the opportunity to have paint chips sampled or XRF readings taken without delaying the project.

The presence or absence of lead-based paint may affect the price that a contractor charges for a particular job. Contractors make different decisions about how to handle that. Some contractors can take weeks to provide the customer with a price quote, while others offer a quote within 48 hours. Taking weeks to provide a price quote allows sufficient time to have the site tested for lead-based paint using an XRF unit or paint chip sampling, if the contractor so chooses. Providing a quote within 48 hours is a business decision reflecting a perceived competitive advantage to the firm of a fast turnaround. Such a business decision incorporates the available options (using a lead test kit, purchasing a XRF unit, hiring a third party to test with an XRF unit, sending paint chip samples to a lab for analysis, or assuming that lead-based paint is present). One contractor indicated that it includes a clause in its contracts that there will be additional charges if lead-based paint is found to be present, but allows the customer to cancel the contract without any financial penalties if that is the case.⁵¹

To the extent that renovators are using the rule's work practices instead of testing for lead-based paint, this may indicate that the cost of compliance is less than some commenters have claimed. As noted above, it is cost effective to spend \$300 for XRF testing if there is a high probability of avoiding \$1,000 or \$2,000 in other costs. But if the incremental work practices only cost \$200, then it would not make sense to spend \$300 for testing to avoid even a 100% probability of spending \$200 on work practices.

Renovators may also be skipping testing and using the required work practices because there are ancillary benefits to them of doing so (e.g., faster cleanup due to better containment, and a customer who is pleased with the general cleanliness of the job site following the work). Commenter #2016-0126-0017 stated that

⁵¹ *RRP Compliance for Small Jobs: You can work safely and still compete with uncertified remodelers by understanding the rule.* Journal of Light Construction. January 2012.

some renovators are now using lead-safe work practices on all pre-1978 structures, including buildings other than target housing or child-occupied facilities (COFs). Since the RRP program does not currently apply to these buildings, such actions cannot be attributed to the lead test kit false positive rate.

EPA notes that HUD's Lead Safe Housing Rule requires testing paint with an XRF unit or using paint chip sampling, or presuming that lead-based paint is present, including for rehabilitation work.⁵² EPA believes that this is further evidence that it is feasible in some circumstances to use XRF testing or paint chip sampling for RRP work.

With respect to the commenter's statement about the state of Illinois, the state's requirements do not apply to renovation, repair or painting activities covered by the RRP rule. While the state of Illinois has regulations related to testing pursuant to their EPA-authorized lead abatement program, they are not applicable here.⁵³ Therefore, the commenter's assertion that lead test kit use for renovations is or could be limited to state-certified third parties in Illinois is incorrect. Even if Illinois or another state were to require testing for renovations to be conducted by a third-party, any incremental costs attributable to using a third-party (instead of performing the testing in-house) would be attributable to the state requirement.

Comment: Commenter #2016-0126-0004 stated that EPA should include window repair in the definition minor repair and maintenance activities. The commenter states that "window repair, such as window pocket replacement, window inserts and sash kits, does not significantly disturb painted surfaces." The commenter goes on to say that since "the frame of the original window remains in place and a sash and jamb liner kit or a sash and narrow frame are installed into an existing window frame..." that their removal "results in a very limited disturbance of the opening." The commenter claims that their position is supported by EPA's answer to Question (23002-19759) which states that "Replacement of a window sash by simply unscrewing hinges or releasing it from a jamb liner does not constitute 'window replacement' for the purposes of the RRP Rule. Therefore, such tasks may fit within the definition of minor repair and maintenance i.e., activities that disturb six square feet or less of interior painted surface, or twenty square feet or less of exterior painted surface."

Response: Commenters have not provided the Agency with a record basis to conclude that such a potential amendment would address lead-based paint hazards, taking into account reliability, effectiveness, and safety. EPA's exclusion of window replacement from minor repair and maintenance activities was based on the conclusions of its 2007 Dust Study. The Dust Study showed that window replacement resulted in lead-dust levels above the hazard standard. The commenter did not supply information showing that this activity does not disturb painted surfaces or would not result in lead-based paint hazards. However, the Agency continues to distinguish between unscrewing hinges or releasing a window sash from a jamb liner and window replacement as explained in its answer to Question (23002-19759).⁵⁴

⁵² 24 CFR 35, subparts B – R. Under 24 CFR § 35.110, rehabilitation means the improvement of an existing structure through alterations, incidental additions or enhancements. Rehabilitation includes repairs necessary to correct the results of deferred maintenance, the replacement of principal fixtures and components, improvements to increase the efficient use of energy, and installation of security devices.

⁵³ 77 Illinois Administrative Code Section 845.200 says that only licensed individuals as specified in Section 845.125 shall conduct sampling. This section does not regulate renovation, repair, or painting activities. It is part of an Illinois statute on lead paint abatement.

⁵⁴ See *Renovation, Repair, and Painting (RRP) Rule Frequent Questions*, Question 23002-19759.

Comment: Commenters #2016-0126-0011, #2015-0780-0012, and #2015-0780-0014 stated that, as of September 2016, only two approved lead test kits are available nationwide, but they meet only the negative-response criterion, which means they are likely to result in false positive readings. The commenter claims that this deters both renovators and homeowners from using the lead test kits. According to these commenters, renovators working on pre-1978 homes or child-occupied facilities must either (i) assume lead-based paint is present or (ii) use an available lead test kit that is prone to “false positive” results. Both options can cause a renovator to apply lead-safe work practices in buildings that do not present any actual lead-based paint hazard. According to the U.S. Department of Housing and Urban Development (HUD), only 24 percent of homes built between 1960 and 1977 contain lead-based paint. This means that when renovators assume that lead is present in these pre-1978 homes, it is likely that 76 percent of the time renovators are applying the rule in a home never intended to be covered by the program.

One commenter notes that EPA has indicated that a new lead test kit is under development and may reach the market in 2017, but few details have been provided. But even if such a lead test kit enters the market in 2016 or later, it would not change the fact that EPA’s economic analysis for the RRP rule assumed a qualifying lead test kit would be available in mid-2011, and that the commenter’s members have been implementing the RRP program for the past six years without a technology EPA relied on in seeking to minimize the impacts the rule would have on small businesses.

Response: The commenter’s assumption that 76 percent of the time renovators apply the work practices in post-1960 housing occurs where no lead-based paint is present implies that renovators never test the paint. EPA does not believe this is the case. Despite the fact that the lead test kits do not meet the positive response criterion, in a significant fraction of cases the kits will accurately indicate that no lead-based paint is present. Therefore, renovators will still have an incentive to use the lead test kits in order to avoid the work practice requirements. This would particularly be true if the work practice requirements were as expensive as industry comments claim. And as EPA has explained elsewhere in this document, it believes that using XRF or paint chip testing is both feasible and particularly advantageous in buildings where there is a lower probability of lead-based paint occurring, such as those built after 1960.

When EPA promulgated the RRP rule it assumed that a lead test kit meeting the positive response criterion would be on the market by 2011. But predictions of the future are inherently uncertain, and EPA acknowledged that at the time. EPA’s economic analysis for the proposed RRP rule included one sensitivity analysis that considered the costs and benefits if lead test kits meeting the positive response criterion were not available until the sixth year the rule was effective, and another sensitivity analysis assuming that lead test kits would never meet the 10% positive response criterion but would only achieve a 15% false positive rate.⁵⁵ (Quantified benefits significantly exceeded estimated costs under both of these alternate scenarios.) EPA’s assumption that improved lead test kits would be available by 2011 did not represent a guarantee by the Agency that this would be the case, nor was the promulgation of the rule predicated on this assumption.

Comment: Commenter #2016-0126-0015 stated that according to the Centers for Disease Control and Prevention (CDC), in 1997, 7.61 percent of children under the age of six were found to have an elevated blood lead level, which is defined as having 10 or more micrograms per deciliter of lead in blood. However, in 2014, the last year for which data is available from the CDC, only 0.53 percent of children under age six had an elevated blood lead level. The commenter stated that it is encouraged “by this very

⁵⁵ *Economic Analysis for the Renovation, Repair, and Painting Program Proposed Rule*. U.S. Environmental Protection Agency, February 2006, p. 7-1.

low percentage of effected [*sic*] children and believes this new data should have significant weight in the Agency's review of the rule and reconsideration of the ill-considered removal of the opt-out provision."

Response: In enacting Title X of the Housing and Community Development Act of 1992, Public Law 102-550, Congress established a national goal of eliminating lead-based paint hazards in housing as expeditiously as possible. There are approximately 24 million children under the age of six, so the 0.53 percent of children with a blood lead level of 10 or more micrograms of lead per deciliter of blood would mean that there are 127,000 children with such high levels 24 years after the passage of Title X.

The Consumer Products Safety Commission banned paint containing more than 0.06 percent lead for many uses after 1977. And EPA began requiring the use of unleaded gasoline in new cars equipped with catalytic converters in 1979, resulting in decreases in blood lead levels. EPA does not believe that the success of these requirements is a reason to repeal or amend them. Nor does the Agency believe that the continued decrease in blood lead levels since 2010 is a rationale for overturning the RRP rule, or for reinstating the opt-out provision.

Furthermore, CDC stopped using a blood lead level of 10 or more micrograms per deciliter of lead in blood to identify children with a blood lead "level of concern" in 2012, noting that no safe blood lead level in children has been identified. CDC is no longer using the term "level of concern" and is instead using a reference level of 5 micrograms per deciliter to identify children who have been exposed to lead and who require case management.⁵⁶ This new level is based on the U.S. population of children ages 1-5 years who are in the highest 2.5% of blood lead levels. The decrease in average blood lead levels over time is an indication that regulatory programs are succeeding. The Agency does not believe this means the programs should be scaled back. Large numbers of children continue to have blood lead levels warranting attention. EPA continues to believe that it is important to prevent children, pregnant women, and other individuals from being exposed to lead-based paint hazards. Thus, EPA does not believe it would be appropriate to reinstate the opt-out provision at this time.

Comment: One commenter has submitted multiple comments (#2016-0126-0015, #2015-0780-0016, #2015-0780-0027) suggesting reinstating the opt-out provision for home owners living in residences built between 1960 and 1977, and without a pregnant woman or child less than six years of age. According to the commenter, residential housing built between 1960 and 1977 only used lead-based paint for exterior applications.

Response: It is not true that lead-based paint in houses built between 1960 and 1977 is only found on the exteriors. Not only was lead-based paint used on the interiors of post-1960 housing, data from the U.S. Department of Housing and Urban Development indicates that houses built between 1960 and 1977 are more likely to have lead-based paint on interiors than exteriors.⁵⁷ In any event, EPA's analysis for the 2010 opt-out rulemaking found that renovations of buildings with lead-based paint create risks to building occupants over the age of six, occupants of neighboring properties (from exterior renovations) and visitors to renovated buildings (from both interior and exterior renovations). Therefore, it is not appropriate to create a new opt-out provision for post-1960 housing as the commenter has suggested, since doing so would expose numerous individuals to lead-based paint hazards generated from renovations in target housing.

⁵⁶ *What Do Parents Need to Know to Protect Their Children? Update on Blood Lead Levels in Children.* http://www.cdc.gov/nceh/lead/ACCLPP/blood_lead_levels.htm

⁵⁷ U.S. Department of Housing and Urban Development, Office of Healthy Homes and Lead Hazard Control. *National Survey of Lead and Allergens in Housing, Volume I: Analysis of Lead Hazards.* October 31, 2002. Table 4.6.

Comment: Commenter #2016-0126-0015 claimed that EPA has conducted an irregular rulemaking process when developing the RRP program. According to the commenter, in 2009 EPA entered into a consent decree with public interest groups and committed to: 1) eliminating the opt-out provision, (2) applying the Housing and Urban Development (HUD) clearance test to applicable renovation activities, and (3) expanding the RRP requirements to commercial and other non-residential buildings. The commenter claimed that when EPA completed the initial RRP rulemaking, the three requirements agreed to as part of the consent decree were considered and rejected by the Agency as offering no significant benefits and being inconsistent with the Toxics Substances Control Act (TSCA), yet EPA committed to these new rulemakings, and did so without consulting with small businesses affected by the changes or the Small Business Administration's (SBA) Office of Advocacy, and without the benefit of convening a Small Business Regulatory Enforcement Fairness Act (SBREFA) panel addressing the potential impact of the new requirements.

Response: The commenter is mischaracterizing the rulemaking history. The 2009 settlement agreement did not commit EPA to eliminating the opt-out, requiring clearance testing, or expanding the RRP requirements to non-residential buildings. Instead, EPA agreed to a schedule for issuing proposals on those topics and taking final action. Those final actions could include deciding not to amend the RRP rule. EPA clearly did not commit to require clearance testing for renovation activities, since EPA's final action for that item under the settlement agreement was a decision not to require it (76 FR 47918). While EPA did incorporate the opt-out provision into the 2008 rule, it did not analyze all of the implications of doing so at the time. When the Agency conducted further analysis in 2010, it concluded that allowing the opt-out provision would expose numerous individuals to lead-based paint hazards. Regarding pre-1978 public and commercial buildings, EPA did not commit in the settlement agreement to any particular outcome, contrary to commenter's assertions, but rather agreed to sign a proposal (unless EPA notifies the petitioners that the Agency has concluded that renovation activities in pre-1978 public and commercial buildings do not create a lead-based paint hazard) and, if EPA publishes a proposal, to take final action eighteen months later.

As EPA explained in 2010 (75 FR 24815) and 2011 (76 FR 47937), the Small Business Advocacy Review (SBAR) Panel convened for the original RRP rule published in 2008 met the statutory obligation for input on the opt-out and clearance rules. The Small Business Administration's Office of Advocacy participated in the interagency review of the opt-out and clearance rules and submitted comments to the public docket. Small businesses potentially affected by the rules also had the opportunity to submit comments during the public comment periods for both rulemakings. The D.C. Court of Appeals for the District of Columbia acknowledged this in its opinion on a petition to review the opt-out rulemaking:

The small business advocacy review panel, by contrast, is a purely procedural device, a process by which interested parties can present their views to the agency. See Oral Arg. Recording at 41:00-:14 (acknowledgment by petitioners that the absence of a review panel is "a process point," and that they cannot cite any information they could not have presented during the normal notice-and-comment period).⁵⁸

Finally, EPA intends to convene an SBAR Panel for the public and commercial building rulemaking if it does not certify that the rule will not have a significant impact on a substantial number of small entities.

⁵⁸ Nat'l Ass'n of Home Builders v. EPA, 682 F.3d 1032, 1040 (D.C. Cir. 2012).

Comment: Commenter #2016-0126-0012 supported the goal of protecting children and pregnant women from lead exposure. The commenter proposed that EPA consider reinstating the opt-out provision for post-1960 target housing.

Response: While EPA appreciates the commenter's support for the protection of children and pregnant women, the suggestions to exempt post-1960 housing or reinstate the opt-out provision would increase lead exposure to these sensitive populations. While the opt-out provision contained exclusions for housing where children under the age of six or pregnant women resided, EPA's 2010 rulemaking identified scenarios where these populations could be exposed to lead dust resulting from renovations. (For example, individuals living adjacent to a renovated building, or receiving child-care in one.)⁵⁹ That would continue to be the case if the opt-out provision were limited to post-1960 housing. Therefore, EPA does not have a record basis to conclude that allowing an opt-out for post-1960 housing would address lead-based paint hazards, taking into account reliability, effectiveness, and safety.

Comment: Several commenters (Commenters #2016-0126-0011, #2016-0126-0012, #2016-0126-0014, and #2015-0780-0012) suggested that the rule should be amended because technology and economic conditions have changed. Suggestions for revising the rule include exempting post-1960 housing, reinstating the opt-out provision, allowing the opt-out provision for renovations in post-1960 housing, or allowing the opt-out provision if the property owners disclose the information to subsequent buyers.

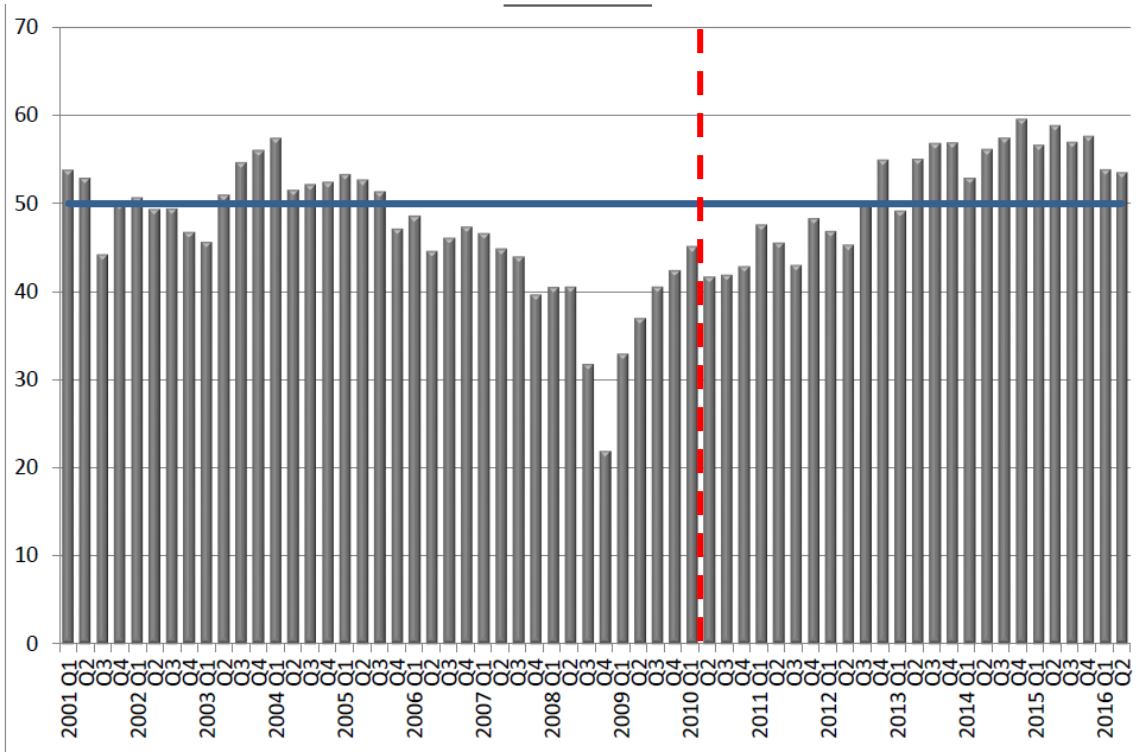
Response: Section 610(a) of the Regulatory Flexibility Act directs agencies to review rules which have or will have a significant economic impact upon a substantial number of small entities to determine whether the rules should be continued without change, or should be amended or rescinded, consistent with the stated objectives of applicable statutes. Section 610(b) identifies factors to be considered in an Agency's review of rules to minimize any significant economic impact of the rule on a substantial number of small entities in a manner consistent with the stated objectives of applicable statutes. These factors include the degree to which technology, economic conditions, or other factors have changed in the area affected by the rule. As described below, the data indicate that these factors do not provide a justification for revising the RRP rule as suggested by the commenters.

Economic Conditions

While economic conditions have changed since the RRP rules were promulgated, the change has been for the better. Specifically, conditions for the renovation, repair and painting industry have improved since EPA promulgated the final RRP rule in 2008 and removed the opt-out provision in 2010. At the time of those rulemakings, the country was in the midst of a recession which negatively affected the RRP industry. However, economic conditions have improved significantly since 2010 (when the requirements for renovators went into effect), as indicated in the following charts about the remodeling industry. The improvement in economic conditions since 2010 does not provide a rationale for adopting the commenters' suggestions to exclude some renovations from the RRP program.

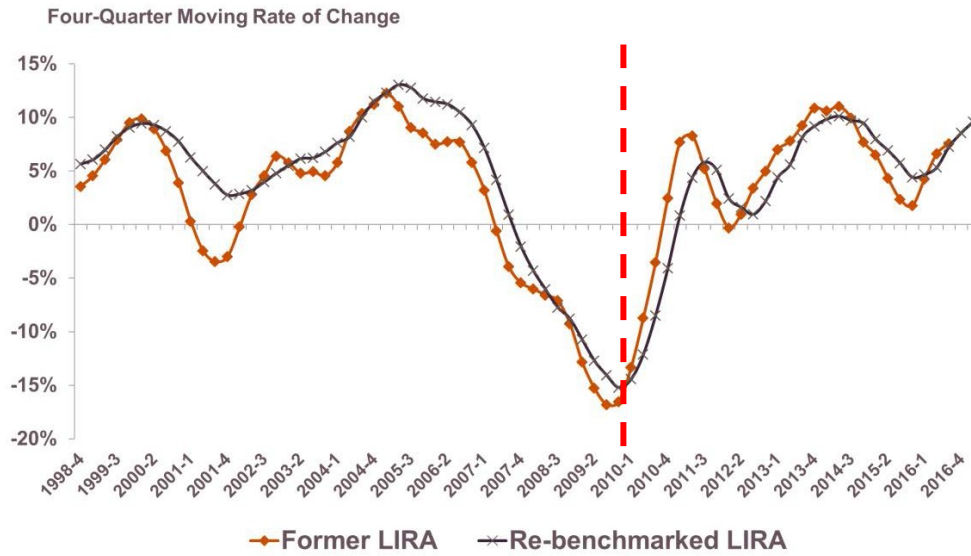
⁵⁹ See *Lead; Amendment to the Opt-Out and Recordkeeping Provisions in the Renovation, Repair, and Painting Program*, 75 Federal Register 24802, May 6, 2010, and *Economic Analysis for the TSCA Lead Renovation, Repair, and Painting Program Opt-out and Recordkeeping Final Rule for Target Housing and Child-Occupied Facilities*, U.S. Environmental Protection Agency, April 2010.

Remodeling Market Index (RMI): Overall RMI

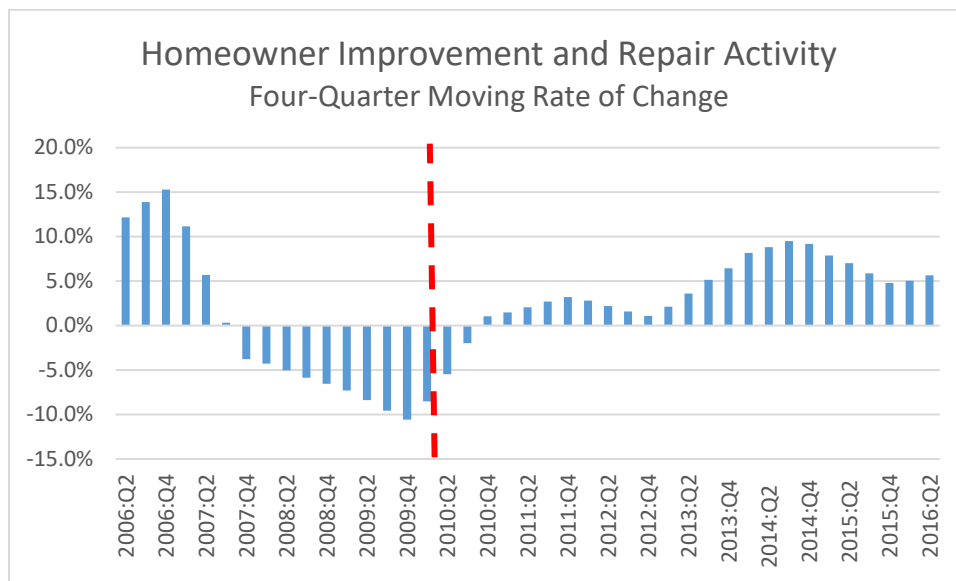


Source: National Association of Home Builders. The RMI survey asks remodelers to rate a variety of aspects of the remodeling market as 'higher' or 'lower' than three months earlier. Each question in the RMI survey is measured on a scale of 0 to 100, where an index number of 50 indicates equal numbers of remodelers report activity 'higher' and 'lower' than the previous quarter. The Overall Remodeling Market Index is calculated by averaging the Current Marketing Index and the Future Market Indicators Index. Any number over 50 indicates that more remodelers view remodeling market conditions as higher than the previous quarter.

Leading Indicator of Remodeling Activity (LIRA)

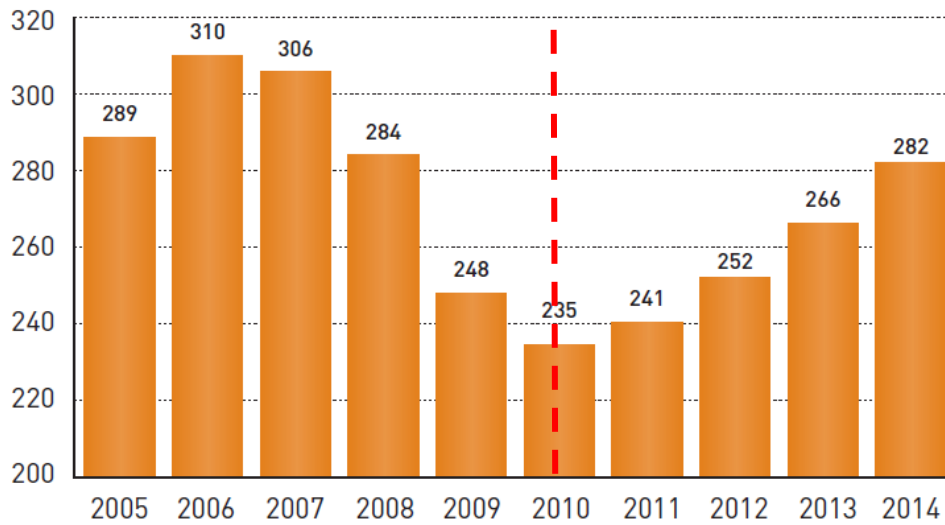


Source: Harvard Joint Center for Housing Studies. *Re-benchmarking of the Leading Indicator of Remodeling Activity*. Research Note, April 2016.



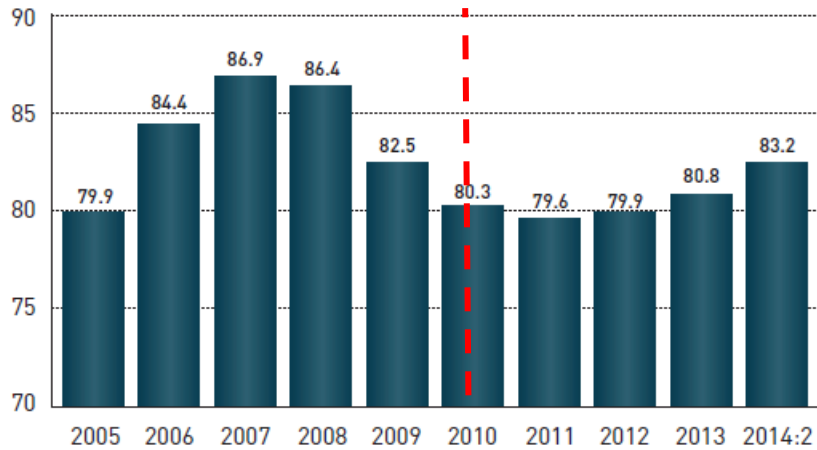
Source: Harvard Joint Center for Housing Studies. Historical data through 2013 are JCHS estimates based on American Housing Survey data. Historical estimates since 2013 are produced using the Leading Indicator of Remodeling Activity model until new AHS data become available.

Number of Employees at General Residential Remodeling Firms
(Thousands)



Source: Harvard Joint Center for Housing Studies. *Emerging Trends in the Remodeling Market*. 2015.

Number of Firms with Payrolls (Thousands)

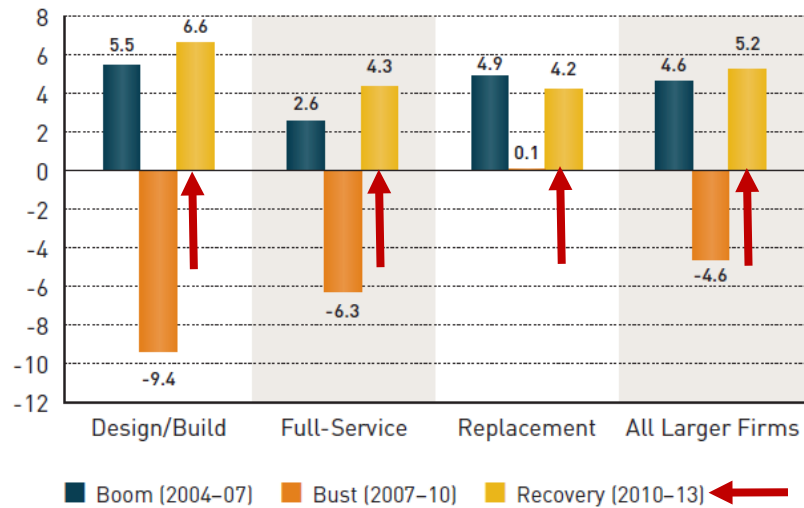


Note: Estimate for 2014:2 is preliminary.

Source: US Department of Labor, Bureau of Labor Statistics, Quarterly Census of Employment and Wages.

Source: Harvard Joint Center for Housing Studies. *Emerging Trends in the Remodeling Market*. 2015.

Median Compound Annual Change in Revenue for *Qualified Remodeler*
Top 500 Firms (Percent)



Source: Harvard Joint Center for Housing Studies. *Emerging Trends in the Remodeling Market*. 2015.

Technological Change

EPA is not aware of any significant changes in technology in the area affected by the rule, nor have the commenters provided data indicating that such change has occurred. Indeed, the commenters’ argument is that technology has not changed (specifically that a lead test kit that meets EPA’s positive response criterion is not yet available). Regardless, the lack of technological change in lead test kit technology does not justify the regulatory exemptions suggested by these commenters because EPA does not have a record basis to conclude that such exemptions would address lead-based paint hazards, taking into account reliability, effectiveness, and safety.

TSCA § 402(a) directs EPA to promulgate regulations covering lead-based paint activities to ensure that persons performing these activities are properly trained, that training programs are accredited, and that contractors performing these activities are certified. These regulations must contain standards for performing lead-based paint activities, taking into account reliability, effectiveness, and safety. TSCA § 402(c)(3) further directs EPA to revise its lead-based paint activities regulations under TSCA § 402(a) to apply to renovation or remodeling activities that create lead-based paint hazards. When promulgating the RRP rule, EPA determined that activities commonly performed during renovation and remodeling create lead-based paint hazards. The primary objective of the rule was to minimize exposure to lead-based paint hazards created during renovation, repair, and painting activities in target housing and child-occupied facilities, taking into account reliability, effectiveness, and safety as directed by TSCA § 402(a). Specifically, the Agency concluded that the training, containment, cleaning, and cleaning verification requirements in the RRP rule achieved the goal of minimizing exposure to lead-based paint hazards created during renovation, remodeling and painting activities, taking into account reliability, effectiveness, and safety.

Renovation, repair, and painting activities still rely on the same basic technologies that EPA considered at the time of the 2008 rulemaking, such as cutting, sawing, drilling, scraping, sanding, component removal, and window replacement. EPA is not aware of any evidence that contradicts its 2008 findings (based on

the 2007 Dust Study) that these activities can create lead-based paint hazards. Where lead-based paint is present, conducting these activities in post-1960 housing or in housing where no child under the age of six or pregnant woman resides can still create lead-based paint hazards. Furthermore, EPA's analyses for the 2010 opt-out rulemaking indicated the potential for negative health effects for individuals of all ages if they are exposed to lead-based paint hazards from such renovations.

Nor is EPA aware of any new technologies that can substitute for the containment, cleaning, cleaning verification, and other requirements in the RRP rule and achieve the goal of minimizing exposure to lead-based paint hazards created during renovation, remodeling and painting activities, taking into account reliability, effectiveness, and safety. For instance, the rule requires the use of HEPA exhaust controls when using machines that remove lead-based paint through high speed operations such as sanding, grinding, power planing, needle gun, abrasive blasting, or sandblasting. Commenters have presented no evidence of new cleaning technologies having been developed since 2008 that EPA could substitute for the HEPA exhaust control requirement in the rule.

EPA also notes that it is not aware of any significant changes in the medical technology for treating children or other individuals with very high blood lead levels. Such individuals are still treated with chelation therapy, which has the potential for serious side effects. In addition, while chelation therapy can prevent further injury, it does not reverse or cure the damage that has already occurred. Therefore, EPA believes it is preferable to minimize exposure to lead-based paint hazards (consistent with the statutory goal) rather than relying on medical treatment for children with elevated blood lead levels.

The commenters who suggested exempting post-1960 housing from the rule argue that only 24 percent of post-1960 residences contain lead-based paint. There are 8.7 million renovations per year performed in the 37 million target housing units and child-occupied facilities built after 1960. The same standard renovation techniques (sanding, scraping, drilling, etc.) are used in pre- and post-1960 buildings. Where lead-based paint is present and disturbed in a renovation, exempting renovations in post-1960 buildings from the RRP rule would expose the residents and other individuals to lead-based paint hazards. EPA does not have a record basis to conclude that such an approach would address lead-based paint hazards, taking into account reliability, effectiveness, and safety.

Several commenters suggested that EPA should reinstate some form of the opt-out provision. When EPA took action in 2010 to eliminate the opt-out provision, it stated:

Based on the data available to EPA (e.g., the Dust Study), the Agency cannot now conclude that the opt-out nor that the alternative approaches are safe, reliable or effective because none of these would sufficiently minimize exposure to lead-based paint hazards. In sum, when the RRP work practices are not used, residents and visitors are exposed to the lead hazards created by the renovation, and therefore these approaches would not protect older children, women of childbearing age, or other adults currently residing in the home and can result in exposure to children under the age of 6 and pregnant women to lead-based paint hazards. Again, although EPA specifically requested information or data that would shed any light on the reliability, effectiveness, or safety of these options in relation to EPA's lead hazard standards, the Agency did not receive any. The Agency took these factors into consideration in deciding not to adopt these alternatives.⁶⁰

⁶⁰ *Lead; Amendment to the Opt-Out and Recordkeeping Provisions in the Renovation, Repair, and Painting Program*. 75 Federal Register 24807, May 6, 2010.

EPA is not aware of any new technologies that would lead the Agency to revise the conclusion it made in 2010. Therefore, EPA does not have a record basis to conclude that reinstating the opt-out provision would address lead-based paint hazards, taking into account reliability, effectiveness, and safety.

Comment: Commenter #2016-0126-0011 claimed that EPA's Section 610 review is deficient. According to the commenter, EPA appears to be treating the Section 610 review process as a mere "check the box" exercise. The commenter asserts that the brief descriptions of the rule in the regulatory agenda were too short, and there was no apparent attempt to explain the "legal basis" for the rule. The commenter claims that without additional information from EPA, commenters cannot respond adequately to the five statutory Section 610 factors and can only reiterate the comments they previously made to the Agency. The commenter states that EPA has not provided its own assessment of the RRP program, although this is not strictly required by the statute. The commenter then states that EPA should withdraw the current notice and re-issue it along with a report analyzing the rule's performance to which commenters can respond, and an explanation of what information the Agency seeks and how it intends to use the information it receives. The commenter believes that, at a minimum, EPA should allow a second public comment period on the draft report it prepares in response to the initial round of Section 610 comments.

Response: EPA's process for this review complies fully with the requirements of the Regulatory Flexibility Act, and is consistent with how the Agency has handled the Section 610 review for other rulemakings. EPA does not intend to withdraw this notice, or to undergo a second comment period on the report it has prepared. As the commenter acknowledged, the statute does not require EPA to provide the public an opportunity to comment on this document.

EPA believes that commenters could respond to the five statutory Section 610 factors based on the information in the notice. EPA solicited comments on the following factors: (1) The continued need for the rule; (2) the nature of complaints or comments received concerning the rule; (3) the complexity of the rule; (4) the extent to which the rule overlaps, duplicates, or conflicts with other Federal, State, or local government rules; and (5) the length of time since the rule has been evaluated or the degree to which the technology, economic conditions or other factors have changed in the area affected by the rule. EPA believes that the notice was sufficiently clear about what information it sought (responses on the five factors) and how it intended to use it (to determine whether the rule should continue without change or should be amended or rescinded, consistent with the stated objectives of applicable statutes, to minimize any significant economic impact of the rules upon a substantial number of small entities).

This commenter wants to respond to EPA's assessment but it has not provided information on actual compliance experiences for EPA to review. Public commenters are in a position to provide their perspective on all of five factors⁶¹ (especially the actual experience of themselves or their members in complying with the rule) in the absence of an EPA assessment.

EPA notes that the Agency has previously explained the legal basis for the rule in more detail. This explanation was provided in the preambles for proposed and final rulemakings for the RRP program (and this commenter provided lengthy comments on those rules), in response to comments documents, in initial and final regulatory flexibility analyses, and in a brief the government filed as part of litigation involving this same commenter. It is unnecessary to reiterate this information at length in the Federal Register as part of this effort. The succinct explanation EPA provided is sufficient for the Section 610 review.

⁶¹ Including factor #2 (the nature of complaints). At least one other commenter, a trade association, used the opportunity to summarize the comments that it received from its members.

EPA concurs with the commenter's assessment that they have reiterated comments they have previously made to the Agency, and notes that the commenters have not provided experience-based evidence to support their claims. Several of the commenters mentioned the need to reconsider the rule based on six years of experience, but these commenters provided no new evidence of the industry's experience in complying with the rule.

EPA did not wait for the RFA Section 610 review to make changes to the program that were consistent with the statute. In 2011, EPA amended the rule to allow renovators to take paint chip samples, instead of relying on a third party to do so.⁶² In 2016, EPA revised the requirement that certified renovators take hands-on training as part of every cycle of refresher training, in order to provide more flexibility to the industry.⁶³ EPA did not adopt various comments (dating back as far as the 2006 proposed rule) about other potential changes to the program, such as exempting post-1960 housing, because EPA does not have a record basis to conclude that such changes would address lead-based paint hazards, taking into account reliability, effectiveness, and safety.

Comment: Commenters #2016-0126-0011, #2016-0126-0012, #2016-0126-0015, #2015-0780-0012, and #2015-0780-0027 commented that a 2012 report by EPA's Office of Inspector General (OIG) stated that EPA relied on limited data (including a survey of nine firms) in developing cost and benefit estimates for the rule's underlying economic analysis, and did not quantify additional contractor liability insurance costs, costs to markets that are indirectly affected by the rule, or some opportunity costs associated with implementation of the rule.

Response: As explained in the OIG report, EPA believes the economic analysis was appropriate to support decisions made by Agency officials, and notes that the OIG report concluded that "We agree that the economic analysis was conducted according to Agency guidelines, was subject to public comment, and was cleared by OMB as complying with the requirements of Executive Order 12866."⁶⁴

Comment: Commenter #2016-0126-0016 stated that its members are particularly concerned about the overlap between certain aspects of the 2008 Lead RRP rule and the Occupational Safety and Health Administration's (OSHA) Lead Standard for the Construction Industry. The commenter requested that EPA revisit OSHA's Lead Standard for the Construction Industry and evaluate whether or not there is opportunity to streamline EPA's lead work practice requirements, reduce redundancies, and clarify processes for the regulated small-business community. According to the commenter, in contrast to EPA's RRP rule, the OSHA Lead Standard for the Construction Industry applies to all construction work where an employee may be occupationally exposed to lead (this is not dependent on the size of a job or the concentration of lead).

The commenter stated that OSHA requirements for "housekeeping" covered at 20 C.F.R. 1926.62(h) require employers to maintain all surfaces as "free as practicable" of accumulations of lead dust. Vacuuming is the preferred method of meeting this requirement. Vacuums must be equipped with a HEPA filter, and dry or wet sweeping, shoveling, or brushing may not be used except where vacuuming or other equally effective methods have been tried and do not work. According to the commenter, for

⁶² *Lead; Clearance and Clearance Testing Requirements for the Renovation, Repair, and Painting Program*. 76 Federal Register 47918, August 5, 2011.

⁶³ *Lead-Based Paint Programs; Amendment to Jurisdiction-Specific Certification and Accreditation Requirements and Renovator Refresher Training Requirements*. 81 FR 7987, February 17, 2016.

⁶⁴ See EPA's response in "Review of Hotline Complaint Concerning Cost and Benefit Estimates for EPA's Lead-Based Paint Rule", Report No. 12-P-0600 (July 25, 2012), pages 11 to 12 and 19 to 28.

work where exposure to lead is found to exceed 50 µg/m³ of airborne lead, additional requirements include the use of respirators; engineering controls (including HEPA vacuums, negative air machines, and wet methods); personal protective equipment; regulated areas, signs, and labels; and a decontamination facility.

The commenter cited one letter of interpretation from OSHA regarding what it means to maintain all surfaces as "free as practicable" of accumulations of lead dust, and another OSHA letter of interpretation that (according to the commenter) indicated that testing for lead can be helpful but may not eliminate the need to do exposure monitoring and provide interim protections.

Response: The RRP program is not redundant with OSHA's Lead Standard for the Construction Industry, so there is not a need to streamline the lead work practice requirements for the regulated small business community. As EPA has indicated previously, OSHA's requirements are designed to protect workers, and do not ensure that all occupants and other members of the public are safe during and after renovation, repair, and painting projects.

OSHA's standard applies to construction work where an employee may be occupationally exposed to lead. The Occupational Safety and Health Act⁶⁵ states that

The term "employee" means an employee of an employer who is employed in a business of his employer which affects commerce.

and

The term "employer" means a person engaged in a business affecting commerce who has employees, but does not include the United States (not including the United States Postal Service) or any State or political subdivision of a State.

Thus, OSHA standards do not apply to self-employed individuals and partnerships with no employees (which are also referred to as non-employer firms) or to individuals working as independent contractors.⁶⁶ Given that approximately 75% of the construction establishments performing residential RRP in pre-1978 housing are estimated to be non-employer firms⁶⁷ – and thus exempt from the OSHA standard – there is a large universe of RRP jobs that are not covered by the OSHA requirements.

There are other differences between the OSHA standard and the RRP rule which demonstrate why the requirements are not duplicative. For example, since the OSHA standard is intended to protect employees, it does not require clean-up at the end of the project.⁶⁸ EPA believes that cleaning up at the end of the project is an important step for protecting building's occupants, including children.

Furthermore, many provisions of the OSHA standard only apply if the level of lead in the air exceeds the action level. The action level is an airborne concentration of 30 µg/m³, averaged over an eight-hour

⁶⁵ 29 U.S.C. §652.

⁶⁶ See 29 CFR 1975.4, and

https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=INTERPRETATIONS&p_id=24317

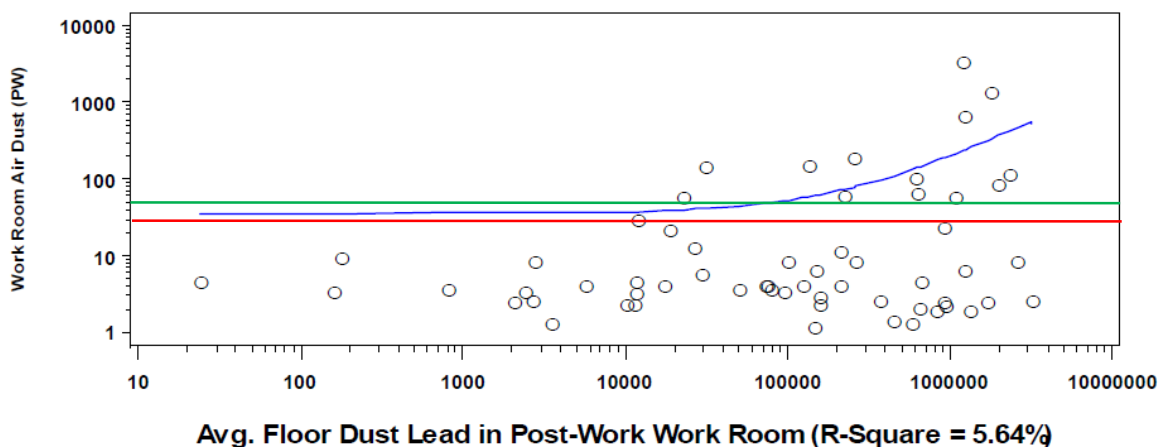
⁶⁷ *Economic Analysis for the TSCA Lead Renovation, Repair, and Painting Program Opt-out and Recordkeeping Final Rule for Target Housing and Child-Occupied Facilities*. U.S. Environmental Protection Agency, April 2010. Table 4-47.

⁶⁸ *Regulatory Review of 29 CFR 1926.62 Lead in Construction Pursuant to Section 610 of the Regulatory Flexibility Act and Section 5 of Executive Order 12866*. Occupational Safety and Health Administration, Directorate of Evaluation and Analysis, Office of Evaluations and Audit Analysis, August 2007, p. 149.

period. There are additional requirements if the level in the air exceeds the permissible exposure limit (PEL), which is $50 \mu\text{g}/\text{m}^3$ averaged over an eight-hour period.

EPA's 2007 Dust Study measured air lead levels as well as dust lead levels. In the figure below, each point represents the work room results from a separate experiment in the 2007 Dust Study. (Measurements that were below the detection limit are plotted at one-half of the detection limit.⁶⁹) The blue line represents the regression line fitted to the data. (The R^2 for the regression is 0.05, suggesting that there is not a strong relationship between air dust lead concentrations and floor dust lead levels.) The red line is the OSHA action level, while the green line is the OSHA PEL. With the exception of jobs where restricted or prohibited practices were used, lead levels in the work room during the work phase were generally below the Action Level and were often below the detection limit for air monitoring.⁷⁰ Yet many of these jobs resulted in high levels of lead in floor dust. The Dust Study results indicated that lead levels can exceed EPA's hazard standards even where air levels did not exceed the OSHA action level. Thus, there can be situations where dust lead hazards are created but many of the OSHA provisions do not apply. EPA therefore cannot rely on the OSHA requirements to protect individuals other than the construction employee-workers.

Figure F3.7a. Scatter Plots of Work Room Air Dust Lead Concentration ($\mu\text{g}/\text{m}^3$) by Stage and Avg. Floor Dust Lead (with Bulk) in Post-Work Work Room ($\mu\text{g}/\text{ft}^2$)⁷¹



⁶⁹ The method detection limit for air samples was $2 \mu\text{g}/\text{filter}$. When expressing the detection limit as a concentration for a specific air sample, this value is divided by the sample's measured flow rate (in cubic meters). Thus, the detection limit in $\mu\text{g}/\text{m}^3$ differs from sample to sample.

⁷⁰ Some of the air dust lead concentrations shown in the figure as exceeding 30 or $50 \mu\text{g}/\text{m}^3$ could actually be below the action level or the PEL. Under the OSHA standard, the action level and the PEL are calculated over an 8-hour sampling period (i.e., using a time-weighted average). However, the duration of interior work in EPA's Dust Study ranged from 7 to 300 minutes, with an average of 105.2 minutes. When excluding jobs involving high temperature heat guns (>1100 degrees), interior work durations were no higher than 201 minutes. The air sampling continued for up to an hour after each stage, to allow for dust to settle from work activities in that stage. Even with the extra time for settling, the maximum air sampling period was often much less than the 8 hours used to calculate the action level and the PEL. Using an 8-hour time-weighted average would presumably reduce the calculated air dust level for many of the jobs, given that dust generating activities were not occurring in the last few hours.

⁷¹ *Revised Final Report on Characterization of Dust Lead Levels After Renovation, Repair, and Painting Activities*. Prepared by Battelle for U.S. Environmental Protection Agency, OPPT, National Program Chemicals Division, Program Assessment and Outreach Branch. November 13, 2007. EPA-HQ-OPPT-2005-0049-0857.

Lead levels below the PEL also have the potential to result in exposures to the family members of construction workers. According to the National Institute of Occupational Safety and Health (NIOSH):

Airborne lead exposures exceeding the PEL of 50 µg/m³ may not be as reliable a measure of the potential for lead-contaminated skin and clothing when compared to approaches that supplement air sampling with surface sampling information. NIOSH researchers found that employees with low air exposures have the highest levels of lead contamination in their cars when working at a construction site where the hygiene provisions were required only for employees with high exposures to airborne lead. Study findings further indicated that while the proximity and time spent by employees near lead sources did not necessarily result in high air exposures, employee activities alone may still result in lead deposition onto clothes and skin from contact with contaminated surfaces or dust settling. Therefore, airborne lead exposure alone is not sufficient for determining the potential for lead-contaminated clothing and skin and the need for hygiene provisions at construction sites. The availability of new, inexpensive surface sampling methods can provide alternative trigger mechanisms and options to improve the targeting of hygiene measures.⁷²

Since young children are very sensitive to lead exposures, lead levels below the PEL may still present a risk if the children of construction workers are exposed through contamination in homes or cars.

While HEPA vacuums may be used in certain limited situations to comply with the OSHA standard, EPA also notes that using a HEPA vacuum alone (without the containment, cleaning verification, and other requirements in the RRP rule) is not sufficient to minimize exposure to lead-based paint hazards created during renovation, repair, and painting activities in target housing and child-occupied facilities, taking into account reliability, effectiveness, and safety as directed by TSCA § 402(a). EPA's 2007 Dust Study examined jobs where rule cleaning (including HEPA vacuuming) was used without containment, and found that high levels of lead could remain. EPA concluded in 2008 that the combination of training, containment, cleaning, and cleaning verification were required to achieve the goal of minimizing exposure to lead-based paint hazards created during renovation, remodeling and painting activities, taking into account reliability, effectiveness, and safety.

To the extent that renovation firms are subject to the OSHA requirements, those requirements suggest that many industry commenters have exaggerated the cost of complying with the RRP rule. For example, numerous renovation firms with employees that commented in 2009 on the proposed opt-out rule provided compliance cost estimates that included the cost of a HEPA vacuum, HEPA filters, and the labor needed to clean the work site with a HEPA vacuum. Yet these firms were not incurring additional costs associated with HEPA vacuums due to the RRP rule if they were already using the vacuums to comply with OSHA requirements. Furthermore, while EPA only requires HEPA vacuuming after the renovation has been completed, many of the industry commenters on the opt-out rule estimated their cleaning costs assuming that the work area is cleaned with a HEPA vacuum frequently during the day, and at the end of the day. While daily cleaning may be necessary to protect workers under the OSHA standard, it is not needed to comply with the RRP rule. It appears that either industry commenters with employees have been attributing the cost of OSHA compliance to the RRP rule, or that they are not subject to or not complying with the OSHA standard (in which case EPA cannot assume that the OSHA standard will protect building occupants).

Similarly, many industry commenters on the opt-out rule included the cost of personal protective equipment to justify their claims that EPA had underestimated the work practice costs for the RRP program by not including these in the economic analysis. The RRP rule does not require the use of personal protective equipment, although EPA does recommend its use. In any event, either the opt-out

⁷² *Regulatory Review of 29 CFR 1926.62 Lead in Construction Pursuant to Section 610 of the Regulatory Flexibility Act and Section 5 of Executive Order 12866*. Occupational Safety and Health Administration, Directorate of Evaluation and Analysis, Office of Evaluations and Audit Analysis, August 2007, p. 61.

rule commenters were inflating their cost claims by including costs they were already incurring due to the OSHA standard; or most renovators are not in a situation where the OSHA provisions apply (or renovators are just not complying with the OSHA standard), in which case the OSHA standard is not relevant to the goal under TSCA of minimizing exposure to lead-based paint hazards created during RRP activities.

One of the OSHA interpretive letters cited by Commenter #2016-0126-0016 states that:

The requirements of 29 CFR 1926.62 at Section 1926.62(h)(1) state that "*All surfaces shall be maintained as free as practicable of accumulations of lead.*" Section 1926.62(i)(2)(i) of this standard requires that "*The employer shall provide clean change areas for employees whose airborne exposure to lead is above the permissible exposure level ...*" Section 1926.62(i)(4)(ii) requires that "*The employer shall assure that lunchroom facilities or eating areas are as free as practicable from lead contamination...*" Also, in the Compliance Directive for the Interim Standard for Lead in Construction, CPL 2-2.58, OSHA recommends the use of HUD's acceptable decontamination level of 200 ug/ft² for floors in evaluating the cleanliness of change areas, storage facilities, and lunchrooms/eating areas. ... In situations where employees are in direct contact with lead-contaminated surfaces, such as working surfaces or floors in change rooms, storage facilities and, of course, lunchroom and eating facilities, OSHA has stated that the Agency would not expect surfaces to be any cleaner than the 200-ug/ft² HUD level.⁷³

EPA adopted the current Section 403 rule in 2001, setting a floor lead level of 40 ug/ft², and HUD adopted this level in 2004.⁷⁴ If construction firms are still relying on the 200 ug/ft² level mentioned in the 2003 OSHA interpretive letter for use in target housing and child-occupied facilities, then their activities under the OSHA standard are clearly insufficient to meet EPA's requirements. But if construction firms now interpret OSHA's requirement that "as clean as practicable" refers to the current HUD standard of 40 ug/ft² for floors, then to the extent that the OSHA standard applies to jobs subject to the RRP rule, industry commenters seem to be exaggerating the cost of complying with the RRP rule by double-counting costs that they were already incurring due to the OSHA rule. In that case these firms are likely to have already been using some containment and specialized cleaning to comply with the OSHA requirements.

Commenter #2016-0126-0016 also cited an OSHA interpretive letter that states that, with limited exceptions, XRF testing does not eliminate the need to perform exposure monitoring and provide interim controls.⁷⁵ This interpretation undercuts the criticism made by other commenters. Specifically, they claim that they are forced to assume that lead-based paint is present and use lead-safe work practices under the RRP rule because the lead test kits have a high false positive rate. Yet under the OSHA rule, contractors may already be incurring the costs of adopting housekeeping and interim protections in some cases where the lead level falls below the definition of lead-based paint but the lead test kit indicates that lead is present.

Again, either (1) the other commenters were inflating their cost claims by including costs for such activities they were already incurring due to the OSHA standard; or (2) renovators are not subject to or not complying with the OSHA standard (in which case Commenter #2016-0126-0016's references to the OSHA standard are not compelling); or (3) in the limited applications allowed under the OSHA

⁷³ https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=INTERPRETATIONS&p_id=25617.

⁷⁴ *Requirements for Notification, Evaluation, and Reduction of Lead-Based Paint Hazards in Housing Receiving Federal Assistance and Federally Owned Residential Property Being Sold, Conforming Amendments and Corrections*. 69 Federal Register 34262, June 21, 2004.

⁷⁵ https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=INTERPRETATIONS&p_id=22701

standards, renovators are in fact relying on the results of XRF testing or paint chip sampling, and those are practical methods.

Comment: Commenter #2016-0126-0012 claimed that EPA eliminated the opt-out provision based on subjective assumptions rather than sound data. According to the commenter, this is particularly disturbing given EPA did rely on sound studies when justifying inclusion of the opt-out provision in the original rule. Those studies, one by the Agency, and two by the New York State Department of Health regarding lead exposure associated with renovation and remodeling activities, were used to support the decision to include the opt-out provision.

Response: EPA disagrees with the commenter. The commenter appears to be referring to studies EPA cited in support of the original 2008 rule demonstrating that residential renovation and remodeling is associated with an increased risk of elevated blood lead levels (EBLs) in children.^{76, 77, 78} Those studies justified regulating RRP activities in target housing and COFs, not allowing homeowners to opt-out of the RRP rule. The children in these studies had EBLs because renovation and remodeling can create lead-based paint hazards. As EPA described in the 2010 rule removing the opt-out provision, those hazards can harm children under the age of six that live contiguous to attached housing that could be renovated under the opt-out provision, or move into a house that could be renovated under the opt-out provision, or receive childcare in such housing, as well as older children and adults that are in these situations or already live in the renovated housing. The studies showed that renovation and remodeling activities created risks for children under the age of six living in the renovated housing. That does not mean that unregulated renovations were safe for other individuals.

Comment: Commenter #2016-0126-0011 urged EPA to revisit the issue of an opt-out provision. According to the commenter, reincorporating an opt-out provision into the rule would help ensure that the program is effectively targeting the at-risk population and not being applied where lead-based paint hazards are not present. The commenter urged EPA to consider reinstating the opt-out for homes built after 1960, at a minimum.

Response: EPA explained its rationale for removing the opt-out in 2010. The commenter has not provided any new evidence or explanation as to why EPA should now conclude that allowing some form of opt-out would be consistent with the rule's overall goal.

Comment: Commenter #2016-0126-0006 requests that the RRP rule allow for new industry technologies for preventing lead health hazards to be considered for use. According to the commenter, there are several new lead treatment and sealant technologies which have been in existence for over 10 years and for which there is ample [sic] EPA specified analytical test verifications as to the technologies' effectiveness at reducing lead dust spread, lead environmental hazards and lead bioavailability hazards. There should be a procedure established which allows for a timely review or verification of acceptance too [sic] new RRP

⁷⁶ U.S. Environmental Protection Agency. *Lead Exposure Associated with Renovation and Remodeling Activities: Phase III, Wisconsin Childhood Blood-Lead Study* (EPA 747-R-99-002, March 1999).

⁷⁷ U.S. Department of Health and Human Services (HHS), U.S. Public Health Service (PHS), CDC. *Children with Elevated Blood Lead Levels Attributed to Home Renovation and Remolding Activities--New York, 1993-1994*. Morbidity and Mortality Weekly Report (45(51); 1120-1123, January 3, 1997).

⁷⁸ Reissman, Doris B., Thomas D. Matte, Karen L. Gurnite, Rachel B. Kaufmann, and Jessica Leighton. *Is Home Renovation or Repair a Risk Factor for Exposure to Lead Among Children Residing in New York City?*. Journal of Urban Health: Bulletin of the New York Academy of Medicine. Vol. 79, No. 4, 502-511, (December 2005).

means and methods which will lower overall costs to home owners, contractors and provide for an improvement in environmental protection and human health protection.

Response: The commenter has provided no data supporting its claims and did not describe the technologies to which it is referring. Therefore, EPA cannot commit to taking any action as part of this Section 610 review in response to this comment.

Comment: Commenter #2016-0126-0011 states that individual certified renovators should be provided the same resources provided to certified firms. According to the commenter, EPA does not provide the general public with the same level of information about individual renovators as certified firms. For instance,

- EPA's online search function for locating certified renovators only provides information about certified firms and training providers. It does not provide information about individual renovators.
- EPA allows certified firms to submit applications (for both certification and recertification), payments, updates, and certificate requests online. Individual renovators do not have these options. Further, individual renovators who had their certifications extended via EPA's April 2015 final rule had no means of receiving formal "extension" certificates. Instead, renovators were instructed to include a copy of the Federal Register notice with their certification paperwork. This created confusion and additional burdens for many of the commenter's members.
- EPA allows certified firms to order a copy of their certificate online. Individual renovators do not have this option. This means that individual certified renovators have no centralized location from which to obtain a replacement certificate if needed. This has serious implications for individual renovators who obtained their original certificate from a trainer that is now out-of-business or otherwise unreachable.

The commenter states that it appreciates EPA's efforts to develop website tools and other resources for certified firms, and urges EPA to consider developing similar resources for individual certified renovators. This would help address some of the disparities between the burdens certified firms and individual certified renovators face, as well as the disparities in publicly available information. Overall, these changes would make the program more efficient and transparent, benefiting renovators and the public alike.

Response: EPA disagrees that it can or should make the changes that the commenter requests. Firms and renovators are handled differently because of the basic requirements of the RRP program, as discussed below.

Online search function

Under 40 CFR 745.85(a), renovations must be performed by certified firms using certified renovators. And under 40 CFR 745.89(d), all individuals performing renovation activities on behalf of the firm must be either certified renovators or have been trained by a certified renovator. Both the firm and the renovator must be certified (although these are different certifications). A homeowner hires a certified firm to conduct a renovation, and the firm is responsible for ensuring that a certified renovator oversees the renovation and performs certain activities. The homeowner does not hire the certified renovator directly. Were EPA to post information about individual renovators online, this could suggest to the

public that either the firm or the individual renovator must be certified but that both certifications are not required. This would cause misunderstandings among homeowners and the regulated industry, particularly in regard to self-employed renovators (nonemployer firms).

Furthermore, EPA's website provides a search function for locating certified firms and training providers because members of both of those groups submit their applications directly to EPA. However, renovators become certified by successfully completing an accredited course offered by a third-party training provider. Renovators do not submit their information directly to EPA, nor have they consented to EPA posting their name, address, and phone number (which are personally identifiable information) online. Even if EPA were to collect this information directly from the renovators and publish it online, the Agency would have to charge a fee to renovators to recover the Agency's costs of doing so. That would be an additional burden for renovators.

Submit applications online

EPA does not allow individual renovators to submit applications, payments, updates, or certificate requests through its website because renovators (unlike firms) do not become certified by submitting this information to EPA. Instead, renovators become certified by successfully completing an accredited course offered by a training provider. EPA notes that many training providers do allow renovators to apply for training and submit their payment online, either through their own website or through a third-party website.

EPA did not issue "extension" certificates in 2015 because the original certificates were issued by the training provider, not the Agency. Furthermore, EPA does not agree that the April 2015 rule created additional burdens for renovators. This rule provided renovators with flexibility by extending the period that their initial training was valid, so that they would not need to take refresher training until after EPA had promulgated the 2016 amendments allowing renovators to take refresher training without a hands-on component under certain circumstances. EPA does not believe this was too confusing. In addition, the extension did not create additional burden because any renovator who might have felt that the change was burdensome could have declined the extension and instead taken the 4-hour refresher training (with a hands-on component) prior to the normal expiration of their certification period.

In terms of whether the extension was confusing, EPA notes that this same commenter supports an amended opt-out provision (where the RRP work practices would be required in rental housing, or in owner occupied housing built in 1960 or earlier, or in post-1960 owner occupied housing where a child under the age of six resides, or in post-1960 owner occupied housing where a pregnant woman resides; but the RRP work practices would not be required in post-1960 houses that are owner occupied and no child under the age of six resides and no pregnant woman resides, and the owner opts out of using the RRP work practices, and the renovator documents this). EPA believes that the 2015 extension was much less confusing than the commenter's suggested amendment to the opt-out process.

Order replacement training certificate online

The training providers – not EPA – provide renovators with their course completion certification, and thus are responsible for providing any replacement certificates. Therefore, the renovator should first contact their training provider. If the trainer is out of business or otherwise unreachable, the renovator should contact the National Lead Information Center (NLIC).⁷⁹ If the trainer provided EPA with complete

⁷⁹ As of this writing, the NLIC is available by phone Monday through Friday, 8:00 am to 6:00 pm Eastern time (except federal holidays) at 1 (800) 424-LEAD [5323] (or by leaving a message 24-hours a day, seven days a week);

information in its post-training notification for the class, EPA can provide the renovator with a document that serves as a substitute for the training certificate.

Note that according to 40 CFR § 745.90(b)(7), certified renovators “Must have with them at the work site *copies* of their initial course completion certificate and their most recent refresher course completion certificate” (emphasis added). Renovators who are concerned about losing or damaging their certificate and being unable to get a replacement because their training provider has gone out of business or otherwise become unavailable can bring a photocopy or an electronic version⁸⁰ to the job site, and keep the original in a safe place.

Comment: Commenter #2016-0126-0011 claimed that regional disparity in recordkeeping protocols makes program compliance unnecessarily complicated. The commenter notes that EPA never has finalized a standardized recordkeeping form; renovators are not required to use the sample recordkeeping “checklist” form the Agency provided. According to the commenter, EPA has also not established standardized protocols for filling out the sample form for renovators required to certify compliance with the RRP rule’s training, work practice, and other requirements. The commenter claims that as a result, different regions maintain different protocols for filling out forms and maintaining records. For example, some renovators are allowed to “pre-fill” company information on the forms, while others cannot; some renovators are able to fill out all or portions of the forms online, while others must do so by hand. This regional disparity makes it difficult for the commenter to advise its members, who operate across many different regions and states, on the applicable protocols.

Response: Compliance requirements do not differ across regions. While some variation in interpretation may occur periodically, the Agency trains field personnel on an ongoing basis to ensure consistency. EPA does not require renovators to use a “one size fits all” recordkeeping form. Instead, EPA allows renovators flexibility in how they comply with the recordkeeping requirement. Therefore, when monitoring compliance inspectors may encounter varying methods of providing the requisite information and some subjectivity may be required to determine if rule requirements are met. EPA does not think that mandating that all renovators use a standardized form would reduce burdens for renovators.

Comment: Commenter #2016-0126-0012 stated that EPA should immediately resume efforts to approve a compliant lead test kit. The commenter finds it alarming that the Agency will not be developing or recognizing a compliant lead test kit at any time in the near future. The commenter believes that EPA has a responsibility to ensure a commercially available lead test kit that meets both the positive and negative response criterion is developed as originally envisioned and foundational to the RRP Rule. The commenter does not believe that EPA should abandon the development of a compliant lead test kit while still requiring contractors to demonstrate by other means that target housing is lead free, or at levels below that required to follow lead-safe work practices. According to the commenter, EPA evaluated several field testing alternatives during the RRP Rule’s development and settled on the use of a lead test kit. The lack of a compliant lead test kit forces the full application of the RRP Rule on too many homes that otherwise would have tested negative for LBP. The commenter believes forcing renovators and homeowners into compliance without knowing if a LBP hazard exists is unnecessary, unreasonable and unfair.

by fax at 585-232-3111; by mail at 422 South Clinton Avenue, Rochester, NY 14620; or online at <https://www.epa.gov/lead/forms/lead-hotline-national-lead-information-center>.

⁸⁰ See *Renovation, Repair, and Painting (RRP) Rule Frequent Questions*, Question 23002-32221. “Question: Can the certified renovator comply with the rules by keeping records regarding his certification and employee training electronically, provided he can display them on a hand held device or laptop on the job site? Answer: Yes. The RRP Rule does not specify the format in which these documents must be kept ...”

Commenter #2015-0780-0018 stated that lead content levels associated with renovation projects need to be accurately and reliably measured using readily accessible and affordable methods, and requiring RRP practices in cases where lead is not present is an unnecessary expense that may deter fenestration product replacement. They also support “all efforts to identify and/or develop a lead test kit that can easily be used in the field without specialized training and produces accurate results compliant with the criteria set by the EPA in 2008.”

Response: As the commenters noted, EPA has no current plans to sponsor additional development of new lead test kits. The commenter implies that EPA chose not to allow the use of alternative testing technologies when it developed the RRP rule. That is not the case, as the rule always allowed the use of paint chip sampling or XRF testing when performed by a qualified individual. (In 2011, EPA amended the rule to allow renovators to take paint chip samples, instead of relying on a third party to do so.⁸¹) At the time, EPA expected that lead test kits that met the positive response criterion would soon be available, and EPA believed that renovators would use them for most jobs. However, in 2008 EPA believed that there would be circumstances where a renovator would want to utilize paint chip sampling or XRFs because of the lower false positive rate those technologies offer – which is why EPA originally allowed their use in the 2008 rule. It is still the case that paint chip sampling and XRF units offer lower false positive rates than lead test kits, and the use of those two alternative technologies is still allowed under the rule. As described elsewhere in this document, EPA believes that those technologies are feasible alternatives to lead test kits.

In an effort to gain more information on the potential availability of additional lead test kits and lead-based paint field testing alternatives, EPA solicited stakeholder input by hosting a public meeting on June 4, 2015. Ninety-five stakeholders attended the meeting including lead test kit developers and manufacturers, non-government organizations, trade associations, National Lead Laboratory Accreditation Program accreditation organizations and laboratories, and state and federal government staff members. The Agency also opened a public comment period (80 FR 27621) and held several individual company and association meetings. Initial stakeholder input received in 2015 did not indicate any new lead test kits available or forthcoming that can meet the lead test kit performance criteria promulgated in the RRP rule. EPA then opened a second comment period (80 FR 79335) on lead test kits to revisit the lead test kit performance criteria and alternatives. EPA received one comment during this second comment period specific to the development of a new lead test kit that may meet EPA’s performance criteria. EPA is also aware of at least one other organization working towards developing new lead test kit technologies. EPA continues to monitor the progress of such technologies.

Comment: Several commenters (#2016-0126-0012 #2016-0126-0015, #2015-0780-0025 and #2015-0780-0024) stated that EPA should not amend the positive response criterion. While EPA does have the authority to amend the positive response criterion, currently set at 10 percent, the commenters are strongly opposed to raising that number. According to the commenters, raising the allowable false positive rate would subject an unreasonable number of renovations that do not contain lead-based paint to lead-safe work practices that are simply not needed, imposing significant additional costs on homeowners for work practices that provide little to no additional value. Commenter #2015-0780-024 also stated that modifying the positive response criterion would necessitate a new economic analysis. Furthermore, EPA’s consideration of raising the positive response criterion would be based solely on solving the lack

⁸¹ Lead; Clearance and Clearance Testing Requirements for the Renovation, Repair, and Painting Program. 76 Federal Register 47918, August 5, 2011.

of a compliant lead test kit. EPA should not subject even more homes to the RRP Rule's requirements simply to address a failure of the Agency.

Response: EPA has no plans at this time to amend the positive response criterion.

Comment: Commenter #2016-0126-0012 claimed that EPA should have convened a SBAR Panel for the 2010 amendment. According to the commenter, EPA acknowledged that the 2010 rule amending RRP would have a significant economic impact on a substantial number of small entities, requiring EPA to convene a Small Business Advocacy Review (SBAR) panel under federal law. While EPA stated the SBAR panel convened in 1999 for the original RRP Rule published in 2008 met the statutory obligation for the 2010 rule, the panel's activities were almost 20 years ago. EPA should have convened a separate SBAR Panel for the 2010 amendment to remove the opt-out and any expansions to the RRP Rule, such as applicability to public and commercial buildings, should be subject to the full requirements of the RFA. The commenter states that it and other stakeholders have raised this matter with EPA in the past and were rebuffed by the Agency. The commenter believes this Section 610 review provides another opportunity for EPA to take action to correct this shortcoming.

Response: EPA disagrees with the commenter. First, the purpose of the Section 610 review is to determine whether such rules should be continued without change, or should be amended or rescinded. If the commenter felt that small business impacts are relevant to the Section 610 review, it should have provided relevant data or other information as part its comments. Instead, the commenter is addressing the process used for the 2010 rule. That earlier process is not in and of itself a change to the rule contemplated under Section 610. As the D.C. Court of Appeals for the District of Columbia stated in its opinion on a petition to review the opt-out rulemaking:

The small business advocacy review panel, by contrast, is a purely procedural device, a process by which interested parties can present their views to the Agency. See Oral Arg. Recording at 41:00-:14 (acknowledgment by petitioners that the absence of a review panel is "a process point," and that they cannot cite any information they could not have presented during the normal notice-and-comment period).⁸²

Second, as EPA explained in 2010,

This rule is closely related to the RRP rule and the conclusions made in 2008 regarding the Panel's recommendations are applicable to this final rule. Although this final rule expands the number of renovation firms that must comply with the RRP requirements, it does not change the elements identified by the Panel. For example, this rule does not change the work practice or certification requirements of the RRP rule. EPA believes that reconvening the Panel would be procedurally duplicative and is unnecessary given that the issues here were within the scope of those considered by the Panel.⁸³

Finally, EPA notes that the SBAR Panel issued its report in 2000, the initial RRP rule was promulgated in 2008, and the opt-out rule was proposed the following year, and finalized the year after that. The fact that eight more years have passed since then is not a justification for convening another panel.

⁸² Nat'l Ass'n of Home Builders v. EPA, 682 F.3d 1032, 1040 (D.C. Cir. 2012).

⁸³ *Lead; Amendment to the Opt-Out and Recordkeeping Provisions in the Renovation, Repair, and Painting Program Final Rule*. 75 Federal Register 24815, May 6 2010.

Comment: Commenter #2016-0126-0012 stated that before any expansion of the rule to public and commercial buildings, EPA must clearly identify and substantiate a lead-based paint hazard.

Response: This comment addresses an action for which EPA has not published a proposed rule, and it is outside the scope of this Section 610 review.

Comment: Commenter #2016-0126-0014 urged EPA and the Department of Housing and Urban Development (HUD) to open up the Disclosure Rule for comment and request comments regarding the viability of the Rule requiring disclosure of renovation activities or that the owner opted out of the RRP rule requirements. In the 2010 final rule regarding the opt-out provision, EPA contended that such a joint rulemaking effort, while something worth considering, still would not address the issue of “reliably and effectively minimizing exposure to lead-based paint hazards created by renovation activities” (75 Fed. Reg. 24802; Page 24804; May 6, 2010). Furthermore, revising the Disclosure Rule wouldn’t “satisfy EPA’s obligation under section 402 to put into place standards that take into account reliability, effectiveness, and safety to address lead-based paint hazards created by renovation activities in target housing” (75 Fed. Reg. 24802; Page 24804; May 6, 2010). However, it is for these very reasons that the Disclosure Rule should be opened up for comment, in addition to considering reinstatement of the opt-out provision, because today’s Lead RRP Program is not reliable, effective, or improving safety concerns related to lead-based paint hazards.

Response: EPA does not agree with the commenter’s characterization that the Lead RRP Program is not reliable, effective, or improving safety concerns related to lead-based paint hazards. As discussed in the preamble to the 2008 rule and again in the 2010 revision to remove the option for consumers to opt-out of rule work practices, based on the evidence that EPA reviewed (including its 2007 Dust Study), the Agency concluded that the rule’s requirements achieve the goal of minimizing lead-based paint hazards, taking into account reliability, effectiveness, and safety. The commenter has not provided any new information, so EPA is not persuaded to revise its earlier conclusion. Nor has the commenter provided any new information that would persuade EPA to revise its 2010 conclusion that allowing home owners to opt-out of the RRP requirements if they disclosed the renovation activities would not satisfy EPA’s obligation under section 402.⁸⁴ Furthermore, as indicated in EPA’s analysis for the 2010 rule, children receiving child care in the house and other visitors are at risk from renovations that do not apply the RRP work practices. Exterior renovations can also expose residents of nearby houses. Requiring individuals selling a house to disclose to the prospective buyers that they opted out of the RRP requirements would not address these risks.

In short, EPA believes this commenter’s suggestion does not address the present issue. The disclosure rule’s intent differs fundamentally from RRP, and reliance on the disclosure rule to address renovations that may have occurred years in the past is problematic and difficult to enforce. Rather than mandating the disclosure of hazards or potential hazards, the RRP rule is intended to reliably and effectively minimize exposure to lead-based paint hazards created by renovation, repair and painting activities. This is not the appropriate venue to consider amending the disclosure rule and EPA will not undertake action to revise it as a part of this review.

Comment: Commenter #2016-0126-0014 stated that it has heard many complaints about the wasteful nature of the rule’s requirements for lead safe practices. Provisions of the rule require all drop cloths, used cleaning materials, plastic sheeting, and materials be disposed of after completion of the work conducted

⁸⁴ EPA encourages this commenter to refer also to the preamble of the Opt-Out rule appearing in 75 FR 24802 where this issue was previously addressed.

under the lead-safe work practice requirements. According to the commenter, many renovators, the majority of which are small businesses, reuse supplies for another job to extend the supply of materials, cut down costs, and also be less wasteful.

Response: The rule requires using disposable supplies because reusing such items can spread lead dust to another job site. An industry-funded study of renovation activities found that using disposable drop cloths reduced lead dust loadings by nearly twice as much as reusable drop cloths (a 79% reduction with disposable drop cloths compared to a 41% decrease with reusable ones).⁸⁵ Studies have shown that the children of construction workers have higher blood lead levels than control groups because the workers inadvertently carry lead dust from jobs on their clothing and skin, contaminating their cars and homes.⁸⁶ Given the ability of clothing and shoes to transfer lead dust from a job site to another location, reusing supplies such as drop cloths and plastic sheeting has an even greater potential for causing contamination. EPA does not have a record basis to conclude that allowing such supplies to be reused would address lead-based paint hazards, taking into account reliability, effectiveness, and safety.

Comment: Commenter #2016-0126-0014 expressed concern about the level of enforcement. The commenter has heard from its members that there are many individuals and organizations conducting work in target housing that are not complying with the lead-safe work practices and are continuing to operate without penalty while certified lead renovators have taken the time and investment to learn and become certified lead renovators. According for the commenter, in order for more firms and organizations to see the value and necessity of being certified and complying with this rule, there must be more enforcement.

Response: EPA notes that in fiscal year 2017 conducted 766 inspections pursuant to EPA's lead-based paint regulations and took 108 enforcement actions against non-compliant entities. Individuals can assist with the enforcement efforts by reporting lead-based paint complaints, tips, and violations through EPA's website at <https://www.epa.gov/lead/report-lead-based-paint-complaints-tips-and-violations>.

Commenter: Commenter #2016-0126-0015 stated that it does not see XRF testing as a viable option for the home remodeling setting. According to the commenter, most certified remodelers would have to hire a certified or licensed inspector to evaluate the lead paint that would be disturbed. This adds an additional cost as part of the RRP evaluation, and could lead to additional delays as the certified remodeler must coordinate with someone certified to perform XRF testing. The commenter cites a publication by the USDA Forest Service that discusses two types of hand-held machines that can be used for XRF testing: one uses radioisotopes and the other uses x-ray tubes. According to the commenter, an article titled "Rapid New Methods for Paint Collection and Lead Extraction" published in the Journal of Environmental Monitoring on November 4, 2008, stated that XRF analysis is "complicated, relatively expensive and will represent a significant financial investment for a small repair and renovation company." The commenter notes that this research was funded by EPA.

Response: The information mentioned in this comment does not demonstrate that XRF testing is not a viable option for home remodeling. The USDA publication cited by the commenter states that:

⁸⁵ *Lead-Safe Work Practices Survey Project Report*. Prepared for the National Association of Home Builders. Prepared by Atrium Environmental Health and Safety Services, LLC. November 2006, p. 77. EPA-HQ-OPPT-2005-0049-0163.

⁸⁶ *Elevated Blood Lead Levels in Children of Construction Workers*. Elizabeth A. Whelan, et al., American Journal of Public Health, Vol 87, No. 8, August 1997, p. 1352.

Depending on the amount of use anticipated, it may be better to rent a hand-held lead detection device than to buy one ... Because these devices are being improved so quickly, the best option may be to hire contractors to test buildings or other structures for lead-based paint.⁸⁷

EPA agrees that renting an XRF unit or hiring a third party to perform XRF testing are both feasible options, as is performing paint chip sampling. As a related publication by USDA states:

Taking paint samples is an easy, cheap way to determine if you have lead-based paint on a painted surface. All you have to do is remove a small paint chip from a surface and send the chip to a certified lab for analysis. The lab will report back to you with the amount of lead contained in the chip, usually within 24 to 48 hours. Lab costs have been falling recently ...⁸⁸

Regarding the 2008 article in the *Journal of Environmental Management*, the research was on a potential method for collecting and extracting lead from paint samples, not on the feasibility of renovation companies purchasing their own XRF units. Notwithstanding that, the statement in the article that an XRF unit would represent a significant investment for a small renovation company does not conclude that this would be an unaffordable investment for a small renovation company. Nor does it say anything about how big an investment purchasing an XRF unit would be for a medium or large size renovation company. And the article has nothing to say about the feasibility of renovation companies of any size renting an XRF unit, or hiring a third party to perform XRF testing. Therefore, EPA continues to believe that using XRF testing is feasible in some circumstances. EPA has addressed elsewhere in its responses to comments about the cost and potential for delays if a renovator hires a third party to perform XRF testing.

Comment: Several commenters claimed that the RRP program is complicated. Commenter #2016-0126-0011 claimed that the 2016 RRP rule amendments make the rule needlessly complex, and is likely to reduce the overall number of certified renovators in the program. According to the commenter, in March 2016, EPA reported that there were approximately 550,000 certified individual renovators. As of July 2016, this number had dropped to approximately 304,000 certified individual renovators. While some of the drop-off likely is attributable to other reasons (e.g., renovators now operating under a state-certified program), a significant portion likely is due to the complexity of the new refresher training/recertification requirements—especially in light of the large number of renovators whose certifications were set to expire on March 31, 2016. See EPA, *Lead-Based Paint Programs; Extension of Renovator Certifications*, 80 Fed. Reg. 20,444 (Apr. 16, 2015). Commenter #2016-0126-0014 stated that the Lead RRP Program is a very complicated set of rules with implementation issues that by no means can be addressed in a simple manner.

Response: EPA disagrees that the 2016 amendments are needlessly complex, or that they resulted in a decrease in the number of certified renovators. It was expected that a number of the renovators trained at the beginning of the program would not become recertified. In 2010, EPA estimated that there would be a long-term stock of 363,000 trained renovators (including those in authorized states), and that 52 percent of the stock of trained renovators would exit the industry during their five-year certification period due to

⁸⁷ *Using XRF Hand-Held Devices to Detect Lead Based Paint*. Facilities Tech Tips. U.S. Department of Agriculture, Forest Service, Technology & Development Program. 7300, 0873-2310-MTDC. May 2008, p.4

⁸⁸ *Lead-Based Paint: Paint Sampling, Paint Inspections, and Risk Assessments*. Engineering Tech Tips. U.S. Department of Agriculture, Forest Service, Technology & Development Program. 7100, 9771-2330-MTDC. October 1997.

retirement, career changes, etc.⁸⁹ The 550,000 trained renovators in March 2016 includes all the renovators who were trained in the nearly 7-year period starting July 2009. Therefore, this count includes both renovators trained in the early years of the RRP program (some of whom left the industry by 2016) and those trained in the later years of the program (some of whom were replacing trained renovators that had already left the industry). So the drop between March and July 2016 in the number of renovators with a current certification is not due to the 2016 amendments, which provided additional flexibility for recertification.

EPA has tried not to make the rules overly complicated, but the provisions that EPA has included to offer flexibility to the regulated industry while achieving the objectives of the statute do add some degree of complexity to the program.

Comment: Commenter #2016-0126-0016 requested that EPA revisit the lead training courses required by EPA, HUD, and OSHA and evaluate whether there is opportunity to streamline EPA's requirements. EPA stated in 2008 that it was recognizing only EPA and HUD training because the Agency had not sufficiently evaluated the content of other courses. According to the commenter, this rationale is no longer compelling nearly 10 years later. The commenter notes that when OSHA conducted its Section 610 review of the Lead in Construction Standard, it stated that it would consult with EPA and HUD to determine whether a unified training course could be developed to meet the requirements of all three agencies.

Response: EPA understands this commenter's desire to streamline training requirements, especially where synergies appear to exist between different agencies' regulations. In 2009, EPA and HUD accomplished such streamlining when they completed a joint model training curriculum designed to address the requirements of EPA's RRP regulation as well as HUD's Lead Safe Housing regulation. EPA does not believe similar synergies exist between the EPA/HUD programs and OSHA's requirements.

The training evaluation referred to by the commenter was conducted prior to the promulgation of the RRP regulation. At that time there were many versions of lead renovation training that had been developed by organizations like EPA, HUD, and several state lead programs. This evaluation simply identified which training courses, if taken prior to the promulgation of the RRP regulation, would enable a renovator to take the 4-hour refresher course instead of the 8-hour initial course. Following the promulgation of the rule the joint EPA/HUD course has served as the model training curriculum for both EPA and HUD lead programs. Training providers wishing to provide lead safe renovation training must apply to EPA for accreditation and may choose to use the model curriculum or develop their own training course. If they choose to develop their own training course, it is required to meet the standards set forth by EPA's training provider accreditation standards at 40 CFR 745.225.

The OSHA requirements differ greatly from those of EPA and HUD, both in terms of the projects covered and the renovators that are required to comply. For example, the OSHA requirements do not apply to sole proprietorships, and many of the firms subject to EPA's requirements are sole proprietorships. There are many such differences, and EPA believes the combination of EPA, HUD, and OSHA training would be unwieldy, not applicable to many RRP firms and take far longer than the time currently required for RRP training. In addition, under the OSHA lead in construction standard, employers have to provide annual training for each employee subject to lead exposure above the action level,⁹⁰ compared to every three or

⁸⁹ *Economic Analysis for the TSCA Lead Renovation, Repair, and Painting Program Opt-out and Recordkeeping Final Rule for Target Housing and Child-Occupied Facilities*. U.S. Environmental Protection Agency, April 2010, pages ES-6 and 4-70.

⁹⁰ 29 CFR 1926.62(l)(1)(iv)).

five years for RRP refresher training (depending on whether the previous refresher training included a hands-on component). While the commenter might prefer that OSHA training be offered every five years, the federal government might conclude that a unified training course should be offered on an annual basis, which could increase industry burden.

With respect to the commenter's claim pursuant to OSHA's review of the Lead in Construction Standard, while OSHA stated that it would consult with EPA and HUD to determine whether a unified training course could be developed to meet the requirements of all three organizations, OSHA also stated at the time that, "It does not appear that the content in either EPA's or HUD's training courses satisfy the OSHA training requirements."⁹¹

In sum, EPA is concerned that incorporating HUD and OSHA's requirements into EPA's model course would extend the length of the training and impose an unnecessary burden on the regulated community. However, the Agency appreciates this commenter's suggestion.

Comment: Several commenters (#2016-0126-0011, #2015-0780-0027, #2015-0780-0012, #2015-0780-0014 and #2015-0780-0016) cited the RRP rule's 2008 preamble saying that "EPA made a commitment [in the rule] that 'if the improved lead test kits are not commercially available by September 2010, EPA will initiate rulemaking to extend the effective date of this final rule for 1 year with respect to owner-occupied target housing *built after 1960*.' 73 Fed. Reg. at 21,713 (emphasis added). That time has come and gone, and EPA has failed to live up to its commitment."

Commenters #2015-0780-0014, #2015-0780-0024, and #2015-0780-0025 also urged the Agency to begin a comprehensive examination of the RRP rule in accordance with Section 610 of the Regulatory Flexibility Act. Commenter #2016-0126-0011 stated that, "the Section 610 review process presents a new opportunity for EPA to examine the real-world implications of this failure and to look toward practical fixes to reform the program going forward."

Response: The Regulatory Flexibility Act Section 610 review for the RRP rule was initiated by EPA on June 9, 2016 (81 FR 37374). The purpose of the Section 610 review for the RRP rule is to determine if the provisions of this rule that are related to small entities should be continued without change, rescinded, or amended to minimize adverse economic impacts on small entities consistent with the stated objective of the statute. This review also served as an additional opportunity to provide comment on lead test kits, field testing alternatives and broader concerns related to the RRP rule (80 FR 79335).

Complying with the Section 610 requirements does not require revising the rulemaking record for earlier rulemakings. Instead, EPA's focus is on determining whether there are factual grounds to conclude that changes to the rule are warranted and would be consistent with its statutory objectives. If evidence supported potential changes, EPA would initiate a rulemaking and, if needed, perform an economic analysis of such a proposed rule.

With respect to the commenter's statement about the rule's preamble (73 FR 21713), the commenter correctly cites text from the preamble that says EPA initially intended to delay the effective date until 2011 for post-1960 target housing if improved test kits are not commercially available. However, EPA's assumption that improved lead test kits would be available by 2011 did not represent a guarantee by the Agency that this would be the case, nor was the promulgation of the rule predicated on this assumption.

⁹¹ Regulatory Review of 29 CFR 1926.62 Lead in Construction Pursuant to Section 610 of the Regulatory Flexibility Act and Section 5 of Executive Order 12866. Occupational Safety and Health Administration, Directorate of Evaluation and Analysis, Office of Evaluations and Audit Analysis, August 2007, p. 133.

The Agency decided against initiating a rulemaking to extend the effective date of the RRP rule for one year with respect to owner-occupied target housing built after 1960 due to the unavailability of improved lead test kits for a number of reasons.

On May 6, 2010, EPA proposed revisions to the 2008 RRP rule including a provision to allow certified renovators to collect a paint chip sample and send it to a recognized laboratory for analysis (75 FR 25038). After considering the public comments on this issue, EPA finalized this provision on August 5, 2011 (76 FR 47918). In August 2010, EPA recognized an additional lead test kit that met the negative response criterion. This lead test kit had a much lower false positive rate than other lead test kits available at the time. EPA believed that the recent availability of the paint chip analysis and the newly recognized lead test kit would reduce the number of occurrences when lead-safe work practices were applied below the regulated level, if utilized, and negate the need for an extended effective date for post-1960 housing. The Agency was also greatly concerned that delaying the effective date until an improved lead test kit was available would minimize the protections provided by the 2008 final rule. For these reasons, the Agency made the decision to make the work practice requirements effective in April 2010 for all target housing and child-occupied facilities, even without an improved lead test kit, in an effort to protect against potential exposures to children in buildings built between 1960 and 1978.

Given that the year is now 2018, a retroactive change to the rule's effective date for post-1960 housing would not be beneficial to the regulated entities, nor would it retroactively reduce the cost of compliance. For these reasons, EPA does not plan to change the RRP rule effective date to April 2011 for post-1960 housing based on this Section 610 review.

Comment: Commenter #2016-0126-0013 suggested “that the EPA adopt a false positive rate according to the rate accepted by the CDC for falsely elevated results in Pediatric Blood Lead Testing by Capillary Methods.” They also stated that “[t]he False Positive Threshold of 10% at a confirmed lead level of 0.8 mg/cm², was adopted by the EPA based on ASTM Standard E1828-01 ‘Standard Practice for Evaluating the Performance Characteristics of Qualitative Chemical Spot Test Kits for Lead in Paint’. (73 FR 21713). Since then the ASTM has withdrawn this standard.”

Response: EPA acknowledges that ASTM Standard E1828-01 has been withdrawn in accordance with section 10.5.3.1 of the Regulations Governing ASTM Technical Committees, which requires that standards be updated by the end of the eighth year since the last approval date (2001). The preamble of the RRP final rule allows lead test kits to be validated by a laboratory independent of the lead test kit manufacturer using ASTM Standard E1828-01 or an equivalent validation method. If the commenter would like to propose an equivalent method for the performance characteristics of lead test kits for lead in paint, please do so by contacting the Director of the National Program Chemicals Division in EPA's Office of Pollution Prevention and Toxics.

It seems the commenter is suggesting that EPA adopt the false positive rate utilized by the CDC's Pediatric Blood Lead Testing by Capillary Methods rather than utilizing these methods to evaluate the performance of a lead test kit, since the CDC method is for blood lead testing. The supporting documentation submitted by the commenter cites false positive rates ranging from 56% to 77% in the capillary methods, which is stated to be more protective of human health. The false positive rates of the current EPA-recognized lead test kits that meet the negative response criterion range from 22% to 84%. The CDC's recommended rates are only slightly lower than the currently available false positive rates for lead test kits and much higher than the false positive rates for one of the currently EPA-recognized lead test kits. Modifying the current positive response criterion to accept the referenced rates does not meet EPA's goal to provide a fast, inexpensive and reliable option for lead-based paint testing in the field. Applying these rates would likely halt further developments to create a lead test kit that can meet both the

existing positive response and negative response criteria. Under the RRP rule, renovators have the flexibility to choose among four strategies: use either (1) a lead test kit, (2) an XRF instrument, or (3) paint chip sampling to indicate whether lead-based paint is present; or (4) assume that lead-based paint is present and follow all the work-practice requirements. EPA believes utilizing any of these options appropriately are protective of human health and are also feasible for renovators. For these reasons, EPA has no plans at this time to amend the positive response criterion as suggested.

Comment: Commenter #2016-0126-0005 wrote that even though the lead test kit is not perfect, it is not a reason to “change the law itself.”

Response: EPA acknowledges the commenter’s support of the RRP rule as it is currently written.

Comment: Commenter #2016-0126-0008 asserted that “it should be noted that the lead test kits were provided [as a provision in the RRP Rule] as a low-cost and easy alternative to traditional testing as a way to help potentially lower the cost to the regulated community. It is not a mandatory or even recommended component of the rule. With the concerns about false positives well documented by EPA and trade associations, renovators are free to choose if they feel the lead test kits are worthwhile or not. Many renovators may find that for consistency in what they ask of their crew, it is easier to just assume lead is present and always adhere to the [RRP work practice] requirements. EPA has also provided renovators with the option to submit paint samples to certified laboratories for analysis. Although some trade associations have dismissed this as disruptive to project scheduling, we believe that this option has been underutilized. Certified laboratories with multiple locations nationally offer turnaround times of as little as three hours, as do many independent local labs. With overnight package services, this means lab results are available the next business day in almost all parts of this country.” Commenter #2016-0126-0008 also stated that it believed EPA should “maintain the status quo on lead test kits until such time that the regulatory definition of lead-based paint is updated.” This is because the “the concern surrounding ‘false-positives’ from test-kits are, at best, a distraction from more pressing issues and are certainly not justification for creating additional exemptions.”

Response: EPA agrees with these comments. Certified renovators have the flexibility to use any of options summarized above: a lead test kit, an XRF instrument, or paint chip sampling to indicate whether lead-based paint is present; or assume that lead-based paint is present and follow all the work-practice requirements. EPA believes these all represent feasible options to make a lead-based paint determination, if desired. EPA has no plans to amend the positive response criterion or the recognition status of lead test kits at this time.

Comment: Comment #2016-0126-0010 stated that, “Test-kits frequently indicate the presence of lead when the level of lead in the paint is below the current regulatory definition of lead-based paint. This means that renovators utilize lead-safe work practices...when they may not have had to if a more accurate test of the paint had been conducted.” The commenter encouraged “EPA to maintain the status quo on lead test kits until such time that the regulatory definition of lead-based paint is updated.”

Response: The commenter assumes that there are no other means by which to test the paint and that the currently EPA-recognized lead test kits will always yield a positive result. EPA does not believe this is the case. Despite the fact that the currently recognized lead test kits do not meet the positive response criterion, they do meet the negative response criterion and in a significant fraction of cases the kits will provide an accurate indication when no lead-based paint is present. Renovators may also choose to test

the paint by XRF analysis or a paint chip analysis. EPA has no plans to amend the positive response criterion or the recognition status of lead test kits at this time.

Comment: Commenter #2016-0126-0017 claimed "that over the next few years, the chemical lead testing issue will become moot." The commenter stated that their experience showed "well-oriented and prepared students [of our certification classes] have found the lead-safe protocol inexpensive enough that they no longer test for lead. These contractors simply use lead-safe practices on all work for pre-1978 structures. Some do not confine this to target housing and child-occupied facilities." The commenter also claims that, "Many regions of Home Depot are currently adopting this strategy and no longer testing for lead."

Response: EPA continues to monitor the progress of chemical lead testing and industry practices.

Comment: Commenters #2016-0126-0012 and #2015-0780-0025 stated that it is important to note that EPA lacks authority to modify regulated levels of lead in paint under the RRP Program. The commenter states that "the Secretary of Housing and Urban Development (HUD) holds statutory authority to change regulated lead levels, not EPA."

Response: EPA and HUD share the authority to establish a lower level than provided by the statute. For example, EPA's authority would cover lead-based paint in child-occupied facilities.

Comment: Commenter #2015-0780-0020 stated that, "Lead Check swabs are easy to use and are convenient for field work when an XRF is not readily available. Occasionally, I get a false positive. I always back up the positive with extra testing such as a paint chip sample or request a lead investigation with the regional specialist who does have access to an XRF." The commenter concluded that the Lead Check swabs were "a great tool and [that] really makes my job simple."

Response: EPA agrees with the commenter on this issue.

Comment: Commenter #2015-0780-0008 stated that "lowering standards for the testing of lead-based paint is not health protective for children." They clarified that "[o]ur objection to lowering of standards refers both to the qualifying standards to allow the use of specific, qualitative, lead test kits and to the current standards for training and certification for XRF instrument users. Lowering standards for either will increase the percent of inaccurate results when testing lead-based paint. Inaccurate testing of lead-based paint may falsely make renovators believe that they do not need to use lead-safe work practices when they should, thus exposing more children and families to toxic lead-contaminated dust." The commenter claimed that, "While acceptance of this 5% error rate is questionable, increasing such an error rate, to allow one out of ten lead-based paint samples to be incorrectly read as not lead-based, is ill-advised. False negative readings would encourage contractors to avoid using lead-safe work practices, thereby increasing dispersal of toxic lead dust outside of the work area and exposing families to lead." The commenter asserted that they were "less concerned with the positive response criterion" on the grounds that "incorrectly identifying paint as lead-based paint may encourage a contractor to use lead-safe work practices and thus be more health protective than a false-negative result."

Furthermore, the commenter was "not in favor of lowering the current standards for training and certification for XRF instrument users, as these devices are complex and, when used inappropriately, may produce inaccurate results." The commenter asserted that "[i]f XRF instruments were misused and

yielded inaccurate results, contractors again might not use lead-safe work practices when they should. That could expose children and families to toxic lead-contaminated dust.”

Commenter #2015-0780-0021 was also against EPA proposing to provide reduced RRP certification training requirements for XRF technicians. The commenter stated that, “a new certification category would result in inappropriate testing and additional confusion within the regulated community and by the general public as to what exactly constitutes the difference between XRF testing for renovation purposes versus a "lead-based paint inspection", who should do such testing, and how the testing must be documented, etc.” The commenter also reported that there is sufficient infrastructure and capacity for XRF testing that already exists within the current North Carolina certified Inspectors and Risk Assessor population. Clearance sampling, when conducted for RRP projects in North Carolina, has also been supported by the existing inventory of certified Inspectors and Risk Assessors.

Commenter #2015-0780-0024 supported reduced training requirements for XRF technicians, while commenter #2015-0780-0025 stated that this proposal could not be fully considered because EPA did not clearly illustrate how the training requirements would be changed. Commenter #2015-0780-0025 also stated that integrating the function of XRF technicians within the certified renovator/contractor role is outside of the tradition scope of their professions. However, both commenters felt that XRF testing, with or without reduced training, is not a viable alternative to lead test kits citing the costs and time associated with XRF testing.

Response: EPA has no plans to amend the negative response or positive response criteria at this time.

EPA solicited comment on potential lead test kit and field testing options, including specific comment on proposing to provide reduced RRP certification training requirements for XRF technicians (80 FR 79335). This recommendation was supported by environmental consultants present at EPA’s public meeting on lead test kits held on June 4, 2015, and EPA sought further comment on this recommendation in its second lead test kit public comment period beginning on December 21, 2015.

Some environmental consultants support the use of XRF testing with reduced certification requirements to reduce barriers for XRF technicians entering the market and to allow for a quantitative method that would remove the uncertainty of a true positive or false positive result for lead-based paint field testing. Current lead regulations both for abatement activities and RRP only allow lead risk assessors and inspectors to perform XRF testing. The environmental consultants affirmed that this type of testing should be allowed to be performed by renovators and contractors, as well.

One commenter above supported the suggestion for reduced XRF training under the EPA regulations, while the remaining commenters who provided input on this issue did not. These commenters suggested that less training could result in increased operator error for XRF instruments and confusion in the regulated community. Commenter #2015-0780-0021 further stated that the existing number of XRF technicians available in North Carolina is sufficient to address the population’s needs to comply with EPA’s regulations.

Although the technology behind XRF testing has greatly improved since the implementation of the 2008 RRP rule, EPA has reservations about modifying the EPA training requirements for XRF instruments. Changing the training requirements may cause confusion among the regulated community because the full certification training will still be required for risk assessors and inspectors to understand and apply statistical methods to inspect multifamily housing. EPA also believes that reducing the RRP certification requirements is unlikely to result in reduced cost for XRF testing or more XRF technicians entering the market because the costs of the XRF instrument, maintenance, and the manufacturer’s training

requirements would remain the same. After carefully considering these reasons and the comments above, EPA has decided not to pursue changes to the current EPA XRF training requirements at this time.

Comment: One commenter has submitted two comments (#2015-0780-0024 and #2015-0780-0014) urging EPA to resume the Agency's Environmental Technology Verification (ETV) Program.

A lead test kit developer (Commenter #2015-0780-0019) stated that there is substantial cost to the manufacturer to complete the EPA specified third party testing. With all of the variations in regulations combined with the lack of available data on education, compliance and enforcement it is difficult to justify this substantial expense for third party testing to meet the False Positive Criteria. The commenter requested that EPA specifically review:

- a. Test procedure specifications for recognition under the false positive criteria
- b. The availability of test standards for use in third party testing for recognition under the false positive criteria
- c. The criteria used to evaluate the false positive response and
- d. The financial cost to the lead test kit manufacturers to demonstrate a false positive rate.

With regard to the commenter's product for lead testing, they also requested that EPA "review the criteria for false positive recognition." The commenter claims that "slight modification of these criteria could be done and would in our opinion still allow the EPA to satisfy its mandate that an alternative can be as protective of human health and the environment as the original requirement."

Furthermore, the commenter stated that EPA, HUD, OSHA and the states should collaborate on standardizing their different approaches for paint testing. The commenter also requested that EPA require all allowable Paint Testing Methods be presented during contractor [RRP] training. Lastly, they requested that the Agency "increase its efforts in education, compliance and enforcement."

Response: EPA put forth significant effort and resources to foster the development of a lead test kit that would meet both the negative response and positive response criteria outlined in the RRP rule. For more than two years EPA supported lead test kit research and development efforts by several private companies by funding not only the manufacture of reference materials, but also the technical evaluation of lead test kits through EPA's ETV program. Despite EPA's commitment of resources to this effort, to date no company's lead test kit meets both of the performance criteria outlined in the RRP rule.

At this time, EPA has no plans or resources to sponsor additional testing of kits as was done previously through the Agency's ETV Program. However, any commercial entity that wishes to receive EPA recognition may have an ETV Program, or equivalent, evaluation performed and submit their kit and evaluation results to EPA for potential recognition. To date, one company has done this, which resulted in EPA recognition in 2012; hence, in the interest of fairness, EPA would consider proceeding this way in the future.

With respect to modifying the positive response criterion, the commenter has provided no data supporting their claims of the recommended modification. Therefore, EPA cannot commit to taking any action as part of this Section 610 review in response to this comment. EPA has no plans to amend the positive response criterion at this time.

Assuring compliance with our regulations is one of EPA's primary commitments. As previously stated in this document, EPA notes that in fiscal year 2017 the Agency conducted 766 inspections pursuant to EPA's lead-based paint regulations and took 108 enforcement actions against non-compliant entities.

Individuals can assist with the enforcement efforts by reporting lead-based paint complaints, tips, and violations through EPA's website at <https://www.epa.gov/lead/report-lead-based-paint-complaints-tips-and-violations>.

With respect to the commenter's statement that EPA, HUD, OSHA and States should collaborate on standardizing their approaches to paint testing, the Agency points out that these agencies regulate lead exposure in different ways and that therefore common paint approaches may not be appropriate to each Agency's mission. While EPA and HUD collaboratively developed a definition for lead-based paint (for which they have developed testing protocols), OSHA's requirements are focused primarily on exposure monitoring and interim protection. For example, in a letter of interpretation to a member of the public, OSHA stated that:

Other regulatory agencies, such as Housing and Urban Development, the Environmental Protection Agency, and the Consumer Products Safety Commission (CPSC) have designated levels of lead in paint, below which they consider the paint to be non-lead containing. The missions of these agencies differ from OSHA's, and for that reason, OSHA cannot recognize these levels as safe under workplace situations.⁹²

The goal of OSHA training is different from EPA's training, and the exposure receptors of concern to OSHA in many ways differ from those of EPA; therefore, while EPA intends to continue collaboration with other agencies, appropriate differences in approach may sometimes continue to occur.

With respect to states, as part of the authorization process, EPA ensures the programs are as protective as the Federal program and adequately enforced. However, as allowable under the statute, states may impose more stringent requirements, such as those for testing. In states where RRP is managed directly by EPA, the Agency's standards for testing already apply. Therefore, while it might seem logical for EPA to work with HUD, OSHA, and States to develop a shared testing protocol, the Agency believes its mission and the purpose of RRP differ significantly from these agencies' missions. EPA does not currently intend to develop a shared testing protocol.

Regarding the request that all allowable paint testing methods be presented during RRP training. With the exception of the Massachusetts test kit, EPA's model renovator training does include either an instructor led or video demonstration of each chemical kit type (rhodizonate and sulfide). The Massachusetts test kit is generally not included because these test kits aren't available outside the state of Massachusetts. In the hands-on portion of the model training, due to time constraints, the instructor chooses one of the kits for the student hands-on activity.

Comment: Commenter #2015-0780-0013 suggested that EPA urgently recognize a new lead test kit or utilize XRF testing for lead-based paint determination. They asserted that taxpayer funding could much better be invested in technologies that already exist than on a qualitative lead test kit because using an XRF instrument to test for lead-based paint is more reliable and safer for those living in homes with lead based paint. The commenter stated, "the time, money and education required to operate this instrument may draw many contractors away from using it personally. But, if they believe the costs would be worth it for their company, with proper training and certification, they should be able to test for the presence of lead."

⁹² OSHA letter to Hsin H. Chou
https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=INTERPRETATIONS&p_id=22701

The commenter also suggested another option “to have the owner provide the contractor with a lead-based paint inspection prior to performing work. It will be more expensive, but it will be safer than using unreliable tests that pose safety risks to people living and working in the home. It will also save the added expense of materials required for RRP, such as containment plastic and a HEPA vacuum.”

The commenter further stated that contractors perform “cost benefit analysis” every day to determine if they should use lead-safe work practices. “Do they presume the job to be regulated and follow the more than five (5) year practice of implementing lead-safe work practices or do they invest upfront money to determine if they can reduce the overall cost of the job? To date no hard evidence has been presented that this cost benefit analysis has stopped or reduced nationwide renovation activity. The use of XRF testing has and will add cost to the job. Half day testing may run as low \$ 300 or upwards of \$675, as reported by different firms. Multifamily testing may run as low as \$6,000.00 to \$16,000.00 per community. Again, if the size of the job warrants testing – testing is done. If the cost of testing exceeds the potential savings – than the contractor utilizes standard lead-safe work practices.”

Response: In an effort to continue to encourage the development of a lead test kit that can meet the performance criteria as stated in the RRP rule, EPA will continue to recognize the use of lead test kits as a viable way to make a lead-based paint determination under RRP. EPA will also continue to allow the use of XRF instruments to test the lead content in paint. Under the RRP rule, renovators will continue to have the flexibility to choose among the four strategies to use either (1) a lead test kit, (2) a XRF instrument, (3) paint chip sampling to indicate whether lead-based paint is present; or (4) assume that lead-based paint is present and follow all the work-practices. EPA believes that both paint-chip analysis and XRF testing are feasible alternatives to lead test kits.

Regarding the suggestion that the owner provide the contractor with a lead-based paint inspection prior to performing work, building owners and renovators already have the flexibility to do this and no action is needed by EPA.

Comment: Commenter #2015-0780-0009 reported that their members use the lead test kits approved by EPA and will continue to do so until other lead test kits are approved that comply with the law and EPA regulations; some also use XRF testing; and others proceed using the protocols for mitigating lead paint hazards. The commenter recommended that EPA change the requirements for lead test kits, “because it makes no sense to set a requirement that continues to be technologically unfeasible five years after the start of EPA’s Lead RRP program.” They also suggest that the Agency should “at the same time continue to work toward a commercially viable lead test kit that gives both adequate false negatives and false positives. Should such a test become available in the future, EPA could then revisit this issue.”

Response: EPA appreciates the commenter’s compliance with the RRP rule. However, the commenter has provided no data supporting its recommendation to change the lead test kit requirements. As previously discussed in this document, EPA believes that removing the option to use lead test kits under RRP would essentially halt further developments to create a lead test kit that can meet the existing positive response and negative response criteria. EPA is aware of two organizations currently working on new lead test kit technologies. Whether or when those kits are eventually recognized depends on the success of the entities that are developing them. EPA will continue to monitor the progress of such technologies. Based on the currently available information, EPA has decided not to amend the positive response criterion at this time and to continue to allow lead test kits to be used under the RRP program.

Comment: One commenter (Commenter #2015-0780-0025 and #2015-0780-0012) stated that “certification of test kits that require lead-safe work practices be applied in situations where lead-based

paint is present at lower than regulated levels would blur the line between the concepts of renovation, covered under RRP, and abatement, covered under separate EPA regulations.” This commenter also pointed out that the Agency stated in RRP’s preamble that “EPA is not interested in teaching persons how to be painters, plumbers, or carpenters. Rather, EPA’s objective is to ensure that persons who already know how to perform renovations perform their typical work in a lead-safe manner.” According to the commenters, because of this, “requiring RRP compliance when lead-based paint is present at lower than federally regulated levels would go beyond the scope of the current Congressional directive, would alter the foundation of the program, and exceed the statutory authority provided to the Agency under 402(c)(3) of the Toxic Substances Control Act (TSCA).”

Response: EPA disagrees that the RRP program exceeds the statutory authority or goes beyond the scope of the Congressional directive. EPA also disagrees that the line between renovation and abatement is blurred because a lead test kit that meets the positive response criterion is not currently on the market. As EPA stated in 2008:

Abatements have only one purpose--to permanently eliminate lead-based paint and lead-based paint hazards. On the other hand, renovations are performed for a myriad of reasons, most having nothing to do with lead-based paint. Renovations involve activities designed to update, maintain, or modify all or part of a building. Renovations may be performed while the property is occupied or unoccupied. If the renovation is performed while the property is occupied, the occupants do not typically relocate pending the completion of the project. Further, performing abatement is a highly specialized skill that workers and supervisors must learn in training courses accredited by EPA or authorized States, Territories, and Tribes. In contrast, EPA is not interested in teaching persons how to be painters, plumbers, or carpenters. Rather, EPA’s objective is to ensure that persons who already know how to perform renovations perform their typical work in a lead-safe manner.⁹³

Because the lead test kits currently recognized do not meet the positive response criterion, renovators may use lead-safe work practices (such as cleaning with a HEPA vacuum) in situations where lead is present at lower than regulated levels. But the renovations are still being conducted to update, maintain, or modify the building, instead of being intended to permanently eliminate the paint and reduce the lead levels in dust and soil (as is the case with abatement). Therefore, there is not a blurring of the lines between renovation and abatement. EPA also notes that the RRP and abatement programs both use the same definition of lead-based paint, so any implication that abatement activities are based on lead levels in paint below the regulated levels in the RRP program is inaccurate.

EPA does not agree that ensuring that persons perform their typical work in a lead-safe manner exceeds the statutory authority, goes beyond the scope of the Congressional directive, or alters the foundation of the program, even if lead is present in paint at lower than federally regulated levels. The commenter is addressing the issue of whether the lead test kits on the market meet the positive response criterion described at 40 CFR 745.88(c)(2).⁹⁴ It is not possible for a fast, inexpensive, easy to use method such as the lead test kits to be accurate 100% of the time. Even if a lead test kit is marketed that meets the positive response criterion, the lead test kit may still yield a false positive result up to 10% of the time. The statutory authority is not based on the performance criteria for the lead test kits. Congress did not specify a value for the positive response criterion, so EPA sees no validity in the commenter’s assertions that the current lead test kits raise a question about the authority for the program. Finally, EPA notes that renovators that are concerned about the false positive rate for lead test kits can use XRF testing or paint chip sampling, both of which have low false positive rates for detecting the presence of lead-based paint.

⁹³ 73 Federal Register 21701, April 22, 2008.

⁹⁴ Positive response criterion. For paint containing lead below the regulated level, 1.0 mg/cm² or 0.5% by weight, a demonstrated probability (with 95% confidence) of a positive response less than or equal to 10% of the time.

Comment: Commenter #2015-0780-0012 claimed that as “it is currently being implemented the [RRP] program is an inefficient tool for achieving the environmental and health goals of the underlying statute and regulation.” They also claim that the “use of time, resources, and capitol [sic] on RRP renovation jobs that could otherwise have been deemed outside the rule’s scope of coverage undermines the programs [sic] ability to target resources where they are most needed. The increased costs of these renovation jobs can also contribute to homeowners increasing their risk by putting off needed renovations, taking them on themselves or turning to uncertified contractors acting in violation of the rule.”

Response: EPA believes that the RRP program uses an appropriate approach given the underlying goal of the statute, which is to minimize exposures to lead-based paint hazards created during renovation, remodeling and painting activities, taking into account reliability, effectiveness, and safety. EPA does not agree with the commenter’s implicit suggestion that these goals would be better achieved by scaling back the RRP program. EPA also disagrees that the increased cost of the renovation jobs results in increased homeowner risk. As previously explained, compliance costs are relatively modest compared to the cost of a renovation. The factual evidence does not support the commenter’s hypothetical scenarios. As explained in a previous response in this document, the share of renovation projects conducted by do-it-yourselfers has not increased since the RRP rule took effect. Therefore, the data do not support the commenter’s claim that homeowners will take on the work themselves. And as shown elsewhere in this document, the number of renovations has increased since the rule took effect, which does not support the claim that homeowners have put off needed renovations. Finally, since 100% of contractors were uncertified before the RRP rule was promulgated, the rule has not caused an increase in the number of uncertified contractors. Given the magnitude by which the benefits of the program exceed the costs, EPA does not believe that the RRP program is an inefficient tool.

Comment: Commenter #2015-0780-0022 reported that they expect that a lead test kit meeting both the positive response and negative response criteria will likely be available as soon as early as 2017. The estimated time is based on progress to date of work under the second grant with HUD’s Office of Lead Hazard Control and Healthy Homes. The commenter recommended keeping the negative response criterion as is and modifying the positive response criterion as follows:

1. For paint containing lead at or above the regulated level, 1.0 mg/cm² or 0.5% by weight, a demonstrated probability (with 95% confidence) of a negative response less than or equal to 5% of the time; and,
2. A demonstrated probability (with 95% confidence) of a false positive response of no more than 10% to lead in paint at levels at or below 0.6 mg/cm².

The commenter stated that this modification would “still provide adequate protection for contractors and consumers against false positive test results in actual housing.” They also claim that the “current positive response criterion is more stringent than that required of XRF instruments currently holding Performance Characteristic Sheets (PCSs) approved by HUD and EPA for lead testing in housing subject to the Lead-Safe Housing Rule (24 CFR Part 35).” The commenter submitted supporting statistical analysis available on the Lead; Renovation, Repair, and Painting Program; Lead Test Kits docket under docket ID numbers EPA-HQ-OPPT-2015-0780-0022 and EPA-HQ-OPPT-2015-0780-0015.

The commenter submitted a public comment that statistically analyzed the probability of achieving a correct positive result for one of the EPA-recognized lead test kits based on EPA positive response criterion assuming a lower bound lead content of 0.8 mg/cm² and upper bound lead content of 1.2 mg/cm² (+ 20% the regulated level of 1 mg/cm²) yielding a 22% false positive rate consistent with the ETV Program results. The commenter concluded that by combining data from the HUD American Healthy Homes Survey (AHHS) on the actual extent of lead-based paint in housing with EPA’s ETV analysis that

EPA could relax the lower bound lead content of 0.8 mg/cm² to 0.5 mg/cm² and meet the current 10% positive response criterion for the D-Lead lead test kit; the commenter found the upper bound of 1.2 mg/cm² to be acceptable as is. The AHHS data was used to demonstrate that the actual number of homes with a lead content between 0.5 mg/cm² and 0.8 mg/cm² is extremely low, and it was reported that adopting this modified lower bound lead content of 0.5 mg/cm² would require only a small percentage of homes (<10%) to use lead-safe work practices unnecessarily.

Response: In the preamble of the 2008 RRP rule, to be consistent with the performance criteria used for EPA's National Lead Laboratory Accreditation Program, EPA stated that the lead test kit testing protocol would not include the testing performance of lead test kits on paint that contains between 0.8 mg/cm² and 1.2 mg/cm²; meaning that test results between 0.8 mg/cm² and 1.2 mg/cm² are equivalent to 1 mg/cm² and require lead-safe work practices. The commenter suggested that results between 0.5 mg/cm² and 1.2 mg/cm² require lead-safe work practices. Incorporating this approach, as written, would increase the number of true or correct positive results because the bounds for a positive result have been expanded, and consequently lower the false positive results within this range of 0.5 mg/cm² and 0.8 mg/cm². However, the number of renovations required to employ lead-safe work practices would remain the same; this approach would simply re-designate the result from false positive to "true" positive.

An EPA analysis⁹⁵ found that none of the lead test kits analyzed could meet the positive response criterion at the recommended threshold of 0.5 mg/cm² when including variables such as topcoat, substrate and operator type assessed during the EPA's ETV analyses. In order to meet the 10% positive response criterion, EPA would need to lower the acceptable threshold to 0.3 mg/cm² instead of 0.5 mg/cm² for one of the EPA-recognized lead test kits. The difference between the commenters recommended 0.5 mg/cm² lower bound lead content and EPA's 0.3 mg/cm² lower bound lead content lies within the application of the ETV data. It is unclear to what degree the commenter utilized the ETV data in the submitted public comment. EPA found that the submitted analysis did not explicitly use the regression models referenced in the ETV report to formulate its recommendations, but rather a combination of properties from the ETV distribution and the AHHS data.

Only one of the EPA-recognized lead test kits could meet both the negative response and positive response criteria using all of the ETV variables and the commenter's methodology. Changing the lower bound lead content level to 0.3 mg/cm² may allow EPA to recognize one lead test kit as a kit that meets both the negative response and positive response criteria. However, this threshold would not reduce the economic impact of the rule upon small entities because it would increase the burden to the regulated community by requiring lead test kit results between 0.3 mg/cm² and 1.2 mg/cm² to initiate lead-safe work practices. Based on the available data submitted, EPA does not plan to modify the positive response criterion as recommended by the commenter at this time.

Comment: Commenter #2016-0126-0014 states with respect to the Agency's decision to remove the option for some homeowners to opt-out of hiring contractors who would comply with rule work practices that the problems it identified "can be addressed by amending the disclosure rule."

Response: This comment references a rulemaking other than RRP; therefore, the Agency considers it beyond the scope of this review.

⁹⁵ *Lead Thresholds Associated with 10% False Positive Rates and 5% False Negative Rates, for 5 Lead Test Kits (Updated)*. Prepared by Battelle for U.S. Environmental Protection Agency, OPPT, National Program Chemicals Division, Program Assessment and Outreach Branch. September 14, 2015. EPA-HQ-OPPT-2015-0780-0028.