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April 1, 2013

Via: Federal eRulemaking Portal:
<http://www.regulations.gov>

U.S. Environmental Protection Agency
Office of Pollution Prevention and Toxics
Mail Code 7407M
1200 Pennsylvania Ave., N.W.
Washington, DC 20460

Attention: Hans Scheifele

Re: Lead; Renovation, Repair, and Painting Program for Public and
Commercial Buildings; Request for Information and Advance Notice
of Public Meeting; Docket EPA-HQ-OPPT-2010-0173

Dear Mr. Scheifele:

Please find attached for filing in Docket EPA-HQ-OPPT-2010-0173 Comments
of the Commercial Properties Coalition.

Please let me know if you have any questions.

Sincerely,

Jane C. Luxton

Attachments

**COMMENTS OF THE COMMERCIAL PROPERTIES COALITION
ON EPA'S LEAD RENOVATION, REPAIR AND PAINTING
PROGRAM FOR PUBLIC AND COMMERCIAL BUILDINGS**

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ATTACHMENTS

- **Attachment 1:**
Description of Participating Organizations in Commercial Properties Coalition
- **Attachment 2:**
Coalition Comments to Advanced Notice of Proposed Rulemaking, “Lead; Renovation, Repair, and Painting Program for Commercial and Public Buildings,” 75 Fed. Reg. 24,848, published May 6, 2010 (July 6, 2010).
- **Attachment 3:**
Coalition Comments to Science Advisory Board on “EPA’s Approach for Developing Lead Dust Hazard Standards for Public and Commercial Buildings” (Dec. 6, 2010).
- **Attachment 4:**
“EPA Science Advisers Urge Tough Lead Dust Cleanup Requirements,” *InsideEPA.com* (posted July 13, 2010).
- **Attachment 5:**
Letter from EPA Associate Administrator Arvin Ganesan to The Honorable David Vitter, and attached answers to questions posed by The Honorable Barbara Boxer and the Honorable James Inhofe (March 7, 2013).
- **Attachment 6:**
Letter from Senators David Vitter, James M. Inhofe, Deb Fischer, Mike Crapo to (then) EPA Administrator Lisa P. Jackson and Acting Assistant Administrator James Jones (Feb. 13, 2013)
- **Attachment 7:**
Letter from Senators Angus King, Joe Manchin, and Mark Begich to Henry L. Green, National Institute of Building Sciences (March 28, 2013)
- **Attachment 8:**
Emails from Coalition Members to EPA Staff (Nov. 26, 2012 and Oct. 3, 2012)
- **Attachment 9:**
American Coatings Association Attachment
- **Attachment 10:**
Department of Housing and Urban Development, *Technical Bulletin: Inspecting for Lead-Based Paint on Painted Metal Doors and Frames* (Feb. 24, 1994), transmitted to Patrick Connor, President, Connor Environmental Services, by HUD Office of Lead Hazard Control.
- **Attachment 11:**
EPA RCRA Orders, *In the Matter of 17th Street Revocable Trust*, RCRA-03-2000-01, and *Order to Group I Management and M275 LLC of Fall River*, RCRA-01-2001-072.

COMMENTS OF THE COMMERCIAL PROPERTIES COALITION ON EPA'S LEAD RENOVATION, REPAIR AND PAINTING PROGRAM FOR PUBLIC AND COMMERCIAL BUILDINGS

I. INTRODUCTION AND COALITION DESCRIPTION

Thank you for the opportunity to comment on EPA's Request for Information and Advance Notice of Public Hearing ("RFI"),¹ regarding its "Lead; Renovation, Repair, and Painting Program for Public and Commercial Buildings" ("Public & Commercial LRRP Program"). These comments are submitted by the Commercial Properties Coalition, an informal group of trade associations (the "Coalition") whose members are involved in almost every aspect of commercial real estate development, ownership, management, contracting, and building product supply. Attachment 1 describes the mission and membership of each participating organization in more detail.²

The Coalition's members represent companies and other concerns (many of which are small businesses) that would be significantly affected by a Public & Commercial LRRP Program. The viability of the commercial real estate sector depends on constructing, owning, and maintaining buildings in a manner to safeguard the health and well-being of employees, tenants and occupants. Above and beyond regulatory mandates, Coalition members routinely seek voluntary certification and accreditation of their offices, apartment buildings, stores, hotels and other structures to ensure that they are sustainable, efficient – and healthy. Accordingly, the Coalition has a substantial interest in the RFI, any finding under Section 403 of the Toxic Substances Control Act ("TSCA") regarding potentially "dangerous levels of lead" in the building stock at issue, and any additional regulations that will expand federal authority over LRRP activities within and on the exterior of public and commercial buildings. Coalition members have participated in earlier phases of public participation on this topic and incorporate by reference our 2010 comments to EPA's Advanced Notice of Proposed Rulemaking³ and a proceeding before EPA's Science Advisory Board.⁴

¹77 Fed. Reg. 76,996 (Dec. 31, 2012).

²The Coalition's members are: American Hotel & Lodging Association (AH&LA); Associated Builders and Contractors; Associated General Contractors of America (AGC); Building Owners and Managers Association (BOMA) International; CCIM Institute; Electronic Security Association (ESA); the Independent Electrical Contractors (IEC); Institute of Real Estate Management (IREM®); NAIOP, the Commercial Real Estate Development Association; NAREIT®, the National Association of Real Estate Investment Trusts®; National Apartment Association (NAA); the National Association of Home Builders (NAHB); the National Association of REALTORS®; the National Federation of Independent Business (NFIB); the National Leased Housing Association (NLHA); the National Lumber and Building Material Dealers Association (NLBMDA); National Multi Housing Council (NMHC); the Plumbing-Heating-Cooling Contractors—National Association; The Real Estate Roundtable; the U.S. Chamber of Commerce; and Window and Door Manufacturers Association (WDMA). See Attachment 1.

³See Attachment 2.

⁴See Attachment 3.

II. EXECUTIVE SUMMARY

Coalition members met with EPA staff on November 5, 2012, to get some general sense of the Agency's direction in developing a Public & Commercial LRRP Program. Since issuing an ANPR in 2010, EPA has not determined if any dangerous levels of lead exist in public and commercial buildings – or whether any lead-based paint hazards are caused by renovation, repair or painting (“RRP”) activities in these structures. Recognizing that the agency is at an early stage of fact-finding, at our meeting EPA indicated that the Program's reach may cover buildings that are:

- Constructed before 1978 and owned by federal, state, local or municipal governments;
- Owned by the private sector, without regard to vintage or age of construction;
- Leased in whole or in part by the federal government, the largest commercial office tenant in the country;
- Occupied by women of child-bearing years, or men that may be prone to hypertension;
- Sites of interior renovations where more than six square feet of painted surfaces are disturbed per room; or
- Sites of exterior renovations where more than 20 square feet of painted surfaces are disturbed.

In short, EPA indicated to us that just about every commercial structure in the country might be subject to its regulatory oversight. Given this initiative's potentially staggering scope, as the Agency develops a record to consider any Public & Commercial LRRP Program it must keep in mind the following overarching themes and points of these comments:

A. EPA should complete any “hazard” finding under TSCA § 403 regarding public and commercial buildings well before it proposes any regulations of RRP activities in these structures.

Before it may promulgate a Public & Commercial LRRP Rule to regulate renovation and remodeling activities, EPA must first develop a TSCA Section 403 rule to identify whether “dangerous levels of lead” even exist in those buildings. EPA acknowledges that it can address renovations in public and commercial buildings through rulemaking “to the extent such renovations create lead-based paint hazards.”⁵ The only section 403 hazard rule that EPA has issued to date covers the residential stock and explicitly states: “[I]t is important to emphasize that this rule only applies to pre-1978 target housing and certain child-occupied facilities, and that *these standards were not intended to identify potential hazards in other*

⁵77 Fed. Reg. at 76,997 (Dec. 31, 2012).

settings.”⁶ It took EPA more than seven years *after* publication of the final 403 hazard rule for “target housing” to decide how to regulate renovation activities in residences.⁷ A similar deliberative process, within a comparable sequence and time frame for agency action, should be conducted here. EPA should propose any section 403 rule for public and commercial buildings, give stakeholders ample opportunity to comment on that proposal, and then finalize any such rule so all advocates and stakeholders can fairly assess the need for RRP regulations to address lead-based paint hazards – which at this point are unknown *vis à vis* the public and commercial stock.

B. Given the fundamentally different uses, occupancies, and renovation work practices that attend to commercial buildings versus residences, EPA cannot simply rely on information gathered for “target housing” to justify a Public & Commercial LRRP Program.

Sentiments expressed by EPA’s Science Advisory Board (“SAB”) indicate that, for lack of any better lead-based paint information, the Agency should default to data gathered in the “target housing” context and carry it over to public and commercial buildings. An SAB panel has recognized that there is “insufficient data concerning lead dust exposures in commercial or public buildings to support a reliable standard,” but nonetheless has been reported to “suggest[] that EPA strengthen its hazard standard to protect children under 6 in private residences . . . and then apply that standard to commercial buildings.”⁸ Moreover, in a recent response to questions for a Senate hearing record, EPA cited eight “studies” as potentially relevant to lead-based paint issues in public and commercial buildings.⁹ In fact, all of the structures assessed in these studies were pre-1978 target housing (except for a single school built in 1967 and a one-story business well over 150 years old). Two of these studies state – on their face – that they provide no basis upon which to draw conclusions about lead-based paint, RRP activities, or associated hazards in public and commercial structures.

The Coalition strongly cautions against a reductive approach that relies upon studies conducted in residential settings to somehow buttress any Public & Commercial LRRP Program. EPA must recognize and account for the profound differences in uses, occupancies, sizes, and renovation work practices in commercial buildings compared to homes, and between commercial buildings as a stock. The Agency cannot discharge its administrative and legal responsibilities simply by compiling Residential LRRP information and deeming it probative for Public & Commercial LRRP purposes.

⁶*Lead; Identification of Dangerous Levels of Lead*, 66 Fed. Reg. 1,206, 1,211, (Jan. 5, 2001), (emphasis added).

⁷The Section 403 hazard rule for target housing was published in 2001, *Lead; Identification of Dangerous Levels of Lead*, 66 Fed. Reg. 1,206 (Jan. 5, 2001). The final Residential LRRP Rule was published in 2008, *Lead; Renovation, Repair, and Painting Program; Final Rule*, 73 Fed. Reg. 21,692 (April 22, 2008).

⁸*EPA Science Advisers Urge Tough Lead Dust Cleanup Requirements*, InsideEPA.com (July 13, 2010). See Attachment 4.

⁹ See Letter from EPA Associate Administrator Arvin Ganesan to The Honorable David Vitter, and attached answers to questions posed by The Honorable Barbara Boxer and the Honorable James Inhofe, at p. 7 (March 7, 2013). See Attachment 5.

C. EPA should coordinate closely with federal facilities managers to study federal buildings for any lead-based paint hazards, identify actual renovation projects in these structures, and assess the effectiveness of associated work practices.

EPA should be coordinating with its sister agencies and fellow federal staff to collect the scientific, technical, and work practices information sought by the RFI. As Senators Vitter, Inhofe, Crapo and Fischer recently wrote to EPA:¹⁰

[T]he General Services Administration (“GSA”) is the nation’s largest public real estate organization and provides workspace in commercial buildings for more than 1 million federal workers through its Public Buildings Services (“PBS”). PBS’s commercial real estate portfolio covers over 8,100 leases in excess of 171 million square feet, and 1,500 government-owned buildings, across the nation.¹¹ Likewise, the infrastructure of the Department of Defense (“DoD”) encompasses several hundred thousand buildings at more than 5,000 different locations or sites.¹² The footprint of the Veterans Administration (“VA”) is marked by 5,500 buildings and 1600 leases totaling approximately 142 million square feet, with an average age approaching 60 years.¹³ And, the Architect of the Capitol (“AoC”) is responsible to the U.S. Congress and Supreme Court to maintain and operate 17.4 million square feet of buildings on Capitol Hill.¹⁴

The massive stock of federal buildings can serve as a laboratory to develop any Public & Commercial LRRP rule and help assure a sound, scientific, and fact-based record. Similarly, on March 28, 2013, Senators King, Manchin, and Begich wrote to the National Institute of Building Sciences (“NIBS”) urging the Institute to work within its authorities to assist with providing information responsive to the RFI.¹⁵ The Coalition stands by to support EPA in coordinating with NIBS, GSA and other agencies and departments to leverage the information and technical resources available in the federal buildings arena.

¹⁰See Vitter Letter (Feb. 13, 2013). See Attachment 6.

¹¹See *Inventory of Owned and Leased Properties*, Gen. Serv. Admin., <http://www.gsa.gov/portal/content/100783> (last visited Mar. 27, 2013).

¹²See *DoD 101: An Introductory Overview of the Department of Defense*, U.S. Dept. of Def. <http://www.defense.gov/about/dod101.aspx> (last visited Mar. 27, 2013).

¹³See Robert L. Neary, Jr., *VA Construction & Facilities Management*, Dept. of Veteran Affairs http://www.acec.org/advocacy/committees/pdf/annconv2011_va.pdf (March 31, 2011), at slide 6.

¹⁴See *About AOC: Responsibilities of the Architect*, Architect of the Capitol <http://aoc.gov/about-aoc/responsibilities-architect> (last visited Mar. 27, 2013).

¹⁵See King Letter (March 28, 2013). See Attachment 7.

D. EPA should inventory and consider whether existing regulatory programs and industry practices already address any potential lead-based paint hazards and renovation work practices in public and commercial buildings.

Executive Order 12866 (Sept. 30, 1993) was adopted to “reform and make more efficient the [federal] regulatory process” with a system that protects and improves the health, safety, environment and well-being of the American people,” while “enhanc[ing] planning and coordination with respect to both new and existing regulations”¹⁶ President Obama amplified these objectives with his own order, which directs executive departments to ensure that their regulatory programs are not “redundant, inconsistent, or overlapping” with other agency programs; “to coordinate[] across agencies” in developing new programs in a manner that “promotes ... simplification[] and harmonization”; and to “identify and use the best, most innovative, and least burdensome tools for achieving regulatory ends ...” while “tak[ing] into account benefits and costs, both quantitative and qualitative.”¹⁷

EPA must adhere to these tenets here in developing any Public & Commercial LRRP Program. Myriad other federal programs already provide significant public health protection from exposure to hazardous and toxic substances, in workplaces, as a result of construction activities, or to the environment from release of toxic substances, including lead. EPA must inventory and assess existing authorities already at its disposal, and within the jurisdiction of its sister agencies, that may address and minimize possible lead-based paint hazards – before it enacts an expansive new RRP program for public and commercial buildings.

Each of these overarching points is addressed in more detail throughout these comments. The Coalition reserves the right to supplement these comments as additional information comes to light and our members raise further questions that warrant EPA’s consideration.

III. DIVERSITY OF COMMERCIAL BUILDING STOCK: SIZE, TYPE, USE, OCCUPANCY, AND AGE

As EPA considers and collects information for this RFI, it would be misguided if it treats “commercial buildings” as a generic, monolithic grouping. Any rational and reasonable Public & Commercial LRRP Program must account for and reflect the vast diversity of buildings that populate America’s cities, communities, and rural areas. Unlike the residential sector which is dominated by single-family homes, the commercial buildings sector is not dominated by structures of a single type, use, activity, or occupancy. The Coalition thus offers the following information to assist EPA in gaining a better understanding of our heterogeneous industry, and a deeper appreciation of the diverse assets that comprise “commercial buildings.”

¹⁶Exec. Order No. 12,866, *Regulatory Planning and Review* (Sept. 30, 1993), http://www.whitehouse.gov/sites/default/files/omb/inforeg/eo12866/eo12866_10041993.pdf.

¹⁷Executive Order 13563 §1, *Improving Regulation and Regulatory Review* (Jan. 18, 2011), <http://www.whitehouse.gov/the-press-office/2011/01/18/improving-regulation-and-regulatory-review-executive-order>.

A. Definitions of “Commercial Building” and “Child Occupied Facility”

The RFI does not define the term “commercial building.” Plainly, this is a foundational term that the Agency must define before it can identify any potential lead-based paint hazards in “commercial buildings,” and before it may regulate renovation and remodeling activities in those structures to address purported health hazards.

The Energy Information Administration (“EIA”), the data gathering arm of the Department of Energy, periodically surveys U.S. buildings through its Commercial Building Energy Consumption Survey (“CBECS”). It provides basic definitional guidance as follows:¹⁸

Commercial: In the CBECS, commercial refers to any building that is neither residential (used as a dwelling for one or more households), manufacturing/industrial (used for processing or procurement of goods, merchandise raw materials or food), nor agricultural (used for the production, processing, sale, storage, or housing of agricultural products, including livestock). At least 50 percent of the floorspace must be used for purposes other than these for a building to be considered “commercial.”

Commercial Building: A building with more than 50 percent of its floorspace used for commercial activities. Commercial buildings include, but are not limited to, the following: stores, offices, schools, churches, gymnasiums, libraries, museums, hospitals, clinics, warehouses, and jails. Government buildings were included except for buildings on sites with restricted access, such as some military bases. Agricultural buildings, residences, and manufacturing/industrial buildings are excluded.

EPA uses the following definition of “public and commercial building” in the context of implementing TSCA’s asbestos provisions. It warrants noting that this definition covers “any” such building constructed before 1978, including industrial facilities:

Public and commercial building means any building which is constructed prior to 1978, other than child-occupied facilities as defined by 40 CFR part 745.83, any residential apartment building of fewer than 10 units, or detached single-family homes. The term includes, but is not limited to: industrial and office buildings, residential apartment buildings and condominiums of 10 or more dwelling units, government-owned buildings, colleges, museums, airports, hospitals, churches, stores, warehouses and factories.¹⁹

¹⁸See *Commercial Buildings Energy Consumption Survey (CBECS), CBECS Terminology*, U.S. Energy Info. Admin, <http://www.eia.gov/consumption/commercial/terminology.cfm> (last visited Mar. 27, 2013).

¹⁹40 CFR part 763, Subpart E, Appendix C (2012) (interpreting and implementing 15 U.S.C. § 2642(10)).

The definition of “public and commercial building” cited above for the asbestos program cross-references EPA’s term “child-occupied facilities,” as used in the Residential LRRP Program:

Child-occupied facility means 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. Child-occupied facilities may include, but are not limited to, day care centers, preschools and kindergarten classrooms. *Child-occupied facilities may be located in target housing or in public and commercial buildings.* With respect to common areas in public or commercial buildings that contain child-occupied facilities, the child-occupied facility encompasses only those common areas that are routinely used by children under age 6, such as restrooms and cafeterias. Common areas that children under age 6 only pass through, such as hallways, stairways, and garages are not included. In addition, with respect to exteriors of public or commercial buildings that contain child-occupied facilities, the child-occupied facility encompasses only the exterior sides of the building that are immediately adjacent to the child-occupied facility or the common areas routinely used by children under age 6.²⁰

Accordingly, EPA’s current definition of “child-occupied facility” has important ramifications for the scope of any Public & Commercial LRRP Program. If a “public or commercial building” (however it is ultimately defined) contains a “child-occupied facility,” then that facility is already subject to EPA’s Residential LRRP Program. For example, day care centers in private office buildings are already within the scope of Residential LRRP rules.

Based on EPA’s own definition, it follows that any Public & Commercial LRRP Program would cover buildings and spaces outside “child-occupied facilities.” Thus, a Public & Commercial LRRP Program could apply to: (1) buildings that do not have “child-occupied facilities” in them; and (2) areas in non-“target housing” buildings that are occupied by: (a) children under age six who are transient visitors of less than 60 hours annually, and/or (b) just about anyone age six or older.

The potential reach of the Public & Commercial LRRP program is, accordingly, massive. It is unclear what (if any) buildings might be excluded from EPA’s oversight. If the Agency truly intends for a Public & Commercial LRRP Program to be so boundless in scope, then it is incumbent on the Agency to make sure that all federal, state, local, municipal, non-profit and private sector building owners, managers and contractors have a clear understanding of what is at stake in this RFI.

²⁰40 CFR § 745.83 (2012) (emphasis added).

B. General Characteristics of U.S. Commercial Buildings

The general definitions discussed above are helpful guides. But they do not reflect the real breadth of complexity and diversity between and among public and commercial structures. Except for the fact that it does not include the full range of manufacturing, industrial, and agricultural buildings, CBECS provides the most comprehensive data on the sundry characteristics of the public and commercial stock property types.²¹

Information collected through CBECS is used throughout the government and private sectors to answer basic questions about commercial real estate, such as: What building types are there? How large are they? How old are they? Where are they? CBECS has been recognized as part of President Obama's "Open Government Initiative" to expand use of and reliance on data sets generated by the federal government.²² Congress has cited CBECS data, recognizing its value to government programs.²³ CBECS data reflecting the size, age, and myriad uses of buildings are reported as conclusive by the U.S. Census.²⁴ And, as explained below, CBECS provides essential information for other program offices within EPA.

Among other things, the most recent version of available CBECS data reports:²⁵

- **Amount:** There are nearly 4.9 million commercial buildings in the U.S. spanning a broad spectrum of types and uses, and comprising more than 71.6 billion square feet of floorspace.
- **Size:** Commercial buildings range widely in size. The vast majority of commercial buildings are in the smaller size categories. More than half of buildings are 5,000 square feet in size or smaller, and nearly three-fourths are 10,000 square feet or smaller.
- **Vintage:** Buildings constructed from 1970 to 2003 comprise 58 percent of buildings and 63 percent of floorspace.
- **Growth Trends:** Since the first CBECS in 1979, the commercial buildings sector has increased in size. From 1979 to 2003, the

²¹EPA will need to justify its basis for including or excluding any categories of structures from the scope of the Program.

²²See *Commercial Buildings Energy Consumption Survey*, DATA.gov, <http://www.data.gov/energy/datasets/commercial-buildings-energy-consumption-survey> (last visited Mar. 27, 2013).

²³See Letter from High-Performance Building Congressional Caucus Coalition to Senate Energy & Water Appropriations Subcommittee Staff (July 25, 2011) <http://www.hpbcc.org/CBECSMemo.pdf>.

²⁴U.S. Census Bureau, *Statistical Abstract of the United States: 2012*, Table 1006 at p. 630.

²⁵See *Overview of Commercial Buildings, 2003*, U.S. Energy Info. Admin., <http://www.eia.gov/emeu/cbecs/cbecs2003/overview1.html> (last visited Mar. 27, 2013). This information is from the 2003 edition of CBECS. A survey is being conducted by EIA this year, with preliminary results scheduled to be reported in 2014. See *How Will Buildings Be Selected for the 2012 CBECS?*, U.S. Energy Info. Admin., <http://www.eia.gov/consumption/commercial/2012-cbecs-building-sampling.cfm>.

number of commercial buildings increased from 3.8 million to 4.9 million. And, the amount of commercial floorspace increased from 51 billion to 72 billion square feet.²⁶

- **Location:** The South Census Region, the most populous of the four regions, accounts for more than one-third of both commercial buildings and floorspace. The fewest commercial buildings are found in the Northeast Census Region, while the smallest amount of commercial floor space is found in the West Census Region.
- **Occupancy:** Key occupancy information such as numbers of workers, median square feet per worker, and median hours per week of operation, significantly vary across all building types and sub-types.

C. Diversity of Commercial Buildings: Types, Uses, and Occupancies.

The most recent CBECS survey identified more than 100 specific activities, aggregated into fourteen “principal building activities” which are then broken down into numerous sub-types based on the primary business, commerce or function conducted within each structure, as follows:²⁷

Bldng. Type	Definition	Subcategories
Education	Buildings used for academic or technical classroom instruction, such as elementary, middle, or high schools, and classroom buildings on college or university campuses. Buildings on education campuses for which the main use is not classroom are included in the category relating to their use. For example, administration buildings are part of “Office,” dormitories are “Lodging,” and libraries are “Public Assembly.”	<ul style="list-style-type: none"> • elementary or middle school • high school • college or university • preschool or daycare • adult education • career or vocational training • religious education
Food Sales	Buildings used for retail or wholesale of food.	<ul style="list-style-type: none"> • grocery store or food market • gas station (w/ convenience

²⁶See *Overview of Commercial Buildings, 2003*, U.S. Energy Info. Admin., <http://www.eia.gov/emeu/cbecs/cbecs2003/overview2.html> (last visited Mar. 27, 2013).

²⁷See *Commercial Buildings Energy Consumption Survey (CBECS) Building Type Definitions*, <http://www.eia.gov/consumption/commercial/building-type-definitions.cfm> (last visited Mar. 27, 2013).

Bldng. Type	Definition	Subcategories
		store) <ul style="list-style-type: none"> • convenience store
Food Service	Buildings used for preparation and sale of food and beverages for consumption.	<ul style="list-style-type: none"> • fast food • restaurant or cafeteria
Health Care (Inpatient)	Buildings used as diagnostic and treatment facilities for inpatient care.	<ul style="list-style-type: none"> • hospital • inpatient rehabilitation
Health Care (Outpatient)	Buildings used as diagnostic and treatment facilities for outpatient care. Medical offices are included here if they use any type of diagnostic medical equipment (if they do not, they are categorized as an office building).	<ul style="list-style-type: none"> • medical office (see previous column) • clinic or other outpatient health care • outpatient rehabilitation • veterinarian
Lodging	Buildings used to offer multiple accommodations for short-term or long-term residents, including skilled nursing and other residential care buildings.	<ul style="list-style-type: none"> • motel or inn • hotel • dormitory, fraternity, or sorority • retirement home • nursing home, assisted living, or other residential care • convent or monastery • shelter, orphanage, or children's home • halfway house
Mercantile (Retail Other Than Mall)	Buildings used for the sale and display of goods other than food.	<ul style="list-style-type: none"> • retail store • beer, wine, or liquor store • rental center • dealership or showroom for

Bldng. Type	Definition	Subcategories
		vehicles or boats <ul style="list-style-type: none"> • studio/gallery
Mercantile (Enclosed and Strip Malls)	Shopping malls comprised of multiple connected establishments.	<ul style="list-style-type: none"> • enclosed mall • strip shopping center
Office	Buildings used for general office space, professional office, or administrative offices. Medical offices are included here if they do not use any type of diagnostic medical equipment (if they do, they are categorized as an outpatient health care building).	<ul style="list-style-type: none"> • administrative or professional office • government office • mixed-use office • bank or other financial institution • medical office (see previous column) • sales office • contractor's office (<i>e.g.</i> construction, plumbing, HVAC) • non-profit or social services • research and development • city hall or city center • religious office • call center
Public Assembly	Buildings in which people gather for social or recreational activities, whether in private or non-private meeting halls.	<ul style="list-style-type: none"> • social or meeting (<i>e.g.</i> community center, lodge, meeting hall, convention center, senior center) • recreation (<i>e.g.</i> gymnasium, health club, bowling alley, ice rink, field house, indoor racquet sports)

Bldng. Type	Definition	Subcategories
		<ul style="list-style-type: none"> • entertainment or culture (<i>e.g.</i> museum, theater, cinema, sports arena, casino, night club) • library • funeral home • student activities center • armory • exhibition hall • broadcasting studio • transportation terminal
Public Order and Safety	Buildings used for the preservation of law and order or public safety.	<ul style="list-style-type: none"> • police station • fire station • jail, reformatory, or penitentiary • courthouse or probation office
Religious Worship	Buildings in which people gather for religious activities, (such as chapels, churches, mosques, synagogues, and temples).	<ul style="list-style-type: none"> • No subcategories collected
Service	Buildings in which some type of service is provided, other than food service or retail sales of goods	<ul style="list-style-type: none"> • vehicle service or vehicle repair shop • vehicle storage/ maintenance (car barn) • repair shop • dry cleaner or laundromat • post office or postal center • car wash • gas station

Bldng. Type	Definition	Subcategories
		<ul style="list-style-type: none"> • photo processing shop • beauty parlor or barber shop • tanning salon • copy center or printing shop • kennel
Warehouse and Storage	Buildings used to store goods, manufactured products, merchandise, raw materials, or personal belongings (such as self-storage).	<ul style="list-style-type: none"> • refrigerated warehouse • non-refrigerated warehouse • distribution or shipping center
Other	Buildings that are industrial or agricultural with some retail space; buildings having several different commercial activities that, together, comprise 50 percent or more of the floorspace, but whose largest single activity is agricultural, industrial/ manufacturing, or residential; and all other miscellaneous buildings that do not fit into any other category.	<ul style="list-style-type: none"> • airplane hangar • crematorium • laboratory • telephone switching • agricultural with some retail space • manufacturing or industrial with some retail space • data center or server farm
Vacant	Buildings in which more floorspace was vacant than was used for any single commercial activity at the time of interview. Therefore, a vacant building may have some occupied floorspace.	<ul style="list-style-type: none"> • No subcategories collected.

Note as per CBECS: These subcategories are not exhaustive lists of the types of buildings included in each category. For every general category, there are some "other" types of buildings that did not fit into any of these given subcategories.

Significantly, EPA *itself* relies upon CBECS's differentiations of building types and sub-types to support and justify its programs. The ENERGY STAR office recognizes the heterogeneous composition of the commercial building stock, as identified by CBECS. EPA ENERGY STAR has identified fifteen unique types of structures for purposes of its commercial building ratings – and even these represent only about 50 percent of the commercial floor space

in the United States.²⁸ Moreover, ENERGY STAR recognizes different characteristics with regard to non-owner-occupied multifamily buildings²⁹ – such as apartments (yet another type of structure that may fall within the ambit of any Public & Commercial LRRP Rule).

The U.S. Green Building Council (“USGBC”), a non-governmental organization that provides voluntary rating platforms for buildings based on a number of environmental and sustainability criteria, likewise appreciates the complexity and diversity of the commercial real estate stock. Consideration of USGBC’s Leadership in Energy and Environmental Design (“LEED”) program is especially appropriate, as federal buildings and spaces within the real estate portfolio of the General Services Administration (“GSA”) must meet LEED “Gold” status in many cases.³⁰ One of USGBC’s rating platforms, for “Core and Shell Development” (“CS”), sets performance standards for certifying the design and construction of commercial or institutional buildings and high-rise residential buildings of all sizes, both public and private.³¹ LEED CS recognizes that “demonstrating compliance with some LEED credits can prove challenging and complex” given the varying numbers of occupants that are expected to be present across the wide range of commercial buildings.³² To assist with LEED compliance, the rating system thus provides “Default Occupancy Numbers” based on the square footage that “Transients” versus more permanent “Employees” can be expected to occupy across 13 different categories of buildings:³³

²⁸See *Energy Strategies for Buildings & Plants: Portfolio Manager Overview*, EnergyStar.gov, http://www.energystar.gov/index.cfm?c=evaluate_performance.bus_portfoliomanager (last visited Mar. 27, 2013). The 15 varied commercial building types that are eligible to receive ratings from EPA’s ENERGY STAR office are bank/financial institution; courthouse; data center; hospital (general medical and surgical); hotel; house of worship; K-12 school; medical office; municipal waste treatment plant; office; residence hall/dormitory; retail store; senior care facility; supermarket; and warehouse (refrigerated and non-refrigerated).

²⁹See *Energy Strategies for Buildings & Plants: ENERGY STAR for Multifamily Housing*, EnergyStar.gov http://www.energystar.gov/index.cfm?c=multifam_housing.bus_multifam_housing (last visited Mar. 27, 2013).

³⁰See *GSA Moves to LEED Gold for All New Federal Buildings and Renovations*, U.S. Gen. Serv. Admin. News Releases, <http://www.gsa.gov/portal/content/197325> (last visited Mar. 27, 2013). GSA is presently soliciting comment on its use of various building rating systems, as required by Congress. LEED ratings are part of this review based on the findings of an interagency discussion group. See 78 Fed. Reg. 8,145 (Feb. 5, 2013).

³¹See U.S. Green Bldg. Council, *LEED 2009 for Core & Shell Development*, http://new.usgbc.org/sites/default/files/LEED%202009%20Rating_CS-GLOBAL_07-2012_8c.pdf (July 2012) , pp. xiii-xiv.

³²*Id.*, Appendix 1, p. 85.

³³*Id.*

Default Occupancy Numbers Used by LEED, Core & Shell Development

	Gross Square Feet per Occupant	
	Employees	Transients
General office	250	0
Retail, general	550	130
Retail or service (e.g., financial, auto)	600	130
Restaurant	435	95
Grocery store	550	115
Medical office	225	330
R&D or laboratory	400	0
Warehouse, distribution	2,500	0
Warehouse, storage	20,000	0
Hotel	1,500	700
Educational, daycare	630	105
Educational, K-12	1,300	140
Educational, postsecondary	2,100	150

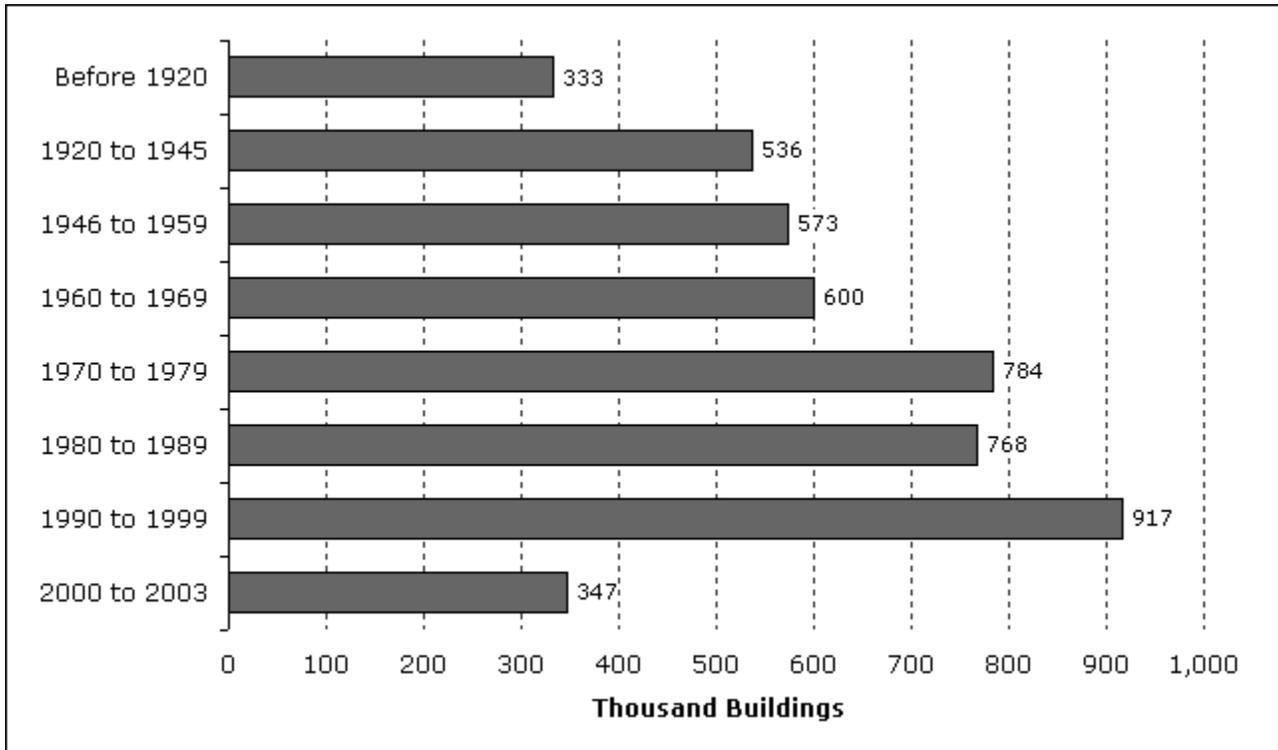
It states the obvious that an “office” is not a “school” or a “store” or a “police station” or a “church” or a “warehouse” or a “hotel” or a “movie theater” – or a “house.” EPA must account for these wide variations and patent distinctions between and among the nation’s building types, uses and occupancy levels when developing any Public & Commercial LRRP Program. Of course, inclusion of manufacturing, agricultural, and other kinds of commercial structures (which CBECS excludes) would expand the universe of buildings even further.

D. Age and Square Footage of U.S. Commercial Buildings Stock

Considering the significance of building age in the context of the Residential LRRP Rule – and that 1978 is widely reported as the year in which lead was banned from commercially available paint products in the U.S. – the vintage of the commercial buildings stock is highly relevant to this RFI. Statistics on size and square footage are also pertinent, to get some sense of the huge number of renovation, repair and painting activities that are bound to occur in public and commercial structures on a daily and ongoing basis.

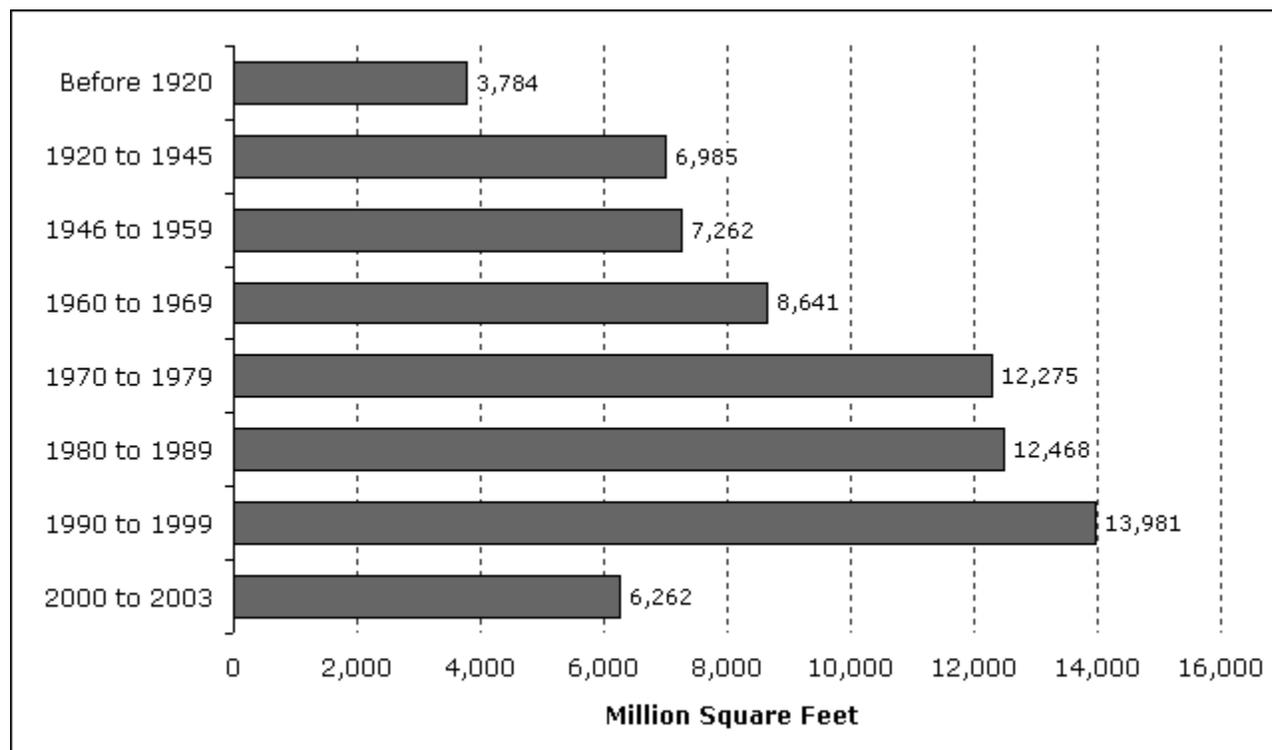
CBECS provides statistics on the age and size of non-residential U.S. buildings:

Age of Commercial Buildings³⁴



³⁴See U.S. Energy Info. Admin., *Overview of Commercial Buildings, 2003*, Figure 14, <http://ftp.eia.doe.gov/consumption/overview.pdf> (Nov. 14, 2008).

Commercial Building Floor Space, Correlated to Building Age³⁵



While this information will necessarily change based on the data gathered through the 2012 CBECS process (which is scheduled for preliminary release in 2014), the following conclusions on building age and size can be drawn from the 2003 data set:

- The median year constructed for all commercial buildings is 1973.
- About 2.8 million of the 4.9 million buildings estimated by the 2003 CBECS, or 58 percent, were constructed from 1970 to 2003. These buildings comprise 63 percent of total commercial floorspace.
- As of 2003, about 2 million of the 4.9 million buildings estimated by the 2003 CBECS – or 42% – were constructed from 1980 to 2003.
- Buildings are getting larger. The mean size of commercial buildings is greatest for the most recently constructed buildings. Buildings constructed between 1970 and 2003 have a mean size of 16,000 square feet while those constructed before 1970 have a

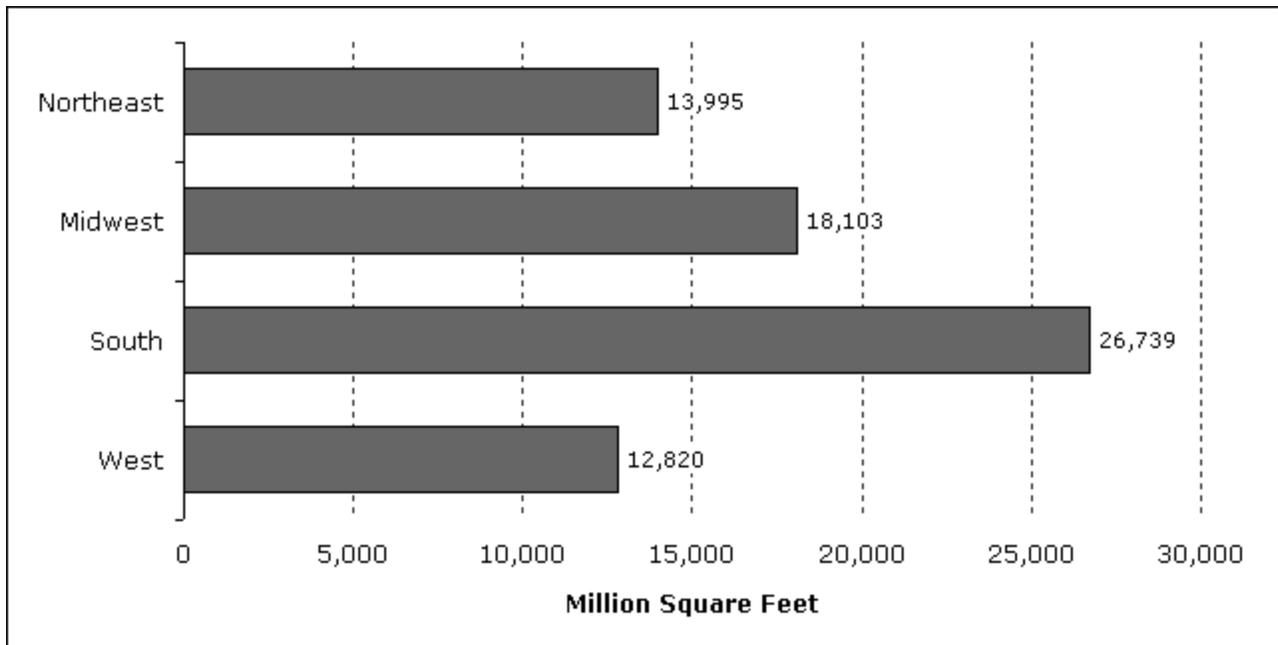
³⁵See U.S. Energy Info. Admin., *Overview of Commercial Buildings, 2003*, Figure 13, <ftp://ftp.eia.doe.gov/consumption/overview.pdf> (Nov. 14, 2008).

mean size of 13,100 square feet, a difference that is statistically significant.

E. Location of Commercial Buildings by U.S. Census Region³⁶

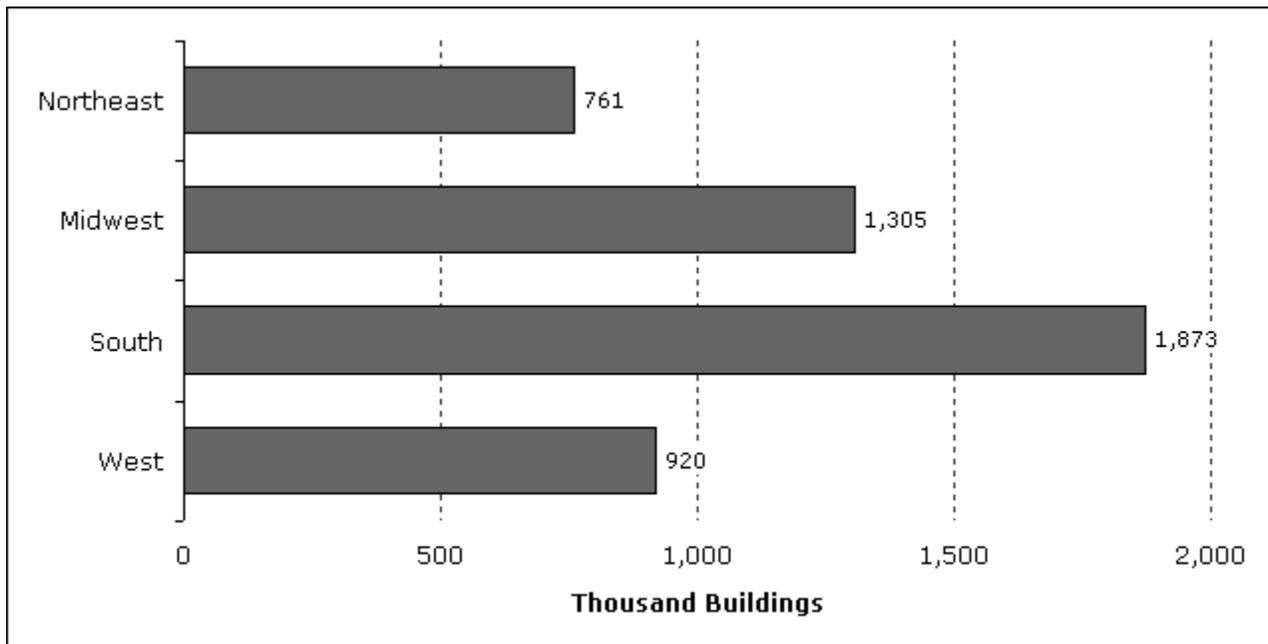
EPA should also understand the impacts of any Public & Commercial LRRP Program across regions of the U.S. The South Census Region, the most populous of the four Census Regions, has the largest percentage of commercial buildings and commercial floorspace (more than one-third of both total buildings and floorspace). Although buildings in the Northeast region are, on average, several thousand square feet larger than buildings in the other regions, the differences are not considered as statistically significant by CBECS.

Nearly 40 percent of commercial floorspace is found in buildings in the South:



³⁶See U.S. Energy Info. Admin., *Overview of Commercial Buildings, 2003*, Figures 16, 17, <http://ftp.eia.doe.gov/consumption/overview.pdf> (Nov. 14, 2008).

The fewest buildings are found in the Northeast and the greatest in the South:



F. Summary

The Coalition urges EPA to account for the wide range of asset types, uses, and occupancies when considering information that may be used to justify a Public & Commercial LRRP Program. Building age, size, and location are also highly relevant to this exercise. Considering this diversity in commercial structures, any information on the presence of lead-based paint, associated hazards, work practices, exposure pathways, transport of dust, or other factors deemed relevant for the Residential LRRP Rule has negligible (if any) basis to support a Public & Commercial LRRP Program.

IV. EPA’S SPECIFIC INFORMATION REQUESTS

In addition to providing the above information on the basic characteristics of the U.S. commercial building stock, the Coalition has endeavored to address the agency’s five specific information requests. The RFI tracks (nearly verbatim) language from a September 7, 2012, amended litigation settlement agreement with environmental organizations³⁷ and seeks information concerning:³⁸

- (1) The manufacture, sale, and uses of lead-based paint after 1978.
- (2) The use of lead-based paint in and on public and commercial buildings.

³⁷77 Fed. Reg. at 76, 997 (Dec. 31, 2013).

³⁸*Id.*

- (3) The frequency and extent of renovations on public and commercial buildings.
- (4) Work practices used in renovation of public and commercial buildings.
- (5) Dust generation and transportation from exterior and interior renovations of public and commercial buildings.

A. The Coalition’s Preliminary Observations and Information Request to EPA

Before describing the information we were able to locate that responds to EPA’s specific inquiries, the Coalition appreciates this opportunity to make several preliminary observations:

(1) *EPA’s information requests are vague.* By emails from the Coalition to EPA dated October 3, 2012 and November 26, 2012, we requested that the Agency clarify basic principles and terms so we could be in a better position to respond to the RFI.³⁹ The Coalition asked for clarity on:

- ▶ Whether EPA had collected any information on items (1)-(5) thus far, and whether we could review it;
- ▶ The significance of the 1978 date for any Public & Commercial LRRP Program;
- ▶ Whether EPA had any working definition of “renovation” in the Public & Commercial LRRP context, as distinguished from regular day-to-day maintenance activities in these buildings;
- ▶ Whether EPA could make available its reported “existing analytical work” concerning “adult health benefits” from avoided lead exposure;
- ▶ Whether EPA’s consideration of health effects for purposes of any Public & Commercial LRRP Program goes beyond effects on children under age six (the focus of the Residential LRRP program⁴⁰).

The Coalition’s initial email is five months old as of this filing, and we renew our request for EPA to answer our questions in detail and with expedition. With respect, as the Coalition has acted diligently to respond to this RFI, we hope the Agency will act with commensurate diligence and provide direction as we request – well before the June 26, 2013 public hearing.

³⁹See Attachment 8.

⁴⁰See U.S. Env’tl. Prot. Agency, *The Lead-Safe Certified Guide to Renovate Right*, <http://www.epa.gov/lead/pubs/renovaterightbrochure.pdf> (Sept. 2011).

(2) ***EPA has a responsibility to educate federal building owners and managers about the Public & Commercial LRRP Program, and convene a joint meeting with Coalition members.*** At our November 5 meeting, the Coalition impressed upon EPA the importance for comprehensive, continuous, and coordinated engagement with sister agencies and fellow federal staff that manage federal facilities. Because the LRRP Program at issue will affect public buildings, we continue to suggest that EPA convene a meeting with federal facilities managers and Coalition members to fairly share in the responsibility to identify, gather, and assess information as relevant to the RFI. As explained below, the Coalition has reached out to other federal personnel (as well as key non-federal and industry stakeholders) in the intervening weeks since the RFI was published. Invariably, the first time federal building managers heard about the RFI was due to our communication efforts. We are concerned that EPA has not (thus far) adequately seized opportunities to engage with and gather substantive data from the federal facilities community.

(3) ***To date, EPA has virtually no data on lead-based paint issues in the public and commercial buildings stock.*** The paucity of data regarding lead-based paint issues in public and commercial buildings is perhaps best evidenced by answers to questions from a Senate hearing, provided by EPA last month to Senators Boxer, Inhofe and Vitter (“Senate QFRs”). EPA stated that while it has yet to take “further regulatory action” on a Public & Commercial LRRP Program, it “has completed extensive studies on renovation activities on a variety of buildings, both residential and public and commercial”⁴¹ EPA then listed bullet points that purport to identify eight studies for the Senators’ consideration. The Coalition has examined each of EPA’s cited studies. With regard to whether lead-based paint hazards arise from RRP activities in public and commercial buildings, our review shows that EPA has given the Senators no – that is, *zero* – information:

- ▶ The 2000 study listed at bullet point 1 is a “Final Summary Report” of “Lead Exposure Associated with Renovation and Remodeling Activities.” The section of the study titled “Environmental Field Sampling Study” states: “For each monitored R&R activity, buildings containing lead-based paint suitable for typical application of the activity were selected.”⁴² A data collection effort noted as “Phase IV” was designed to assess whether workers “*performing R&R work in high risk homes*” had increased risk of elevated blood-lead concentrations.⁴³ A worker questionnaire “captured data on how often each worker conducted specific target activities in *any home, including pre-1950 homes*”⁴⁴

⁴¹ Questions for the Record from EPA to The Honorable Barbara Boxer and The Honorable James Inhofe, United States Senate Committee on Environment and Public Works, July 12, 2012 hearing on *The Latest Science on Lead’s Impacts on Children’s Development and Public Health*, (transmitted by March 7, 2013 letter from Arvin Ganesan, EPA Assistant Administrator to the Honorable James Vitter), at p. 6. See Attachment 6.

⁴² *Lead Exposure Associated with Renovation and Remodeling Activities, Final Summary Report*, EPA 747-S-00-001 (January 2000), at p. 2.

⁴³ *Id.* (emphasis added).

⁴⁴ *Id.* at p. 4 (emphasis added).

The results of the Phase III portion of the study “indicate that children *residing in homes* where R&R activities were conducted are more likely to have elevated blood-lead concentrations than children *residing in homes* where R&R was not conducted.”⁴⁵ The Coalition could otherwise find no indications in this study as to whether buildings in the field sample included non-target housing.

- ▶ EPA states that the study listed at bullet point 2 in the Senate QFRs is expressly limited to “*residential buildings*.”⁴⁶
- ▶ Likewise, EPA states that the study listed at bullet point 3 is expressly limited to “*residential buildings*.”⁴⁷
- ▶ The report listed at bullet point 4 in the Senate QFRs is a “Summary Report” from May 1997, of a study denoted as EPA 747-R-96 (the “EPA 747 Study”), titled “Lead Exposure Associated with Renovation and Remodeling Activities.” Based upon the Coalition’s review of the Summary Report, there is nothing in that document to consider whether the EPA 747 Study developed any information whatsoever regarding public and commercial buildings. In fact, the Summary Report admits: “[T]here are no data at this time to assess whether environmental exposures monitored in target housing are representative of environmental exposures encountered in public or commercial buildings.”⁴⁸
- ▶ The report listed at bullet point 5 in the Senate QFRs is the “Worker Characterization and Blood-Lead Study” component of the general EPA 747 Study. This component included worker questionnaires and telephone interviews, and collection of worker blood samples, with sampling frames identified by union membership lists and workers targeted in St. Louis and Philadelphia. The 585 surveyed workers reported that they “were evenly divided between those that worked in residential and nonresidential buildings.”⁴⁹ Yet, the questionnaire results emphasized that the sampled workers conducted renovation and

⁴⁵ *Id.* at p. 8 (emphasis added).

⁴⁶ *Executive Summary for the report Lead Exposure Associated with Renovation and Remodeling Activities: Phase IV, Worker Characterization and Blood-Lead Study of R&R Workers Who Specialize in Renovation of Old or Historic Homes*, EPA 747-R-99-001 (March 1999) (emphasis added).

⁴⁷ *Executive Summary for the report Lead Exposure Associated with Renovation and Remodeling Activities: Phase III, Wisconsin Childhood Blood-Lead Study*, EPA 747-R-99-002 (March 1999) (emphasis added).

⁴⁸ *Lead Exposure Associated with Remodeling Activities: Summary Report*, EPA 747-R-96-005 (May 1997), at p. 17 (emphasis added).

⁴⁹ *Lead Exposure Associated with Remodeling Activities: Worker Characterization and Blood-Lead Study*, EPA 747-R-96-006 (May 1997), at p. 4-1.

remodeling activities on 17 days over the course of a month – and “they spent on average 11 of these 17 days in *pre-1950 homes*.”⁵⁰ Based upon the Coalition’s review, there is nothing to indicate that sampled workers were questioned specifically about RRP activities in public and commercial buildings, or that building occupants other than construction workers were surveyed.

- ▶ The report listed at bullet point 6 in the Senate QFRs is Volume I of the “Environmental Field Sampling Study” component of the EPA 747 Study. This component studied carpet removal, window replacement, and “controlled experimentally designed” analysis of several targeted renovation activities like demolition, sawing, and paint removal. Study of large renovation projects at public facilities (such as hospitals, schools and universities), military bases, and government buildings was “abandoned” because of the difficulty in obtaining approvals.⁵¹ The Field Sampling Study plainly states: “[T]here are no data at this time to assess whether environmental exposures monitored in target housing are representative of environmental exposures encountered in public and commercial buildings.”⁵² Indeed:
 - the carpet removal phase was conducted at four homes located in Oakland, California, and four homes located in Missouri, ranging from 50 – 100 years old (as of 1993);⁵³
 - the window replacement phase was conducted at three homes, and a one-story business, in Ohio between 100 to 150 years old⁵⁴;
 - the “controlled” phase was conducted at two “row house” sites in Baltimore, Maryland, and four dwelling units in Denver, Colorado (no age specified).⁵⁵
- The report listed at bullet point 7 in the Senate QFRs simply provides the “Volume II Appendices” for the Field Study discussed immediately above.⁵⁶ The Appendices’ exclusive universe of structures is the very

⁵⁰ *Id.* (emphasis added).

⁵¹ *Id.* at p. 5-6. Notably, the “only solid prospect ... was a seminary in Ohio. Although the seminary was more than 60 years old, no lead paint was found in the interior.”

⁵² *Exposure Associated with Remodeling Activities: Environmental Field Sampling Study, Volume I: Technical Report*, EPA 747-R-96-007 (May 1997), at p. 4-5 (emphasis added).

⁵³ *Id.* at pp. 8-6 – 8-7, Table 8A-2.

⁵⁴ *Id.* at p. 5-5; p. 8-26, Table 8B-2.

⁵⁵ *Id.* at p. 8-45; pp. 8-49 – 8-51, Table 8C-1.

⁵⁶ *Exposure Associated with Remodeling Activities: Environmental Field Sampling Study, Volume II: Appendices*, EPA 747-R-96-008 (May 1997).

same 18 residential units, ranging from 50 to 150 years of age, in California, Colorado, Maryland and Missouri considered for the EPA 747 Field Study.

- The report listed at bullet point 8 in the Senate QFRs is from January 2007, titled “Draft Final Report on Characterization of Dust Lead Levels after Renovation, Repair, and Painting Activities.” The scope of this study covers “15 housing units and one [child occupied facility] ... to complete the 75 experiments.”⁵⁷ *The only non-residential site considered in this study was a school in Columbus, Ohio built in 1967.*

In sum: A single school built in 1967, and a one-story business well over 100 years old, were the *only* non-residential structures within the scope of *any* of the studies that EPA offered to the Senate as relevant on lead-based paint matters. Considering that there are about 4.9 million commercial structures in the United States, the infinitesimal evidence of lead dust found in a late 60’s-era school cannot rationally support the weight of a Public & Commercial LRRP Program – which could cover *all* such structures in the U.S., *regardless* of age. As EPA’s own cited studies state on their face, thus far the Agency has no data upon which to draw any conclusions regarding lead-based paint hazards from RRP activities in public and commercial buildings.

B. The Coalition’s Efforts to Gather Information Responsive to the RFI

The Coalition has acted with due diligence to gather information responsive to the RFI. In fact, we have pursued many of the outreach strategies recommended by the Senators from the Environment and Public Works Committee in their letter dated February 13, 2013.⁵⁸ As EPA must develop a sound administrative record upon which it must base any rational decisions for a Public & Commercial LRRP Program, we recommend that the Agency make affirmative efforts to connect with these and other stakeholders to supplement information collected by the Coalition.

Aside from leveraging our own internal resources to research and gather information for the RFI, Coalition members:

- Met with staff from the Small Business Administration’s Office of Advocacy on December 14, 2012, to raise its awareness regarding the RFI’s imminent publication at that point;
- Held a meeting and call with several federal facilities managers on January 14, 2013, to make sure they were aware of the RFI. Invitees and participants included representatives on behalf of the General Services Administration, Office of the Secretary of

⁵⁷*Draft Final Report on Characterization of Dust Lead Levels After Renovation, Repair, and Painting Activities*, EPA Contract No. EP-W-04-021 (January 23, 2007), at p. 6-1.

⁵⁸See Attachment 6.

Defense, the Naval Facilities Engineering Command (NAVFAC), and the Department of Veterans Affairs;

- Conducted outreach to the National Association of State Facilities Administrators (<http://www.nasfa.net/>) through a call and email on January 31, 2013;
- Contacted the National Association of County Organizations (<http://www.naco.org>) through emails beginning on February 8, 2013;
- Conducted outreach to the U.S. Conference of Mayors (<http://www.usmayors.org>) through emails beginning on February 8, 2013;
- Met with senior staff at the American Coatings Association (www.paint.org), on February 20, 2013;
- Conducted outreach to the National League of Cities (www.nlc.org), through emails beginning on February 22, 2013;
- Conducted outreach to CoStar Group (www.costar.com), a leading provider of commercial real estate information and analytic services, beginning on February 22, 2013;
- Met with executives and staff of NIBS (www.nibs.org) on February 5, 2013.
- Successfully urged that NIBS proactively initiate contact with both the American Coating Association and the Master Painters Institute (<http://www.paintinfo.com/>).
- Presented information on the RFI on March 19, 2013, at NIBS's offices to federal personnel participating on the Board of Direction and Advisory Committee of the Whole Building Design Guide ("WBDG") (<http://www.wbdg.org/>). Federal agency staff invited to attend the meeting – in addition to EPA – included facilities managers from the General Services Administration; the Departments of Agriculture, Energy, Health and Human Services, Homeland Security, Interior, Justice, State, Transportation, Veterans Affairs; the military branches and associated personnel including the Air Force, Army, Army Corps of Engineers, Coast Guard, Navy; the Social Security Administration; the National Science Foundation; the National Park Service; the National Institutes of Health; the Federal Aviation Administration; the Administrative Office of the U.S. Courts; and the Architect of the Capitol. More information on the WBDG is discussed below.

The Coalition reiterates that it is of paramount importance for EPA to educate and engage federal and other government building managers regarding its consideration of a Public & Commercial LRRP Program. While we have started that process, we hope EPA will join us in a substantive outreach plan to GSA, NIBS, the military branches, the Architect of the Capitol, and other public buildings entities that may be profoundly impacted by this program.

C. Specific Responses to EPA’s Information Requests.

(1) *Request 1: Information concerning the manufacture, sale, and uses of lead-based paint after 1978*

The Coalition does not represent firms that have this type of information but we did seek to assist the Agency in collecting this information by contacting the American Coatings Association (“ACA”; formerly known as the National Paint and Coatings Association, Inc.), the trade association for pigment and paint manufacturers whose mission is to “advance the interests of the coatings industry and serve as its chief advocate and spokesperson before the government and public. [ACA] undertake[s] programs and services that support the coatings industry’s commitment to environmental protection, product stewardship, health and safety, and the advancement of science and technology.” The Coalition also contacted the Master Painters Institute (MPI), an association founded in 1895 that develops standards, approves product performance, and trains professionals in the technology and use of commercial/architectural coatings. As MPI does not manufacture paint, it referred our questions to the ACA.

ACA provided us with the U.S. Paint Industry Database (dated September 1992) that contains information related to the manufacture and sale of leaded paint up to 1992.⁵⁹ ACA said that this publication was the most recent it could offer as the association no longer collects this type of data.

ACA representatives observed that once the Consumer Product Safety Commission (“CPSC”) acted to restrict the sale of lead-based paint (“LBP”) in 1978 for use on residential properties, this became the standard for paint used on other property types. To its knowledge, improved paint formulations were developed that had superior performance characteristics and were preferable to older style paints for use in/on buildings. Moreover, these coatings met the standards that the CPSC had established for use on residential buildings. ACA staff indicated that even before CPSC acted to limit the concentration of lead in paint, several states had established restrictions on the sale of this product. For example, New Jersey banned the sale of LBP for use in/on buildings in 1960. After 1978, ACA believes that LBP would not have been specified by designers or used by contractors, as better performing lead-free products were widely available in the marketplace. Lead-based coatings continue to be manufactured for use in industrial settings and as corrosion inhibiting coatings for steel and mechanical components.⁶⁰ According to ACA, some state highway administrations still use leaded paint for traffic markings.

⁵⁹ See Attachment 9.

⁶⁰ Under Title X, factory primed, fire-rated metal components are not considered as “lead coated surfaces” since the lead on these components is considered to be bound to the underlying matrix. See Department of Housing and Urban Development (“HUD”) *Technical Bulletin: Inspecting for Lead-Based Paint on Painted Metal Doors*

(2) ***Request 2: Information concerning the use of lead-based paint in and on public and commercial buildings***

The Coalition has been unable to identify surveys of the prevalence of lead in public and commercial buildings. A common paint history is not the norm in commercial and public spaces where triple net leases, tenant improvements and build-out allowances result in each tenanted space being dissimilar to other spaces in many respects, including paint history. Unlike multi-tenanted residential buildings, there is no federally approved protocol for assessing painted surfaces in public and commercial spaces that does not involve testing each painted surface throughout a building. In the context of multi-tenanted residential spaces, a sampling protocol based on a common paint history was developed.⁶¹ EPA incorporated the HUD Guidelines as a *Documented Methodology* to determine whether or not pre-1978 residential properties are subject to regulation under Title X.⁶²

The RFI suggests that EPA is considering applying regulations to a vast number of buildings without having performed the most basic level of analysis.⁶³ In developing regulations to guide the control of lead based paint hazards in housing, federal agencies conducted several large-scale surveys. HUD and EPA were concerned about the data quality in these studies and jointly sponsored a survey that was published in 1995. The Executive Summary of the *Report on the National Survey of Lead-Based Paint in Housing* shows the effort that federal regulators put into obtaining the data that would be used to regulate housing providers:

The 1987 amendments to the Lead-Based Paint Poisoning Prevention Act required the Secretary of Housing and Urban Development (HUD) to prepare and transmit to Congress “a comprehensive and workable plan” for the abatement of lead-based paint in housing and “an estimate of the amount, characteristics and regional distribution of housing in the United States that contains lead-based paint hazards at differing levels of contamination.” In response to this mandate, HUD sponsored a

and Frames (Feb. 24, 1994), transmitted to Patrick Connor, President, Connor Environmental Services, by HUD Office of Lead Hazard Control. See Attachment 10. Similarly, the State of Maryland recognizes surfaces with factory-applied lead-based primer as lead-free. See MD Code Regs. 26.16.02.02 (2013).

⁶¹See U.S. Dep’t of Hous. and Urban Dev., *Guidelines for the Evaluation and Control of Lead-based Paint Hazards in Housing – Chapter 7 – Lead-based Paint Inspections*, <http://portal.hud.gov/hudportal/documents/huddoc?id=lbph-09.pdf> (July 2010). HUD determined if lead levels in all units, common areas or exterior sites tested were found to be below 1.0 mg/cm² standard, these sample sizes provide 95 percent confidence that: (1) For pre-1960 housing units, less than 5 percent or fewer than 50 (whichever is less) units, common areas or exterior sites, have lead at or above the standard; and (2) For 1960 to 1977 housing units, less than 10 percent or fewer than 50 (whichever is less) units, common areas, or exterior sites, have lead at or above the standard.

⁶² 40 CFR Part 745.227 (2012). *Documented Methodology* was first published in 1995, revised in 1997 and the Second Edition released in 2012.

⁶³ *Lead; Renovation, Repair and Painting Program for Public and Commercial Buildings*, 75 Fed. Reg. 24,848, (May 6, 2010).

national survey of lead-based paint in housing and delivered a Report to Congress on a *Comprehensive and Workable Plan for the Abatement of Lead-Based Paint in Privately Owned Housing* in December, 1990. The *Comprehensive and Workable Plan* report was completed under a tight, Congressionally mandated schedule and focused on motivating, developing and presenting the comprehensive plan required by Congress. As such, it only reported the estimates of the extent of lead-based paint in housing required by Congress and provided a brief description of the survey methodology.

This report, sponsored by the Environmental Protection Agency, is a comprehensive technical report on the HUD-sponsored national survey of lead-based paint in housing. It provides a detailed description of the survey methodology. It reports on wide ranging analyses of the national survey data. It reports revised estimates of the extent of lead-based paint in housing, based on a thorough investigation of the multiple sources of error – variability and bias – in the data. These error sources include nonresponse biases, sampling variability between housing units, sampling variability within housing units, X-ray fluorescence device (XRF) measurement error, and laboratory analysis error. The analysis underlying the estimates presented in the *Comprehensive and Workable Plan (CWP)* report incorporated only sampling variability between housing units.⁶⁴

EPA and HUD recognized that the *National Survey* was needed to support a number of research questions including: “analysis of the relationship among sources and pathways of lead in the residential environment; analysis of the characteristics of housing with varying hazard levels; development of indices of lead hazard; analysis of the costs, effectiveness and benefits of alternative strategies of reducing lead-based paint hazards; and the identification of the dimensions of each of these issues.”⁶⁵

Unlike the development of regulations for residential buildings, EPA has not commissioned the necessary research to establish the prevalence of LBP across the spectrum of public and commercial buildings. Nor has the Agency undertaken an analysis of the prevalence of lead dust hazards that are created by renovation and repair activities in and on these structures despite a direction from Congress to do so.⁶⁶

⁶⁴U.S. Dep’t of Hous. and Urban Dev. and U.S. Env’t Prot. Agency, *Report On The National Survey Of Lead-Based Paint In Housing. Base Report*, <http://www.epa.gov/lead/pubs/r95-003.pdf> (June 1995).

⁶⁵*Id.* at 1-4.

⁶⁶15 U.S.C. §2682 (2010).

(3) ***Request 3: Information concerning the frequency and extent of renovations on public and commercial buildings***

It is impossible to state with precision the “frequency” and “extent” of public and commercial building renovations in all of those structures across the U.S. In actual practice, the Residential LRRP Program’s definitions for “renovation”⁶⁷ and “minor repair and maintenance activities”⁶⁸ – disturbance of more than six square feet of interior painted surfaces, and more than 20 square feet of exterior painted surfaces – are routine activities in public and commercial buildings. “Renovations” occur “24-7-365” in public and commercial buildings, whenever:

- A new office tenant “fits-out” a leased space, such as when GSA signs a new lease for one of its federal agency clients in a privately-owned building;
- The systems of a commercial or apartment building (such as envelope, lighting, HVAC, and controls) are retrofitted or weatherized to make the structure more energy efficient;
- Personnel needs require structural changes to work spaces, such as when staff and members change offices when a new Congress convenes, or at Executive Branch and embassy buildings when a new Administration is sworn in;
- New carpets are installed, or walls are freshened-up with new paint;
- Displays and advertisements are changed for products in malls, big box stores, other retailers, or movie theaters;
- Exterior walls are cleaned to preserve and protect buildings registered on or eligible for the National Register of Historic Places;
- Hotels, motel or inns update their lobbies, restaurants, rooms, or bathrooms to stay competitive in attracting business and vacation travelers;

⁶⁷“*Renovation* means the structure, or portion thereof, that results in the disturbance of painted surfaces, unless that activity is performed as part of an abatement as defined by this part ... The term renovation includes (but is not limited to): The removal, modification or repair of painted surfaces or components (*e.g.*, modification of painted doors, surface restoration, window repair, surface preparation activity (such as sanding, scraping, or other such activities that may generate paint dust)); the removal of building components (*e.g.*, walls, ceilings, plumbing, windows); weatherization projects (*e.g.*, cutting holes in painted surfaces to install blown-in insulation or to gain access to attics, planning thresholds to install weather-stripping), and interim controls that disturb painted surfaces ... The term renovation does not include minor repair and maintenance activities.” See 40 CFR § 745.83 (2012).

⁶⁸“*Minor repair and maintenance activities* are activities, including minor heating, ventilation or air conditioning work, electrical work, and plumbing, that disrupt 6 square feet or less of painted surfaces per room for interior activities or 20 square feet or less of painted surface for exterior activities” *Id.*

- Buildings are renovated after natural disasters;
- Restaurants reconfigure guest seating or install new kitchen equipment;
- Schools, colleges or universities expand or contract classrooms or lecture halls to meet students' needs;
- Data centers, trading floors, or financial institutions install computer equipment and server farms;
- Hospital rooms or ambulatory facilities are redesigned to improve patients' well-being;
- Ports, hangars or warehouses install shelving and otherwise reconfigure spaces to accommodate the storage, movement, and distribution of goods;
- Churches or other places of worship repair windows, chapels, and meeting halls;
- Exhibits and attractions are changed at museums, visitor centers, amusement parks, or other recreational buildings, that are managed by national, state, local, or regional parks, non-profits, or the private sector;
- Seating areas, waiting halls, ticket kiosks, or vendor stalls are moved or renovated to improve the safety and flow of passengers at terminals, stations, and depots.

This anecdotal list is the tip of the iceberg. If the definitions that apply in the Residential LRRP Program are considered for non-target housing, then one can conceive of innumerable cases in which a single public or commercial building (particularly a multi-use structure) would be the site for multiple “renovations” in a single day. And, of course, the mass of examples would become even larger if industrial, manufacturing and agricultural commercial structures are included.

Assuming EPA moves forward with a Public & Commercial LRRP Program, the Coalition urges the agency to develop and propose a definition of “renovation” that reflects the LRRP activities in public and commercial buildings and is not artificially confined by the “6 interior/20 exterior” square foot disturbance thresholds used in the residential rule.⁶⁹ We provide below a few examples of how various federal agencies and other bodies have defined “renovation” for their own programs. The list is not exhaustive, and these examples are offered only for illustrative purposes as they were never developed to address lead-based paint hazards or associated RRP work practices:

⁶⁹See *supra* note 40.

- **The Department of Health and Human Services (“HHS”)** has defined “major renovation” in its regulations for the provision of grants for Head Start facilities and for state assistance for promotion of child care: “[A] structural change to the foundation, roof, floor, or exterior or load-bearing walls of a facility, or extension of an existing facility to increase its floor area. Major renovation also means extensive alteration of an existing facility, such as to significantly change its function and purpose, even if such renovation does not include any structural change to the facility. Major renovation also includes a renovation of any kind which has a cost exceeding the lesser of \$200,000, adjusted annually to reflect the percentage change in the Consumer Price Index for All Urban Consumers (issued by the Bureau of Labor Statistics) beginning one year after June 2, 2003, or 25 percent of the total annual direct costs approved for the grantee by ACF for the budget period in which the application is made.”⁷⁰
- **HHS regulations** for providing assistance to states to promote child care define “major renovation” as: “(1) structural changes to the foundation, roof, floor, exterior or load-bearing walls of a facility, or the extension of a facility to increase its floor area; or (2) extensive alteration of a facility such as to significantly change its function and purpose, even if such renovation does not include any structural change.”⁷¹
- **The Department of Energy** has a proposed rule that would define the term “major renovation” to include “any renovation that exceeds 25% of the replacement value of the building.”⁷²
- **The Internal Revenue Service** defines “substantial renovation” as: “[T]he renovation of a major component or substantial structural part of real property that materially increases the value of the property, substantially prolongs the useful life of the property, or adapts the property to a new or different use.”⁷³
- **The Department of Housing and Urban Development** defines the term “alteration” as: “[A] change to a building or facility or its permanent fixtures or equipment that affects or could affect the usability of the building or facility or part thereof. Alterations

⁷⁰45 CFR § 1309.3 (2012).

⁷¹45 CFR § 98.2 (2012).

⁷²*Energy Efficiency and Sustainable Design Standards for New Federal Buildings*, 75 Fed. Reg. 29,933, at 29934; 29935 (May 28, 2010). The rule has not been finalized, but DOE’s guidance also uses this definition.

⁷³26 CFR § 1.199-3(m)(5) (2012).

include, but are not limited to, remodeling, renovation, rehabilitation, reconstruction, historic restoration, changes or rearrangements of the structural parts and changes or rearrangements in the plan configuration of walls and full-height partitions. Normal maintenance, re-roofing, painting, or wallpapering or changes to mechanical and electrical systems are not alterations unless they affect the usability of the building or facility.”⁷⁴

- **The U.S. Green Building Council (“USGBC”)** recognizes the potentially limitless scope of the term “renovation.” “In general parlance, alteration and additions may range from a complete gutting, major renovation, or large new wing to the replacement of an old window, sheet of drywall, or section of carpet.”⁷⁵ For purposes of one of its rating products, USGBC also distinguishes building “alterations and additions” from “repairs, routine replacements or minor upgrades” as follows: “Alterations and additions” include “construction activity by more than 1 trade specialty, make substantial changes to at least 1 entire room in the building, and require isolation of the work site from regular building occupants.” Building “additions” are those that “increase the total building floor area by at least 5% ...” On the other hand, “[a]lterations and additions below these limits are considered *repairs, routine replacements, or minor upgrades* ...”⁷⁶
- While not defining the term “renovation,” **GSA’s Public Buildings Service** has a 10,000 square foot leased space threshold for its obligation to locate in ENERGY STAR labeled buildings.⁷⁷ Similarly, the Service has a requirement of LEED certification for new construction lease projects of 10,000 square feet or more.⁷⁸

⁷⁴24 CFR § 9.103 (2012).

⁷⁵U.S. Green Bldg. Council, *U.S. Green Building Council, Leadership in Energy and Environmental Design (“LEED”) rating system for Existing Buildings: Operations & Maintenance* (“EBOM”) http://new.usgbc.org/sites/default/files/LEED%202009%20Rating_EBOM-GLOBAL_07-2012_8d_0.pdf (July 2012) at p. xviii.

⁷⁶*Id.* (emphasis added).

⁷⁷See U.S. Gen. Serv. Admin., *Memorandum to Regional Commissioners, PBS, Regional Realty Services Officers*, http://www.gsa.gov/graphics/pbs/Energy_Star_RSL_2010-02-FINAL-508.pdf (Sept. 28, 2010).

⁷⁸See *GSA Moves to LEED Gold for All New Federal Buildings and Renovations*, U.S. Gen. Serv. Admin. News Releases, <http://www.gsa.gov/portal/content/197325> (Oct. 28, 2010).

(4) ***Request 4: Information concerning work practices used in renovation of public and commercial buildings***

The Coalition recommends that EPA survey and assess a range of existing regulatory programs and voluntary industry standards that may address work practices used in public and commercial building renovations. While we do not offer the examples below as any basis to justify an ultimate Public & Commercial LRRP Rule, the following are pertinent to information request # 4, and provide avenues for further EPA outreach and coordination:

(a) **OSHA and other regulations**

As stated in Section I of the comments above, the Coalition maintains that EPA is required by Executive Orders from both the Clinton and Obama Administrations – and related interagency agreement(s) – to inventory and consider whether existing regulatory programs and industry practices already address any potential lead-based paint hazards and renovation work practices in public and commercial buildings.⁷⁹ A myriad of other federal programs in full effect are designed to prevent exposure to lead hazards for workers and building occupants as well as to protect the general environment from releases of toxic substances, including lead, that may be associated with certain construction activities. EPA must identify and assess existing authorities already “on the books” (albeit some within the jurisdiction of its sister agencies) that clearly and adequately addresses lead-based paint hazards before adopting an expansive new RRP program for public and commercial buildings.

Following on the next page is a table comparing existing regulatory programs that may likely cover the same landscape as a Public & Commercial LRRP Program. We provide this comparison for illustrative purposes only, to offer examples of renovation and remodeling work practices as requested in the RFI – and to assist EPA in considering any Public & Commercial LRRP Program that is not redundant, conflicting, or inconsistent with extant programs.

⁷⁹See *supra* notes 16 and 17. See also *Memorandum of Understanding Between U.S. Department of Labor, Occupational Safety and Health Administration, and U.S. Environmental Protection Agency, Office of Enforcement*, U.S. Dept. of Labor, http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=MOU&p_id=237 (Nov, 23, 1990). The memorandum states its purpose “to establish and improve the working relationship between [OSHA and EPA].”

TABLE: Comparison of OSHA, HUD and EPA Lead Programs

Element	OSHA Lead in Construction Standard, 29 CFR §1926.62	HUD Lead Safe Housing Rule, 24 CFR Part 35	EPA LRRP Rule, 40 CFR Part 745, Subpart E
Application	<p>Applies to all construction work where an employee <u>may be</u> exposed to lead. Applies at any detectable concentration of lead – not limited to lead-based paint as defined by EPA and the Consumer Product Safety Commission.</p>	<p>Applies in pre-1978 federally-owned or assisted housing and federally-owned housing that is being sold and where lead is present. (HUD’s rule does not cover child-occupied facilities outside of residential housing.)</p> <p><i>The following provisions apply to firms/individuals performing renovation, repair & painting projects for compensation that disturb more than 2 sq ft interior or 10% of architectural trim component or 20 sq ft of exterior surface.</i></p>	<p>Applies in pre-1978 “target housing” and “child-occupied facilities” where lead paint is present.</p> <p><i>The following provisions apply to firms/individuals performing renovation, repair & painting projects for compensation that disturb more than 6 sq ft interior or 10% of architectural trim component or 20 sq ft of exterior.</i></p>
Initial Assessment / Testing	Air monitoring required.	Certified lead-based paint (LBP) inspector or certified risk assessor; or may presume LBP or LBP hazards, respectively.	Certified LBP inspector or risk assessor; or may presume LBP or LBP hazards, respectively.
	The OSHA monitoring must be performed during the work and may apply even if EPA testing found no LBP.	LBP inspection includes XRF or paint chip analysis of each room (or may presume presence of LBP).	LBP inspection includes XRF or paint chip analysis of each room (or may presume LBP). EPA-approved chemical spot kit tests may be used to test surfaces undergoing repair if lead status unknown.
		Testing or presumption is done before a project starts. Applies to jobs that disturb more than 2 sq ft interior or 10% of architectural trim component or 20 sq ft of	Testing or presumption is done before a project starts. Applies to jobs that disturb more than 6

Element	OSHA Lead in Construction Standard, 29 CFR §1926.62	HUD Lead Safe Housing Rule, 24 CFR Part 35	EPA LRRP Rule, 40 CFR Part 745, Subpart E
		<p>exterior surface. Provide residents advanced written notification of activity and educational materials on lead hazards.</p>	<p>sq ft interior or 10% of architectural trim component or 20 sq ft of exterior. Provide residents advanced written notification of activity and educational materials on lead hazards.</p>
<p>Work Practices/Engineering Controls</p>	<p>All work practices allowed; PPE varies with exposure level (see below).</p> <p>Compressed air may not be used to remove lead from contaminated surfaces unless a ventilation system is in place to capture the dust generated by the compressed air.</p> <p>Engineering Controls: Measures include local and general exhaust ventilation, process and equipment modification, material substitution, component replacement, and isolation or automation. Equip power tools used to remove lead-based paint with dust collection shrouds or other attachments so that paint is exhausted through a high-efficiency particulate air (HEPA) vacuum system. For operations such as welding, cutting/burning, or heating, use local exhaust ventilation. Use HEPA vacuums during cleanup operations.</p> <p>For abrasive blasting operations, build a containment structure that is designed to optimize the flow of clean ventilation air. Maintain the affected area under negative pressure to</p>	<p>Lead Safe Work Practices: Wet scraping or sanding; Chemical stripping; Heat gun below 1100 F; Power tools with HEPA vacuum.</p> <p>Banned practices: Open flame burning or torching; Abrasive blasting or sandblasting without HEPA exhaust control; Heat guns at or above 1100 F; Dry sanding or scraping except around electrical outlets; Paint stripping with methylene chloride</p> <p>Exclude occupants from work area; relocate occupants during longer disruptive projects</p> <p>Sealing off work area with plastic sheeting.</p> <p>Covering or removing furniture and fittings. Covering floors with heavy</p>	<p>Lead Safe Work Practices: Wet scraping or sanding; Chemical stripping; Heat gun below 1100 F; Power tools with HEPA vacuum.</p> <p>Banned practices: Open flame burning or torching; Abrasive blasting or sandblasting without HEPA exhaust control; Heat guns at or above 1100 F; Dry sanding or scraping, except around electrical outlets.</p> <p>Exclude occupants from work area; relocate occupants during longer disruptive projects.</p> <p>Sealing off work area with plastic sheeting.</p> <p>Covering or removing furniture and fittings.</p>

Element	OSHA Lead in Construction Standard, 29 CFR §1926.62	HUD Lead Safe Housing Rule, 24 CFR Part 35	EPA LRRP Rule, 40 CFR Part 745, Subpart E
	reduce the chances that lead dust will contaminate areas outside the enclosure. Equip the containment structure with an adequately sized dust collector to control emissions of particulate matter into the environment.	plastic sheeting.	Covering floors with heavy plastic sheeting.
		Shutting off HVAC and blocking vents. Closing doors and windows.	Shutting off HVAC and blocking vents. Closing doors and windows.
PPE	Respirator requirements vary with exposures.	Recommends NIOSH N100 respirators for high dust activities.	Recommends NIOSH N100 respirators for high dust activities.
Hygiene	Recommends work clothes, booties, hats, face shields.	Recommends work clothes, booties, hats.	Recommends work clothes, booties, hats.
	Separate eating, washing, change areas; showers if feasible.	Prohibits eating, smoking, etc. in work area.	Recommends no eating, smoking, etc. in work area.
Housekeeping Practices	Regular schedule to remove accumulations of lead dust and lead-containing debris. Maintain all surfaces as free of lead contamination as practicable.	Recommends washing, tack pads to clean shoes when leaving work area.	Recommends washing, tack pads to clean shoes when leaving work area.
	Vacuuming lead dust with HEPA-filtered equipment or wetting the dust with water before sweeping are effective control measures.	Removal of work clothes, vacuuming of outside clothes.	Removal of work clothes, vacuuming of outside clothes.
	In addition, put all lead-containing debris and contaminated items accumulated for disposal into sealed, impermeable bags or other closed impermeable containers. Label bags and containers as lead-containing waste.	Occupants may not enter the worksite during Lead Hazard Reduction activities. Occupants must be temporarily relocated to a suitable unit that is decent, safe, and sanitary and free of lead-based paint hazards during Lead Hazard Reduction activity. Relocation is not always required if area can be safely secured and not interfere with resident activities. Occupants' belongings must	The worksite must be prepared to prevent the release of leaded dust and debris. Use practices to minimize the spread of lead dust, paint chips, soil, and debris.

Element	OSHA Lead in Construction Standard, 29 CFR §1926.62	HUD Lead Safe Housing Rule, 24 CFR Part 35	EPA LRRP Rule, 40 CFR Part 745, Subpart E
		<p>be protected from lead contamination by relocating, covering or sealing them, and securing the worksite against entry during non-work hours.</p> <p>The worksite must be prepared to prevent the release of leaded dust and debris.</p> <p>Use practices to minimize the spread of lead dust, paint chips, soil, and debris.</p>	
Signage	Work area warning signs when exposure is above the PEL.	Place warning signs at each entry where Lead Hazard Reduction activities are conducted when occupants are present. The signs are required at the main and secondary entrance to a building, and at exterior worksites signs must be readable from 20 feet.	Post warning signs.
Cleaning Verification	Use of HEPA vacuum; (HEPA vacuum is required only if the employer chooses to use vacuuming for clean-up; the employer can choose other equally effective methods as described under 29 CFR 1926.62(h) – Housekeeping.)	<p>Use of HEPA vacuum.</p> <p>Vacuum at least daily.</p> <p>At end of project, vacuum top to bottom, and then wash, re-vacuum.</p> <p>Clearance required including visual assessment to assure no dust/debris remains, followed by collection of dust wipes which require laboratory analysis.</p> <p>If dust wipe report shows levels below Sec. 403 defined hazards, then area may be re-occupied.</p> <p>Clearance report required to be provided to occupant.</p> <p>Qualifications. A certified risk assessor, certified lead-based paint inspector, or certified lead sampling technician must perform clearance. Sampling technicians are not authorized</p>	<p>Use of HEPA vacuum.</p> <p>Vacuum at least daily.</p> <p>At end of project, vacuum top to bottom, and then wash, re-vacuum.</p> <p>Clearance required including visual assessment to assure no dust/debris remains, followed by collection of dust wipes which require laboratory analysis.</p>

Element	OSHA Lead in Construction Standard, 29 CFR §1926.62	HUD Lead Safe Housing Rule, 24 CFR Part 35	EPA LRRP Rule, 40 CFR Part 745, Subpart E
		<p>to perform clearance after abatement and must always work in accordance with state law.</p> <p>Passing Clearance. If the test results equal or exceed the designated standards, the dwelling unit, worksite, or common area fails the clearance examination. Clearance standards are based on lead in dust, as measured by a dust wipe sample, and are:</p> <ul style="list-style-type: none"> • Floors - 40 µg/ft² • Interior window sills - 250 µg/ft² • Window troughs - 400 µg/ft² <p>Failing Clearance. If a unit fails clearance; it must be re-cleaned and clearance must be performed again in the area represented by the clearance sample.</p>	
Compliance Plan	Required when AL exceeded.	HUD requires an occupant protection plan.	EPA requires an occupant protection plan.
Medical Surveillance	Required.	Not covered.	Not covered.
Recordkeeping	Testing results, medical program 30 years.	All required testing/ resident/owner notifications/clearance reports must be maintained– 3 years.	Reports on determinations and notifications must be maintained – 3 years.

EPA information on the LRRP rule for lead-based paint can be found at <http://www.epa.gov/lead/pubs/toolkits.htm>.
 HUD information on lead safe work practices for renovation work can be found at <http://www.hud.gov/offices/lead/training/rp/rp.cfm>.
 OSHA information on worker protection for employees exposed to lead-bearing substances can be found at <http://www.osha.gov/SLTC/lead/construction.html>.

(i) OSHA's Lead Standard

OSHA's Lead Standard for the Construction Industry, Title 29 Code of Federal Regulations Section 1926.62, covers lead in a variety of forms, including metallic lead, all inorganic lead compounds, and organic lead soaps.

OSHA's lead in construction standard applies to all construction work when an employee may be exposed to lead. All work related to construction, alteration, or repair, including painting and decorating, is included. Under this standard, construction includes, but is not limited to:

- Demolition or salvage of structures where lead or materials containing lead are present;
- Removal or encapsulation of materials containing lead;
- New construction, alteration, repair, or renovation of structures, substrates, or portions or materials containing lead;
- Installation of products containing lead;
- Lead contamination from emergency cleanup;
- Transportation, disposal, storage, or containment of lead or materials containing lead where construction activities are performed; and
- Maintenance operations associated with these construction activities.

It is important to recognize that the OSHA Lead in Construction Standard, 29 CFR 1926.62, applies at any detectable concentration of lead – not limited to lead-based paint as defined by EPA and the CSPC. Employers of construction workers are responsible for developing and implementing a worker protection program for employees who may be exposed to lead above the permissible exposure limit (“PEL”). Such a program must include:

- Hazard determination, including exposure assessment;
- Medical surveillance and provisions for medical removal;
- Job-specific compliance programs;
- Engineering and work practice controls;
- Respiratory protection;
- Protective clothing and equipment;
- Housekeeping;
- Hygiene facilities and practices;
- Signs;
- Employee information and training; and
- Recordkeeping.

OSHA's Lead in Construction regulations are designed to protect workers by minimizing their exposure to lead through the use of engineering controls, good work practices and training, and use of personal protective clothing and equipment, including respirators, as required. On every jobsite where lead is present, the employer must designate a competent person capable of identifying existing and predictable lead hazards and who is authorized to take prompt corrective measures to eliminate such problems.

(ii) OSHA Regulations Protect Workers and Establish Confined/Monitored Spaces in Which Renovation Tasks Are Conducted

- **Rule Applicability.** OSHA lead regulations apply to *any* work setting where employees come into contact with *any* level of lead or lead bearing coatings.
- **Lead-based paint.** The EPA LRRP rule defines lead-based paint as containing more than 0.5 percent lead by weight. Lead coatings below this threshold are exempt from any special EPA certification, training or work practices. On the other hand, OSHA regulates lead in any amount.
- **Regulated areas.** OSHA mandates under Part 1926.62 that employers establish “regulated areas” when lead or lead-coated surfaces are disturbed. A regulated area requires specific OSHA signage. The EPA signs required by LRRP rule do not meet OSHA requirements for a regulated area.
- **Written compliance program.** OSHA regulations require a detailed compliance program listing specific requirements for employers to document.
- **Mandatory respirator use.** OSHA lead regulations require air monitoring for jobs that may generate lead dust or fumes to which workers will be exposed. OSHA has established three work class tasks for which certain exposures above the permissible exposure limit (PEL) must be assumed when employers fail to perform air monitoring. All of the work practices covered by EPA’s LRRP rule require employee respiratory protection under OSHA if the PEL is exceeded. OSHA regulations include a written respirator program, medical clearance, respirator training and fit testing for employees who are required to wear respirators.
- **Protective clothing.** OSHA lead regulations require protective clothing when work tasks disturb lead coatings (without a negative exposure assessment). OSHA requires either disposable clothing or employer laundering. The EPA LRRP rule lists disposable clothing as optional and trains workers to use HEPA vacuums to clean clothing before leaving the worksite. OSHA also requires employers to notify other employees or employers who would launder the contaminated clothing.
- **Annual training.** OSHA regulations require annual training; EPA’s residential LRRP rule requires that certified workers receive eight hours of training every five years.
- **Hygiene facilities.** OSHA regulations require a separate area to change from work clothing to street clothing as well as providing for hand/face washing facilities. EPA does not address change facilities and suggests that workers wash their hands and face prior to leaving the work place.
- **Medical surveillance and biological monitoring.** OSHA mandates biological monitoring for workers exposed above the action level for airborne lead dust and fumes. EPA’s LRRP rule briefly mentions that the only way to detect lead is with a blood test and does not require routine for biological monitoring.

(iii) Memorandum of Understanding Between OSHA and EPA

The Secretary of the Department of Labor and Administrator of EPA signed a Memorandum of Understanding (“MOU”) on November 23, 1990, with the goal of establishing a program for improved environmental and workplace health and safety. At that time, the two agencies agreed that coordination was particularly critical given the potential overlap of EPA-OSHA responsibilities and the need to assure the most effective use of limited federal resources.

The current LRRP Rule and OSHA requirements do not dovetail with one other in many ways. Reports suggest that EPA and OSHA did not collaborate on the rule while it was being written. This disregard of the MOU and the inconsistent requirements raise serious concern for business owners about risks of future liability and potential fines under the current program. These concerns will be exacerbated should EPA expand the scope of LRRP rule’s application to public and commercial buildings.

In researching this question the Coalition has spoken to environmental companies that provide testing services for contractors who are renovating commercial buildings. These renovations may involve interior ceilings, mechanical equipment, exterior facades, and demising walls between tenant spaces with the intention of reconfiguring the spaces. As required by OSHA, contractors perform both lead in paint determinations (during the “Job Design” phase) as well as air quality sampling (during the pre-job controlled demolition phase to complete the Negative Exposure Assessment). In addition to establishing whether lead is present, contractors are evaluating the workspace for environmental issues including but not limited to fungal growth, asbestos, and fluorescent lighting ballasts that will be disturbed. Limited test data indicates that painted surfaces in these structures do not have the same or significantly similar paint history. Furthermore, public and commercial spaces due to their frequent change of interior finishes cannot have a stable paint history. The OSHA standard remains protective of the employee and the active work area.

(b) Federal “Whole Building Design Guide”

Work practices used in renovation and remodeling activities – and likely other information components solicited in the RFI – may be provided by the federal Whole Building Design Guide (“WBDG”) managed by NIBS. According to the “User’s Guide” website for this federal building design platform:

Conceived in 1997 ... [t]he WBDG was created to assist the design community with integrating government criteria, non-government standards, vendor data, and expert knowledge into a “whole building” perspective. This “whole building” concept is an integrated design approach that employs a collaborative team process to achieve high-performance buildings. Since its inception, the WBDG has grown from a handful of pages to a site with thousands of pages visited by over 250,000 users per month.

The WBDG is managed by the National Institute of Building Sciences (NIBS) in Washington, DC while overall development is guided by a Board of Direction and Advisory Committee,

consisting mostly of the Federal agencies involved in facility design and construction. Content of the WBDG is a collaborative effort among federal agencies, private sector companies, nonprofit organizations and educational institutions. Its success is based on industry and government experts contributing their knowledge and experience to better serve the building community.

The WBDG also sits atop the Construction Criteria Base, a library containing over 12,000 documents, including criteria, standards, and tools. It is the primary criteria distribution system for the federal agencies who have major capital projects.⁸⁰

Furthermore:

The WBDG is the only web-based portal providing government and industry practitioners one-stop access to up-to-date information on a wide range of building-related guidance, criteria and technology from a “whole buildings” perspective. Currently organized into three major categories—Design Guidance, Project Management and Operations & Maintenance—at the heart of the WBDG are Resource Pages, reductive summaries on particular topics.

Development of the WBDG is a collaborative effort among federal agencies, private sector companies, non-profit organizations and educational institutions. Its success depends on industry and government experts contributing their knowledge and experience to better serve the building community.⁸¹

EPA is certainly familiar with the WBDG, as it is listed as one of the “participating agencies” in this platform and collaborates with 11 other federal agencies on the Guide, including the General Services Administration and the Department of Defense.⁸² Moreover, EPA is itself actively involved in the WBDG, through representatives on both the General Advisory Committee⁸³ and Sustainability Subcommittee.⁸⁴

⁸⁰*WBDG User's Guide*, Nat'l Inst. of Bldg. Sci., http://www.wbdg.org/wbdg_ug.php (last visited Mar. 27, 2013).

⁸¹*About the WBDG*, Nat'l Inst. of Bldg. Sci., <http://www.wbdg.org/about.php> (last visited Mar. 27, 2013).

⁸²Other “participating agencies” in NIBS’s Whole Building Design Guide are the Department of Homeland Security, Department of Energy, Department of Veterans Affairs, Administrative Office of the United States Courts, National Institutes of Health, Smithsonian Institution, National Aeronautics and Space Administration, and National Park Service. See *Participating Agencies*, Nat'l Inst. of Bldg. Sci., <http://www.wbdg.org/references/partagencies.php> (last visited Mar. 27, 2013).

⁸³*WBDG Board and Advisory Committee*, Nat'l Inst. of Bldg. Sci., http://www.wbdg.org/wbdg_brd_adv.php (last visited Mar. 27, 2013).

If the WDBG and collaboration among its participating agencies cannot provide information responsive to the RFI, then the Coalition wonders whether *any* group or organization could practicably and feasibly supply the information sought by EPA. We strongly encourage EPA to leverage the wealth of experience and depth of knowledge of the WDBG team for purposes of any Public & Commercial LRRP Program.

(c) **Industry practices and standards**

(i) **U.S. Green Building Council Leadership in Energy and Environmental Design – New Construction and Major Renovations (“LEED NC”)**

Work practices in USGBC LEED’s various rating programs should be considered because “[a]s a result of a 2006 evaluation by GSA of sustainable building rating systems, the Administrator concluded that [LEED] remains the most credible rating system available to meet GSA’s needs.⁸⁵ The GSA has an “upgraded requirement” for LEED Gold certification as a minimum in all new federal building construction and substantial renovation projects.⁸⁶ Moreover, EPA staff from the Agency’s Indoor Environment Management Branch serves as a Co-Chair of the Indoor Environmental Quality Technical Advisory Group (“TAG”) for LEED’s various rating platforms.⁸⁷ Thus, it appears that a set of renovation work practices used in LEED ratings have already received some level of EPA review.

- Available at: <http://new.usgbc.org/leed/rating-systems/new-construction>.
- Scope (p. xiv): “All commercial buildings, as defined by standard building codes, are eligible for certification as [LEED NC]. Examples of commercial occupancies include offices, institutional buildings (libraries, museums, churches, etc.), hotels, and residential buildings of 4 or more habitable stories ... [LEED NC] addresses design and construction for both new buildings and major renovations of existing buildings.” (p. xiv)

⁸⁴WDBG Design and Guidance Subcommittee, Nat’l Inst. of Bldg. Sci., http://www.wbdg.org/wbdg_dgc.php (last visited Mar. 27, 2013).

⁸⁵LEED Building Information, U.S. Gen. Serv. Admin., <http://www.gsa.gov/portal/content/105251> (last visited Mar. 27, 2013).

⁸⁶See *GSA Moves to LEED Gold for All New Federal Buildings and Renovations*, U.S. Gen. Serv. Admin. News Releases, <http://www.gsa.gov/portal/content/197325> (Oct. 28, 2010). GSA is currently re-evaluating building rating systems as required by a five year review under the Energy Independence and Security Act of 2007. See 78 Fed. Reg. 8,145 (Feb 5, 2013).

⁸⁷See U.S. Green Bldg. Council, *LEED 2009 for Core & Shell Development*, http://new.usgbc.org/sites/default/files/LEED%202009%20Rating_CS-GLOBAL_07-2012_8c.pdf (July 2012) , at p. v.

- Indoor Environmental Quality (“IEQ”) Prerequisite 1 (p. 59): Mechanical ventilation systems must be designed using the ventilation rate procedure as defined by ASHRAE 62.1-2007, or the applicable local code, whichever is more stringent. ASHRAE Standard 62.1-2007 User’s Manual provides detailed guidance. (p. 59)
- IEQ Credit 1 (p. 62): Install permanent monitoring systems to ensure that ventilation systems maintain design minimum requirements. Configure all monitoring equipment to generate an alarm when airflow values or carbon dioxide (CO2) values vary by 10% or more from the design values via either a building automation system alarm to the building operator or a visual or audible alert to the building occupants. Additional standards for: (1) Mechanically Ventilated Spaces with a design occupant density of 25 people or more per 1,000 square feet; and (2) Naturally Ventilated Spaces.
- IEQ Credit 2 (pp. 63-64): Increased ventilation to provide outdoor air ventilation to improve indoor air quality and promote occupant comfort, well-being and productivity. Practices include the increase in breathing outdoor air ventilation rates to all occupied spaces by at least 30% above the minimum rates required by ASHRAE Standard 62.1-2007; use of CIBSE Application Manual 10:2005, Natural Ventilation in Non-domestic Buildings; and airflow modeling using a macroscopic, multizone analytic model to predict that room-by-room airflows will effectively naturally ventilate for at least 90% of occupied spaces. (pp. 63-64).
- IEQ Credit 3.1 (p. 65): Reduce indoor air quality (IAQ) problems resulting from construction or renovation to promote the comfort and well-being of construction workers and building occupants, by developing and implementing an IAQ management plan for construction and preoccupancy phases.
 - During construction, meet or exceed the recommended control measures of the Sheet Metal and Air Conditioning Contractors National Association (SMACNA), ANSI/SMACNA 008-2008 (Chapter 3).
 - If permanently installed air handlers are used during construction, filtration media must be used at each return air grille that meets one of several criteria:
 - A Minimum Efficiency Reporting Value (MERV) of 8 as determined by ASHRAE Standard 52.2-1999;

- Filtration media at Class 5 or higher as defined by CEN Standard EN 779-2002, Particulate air filters for general ventilation; or
 - Filtration media with a dust spot efficiency of 30% or higher and greater than 90% arrestance on a particle size of 3-10 µg;
 - Replace all filtration media immediately prior to occupancy.
- IEQ Credit 3.2 (pp. 66-67): Reduce indoor air quality (IAQ) problems resulting from construction or renovation to promote the comfort and well-being of construction workers and building occupants, by developing and implementing an IAQ management plan after all finishes have been installed and the building has been completely cleaned before occupancy. Options to achieve these requirements include:
 - Install new filtration media and perform building flush-out by supplying total air volume of 14,000 cubic feet of outdoor air per square foot of floor area while maintaining an internal air temperature of at least 60°F and relative humidity no higher than 60%.
 - If occupancy is desired prior to completion of the flush-out, the space may be occupied following delivery of a minimum of 3,500 cubic feet of outdoor air per square foot. Once the space is occupied, it must be ventilated at a minimum rate of 0.30 cubic feet per minute per square foot.
 - Conduct baseline IAQ testing after construction ends and prior to occupancy using testing protocols consistent with the EPA Compendium of Methods for the Determination of Air Pollutants in Indoor Air or the ISO Method to demonstrate maximum contaminant concentration levels that cannot be exceeded.
- IEQ Credit 4.2 (p. 70): Sets requirements for low-emitting paints and coatings for building interiors.
 - Architectural paints and coatings applied to interior walls and ceilings must not exceed the volatile organic compound (VOC) content limits established in Green Seal Standard GS-11, Paints, 1st Edition, May 20, 1993.
 - Anti-corrosive and anti-rust paints applied to interior ferrous metal substrates must not exceed VOC content limit of 250g/L (2 lb/gal) established in Green Seal Standard GC-03, Anti-Corrosive Paints, 2nd Edition, January 7, 1997.

- IEQ Credit 5 (pp. 75-76): To minimize building occupant exposure to potentially hazardous particulates and chemical pollutants, implement requirements to minimize and control the entry of pollutants into buildings and later cross-contamination of regularly occupied areas.
 - Employ permanent entryway systems of at least 10 feet long in the primary direction of travel to capture dirt and particulates entering the building at regularly used exterior entrances.
 - Sufficiently exhaust each space where hazardous gases or chemicals may be present or used (*e.g.*, garages, housekeeping and laundry areas, copying and printing rooms) to create negative pressure with respect to adjacent spaces when the doors to the room are closed. For each of these spaces, provide self-closing doors and deck-to-deck partitions or a hard-lid ceiling. The exhaust rate must be at least 0.50 cubic feet per minute per square foot with no air recirculation.
 - In mechanically ventilated buildings, each ventilation system that supplies outdoor air shall comply with the following:
 - Particle filters or air cleaning devices shall be provided to clean the outdoor air at any location prior to its introduction to occupied spaces. These filters or devices shall meet one of the following: (1) Minimum efficiency reporting value (MERV) of 13 or higher in accordance with ASHRAE Standard 52.2; (2) Class F7 or higher, as defined by CEN Standard EN 779:2002; or (3) Minimum dust spot efficiency of 80% or higher and greater than 98% arrestance on a particle size of 3-10 μg .

(ii) **LEED Existing Buildings Operations and Maintenance (“LEED EBOM”)**

- Available at: <http://new.usgbc.org/leed/rating-systems/existing-buildings>.
- Scope (pp. xvii): Facility alterations and additions “that affect usable space in the building. Mechanical, electrical, or plumbing system upgrades that involve no usable space are excluded.”
 - Maximum: Alterations that affect no more than 50% of the total building floor area of no more than 50% of regular building occupants; additions that increase total building floor area by no more than 50%. Building alterations that exceed these thresholds would be covered by LEED New Construction.
 - Minimum: Alterations that include construction activity by more than 1 trade specialty, make substantial changes to at least 1 entire room in

the building, and require isolation of the work site from regular building occupants for the duration of construction. Also, additions that increase total building floor area by at least 5% are eligible for EBOM certification.

- Materials and Resources (“MR”) Prerequisite 1 (p. 41): To reduce the environmental impacts of materials used in the operations, maintenance, and upgrades of buildings, buildings should have in place an Environmentally Preferable Purchasing policy (EPP) that adheres to the “LEED 2009 for EBOM” policy model.
- Indoor Environmental Quality (IEQ) Prerequisite 1 (p. 55): See IEQ Prerequisite 1 for LEED NC, above.
- IEQ Prerequisite 3 (p. 59): Have a green cleaning policy for the building in place to reduce the exposure of building occupants and maintenance personnel to potentially hazardous chemical, biological, and particulate contaminants, which adversely affect air quality, human health, building finishes, building systems, and the environment.
 - Establish standard operating procedures addressing how an effective cleaning and hard floor and carpet maintenance system will be consistently utilized, managed, and audited. Specifically address cleaning to protect vulnerable building occupants.
 - Policy must adhere to “LEED 2009 for EBOM” policy model.
- IEQ Credit 1.1 (p. 60): Develop and implement on an ongoing basis an Indoor Air Quality (IAQ) management program based on the EPA Indoor Air Quality Building Education and Assessment Model (I-BEAM), EPA Reference Number 402-C-01-001, December 2002, available at <http://www.epa.gov/iaq/largebldgs/i-beam/index.html>.
- IEQ Credit 1.2 (p. 61): To provide capacity for ventilation system monitoring, install permanent, continuous monitoring systems that provide feedback on ventilation system performance to ensure that ventilation systems maintain minimum outdoor air flow rates under all operating conditions.
 - Provide an outdoor airflow measurement device capable of measuring and controlling the minimum airflow rate at all expected system operating conditions within 15% of the design minimum outdoor air rate. Monitoring must be performed for at least 80% of the building’s total outdoor air intake flow serving occupied spaces.

- IEQ Credit 1.3 (p. 63): Provide additional outdoor air ventilation to improve indoor air quality (IAQ). See IEQ Credit 2 for LEED NC, above.
- IEQ Credit 1.4 (p. 65): To reduce exposure of building occupants and maintenance personnel to potentially hazardous particulate contaminants, each ventilation system in mechanically ventilated buildings shall adhere to certain requirements for filtration media. See IEQ Credit 5 for LEED NC, above.
- IEQ Credit 1.5 (p. 66): To prevent indoor air quality (IAQ) problems resulting from any construction or renovation projects to help sustain the comfort and well-being of construction workers and building occupants, and IAQ management plan shall be developed and implemented for the construction and occupancy phases. See IEQ Credit 3.1 for LEED NC, above.
- IEQ Credit 2.1 (p. 68): Implement an occupant comfort survey and complaint response system to collect anonymous responses about conditions including indoor air quality, building cleanliness, and other occupant comfort issues. The survey must be from a representative sample of building occupants making up at least 30% of the total occupants.
- IEQ Credit 3.1 (p. 75): To reduce exposure of building occupants and maintenance personnel to potentially hazardous chemicals and particulate contaminants, have in place a high-performance cleaning program that includes cleaning and care of carpets and hard floors.
- IEQ Credit 3.2 (p. 76): To reduce exposure of building occupants and maintenance personnel to potentially hazardous chemicals and particulate contaminants, conduct an audit in accordance with the APPA Leadership in Education Facilities' (APPA) "Custodial Staffing Guidelines": to determine the appearance level of the facility. The facility must score 3 or less.
- IEQ Credit 3.4: (p. 79): To reduce exposure of building occupants and maintenance personnel to potentially hazardous chemicals and particulate contaminants, implement a program for the use of janitorial equipment that reduces building contaminants and minimizes environmental impact. Among other components, cleaning equipment program must include:
 - Carpet extraction equipment used for restorative deep cleaning is certified by the Carpet and Rug Institute's "Seal of Approval" Testing Program for deep-cleaning extractors.

- Powered floor maintenance equipment, including electric and battery-powered floor buffers and burnishers, is equipped with vacuums, guards, and/or other devices for capturing fine particulates.
- Equipment is designed with safeguards, such as rollers or rubber bumpers, to reduce potential damage to building surfaces.
- Keep a log for all powered cleaning equipment to document the date of equipment purchase and all repair and maintenance activities and include vendor specification sheets for each type of equipment in use.
- IEQ Credit 3.5 (p. 80): To reduce exposure of building occupants and maintenance personnel to potentially hazardous chemicals and particulate contaminants, employ permanent entryway systems (grilles, grates, mats) at least 10 feet long in the primary direction of travel to capture dirt and particulates entering the building at all public entry points, and develop the associated cleaning strategies to maintain those entryway systems as well as exterior walkways.
 - Public entryways that are not in use or serve only as emergency exits are excluded, as are private offices.

(iii) LEED Commercial Interiors (“LEED CI”):

- Available at: <http://new.usgbc.org/leed/rating-systems/commercial-interiors>
- Coverage (pp. xii-xiv): Addresses the specifics of tenant spaces primarily in office, retail, and institutional buildings. Tenants who lease their space or do not occupy the entire building are eligible.
- IEQ Credit 3.1 (p. 44): Reduce indoor air quality (IAQ) problems resulting from construction or renovation to promote the comfort and well-being of construction workers and building occupants, by developing and implementing an IAQ management plan for construction and preoccupancy phases. See IEQ Credit 3.1 for LEED NC, above.
- IEQ Credit 3.2 (pp. 45-46): To reduce indoor air quality (IAQ) problems resulting from construction or renovation, develop an IAQ management plan and implement it after all finishes have been installed and the building has been completely cleaned before occupancy. See IEQ Credit 3.2 for LEED NC, above.
- IEQ Credit 4.2 (p. 49): Sets requirements for low-emitting paintings and coatings for building interiors. See IEQ Credit 4.2 for LEED NC, above.

- IEQ Credit 5 (p. 55): To minimize building occupant exposure to potentially hazardous particulates and chemical pollutants, implement requirements to minimize and control the entry of pollutants into buildings and later cross-contamination of regularly occupied areas. See IEQ Credit 5 for LEED NC, above.

(iv) National Green Building Standard/ICC 700

- Scoring Tools for Certification available at:
http://www.homeinnovation.com/services/certification/green_homes_and_products/resources/ngbs_green_scoring.
- Coverage: Design, construction, certification, and operation of new and existing single- and multi-family buildings. The first green building rating system to receive the full consensus process and receive approval from the American National Standards Institute (ANSI) and the only residential system to do so.
- Indoor Environmental Quality criteria:
 - Pollutant sources to be controlled
 - Natural draft furnaces, boilers, or water heaters are not located in conditioned spaces, including conditioned crawlspaces, unless located in a mechanical room that has an outdoor air source and is sealed and insulated to separate it from the conditioned spaces
 - Air handling equipment or return ducts are not located in the garage, unless placed in isolated, air-sealed mechanical rooms with an outside air source
 - Building entrance pollutants control – pollutants are controlled at all main building entrances by one of the following methods:
 - Exterior grilles or mats are installed in a fixed manner and may be removable for cleaning
 - Interior grilles or mats are installed in a fixed manner and may be removable for cleaning
 - Building ventilation systems: (mandatory)
 - One of the following whole building ventilation systems is implemented and is in accordance with specifications in Appendix B:
 - ✓ Exhaust or supply fans ready for continuous operation and with appropriately labeled controls
 - ✓ Balanced exhaust and supply fans with supply intakes located in accordance with the manufacturer’s guidelines so as to not introduce polluted air back into the building
 - ✓ Heat-recovery ventilator
 - ✓ Energy-recovery ventilator

- HVAC system protection – one of the following HVAC system protection measures is performed:
 - HVAC supply registers (boots), return grilles, and rough-ins are covered during construction activities to prevent dust and other pollutants from entering the system.
 - Prior to owner occupancy, HVAC supply registers (boots), return grilles, and duct terminations are inspected and vacuumed. In addition, the coils are inspected and cleaned and filter is replaced if necessary.

(v) Green Globes

- Criteria and Point Allocation available at:
<http://www.thegbi.org/green-globes/continual-improvement-for-existing-buildings.shtml>.
- Coverage: The program has modules supporting new construction Green Globes for New Construction (“NC”) and existing buildings – Green Globes for Continual Improvement of Existing Buildings (“CIEB”). It is suitable for a wide range of buildings, including large and small offices, multi-family structures and institutional buildings such as courthouses, schools, and universities.
- Indoor Environment Criteria for both NC and CIEB include:
 - Features of a ventilation system designed to avoid entraining pollutants into the ventilation air path include:
 - To avoid re-entrainment, air intakes and outlets to be positioned at least 30 ft. apart, and inlets not to be downwind of outlets.
 - Air intakes to be located more than 60 ft. from major sources of pollution and at least the minimum recommended distances from lesser sources of pollution.
 - Air intake openings to be suitably protected.
 - Ventilation lining that will avoid the release of pollution and fibers into the ventilation air path.
 - Sufficient ventilation be provided to obtain acceptable Indoor Air Quality, in accordance with ANSI/ASHRAE 62.1-2004.
 - Evidence that the mechanical systems will provide effective air exchange with the capability of flushing-out the building with 100% outside air at ambient temperatures above 32°F.
 - Indoor air quality
 - Monitoring via CO₂ monitoring or digital electronic airflow monitoring.
 - Measures specified to prevent the growth of fungus, mold, and bacteria on building surfaces and in concealed spaces.
 - Construction documents indicate measures to mitigate indoor pollution at-source.

- Construction documents specify interior materials that are low-VOC emitting, non-toxic, and chemically inert.
- Tenant/occupant concerns log regarding indoor air quality.
- Indoor air quality audit within the past year.
- Checklist of items connected to IAQ (e.g. use of low-VOC emitting, non-toxic, and chemically inert materials) that must be discussed with architects, engineers, contractors, and other professionals prior to renovations and repairs.

(5) ***Request 5: Information concerning dust generation and transportation from exterior and interior renovations of public and commercial buildings***

Despite the Coalition’s best efforts to gather dust generation and transport information as a result from renovation activities in public and commercial buildings, we could not find any. This is not surprising, given that panelists at a Science Advisory Board meeting in 2010 “raised concerns” regarding “insufficient data concerning lead dust exposures in commercial or public buildings.”⁸⁸ We located no information responsive to Request (5) that has come to light since that 2010 SAB meeting.

To obtain valid information for this request, the Coalition believes that EPA will be required to study and assess actual renovation and remodeling activities at building sites. Again, given the mission and function of NIBS and its management of the WBDG, we strongly recommend that EPA coordinate with the Institute on the suggestion of Senators King, Manchin and Begich to identify appropriate interior and exterior renovation projects to assess dust generation and transport. Also, in consultation with GSA, EPA can locate ongoing and imminent retrofit and remodel projects in commercial office buildings and leased spaces within the jurisdiction of the Public Buildings Service that may inform their research activities in support of this rulemaking. The Coalition welcomes the opportunity to attend meetings with EPA and these federal facility managers to identify appropriate subjects for study.

We also believe that EPA’s outreach to the Architect of the Capitol (“Architect”) can prove highly informative with regard to information on dust generation and transport. As the EPW Senators explained in their February 13 letter, the Architect is responsible for the U.S. Congress and Supreme Court and maintaining 17.4 million square feet of buildings on Capitol Hill.⁸⁹ A quick review of the Architect’s website reveals several recent and future rehabilitation projects⁹⁰ that can likely provide helpful information. Notably, the first phase of the rehabilitation of the Capitol Dome “accomplished the removal of nearly 200,000 pounds of lead-based paint ... between the inner and outer cast iron shells of the dome,” and more recently

⁸⁸EPA Science Advisers Urge Tougher Lead Dust Cleanup Requirements, InsideEPA.com (July 13, 2010). See Attachment 4.

⁸⁹See *About AOC: Responsibilities of the Architect*, Architect of the Capitol, <http://aoc.gov/about-aoc/responsibilities-architect> (last visited Mar. 27, 2013).

⁹⁰See *About AOC: Projects*, Architect of the Capitol, <http://www.aoc.gov/projects>, (last visited Mar. 27, 2013).

“repainting phases were completed ... to preserve the ironwork during the construction and opening of the Capitol Visitors Center.”⁹¹ The Architect was also responsible for “removing lead paint on the exterior and interior surfaces of the skirt and skirt hoop, the brackets supporting the Peristyle, the underside of the Peristyle floor plates, the grand stair, and all masonry walls within the skirt area; repairing the cast iron and stone; as well as repainting the skirt section of the dome ...”⁹² While the description on the Architect’s website sounds more like an abatement project as opposed to renovation and remodeling, we hope that EPA has considered lessons learned from the Capitol Dome’s rehabilitation and urge the agency to connect with the Architect if it has not yet taken that opportunity.

In addition, the Architect is responsible for a major restoration of the Cannon House Office Building.⁹³ Cannon was completed in 1908 and underwent a major remodel in 1932. “[T]he House of Representatives is in the early planning stages for a top-to-bottom renewal of the Cannon Building. [The Architect] has assembled a team of in-house experts and consultants who are working with House leaders to define key aspects of the project. This initial effort will better define the estimated costs, scope of work, and potential timeline for the work. The AOC expects this initial planning to conclude in 2013.” It is fortuitous that the time frame for the Cannon Building’s restoration complements EPA’s schedule to develop the Public & Commercial LRRP Rule, as set forth in the amended litigation settlement agreement. We encourage EPA to contact the Architect’s team to learn more about Cannon’s renovation, and how it may provide information on dust generation and transport as well as other aspects of the RFI. The Coalition welcomes any opportunity to assist with this outreach.

V. ADDITIONAL CONSIDERATIONS

The Coalition submits that EPA should consider the following additional points in developing any Public & Commercial LRRP Program and associated regulations.

A. Scope of EPA’s Legal Authority Under TSCA Regarding Public & Commercial LRRP

As EPA acknowledges in the RFI – and in the terms of its September 7, 2012 amended settlement agreement – the agency’s authority to regulate renovations in public and commercial buildings applies only to the “extent such renovations create lead-based paint hazards.”⁹⁴ Further delimiting the scope of EPA’s regulatory authority, a conjunctive reading of TSCA sections 402 and 403 reflects an expected sequence for agency action – requiring EPA

⁹¹ See *Dome Skirt Rehabilitation*, Architect of the Capitol, <http://www.aoc.gov/projects/dome-skirt-rehabilitation>, (last visited Mar. 27, 2013).

⁹²*Id.*

⁹³ See *Cannon Renewal Project*, Architect of the Capitol, <http://www.aoc.gov/cannon-renewal-project>, (last visited Mar. 27, 2013).

⁹⁴ 77 Fed. Reg. at 76,997 (Dec. 31, 2012), *citing* TSCA §402 (c)(3) (15 U.S.C. §2682 (c)(3)). The statute defines a “lead-based paint hazard” as a “condition that causes exposure to lead... that *would* result in adverse human health effects as established by the Administrator under this subchapter.” TSCA § 401(10) (emphasis added).

first to promulgate regulations that “identify... lead-based paint hazards,” the results of which are then to be used in determining whether to “apply the regulations [adopted for “target housing”] to renovations” in public and commercial buildings, or, alternatively, to determine that certain categories of renovation do not require regulation.

Thus far, however, EPA has not met this prerequisite for rulemaking with respect to public and commercial buildings, because the only Section 403 rule it has issued that analyzes lead-based paint hazards explicitly stated that its conclusions “were not intended to identify potential hazards in other settings” besides pre-1978 “target housing.”⁹⁵ As noted above, to provide support for rulemaking, any new 403 rule for public and commercial buildings would need to establish a credible link between exterior and interior renovations and impacts “that would result in adverse health effects,” an empirical data gap that EPA’s Science Advisory Board has recognized.⁹⁶ At a minimum, EPA may not proceed with rulemaking to regulate renovations in public and commercial buildings unless and until it has promulgated a final Section 403 rule identifying lead-based paint hazards in those structures.

EPA’s authority is also bounded by other factors, including considerations of reasonableness, practicality and benefit/cost justification. For example, in its 2010 Residential LRRP Program final rule, EPA cautioned that:

Although there is no known level of lead exposure that is safe, EPA does not believe the intent of Congress was to require elimination of all possible risk arising from a renovation. Nor does TSCA explicitly require EPA to eliminate all possible risk from lead, nor would it be feasible to do so since lead is a component of the earth.⁹⁷

In a similar vein, the Agency noted that “[a]dditionally, EPA has interpreted practicality in implementation to be an element of the statutory directive to take into account effectiveness and reliability.”⁹⁸ If these caveats were sound in the context of a LRRP rule focused on target housing – the location with the greatest risk that lead exposure would result in adverse human health effects – they apply with even greater force to the much less likely risk prospect represented by public and commercial buildings.

⁹⁵ *Lead; Identification of Dangerous Levels of Lead*, 66 Fed. Reg. 1,206, 1,211, (Jan. 5, 2001).

⁹⁶ See Office of Pollution Prevention and Toxics, U.S. Evtl. Prot. Agency, *Approach for Developing Lead Dust Hazard Standards for Residences*, SAB Review Draft, [http://yosemite.epa.gov/sab/sabproduct.nsf/0/9C733206A5D6425785257695004F0CB1/\\$File/ResidentialPbDust.pdf](http://yosemite.epa.gov/sab/sabproduct.nsf/0/9C733206A5D6425785257695004F0CB1/$File/ResidentialPbDust.pdf) (Nov. 5, 2010); and *Approach for Developing Lead Dust Hazard Standards for Public and Commercial Buildings*, SAB Review Draft, [http://yosemite.epa.gov/sab/sabproduct.nsf/0/9C733206A5D6425785257695004F0CB1/\\$File/Pub&CommBldgPbDust.pdf](http://yosemite.epa.gov/sab/sabproduct.nsf/0/9C733206A5D6425785257695004F0CB1/$File/Pub&CommBldgPbDust.pdf) (Nov. 5, 2010), at 22.

⁹⁷ *Lead; Renovation, Repair, and Painting Program*, 73 Fed. Reg. 21,692, 21,700 (April 22, 2008).

⁹⁸ *Id.*, at 21,701.

B. Inspector General's Report for the Residential LRRP Program

As noted throughout these comments, the Coalition is concerned that EPA will rely heavily on the Residential LRRP rules to develop any Public & Commercial LRRP Program. This is problematic – aside from the obvious reason that the two rules cover completely different types of structures – because much of the analysis EPA relied on for the residential rule was flawed.

A July 2012 Office of the Inspector General (“OIG”) report⁹⁹ found that EPA’s cost-benefit analysis was so flawed it recommended that “EPA reexamine the costs and benefits of the 2008 Lead Rule and the 2010 amendment to determine whether the rule should be modified, streamlined, expanded, or repealed.” EPA did not follow this recommendation.

One serious problem the OIG report identified is that EPA used self-reported information from just nine businesses to develop its estimate for incremental costs and benefits of the 2008 residential rule. In the report, EPA acknowledged that it did this intentionally to avoid Paperwork Reduction Act requirements (and by extension a required review by the Office of Management and Budget), which the Agency said could delay the process up to two years. From the nine responses, EPA determined costs associated with the 2008 rule were relatively low. EPA compounded its misjudgment by reasoning that since the costs were relatively low, it did not need to consider certain opportunity costs such as: increased consumer and producer prices, legal and administrative costs, liability insurance costs, unemployment effects, and indirect costs. Therefore, the analysis significantly underestimated costs of the rule on the regulated community and consumers.

A second concern identified in the OIG report is EPA’s failure to include costs associated with EPA-recommended practices. In its required training courses, instructors demonstrate work practices that are “EPA recommended” but not mandatory, which include: using baby wipes to clean tools, attaching plastic sheeting to the exterior of windows, covering all play areas and sandboxes, and using a shroud for HEPA-filtered tools. However, as the report observes, it is unreasonable for EPA to think a contractor will draw a distinction between something required versus something recommended, when it is demonstrated in an EPA-required training program. Therefore, although EPA attempted to clarify the difference between mandatory requirements and recommended practices by making changes to the October 2011 instructor manual, EPA should have included costs for the activities resulting from the recommended practices to more fully and accurately reflect the economic impact from the Residential LRRP Rule.

As EPA moves forward with any Public & Commercial LRRP Program, it should conduct extensive analysis to determine the true cost of the rule on the public. Under no circumstance should it attempt to rely on the flawed analysis it used to justify the Residential LRRP rule.

⁹⁹Office of Inspector General, U.S. Env'tl. Prot. Agency, *Review of Hotline Complaint Concerning Cost and Benefit Estimates for EPA's Lead-Based Paint Rule*, Report No. 12-P-0600 <http://www.epa.gov/oig/reports/2012/20120725-12-P-0600.pdf> (July 25, 2012).

C. Authority Under the Resource Conservation and Recovery Act (“RCRA”)

Assuming any lead-based paint hazards in public and commercial buildings are found to exist as the result of LRRP activities in those structures, EPA should assess whether it already has sufficient enforcement authority – outside of TSCA – to address such hazards.

On at least two occasions, EPA has used the imminent and substantial endangerment clause under section 7003 of RCRA¹⁰⁰ to require abatement of lead paint. See *In the Matter of 17th Street Revocable Trust*, RCRA-03-2000-01, and *Order to Group I Management and M275 LLC of Fall River*, RCRA-01-2001-072¹⁰¹ (attached).

The *Group I Management* order was issued by EPA under its RCRA 7003 authority after a contractor completed the sandblasting of paint from several floors of a commercial building. Dust from the operations migrated through floors and windows. Debris from the operations left outside the building was sampled and found to contain lead. The property owner was ordered to complete lead paint abatement at the property under the order. Similarly, the *17th Street Order* required abatement of lead paint in a multi-unit residential facility that included a day care center. EPA issued the order under Section 7003 after learning of several reports of lead poisoning in children and obtaining sample results of the paint chips at the property.

D. Authority Under Comprehensive Environmental Response, Compensation and Liability Act (“CERCLA”)

Another statutory scheme that regulates lead-based paint hazards specific to exterior renovations, which EPA should also take into account, is available under CERCLA. Under CERCLA §102, EPA is authorized to “promulgate and revise as may be appropriate, regulations designating as hazardous substances, ... such elements, compounds, mixtures, solutions and substances which, when released into the environment may present substantial danger to the public health or welfare of the environment.”¹⁰² Lead has been identified by EPA as a hazardous substance¹⁰³ and repairs/renovations to the exterior of a facility (public or commercial building) that disturb lead based paint may either release or threaten to release lead into the environment outside of the building.¹⁰⁴

¹⁰⁰42 U.S.C. §6973(a) (2010).

¹⁰¹See Attachment 11.

¹⁰²42 U.S.C. §9602(a) (1994).

¹⁰³40 C.F.R. §302.4 (1996).

¹⁰⁴ In *ABD Assoc. Ltd Partnership v. American Tobacco Co.*, plaintiff brought suit under CERCLA to recover, inter alia, the response costs associated with the cleanup of lead-based paint from the exterior of buildings. The court acknowledged that lead-based paint was a hazardous substance under CERCLA and stated that the mere presence of lead-based paint on the exterior of a building constituted a threatened release into the environment. 1995 U.S. Dist. LEXIS 11094 (M.D.N.C. 1995).

VI. CONCLUSION

As set forth above, the consequences of a potential EPA Public and Commercial LRRP program are enormous. Before initiating a TSCA Section 403 rulemaking governing these types of buildings, EPA must ensure that it has fully explored and analyzed all relevant data that would be needed to justify such a rule, including:

- Completion of a “hazard” finding under TSCA section 403 for public and commercial buildings that is based on a proper consideration of those categories of structures, rather than seeking to rely on a target housing analysis that explicitly stated its findings were inapplicable to other types of buildings;
- Critical analysis of the wide-ranging breadth and diversity between and among the categories, uses and occupancies of public and commercial buildings, and whether and how any Section 403 hazard finding varies among recognized building types and sub-types;
- Coordination with federal facilities managers on studies in federal buildings of any lead-based paint hazards, actual renovation projects, and the effectiveness of associated work practices to inform the public buildings aspect of any contemplated LRRP program; and
- Conducting a thorough inventory and assessment of whether existing regulatory programs and industry practices already address any potential lead-based paint hazards and renovation work practices in public and commercial buildings, to make sure that any new rule could be legally justified and found consistent with Executive Orders designed to avoid “redundant, inconsistent, or overlapping” regulation, “tak[ing] into account benefits and costs, both quantitative and qualitative.”

The Coalition has acted diligently to gather extensive information responsive to EPA’s RFI. The Coalition’s members stand ready to assist EPA further in completing the necessary groundwork for a well-supported decision as to whether it will propose an LRRP rule for public and commercial buildings or determine that these activities do not create lead-based paint hazards warranting additional rulemaking.