

ADM37-13

IEBC: 106.2.6 (New), Chapter 16

Proposed Change as Submitted

THIS CHANGE WILL BE HEARD BY THE EXISTING BUILDING CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THIS COMMITTEE.

Proponent: Rebecca Morley, representing National Center for Healthy Housing

Add new text to the International Existing Building Code as follows:

IEBC 106.2.6 Certifications and plans where painted surfaces are disturbed. Where a Group E, I-4, R-2, R-3 or R-4 occupancy was completed prior to 1978 and repair, alteration or addition being performed will result in the disturbance of painted surfaces, the contractor shall provide to the code official one of the following:

1. Copies of EPA or state renovation firm certification, renovator certification and a plan for compliance for renovations in accordance with 40 CFR 745 requirements for renovations.
2. Documentation from an approved test in accordance with 40 CFR 745.82(a)(1) or (2) that shows that the disturbed paint contains lead that is below specified levels.

Add the following standard to IEBC Chapter 16:

EPA **U.S. Environmental Protection Agency**

40 CFR 745 **Lead-Based Paint Poisoning Prevention in Certain Residential Structures – July 1, 2012**

Reason: Section 106 covers construction documents, and the specific provisions include fire protection drawings, means of egress, exterior wall envelope and site plans. This code change proposal, 106.2.6, adds a simple requirement that permit applicants include, with the other construction documents, evidence of compliance with health-protective requirements to protect children from lead poisoning during additions, alterations, and repairs to pre-1978 homes.

The purpose of this proposed code language is to incorporate protection from lead-based paint into the Code through the requirement for construction documents. Once the Code requires permit applicants to demonstrate up front their knowledge of, and plans to follow, the federal and state renovation rule requirements, the code official will be positioned to provide important oversight and leadership in preventing lead poisoning without even leaving the office. This oversight will help level the playing field between contractors who are complying with the rule and noncompliant entities who are under-pricing and undercutting their competitors. By merely asking an applicant for the missing documents, the code official can influence entities not following the law into compliance before the work even starts. In a few cases, these entities may be unaware of the regulations. Although these regulations have been in effect since April 2010, and have been adopted by 12 states, reported non-compliance is affecting the compliant contractor and continuing the problem of lead poisoning in the US.

The proposed “plan that indicates compliance with the federal disclosure and work practice requirements” can take different forms depending on what documents the builder is already using. Some builders who work on pre-1978 homes are already using a form to track their upfront assessments and another form for recordkeeping. Anyone working in pre-1978 homes should have an EPA or state certification for their firm, along with at least one individual renovator certification that the renovator received at the end of the required one-day training course. dispersal of lead before, during, and after work performed on a pre-1978 home. These requirements are already in effect in federal and state regulation.

The plan and certifications would only be needed for a structure likely to contain lead-based paint: a pre-1978 home. As noted under the exception, the requirement is waived if paint testing proves that the paint is not lead-based paint. A rebuttable presumption of lead’s presence allows the builder to demonstrate that lead is not present and obtain exemption from the requirements. EPA-approved tests include lead-based paint inspection or risk assessment, test kit used by a certified renovator, and collection of a lead-based paint chips for laboratory analysis.

Renovation of painted surfaces is a significant source of lead dust that poisons children. The dangers associated with lead poisoning are well-known: serious health effects, detrimental effects on cognitive and behavioral development, with serious personal and social consequences that may persist throughout their lifetime.

Multiple studies have demonstrated that lead dust is the major source of lead poisoning for young children. There is no safe level of lead exposure for children; lead affects intelligence even at very low levels.^{1,2,5,8,9} Indeed, the rate of IQ loss per 1 microgram of lead per deciliter of blood (µg/dL) is greatest at lead levels below 10 µg/dL. As a child’s BLL increases from 1 to 10 µg/dL, experts estimate a child may lose anywhere from 3.9 to 7.4 IQ points, but from 10 to 30 µg/dL the decrement is 2.5 to 3.0 IQ points. Low-level chronic exposure may have an even greater effect on IQ than a single instance of very high BLL.¹⁰

Research indicates that a five-point negative shift in IQ at the population level would increase the number of children with an “extremely low” IQ by 57%, substantially increasing the cost of special education programs.³ Considering the costs to the special education system alone, one study conservatively estimated that it costs \$38,000 over three years to educate a child with lead poisoning.¹¹ Low-level exposure to lead has also been linked to factors other than IQ that can further impact educational outcomes. EBLs are associated with Attention Deficit Hyperactivity Disorder (ADHD) and antisocial behavior, which in turn increase the likelihood of conduct disorder, criminal activity, and drug abuse.^{1,4} Each 1 µg/dL reduction in the average preschool blood lead level saves \$13.4 billion from the direct and indirect costs of crime.¹

Several recent studies have explored the specific effects of lead on educational outcomes. These studies show a strong relationship between slightly elevated blood lead levels in young children and decreased scores on end-of-grade tests in elementary school. While similar educational effects were documented for higher blood levels decades ago,¹² the recent studies confirm that the connection between blood lead and poor educational outcomes remains true for blood levels as low as 3-4 µg/dL. A more recent study of 57,000 North Carolina children found that children with a BLL as low as 4 µg/dL at three years of age were significantly more likely to be classified as learning-disabled than children with a BLL of 1 µg/dL.⁶

The consequences of lead exposure are clear. This code change proposal seeks to reduce the risk – and level the playing field among contractors working on pre-1978 properties.

The EPA 40 CFR 745 standard is available at <http://www.gpo.gov/fdsys/pkg/CFR-2012-title40-vol32/xml/CFR-2012-title40-vol32-part745.xml>.

References

1. Gould E. Childhood lead poisoning: conservative estimates of the social and economic benefits of lead hazard control. *Environ. Health Perspect.* 2009;117(7):1162–1167.
2. Jusko TA, Henderson CR, Lanphear BP, Cory-Slechta DA, Parsons PJ, Canfield RL. Blood lead concentrations. *Environ. Health Perspect.* 2008;116(2):243–248.
3. Mazumdar M, Bellinger DC, Gregas M, Abanilla K, Bacic J, Needleman HL. Low-level environmental lead exposure in childhood and adult intellectual function: a follow-up study. *Environ Health.* 2011;10:24.
4. Chandramouli K, Steer CD, Ellis M, Emond AM. Effects of early childhood lead exposure on academic performance and behaviour of school age children. *Arch. Dis. Child.* 2009;94(11):844–848.
5. Miranda ML, Kim D, Galeano MA, Paul CJ, Hull AP, Morgan SP. The relationship between early childhood blood lead levels and performance on end-of-grade tests. *Environ. Health Perspect.* 2007;115(8):1242–1247.
6. Miranda ML, Maxson P, Kim D. Early childhood lead exposure and exceptionality designations for students. *Int J Child Health Hum Dev.* 2010;3(1):77–84.
7. Advisory Committee on Childhood Lead Poisoning Prevention. *Low Level Lead Exposure Harms Children: A Renewed Call for Primary Prevention.* 2012:1–68. Available at: http://www.cdc.gov/nceh/lead/ACCLPP/Final_Document_030712.pdf. Accessed March 6, 2012.
8. Lanphear BP, Hornung R, Khoury J, et al. Low-level environmental lead exposure and children’s intellectual function: an international pooled analysis. *Environ. Health Perspect.* 2005;113(7):894–899.
9. Canfield RL, Henderson CR, Cory-Slechta DA, Cox C, Jusko TA, Lanphear BP. Intellectual impairment in children with blood lead concentrations below 10 microg per deciliter. *N. Engl. J. Med.* 2003;348(16):1517–1526.16.
10. Lanphear BP, Dietrich K, Auinger P, Cox C. Cognitive deficits associated with blood lead concentrations. *Public Health Rep.* 2000;115(6):521–529.17.
11. Korfmacher KS. Long-term costs of lead poisoning: How much can New York save by stopping lead? Rochester, NY: University of Rochester; 2003.
12. Needleman HL, Leviton A, Bellinger D. Lead-associated intellectual deficit. *N Engl J Med.* 1982; 306(6):367.

Cost Impact: This code change proposal will not increase the cost of construction.

Staff analysis: A review of the standard proposed for inclusion in the code, NFPA 914 with regard to the ICC criteria for referenced standards (Section 3.6 of CP#28) will be posted on the ICC website on or before April 1, 2013.

106.2.6 (NEW)-ADM (IEBC)-MORLEY

Committee Action Hearing Results

Committee Action:
HEARD BY THE IEBC COMMITTEE

Disapproved

Committee Reason: The proposal was disapproved for several reasons. First, the committee felt that technical requirements should not be located in Chapter 1. Secondly, there was discomfort with having to enforce federal regulations as a local building official. This would expand the building official’s role inappropriately. Finally, there was concern with what would be expected in terms of accepting and approving a plan as required by this proposal. There was also concern with the accuracy of the lead tests available.

For staff analysis of the content of EPA 40 CFR 745-July 1, 2012 relative to CP#28, Section 3.6, please visit: <http://www.iccsafe.org/cs/codes/Documents/2012-2014Cycle/Proposed-B/ProposedStandards.pdf>.

Assembly Action:

None

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Mark Henshall, representing US Environmental Protection Agency, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

IEBC 106.2.6 Certifications and plans where painted surfaces are disturbed. Where a Group E, I-4, R-2, R-3 or R-4 occupancies was completed prior to 1978 and repair, alteration or additions being performed will result in the disturbance of painted surfaces, the contractor shall provide to the code official ~~one of the following:~~

- ~~1. a copy of a current Renovation Repair and Painting firm certification issued by either EPA per 40 CFR 745.89 or by a state program authorized by EPA per 40 CFR 745 Subpart Q. Copies of EPA or state renovation firm certification, renovator certification and a plan for compliance for renovations in accordance with 40 CFR 745 requirements for renovations.~~
- ~~2. Documentation from an approved test in accordance with 40 CFR 745.82(a)(1) or (2) that shows that the disturbed paint contains lead that is below specified levels.~~

Add the following standard to IEBC Chapter 16:

EPA U.S. Environmental Protection Agency

40 CFR 745 Lead-Based Paint Poisoning Prevention in Certain Residential Structures – July 1, 2012

Commenter's Reason: Section 106 covers construction documents, and the specific provisions include fire protection drawings, means of egress, exterior wall envelope and site plans. This code change proposal adds a requirement that permit applicants include, with the other construction documents, evidence of compliance with the firm certification requirements of EPA's or an authorized states Renovation, Repair and Painting Regulation program. The local building code official would have no other responsibility than to request a copy of a current Renovation Repair and Painting firm certification.

EPA's 2008 Lead-Based Paint Renovation, Repair and Painting (RRP) Rule aims to protect the public from lead-based paint hazards associated with renovation, repair and painting activities. These activities can create hazardous lead dust when surfaces with lead paint, are disturbed. The rule requires workers to be certified and trained in the use of lead-safe work practices, and requires renovation, repair and painting firms to be EPA-certified. This training and adherence to lead-safe work practices will help ensure residents are not exposed to hazardous levels of lead contaminated dust.

The original proposal required "a plan for compliance for renovations in accordance with 40 CFR 745 requirements for renovations." Questions were raised as to what constituted a plan and what would be expected in terms of the code official approving such a plan. In addition, the original proposal could be interpreted to mean that local building officials were being asked to enforce a federal regulation. This modification to the original proposal has addressed these concerns. Because this proposal is not a technical requirement, it is appropriate to include in Chapter 1.

ADM37-13

Final Action: AS AM AMPC____ D

PM6-13

304.2.1 (New), 305.3.1 (New), Chapter 8

Proposed Change as Submitted

Proponent: Rebecca Morley, representing National Center for Healthy Housing

Add new text as follows:

304.2.1 Disturbance of existing painted surfaces. In any Group E, I-4, R-2, R-3, R-4 occupancies completed prior to 1978, where repairs disturb painted surfaces, the work shall comply with the information distribution, certification and work practice requirements of 40 CFR 745 for renovations.

Exception: Where documentation is provided from an approved test in accordance with 40 CFR 745.82(a)(1) or (2) that proves that the disturbed paint contains lead levels below specified levels, the work is not required to comply with this section.

305.3.1 Disturbance of existing painted surfaces. In any Group E, I-4, R-2, R-3, R-4 occupancies completed prior to 1978, where repairs disturb painted surfaces, the work shall comply with the information distribution, certification and work practice requirements of 40 CFR 745 for renovations.

Exception: Where documentation is provided from an approved test in accordance with 40 CFR 745.82(a)(1) or (2) that proves that the disturbed paint contains lead levels below specified levels, the work is not required to comply with this section.

Add new standard to Chapter 8 as follows:

EPA U.S. Environmental Protection Agency

40 CFR 745– July 1, 2012 Lead-Based Paint Poisoning Prevention in Certain Residential Structures

Reason: The purpose of this proposed code language for the surfaces of the structure is to incorporate measures that reflect current knowledge about working with paint that may contain lead-based paint and thereby prevent lead poisoning. The code already requires repair of paint in poor condition. This new subsection would further require compliance with federal regulations to promote the safe repair of deteriorated paint that is likely to contain lead. These regulations have been in effect since April 2010. This change would only affect structures likely to contain lead-based paint.

Multiple studies have demonstrated that lead dust, which is caused by deteriorated lead-based paint and some methods of paint repair, is the major source of lead exposure for young children. The dangers associated with exposure to lead based paint hazards are well-known: lead is associated with a range of serious health effects on children, including detrimental effects on cognitive and behavioral development with serious personal and social consequences that may persist throughout their lifetime. More than 36 million pre-1978 US housing units contain lead-based paint.

Sections 304.2 and 305.3 fail to specifically require, on older structures that are likely to contain lead-based paint, the use of precautionary practices in order to prevent the dispersal of lead before, during, and after the repair work, in the course of complying with the code requirement to repair peeling, flaking and chipping paint. The proposal improves the current Code by adding to each section a health-protective requirement to perform the repair safely around lead-based paint, a subject currently acknowledged in the Commentary but not in the Code. The addition of the proposed new language will protect children from lead poisoning by specifying the use of federally – or state - approved lead safe work practices in making the required repairs. The lead-safe work practices are required by EPA effective April 22, 2010, for most renovation, repair and painting work in all pre-1978 homes. The federal renovation rule and this proposal are based on a rebuttable presumption of lead's presence, which allows the property owner to demonstrate that lead is not present to be exempt from the requirements. The proposed new language includes these exceptions: structures built after lead was banned from paint used in residential structures (1977 US; earlier in some US cities; 1909 France, Belgium, Austria), and structures where the deteriorated paint has been documented to not contain lead (such as by a lead-based paint inspection or risk assessment, by the use of a test kit by a certified renovator, or through completion of another government-approved test method or ANSI standard).

The EPA 40 CFR 745 standard is available at <http://www.gpo.gov/fdsys/pkg/CFR-2012-title40-vol32/xml/CFR-2012-title40-vol32-part745.xml>.

Cost Impact: This change will not increase the cost of maintenance since these federal and state requirements are already in place.

Staff analysis: A review of the standard proposed for inclusion in the code, EPA 40 CFR 745 with regard to the ICC criteria for referenced standards (Section 3.6 of CP#28) will be posted on the ICC website on or before April 1, 2013.

304.2.1 (NEW)-PM-MORLEY

Committee Action Hearing Results

For staff analysis of the content of EPA 40 CFR745 relative to CP#28, Section 3.6, please visit:
<http://www.iccsafe.org/cs/codes/Documents/2012-2014Cycle/Proposed-B/00-CompleteGroupB-MonographUpdates.pdf>

Committee Action:

Disapproved

Committee Reason: The committee was concerned that code officials would not have the qualifications or certifications to determine compliance with these lead based paint work practices. Further, as written the proposal expands the scope of the proposed CFR standard in that the standard excludes schools and adult day care facilities. The committee suggests aligning the proposed code text with the standard scope. Lastly, there was some concern that the standard was not promulgated using a consensus process.

Assembly Action:

None

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment :

Jane Malone, National Center for Healthy Housing, requests Approval as Modified by this Public Comment.

Replace the proposal as follows:

304.2.1 Disturbance of existing painted surfaces in buildings constructed before 1978. In Group E day care, Group I-4 child day care, Group R-2, R-3, R-4 occupancies, there shall not be visible dust, debris or residue remaining in the work area after completion of repairs that disturb painted surfaces.

Exception: Where documentation from an approved test in accordance with 40 CFR 745.82(a) proves that the disturbed paint contains lead levels below specified levels, the work is not required to comply with this section.

305.3.1 Disturbance of existing painted surfaces in buildings constructed before 1978. In Group E day care, Group I-4 child day care, Group R-2, R-3, R-4 occupancies, there shall not be visible dust, debris or residue remaining in the work area after completion of repairs that disturb painted surfaces.

Exception: Where documentation from an approved test in accordance with 40 CFR 745.82(a) proves that the disturbed paint contains lead levels below specified levels, the work is not required to comply with this section.

Add new standard to Chapter 8 as follows:

EPA **U.S. Environmental Protection Agency**

40 CFR 745– July 1, 2012 **Lead-Based Paint Poisoning Prevention in Certain Residential Structures**

Commenter's Reason: Based on the Committee decision, we have reduced this code change from a requirement for full compliance with the federal regulation to the essential but simple performance standard that will protect the occupant's and worker's children from exposure to harmful lead. It is consistent with the federal regulation in that clean-up is required at the end of renovation work. This requirement can be enforced by the code official with a visual inspection: no testing or special information is needed.

We have also clarified the Group I and E occupancies.

The exemption applies if the project meets one of these standards at 40 CFR 745.82(a):

1. a written determination has been made by a certified inspector or risk assessor that the components affected by the renovation are free of paint or other surface coatings that contain lead;
2. a certified renovator, using an EPA recognized test kit, has tested each component affected by the renovation and determined that the components are free of paint or other surface coatings that contain lead;
3. a certified renovator has collected a paint chip sample from each painted component affected by the renovation and a laboratory recognized by EPA has determined that the samples are free of paint or other surface coatings that contain lead.

Cost Impact: This change will not increase the cost of maintenance since federal and state renovation programs require a visual check for dust, debris or residue.

PM6-13

Final Action:

AS

AM

AMPC_____

D

EB63-13

602.1.1 (New), 702.1.1 (New), 1202.2.1 (New), Chapter 16

Proposed Change as Submitted

Proponent: Rebecca Morley, National Center for Healthy Housing

Add new text as follows:

SECTION 602 BUILDING ELEMENTS AND MATERIALS

602.1 Existing building materials. Materials already in use in a building in compliance with requirements or approvals in effect at the time of their erection or installation shall be permitted to remain in use unless determined by the *code official* to render the building or structure unsafe or *dangerous* as defined in Chapter 2.

602.1.1 Disturbance of existing painted surfaces. In any Group E, I-4, R-2, R-3, R-4 occupancies completed prior to 1978, where repairs disturb painted surfaces, the work shall comply with the information distribution, certification and work practice requirements of 40 CFR 745 for renovations.

Exception: Where documentation is provided from an approved test in accordance with 40 CFR 745.82(a)(1) or (2) that proves that the disturbed paint contains lead levels below specified levels, the work is not required to comply with this section.

SECTION 702 BUILDING ELEMENTS AND MATERIALS

702.1 Interior finishes. All newly installed interior wall and ceiling finishes shall comply with Chapter 8 of the *International Building Code*.

702.1.1 Disturbance of existing painted surfaces. In any Group E, I-4, R-2, R-3, R-4 occupancies completed prior to 1978, where alterations disturb painted surfaces, the work shall comply with the information distribution, certification and work practice requirements of 40 CFR 745 for renovations.

Exception: Where documentation is provided from an approved test in accordance with 40 CFR 745.82(a)(1) or (2) that proves that the disturbed paint contains lead levels below specified levels, the work is not required to comply with this section.

SECTION 1202 REPAIRS

1202.1 General. Repairs to any portion of an *historic building* or structure shall be permitted with original or like materials and original methods of construction, subject to the provisions of this chapter. Hazardous materials, such as asbestos and lead-based paint, shall not be used where the code for new construction would not permit their use in buildings of similar occupancy, purpose and location.

1202.2.1 Disturbance of existing painted surfaces. In any Group E, I-4, R-2, R-3, R-4 occupancies, where repairs disturb painted surfaces, the work shall comply with the information distribution, certification and work practice requirements of 40 CFR 745 for renovations.

Exception: Where documentation is provided from an approved test in accordance with 40 CFR 745.82(a)(1) or (2) that proves that the disturbed paint contains lead levels below specified levels, the work is not required to comply with this section.

Add the following standard to Chapter 16:

EPA U.S. Environmental Protection Agency

40 CFR 745 - July 1, 2012 Lead-Based Paint Poisoning Prevention in Certain Residential Structures

Reason: The purpose of this proposed code language is to incorporate protection from lead-based paint into the Code's requirements. These requirements are already law in every state through the Environmental Protection Agency's Renovation Repair and Painting Rule, which governs work with paint that may contain lead-based paint in order to prevent childhood lead poisoning. These regulations have been in effect since April 2010, and have been adopted by 12 states.

Renovation of painted surfaces is a significant source of lead dust that poisons children. The dangers associated with lead poisoning are well-known: serious health effects, detrimental effects on cognitive and behavioral development, with serious personal and social consequences that may persist throughout their lifetime.

Multiple studies have demonstrated that lead dust is the major source of lead poisoning for young children. There is no safe level of lead exposure for children; lead affects intelligence even at very low levels.^{1,2,5,8,9} Indeed, the rate of IQ loss per 1 microgram of lead per deciliter of blood ($\mu\text{g}/\text{dL}$) is greatest at lead levels below 10 $\mu\text{g}/\text{dL}$. As a child's BLL increases from 1 to 10 $\mu\text{g}/\text{dL}$, experts estimate a child may lose anywhere from 3.9 to 7.4 IQ points, but from 10 to 30 $\mu\text{g}/\text{dL}$ the decrement is 2.5 to 3.0 IQ points. Low-level chronic exposure may have an even greater effect on IQ than a single instance of very high BLL.¹⁰

Research indicates that a five-point negative shift in IQ at the population level would increase the number of children with an "extremely low" IQ by 57%, substantially increasing the cost of special education programs.³ Considering the costs to the special education system alone, one study conservatively estimated that it costs \$38,000 over three years to educate a child with lead poisoning.¹¹ Low-level exposure to lead has also been linked to factors other than IQ that can further impact educational outcomes. EBLs are associated with Attention Deficit Hyperactivity Disorder (ADHD) and antisocial behavior, which in turn increase the likelihood of conduct disorder, criminal activity, and drug abuse.¹⁴ Each 1 $\mu\text{g}/\text{dL}$ reduction in the average preschool blood lead level saves \$13.4 billion from the direct and indirect costs of crime.¹

Several recent studies have explored the specific effects of lead on educational outcomes. These studies show a strong relationship between slightly elevated blood lead levels in young children and decreased scores on end-of-grade tests in elementary school. While similar educational effects were documented for higher blood levels decades ago,¹² the recent studies confirm that the connection between blood lead and poor educational outcomes remains true for blood levels as low as 3-4 $\mu\text{g}/\text{dL}$. A more recent study of 57,000 North Carolina children found that children with a BLL as low as 4 $\mu\text{g}/\text{dL}$ at three years of age were significantly more likely to be classified as learning-disabled than children with a BLL of 1 $\mu\text{g}/\text{dL}$.⁶

The consequences of lead exposure are clear. This code change proposal seeks to reduce the risk.

The additions to Sections 602, 702, and 1202 add health-protective requirements to protect children from lead poisoning by preventing the dispersal of lead before, during, and after work performed on a pre-1978 home. The information distribution, certification, and lead safe practices requirements are already in effect in federal and state regulation.

This change would only affect structures likely to contain lead-based paint: pre-1978 homes. As noted under the exception, the requirement is waived if paint testing proves that the paint is not lead-based paint. A rebuttable presumption of lead's presence allows the builder to demonstrate that lead is not present and obtain exemption from the requirements. EPA-approved tests include lead-based paint inspection or risk assessment, test kit used by a certified renovator, and collection of a lead-based paint chips for laboratory analysis.

The EPA 40 CFR 745 standard is available at <http://www.gpo.gov/fdsys/pkg/CFR-2012-title40-vol32/xml/CFR-2012-title40-vol32-part745.xml>.

References

1. Gould E. Childhood lead poisoning: conservative estimates of the social and economic benefits of lead hazard control. *Environ. Health Perspect.* 2009;117(7):1162–1167.
2. Jusko TA, Henderson CR, Lanphear BP, Cory-Slechta DA, Parsons PJ, Canfield RL. Blood lead concentrations. *Environ. Health Perspect.* 2008;116(2):243–248.
3. Mazumdar M, Bellinger DC, Gregas M, Abanilla K, Bacic J, Needleman HL. Low-level environmental lead exposure in childhood and adult intellectual function: a follow-up study. *Environ Health.* 2011;10:24.
4. Chandramouli K, Steer CD, Ellis M, Emond AM. Effects of early childhood lead exposure on academic performance and behaviour of school age children. *Arch. Dis. Child.* 2009;94(11):844–848.
5. Miranda ML, Kim D, Galeano MA, Paul CJ, Hull AP, Morgan SP. The relationship between early childhood blood lead levels and performance on end-of-grade tests. *Environ. Health Perspect.* 2007;115(8):1242–1247.
6. Miranda ML, Maxson P, Kim D. Early childhood lead exposure and exceptionality designations for students. *Int J Child Health Hum Dev.* 2010;3(1):77–84.
7. Advisory Committee on Childhood Lead Poisoning Prevention. *Low Level Lead Exposure Harms Children: A Renewed Call for Primary Prevention.* 2012:1–68. Available at: http://www.cdc.gov/nceh/lead/ACCLPP/Final_Document_030712.pdf. Accessed March 6, 2012.
8. Lanphear BP, Hornung R, Khoury J, et al. Low-level environmental lead exposure and children's intellectual function: an international pooled analysis. *Environ. Health Perspect.* 2005;113(7):894–899.
9. Canfield RL, Henderson CR, Cory-Slechta DA, Cox C, Jusko TA, Lanphear BP. Intellectual impairment in children with blood lead concentrations below 10 microg per deciliter. *N. Engl. J. Med.* 2003;348(16):1517–1526. 16.
10. Lanphear BP, Dietrich K, Auinger P, Cox C. Cognitive deficits associated with blood lead concentrations. *Public Health Rep.* 2000;115(6):521–529. 17.
11. Korfmacher KS. Long-term costs of lead poisoning: How much can New York save by stopping lead? Rochester, NY: University of Rochester; 2003.
12. Needleman HL, Leviton A, Bellinger D. Lead-associated intellectual deficit. *N Engl J Med.* 1982; 306(6):367.

Cost Impact: This code change proposal will not increase the cost of additions, alterations or repairs since these federal/state requirements are already in effect.

Staff analysis: A review of the standard proposed for inclusion in the code, 40 CFR 745 -July 1, 2012 with regard to the ICC criteria for referenced standards (Section 3.6 of CP#28) will be posted on the ICC website on or before April 1, 2013.

1510.1 (NEW)-EB-MORLEY.doc

Committee Action Hearing Results

For staff analysis of the content of EPA 40 CFR 745-July 1, 2012 relative to CP#28, Section 3.6, please visit: <http://www.iccsafe.org/cs/codes/Documents/2012-2014Cycle/Proposed-B/ProposedStandards.pdf>

Committee Action:

Disapproved

Committee Reason: This proposal was disapproved based upon the previous action taken on ADM37-13 by the IEBC Committee.

Assembly Action

None

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Jane Malone, National Center for Healthy Housing, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

SECTION 602 BUILDING ELEMENTS AND MATERIALS

602.1 Existing building materials. Materials already in use in a building in compliance with requirements or approvals in effect at the time of their erection or installation shall be permitted to remain in use unless determined by the *code official* to render the building or structure unsafe or *dangerous* as defined in Chapter 2.

602.1.1 Disturbance of existing painted surfaces. In any Group E ~~day care, Group I-4 child day care, R-2, R-3, R-4~~ occupancies completed prior to 1978, where repairs disturb painted surfaces, the work shall ~~comply with the information distribution, certification and work practice requirements of 40 CFR 745 for renovations, leave behind no visible dust, debris or residue.~~

Exception: Where documentation is provided from an approved test in accordance with 40 CFR 745.82(a) ~~(1) or (2) that proves~~ that the disturbed paint contains lead levels below specified levels, the work is not required to comply with this section.

SECTION 702 BUILDING ELEMENTS AND MATERIALS

702.1 Interior finishes. All newly installed interior wall and ceiling finishes shall comply with Chapter 8 of the *International Building Code*.

702.1.1 Disturbance of existing painted surfaces. In any Group E ~~day care, Group I-4 child day care, R-2, R-3, R-4~~ occupancies completed prior to 1978, where alterations disturb painted surfaces, the work shall ~~comply with the information distribution, certification and work practice requirements of 40 CFR 745 for renovations, leave behind no visible dust, debris or residue.~~

Exception: Where documentation is provided from an approved test in accordance with 40 CFR 745.82(a) ~~(1) or (2) that proves~~ that the disturbed paint contains lead levels below specified levels, the work is not required to comply with this section.

SECTION 1202 REPAIRS

1202.1 General. Repairs to any portion of an *historic building* or structure shall be permitted with original or like materials and original methods of construction, subject to the provisions of this chapter. Hazardous materials, such as asbestos and lead-based paint, shall not be used where the code for new construction would not permit their use in buildings of similar occupancy, purpose and location.

1202.2.1 Disturbance of existing painted surfaces. In any Group E day care, Group I-4 child day care, R-2, R-3, R-4 occupancies completed prior to 1978, where repairs disturb painted surfaces, the work shall ~~comply with the information distribution, certification and work practice requirements of 40 CFR 745 for renovations~~ leave behind no visible dust, debris or residue.

Exception: Where documentation is provided from an approved test in accordance with 40 CFR 745.82(a) ~~(1) or (2)~~ that proves that the disturbed paint contains lead levels below specified levels, the work is not required to comply with this section.

Add the following standard to Chapter 16:

EPA U.S. Environmental Protection Agency

40 CFR 745 - July 1, 2012 Lead-Based Paint Poisoning Prevention in Certain Residential Structures

Commenter's Reason: Based on the Committee decision, we have reduced this code change from a requirement for full compliance with the federal regulation to the essential but simple performance standard that will protect the occupant's and worker's children from exposure to harmful lead. It is consistent with the federal regulation in that clean-up is required at the end of renovation work. This requirement can be enforced by the code official with a visual inspection: no testing or special information is needed.

We have also clarified the Group I and E occupancies.

The exemption applies if the project meets one of these standards at 40 CFR 745.82(a):

- (1) a written determination has been made by a certified inspector or risk assessor that the components affected by the renovation are free of paint or other surface coatings that contain lead;
- (2) a certified renovator, using an EPA recognized test kit, has tested each component affected by the renovation and determined that the components are free of paint or other surface coatings that contain lead;
- (3) a certified renovator has collected a paint chip sample from each painted component affected by the renovation and a laboratory recognized by EPA has determined that the samples are free of paint or other surface coatings that contain lead.

EB63-13

Final Action: AS AM AMPC_____ D

RB8-13

R106.1.4 (New), R702.8 (New), R703.13 (New); Chapter 44, AJ301.1.1.1 (New), AJ701 (New)

Proposed Change as Submitted

Proponent: Rebecca Morley, representing National Center for Healthy Housing

Add new text as follows:

IRC SECTION R106 CONSTRUCTION DOCUMENTS

R106.1.4 Certifications and plans where painted surfaces are disturbed. Where a dwelling was completed prior to 1978 and repair, alteration or addition being performed will result in the disturbance of painted surfaces, the contractor shall provide to the code official one of the following:

1. Copies of EPA or state renovation firm certification, renovator certification and a plan for compliance in accordance with 40 CFR 745 requirements for renovations.
2. Documentation from an approved test in accordance with 40 CFR 745.82(a)(1) or (2) that shows that the disturbed paint contains lead that is below specified levels.

IRC SECTION R702 INTERIOR COVERINGS

R702.8 Disturbance of existing painted surfaces. In any dwelling completed prior to 1978, repairs, alteration and additions where painted surfaces are disturbed shall comply with the information distribution, certification and work practice requirements of 40 CFR 745 for renovations.

Exception: Where documentation is provided from an approved test in accordance with 40 CFR 745.82(a)(1) or (2) that proves that the disturbed paint contains lead levels below specified levels, the work is not required to comply with this section.

IRC SECTION R703 EXTERIOR COVERING

R703.13 Disturbance of existing painted surfaces. In any dwelling completed prior to 1978, repairs, alteration and additions where painted surfaces are disturbed shall comply with the information distribution, certification and work practice requirements of 40 CFR 745 for renovations.

Exception: Where documentation is provided from an approved test in accordance with 40 CFR 745.82(a)(1) or (2) that proves that the disturbed paint contains lead levels below specified levels, the work is not required to comply with this section.

CHAPTER 44 REFERENCED STANDARDS

EPA
U.S. Environmental Protection Agency

40 CFR 745-July 1, 2012 Lead-Based Paint Poisoning Prevention in Certain Residential Structures

SECTION AJ301 REPAIRS

AJ301.1.1.1 Disturbance of existing painted surfaces. In any dwelling completed prior to 1978, repairs, alteration and additions where painted surfaces are disturbed shall comply with the information distribution, certification and work practice requirements of 40 CFR 745 for renovations.

Exception: Where documentation is provided from an approved test in accordance with 40 CFR 745.82(a)(1) or (2) that proves that the disturbed paint contains lead levels below specified levels, the work is not required to comply with this section.

SECTION AJ701 **REFERENCED STANDARDS**

EPA
U.S. Environmental Protection Agency

40 CFR 745 Lead-Based Paint Poisoning Prevention in Certain Residential Structures

Reason: This code change proposal is to incorporate protection from lead-based paint by specifying (1) that additions, alterations, and repairs to pre-1978 homes comply with federal health-protective requirements to protect children from lead poisoning and (2) that permit applicants include, with the other construction documents, evidence of compliance.

The purpose of this proposed code language is to incorporate protection from lead-based paint into the Code through the requirement for construction documents. Once the Code requires permit applicants to demonstrate up front their knowledge of, and plans to follow, the federal and state renovation rule requirements, the code official will be positioned to provide important oversight and leadership in preventing lead poisoning without even leaving the office. This oversight will help level the playing field between contractors who are complying with the rule and noncompliant entities who are under-pricing and undercutting their competitors. By merely asking an applicant for the missing documents, the code official can influence entities not following the law into compliance before the work even starts. In a few cases, these entities may be unaware of the regulations. Although these regulations have been in effect since April 2010, and have been adopted by 12 states, reported non-compliance is affecting the compliant contractor and continuing the problem of lead poisoning in the US.

The proposed "plan for compliance in accordance with 40 CFR 745 requirements for renovations" with the federal disclosure and work practice requirements" can take different forms depending on what documents the builder is already using. Some builders who work on pre-1978 homes are already using a form to track their upfront assessments and another form for recordkeeping. Anyone working in pre-1978 homes should have an EPA or state certification for their firm, along with at least one individual renovator certification that the renovator received at the end of the required one-day training course. These requirements are already in effect in federal and state regulation.

The plan and certifications would only be needed for a structure likely to contain lead-based paint: a pre-1978 home. As noted under the exception, the requirement is waived if paint testing proves that the paint is not lead-based paint. A rebuttable presumption of lead's presence allows the builder to demonstrate that lead is not present and obtain exemption from the requirements. EPA-approved tests include lead-based paint inspection or risk assessment, test kit used by a certified renovator, and collection of a lead-based paint chips for laboratory analysis.

Renovation of painted surfaces is a significant source of lead dust that poisons children. The dangers associated with lead poisoning are well-known: serious health effects, detrimental effects on cognitive and behavioral development, with serious personal and social consequences that may persist throughout their lifetime.

Multiple studies have demonstrated that lead dust is the major source of lead poisoning for young children. There is no safe level of lead exposure for children; lead affects intelligence even at very low levels.^{1,2,5,8,9} Indeed, the rate of IQ loss per 1 microgram of lead per deciliter of blood ($\mu\text{g}/\text{dL}$) is greatest at lead levels below 10 $\mu\text{g}/\text{dL}$. As a child's BLL increases from 1 to 10 $\mu\text{g}/\text{dL}$, experts estimate a child may lose anywhere from 3.9 to 7.4 IQ points, but from 10 to 30 $\mu\text{g}/\text{dL}$ the decrement is 2.5 to 3.0 IQ points. Low-level chronic exposure may have an even greater effect on IQ than a single instance of very high BLL.¹⁰

Research indicates that a five-point negative shift in IQ at the population level would increase the number of children with an "extremely low" IQ by 57%, substantially increasing the cost of special education programs.³ Considering the costs to the special education system alone, one study conservatively estimated that it costs \$38,000 over three years to educate a child with lead poisoning.¹¹ Low-level exposure to lead has also been linked to factors other than IQ that can further impact educational outcomes. EBLLs are associated with Attention Deficit Hyperactivity Disorder (ADHD) and antisocial behavior, which in turn increase the likelihood of conduct disorder, criminal activity, and drug abuse.^{1,4} Each 1 $\mu\text{g}/\text{dL}$ reduction in the average preschool blood lead level saves \$13.4 billion from the direct and indirect costs of crime.¹

Several recent studies have explored the specific effects of lead on educational outcomes. These studies show a strong relationship between slightly elevated blood lead levels in young children and decreased scores on end-of-grade tests in elementary school. While similar educational effects were documented for higher blood levels decades ago,¹² the recent studies confirm that the connection between blood lead and poor educational outcomes remains true for blood levels as low as 3-4 $\mu\text{g}/\text{dL}$. A more recent study of 57,000 North Carolina children found that children with a BLL as low as 4 $\mu\text{g}/\text{dL}$ at three years of age were significantly more likely to be classified as learning-disabled than children with a BLL of 1 $\mu\text{g}/\text{dL}$.⁶

The consequences of lead exposure are clear. This code change proposal seeks to reduce the risk of lead exposure during and after work performed on a pre-1978 home – and level the playing field among contractors working on pre-1978 properties.

The EPA 40 CFR 745 standard is available at <http://www.gpo.gov/fdsys/pkg/CFR-2012-title40-vol32/xml/CFR-2012-title40-vol32-part745.xml>.

References:

1. Gould E. Childhood lead poisoning: conservative estimates of the social and economic benefits of lead hazard control. Environ. Health Perspect. 2009;117(7):1162–1167.
2. Jusko TA, Henderson CR, Lanphear BP, Cory-Slechta DA, Parsons PJ, Canfield RL. Blood lead concentrations. Environ. Health Perspect. 2008;116(2):243–248.
3. Mazumdar M, Bellinger DC, Gregas M, Abanilla K, Bacic J, Needleman HL. Low-level environmental lead exposure in childhood and adult intellectual function: a follow-up study. Environ Health. 2011;10:24.
4. Chandramouli K, Steer CD, Ellis M, Emond AM. Effects of early childhood lead exposure on academic performance and behaviour of school age children. Arch. Dis. Child. 2009;94(11):844–848.
5. Miranda ML, Kim D, Galeano MA, Paul CJ, Hull AP, Morgan SP. The relationship between early childhood blood lead levels and performance on end-of-grade tests. Environ. Health Perspect. 2007;115(8):1242–1247.
6. Miranda ML, Maxson P, Kim D. Early childhood lead exposure and exceptionality designations for students. Int J Child Health Hum Dev. 2010;3(1):77–84.
7. Advisory Committee on Childhood Lead Poisoning Prevention. Low Level Lead Exposure Harms Children: A Renewed Call for Primary Prevention. 2012:1–68. Available at: http://www.cdc.gov/nceh/lead/ACCLPP/Final_Document_030712.pdf. Accessed March 6, 2012.
8. Lanphear BP, Hornung R, Khoury J, et al. Low-level environmental lead exposure and children's intellectual function: an international pooled analysis. Environ. Health Perspect. 2005;113(7):894–899.
9. Canfield RL, Henderson CRJ, Cory-Slechta DA, Cox C, Jusko TA, Lanphear BP. Intellectual impairment in children with blood lead concentrations below 10 microg per deciliter. N. Engl. J. Med. 2003;348(16):1517–1526.16.
10. Lanphear BP, Dietrich K, Auinger P, Cox C. Cognitive deficits associated with blood lead concentrations. Public Health Rep. 2000;115(6):521–529.17.
11. Korfmacher KS. Long-term costs of lead poisoning: How much can New York save by stopping lead? Rochester, NY: University of Rochester; 2003.
12. Needleman HL, Leviton A, Bellinger D. Lead-associated intellectual deficit. N Engl J Med. 1982; 306(6):367.

Cost Impact: This code change proposal will not increase the cost of construction.

Staff analysis: A review of the standard proposed for inclusion in the code, EPA 40 CFR 745-July 1, 2012, with regard to the ICC criteria for referenced standards (Section 3.6 of CP#28) will be posted on the ICC website on or before April 1, 2013.

R106.1.4 (NEW)-RB-MORLEY

Committee Action Hearing Results

Committee Action:

Disapproved

For staff analysis of the content of U.S. EPA 40 CFR 745 relative to CP#28, Section 3.6, please visit:
<http://www.iccsafe.org/cs/codes/Documents/2012-2014Cycle/Proposed-B/00-CompleteGroupB-MonographUpdates.pdf>

Committee Reason: The committee disapproved this proposed code change because they felt that the requirements dealing with lead are federal and should remain in that domain. All federal requirements do not belong in the code.

Assembly Action:

None

Individual Consideration Agenda

This item is on the agenda for individual consideration because public comments were submitted.

Public Comment 1:

Mark Henshall, representing US Environmental Protection Agency, requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

**SECTION R106
CONSTRUCTION DOCUMENTS**

R106.1.4 Certifications and plans where painted surfaces are disturbed. Where a dwelling was completed prior to 1978 and repair, alteration or addition being performed will result in the disturbance of painted surfaces, the contractor shall provide to the code official one of the following:

4. a copy of a current Renovation Repair and Painting firm certification issued by either EPA in accordance with 40 CFR 745.89 or by a state program authorized by EPA in accordance with 40 CFR 745 Subpart Q. Copies of EPA or state renovation firm certification, renovator certification and a plan for compliance in accordance with 40 CFR 745 requirements for renovations.
2. ~~Documentation from an approved test in accordance with 40 CFR 745.82(a)(1) or (2) that shows that the disturbed paint contains lead that is below specified levels.~~

SECTION R702 INTERIOR COVERINGS

R702.8 Disturbance of existing painted surfaces. ~~In any dwelling completed prior to 1978, repairs, alteration and additions where painted surfaces are disturbed shall comply with the information distribution, certification and work practice requirements of 40 CFR 745 for renovations.~~

Exception: ~~Where documentation is provided from an approved test in accordance with 40 CFR 745.82(a)(1) or (2) that proves that the disturbed paint contains lead levels below specified levels, the work is not required to comply with this section.~~

SECTION R703 EXTERIOR COVERING

R703.13 Disturbance of existing painted surfaces. ~~In any dwelling completed prior to 1978, repairs, alteration and additions where painted surfaces are disturbed shall comply with the information distribution, certification and work practice requirements of 40 CFR 745 for renovations.~~

Exception: ~~Where documentation is provided from an approved test in accordance with 40 CFR 745.82(a)(1) or (2) that proves that the disturbed paint contains lead levels below specified levels, the work is not required to comply with this section.~~

CHAPTER 44 REFERENCED STANDARDS

EPA

U.S. Environmental Protection Agency

40 CFR 745-~~July 1, 2012~~

Lead-Based Paint Poisoning Prevention in Certain Residential Structures – July 1, 2012

Commenter's Reason: This code change proposal is to incorporate protection from lead-based paint by specifying that permit applicants include, with the other construction documents, evidence of compliance with the firm certification requirements of EPA's or an authorized states Renovation, Repair and Painting Regulation. The local building code official would have no other responsibility than to request a copy of a current Renovation Repair and Painting firm certification

EPA's Lead-Based Paint Renovation, Repair and Painting (RRP) Rule aims to protect the public from lead-based paint hazards associated with renovation, repair and painting activities. These activities can create hazardous lead dust when surfaces with lead paint, are disturbed. The rule requires workers to be certified and trained in the use of lead-safe work practices, and requires renovation, repair and painting firms to be EPA-certified. This training and adherence to lead-safe work practices will help ensure residents are not exposed to hazardous levels of lead contaminated dust.

The original proposal required "a plan for compliance for renovations in accordance with 40 CFR 745 requirements for renovations." Questions were raised as to what constituted a plan and what would be expected in terms of the code official approving such a plan. In addition, the original proposal could be interpreted to mean that local building officials were being asked to enforce a federal regulation. This modification to the original proposal has addressed these concerns.

Public Comment 2:

Jane Malone, National Center for Healthy Housing, requests Approval as Modified by this Public Comment.

Replace the proposal as follows:

Add new text as follows:

R702.8 Disturbance of existing painted surfaces. In any dwelling completed prior to 1978, repairs, alteration and additions where painted surfaces are disturbed shall not leave behind visible dust, debris or residue.

Exception: Where documentation is provided from an approved test in accordance with 40 CFR 745.82(a) that the disturbed paint contains lead levels below specified levels, the work is not required to comply with this section.

R703.13 Disturbance of existing painted surfaces. On any dwelling completed prior to 1978, repairs, alteration and additions where painted surfaces are disturbed shall not leave behind visible dust, debris or residue.

Exception: Where documentation is provided from an approved test in accordance with 40 CFR 745.82(a) that the disturbed paint contains lead levels below specified levels, the work is not required to comply with this section.

**CHAPTER 44
REFERENCED STANDARDS**

EPA

U.S. Environmental Protection Agency

40 CFR 745-July 1, 2012

Lead-Based Paint Poisoning Prevention in Certain Residential Structures

**SECTION AJ301
REPAIRS**

AJ301.1.1.1 Disturbance of existing painted surfaces. In any dwelling completed prior to 1978, repairs, alterations and additions where painted surfaces are disturbed shall leave behind no visible dust, debris or residue.

Exception: Where documentation is provided from an approved test in accordance with 40 CFR 745.82(a) that the disturbed paint contains lead levels below specified levels, the work is not required to comply with this section.

Commenter's Reason: Based on the Committee decision, we have reduced this code change from a requirement for full compliance with the federal regulation to the essential but simple performance standard that will protect occupant's and worker's children from exposure to harmful lead. It is consistent with the federal regulation in that clean-up is required at the end of renovation work. This requirement can be enforced by the code official with a visual inspection: no testing or special information is needed.

The exemption applies if the project meets one of these standards at 40 CFR 745.82(a):

1. a written determination has been made by a certified inspector or risk assessor that the components affected by the renovation are free of paint or other surface coatings that contain lead;
2. a certified renovator, using an EPA recognized test kit, has tested each component affected by the renovation and determined that the components are free of paint or other surface coatings that contain lead;
3. a certified renovator has collected a paint chip sample from each painted component affected by the renovation and a laboratory recognized by EPA has determined that the samples are free of paint or other surface coatings that contain lead.

RB8-13

Final Action:

AS

AM

AMPC_____

D
