



## **Calendar Year 2015 Report of the Environmentally Preferable Purchasing Toxics Reduction Task Force**

**March, 2016**

Prepared by:

Massachusetts Executive Office of Energy and Environmental Affairs  
Office of Technical Assistance and Technology (OTA)  
100 Cambridge Street, Suite 900  
Boston, MA 02114

In collaboration with:

Massachusetts Operational Services Division (OSD)

Massachusetts Department of Environmental Protection (MassDEP)

Massachusetts Department of Public Health (DPH)

Massachusetts Executive Office of Labor and Workforce Development, Department of Labor Standards (DLS)

Toxics Use Reduction Institute (TURI)

## 1. Executive Summary

The Environmentally Preferable Products (EPP) program began as an optional program, helping agencies to identify greener and safer products. In 2009, Governor Deval Patrick issued Executive Order 515, mandating that executive state agencies make the switch from ordinary products to EPPs whenever they represent the “best value” for the job. E.O. 515 also created the Toxics Reduction Task Force to provide targeted technical assistance and guidance to agencies. This is the seventh annual report on the efforts of the Task Force for calendar year 2015.

The EPP program has created more than four dozen contracts, since its creation at the Operational Services Division (OSD). Growth in purchases from all EPP contracts has increased more than a hundred-fold from the first days of the program: from 1994 to 2015, purchases on the statewide eco-purchasing contracts grew from \$5 million to just under \$400 million. Since 2010, purchases of green cleaners alone, a focus of Task Force efforts since 2009, have grown immensely – from \$ \$1,688,041 to \$8,938,271.

In calendar year 2015 (CY15), the EPP Task Force completed work on FAC85: Environmentally Preferable Cleaning Products, Programs, Equipment and Supplies. Last year, in CY14, the Task Force conducted training and assistance for agencies on the evaluation of green cleaners, developed information for safer disinfection and sanitization practices, and helped OSD develop a new multistate contract for environmentally preferable cleaners that the Commonwealth will administer and which will provide a new source of revenue. In CY15, the Task Force built upon this work by continuing to conduct trainings across the Commonwealth, finalizing evaluation criteria, and hosted an FAC85 kick-off event.

Throughout CY15, the Task Force worked on researching and educating OSD buyers about flame retardant-free furniture, available under statewide contract OFF38: Office, School and Library Furniture, Accessories & Installation. The Task Force surveyed vendors on this contract to identify lines of furniture that were flame retardant-free.

In CY15, the Task Force began work on Integrated Pest Management (IPM) for the specification development in the re-bid of statewide contract FAC74: Integrated Pest Management to FAC96. The Task Force was consulted on what environmental specifications to require and used this as an opportunity to require full disclosure of products used, and to identify bidders who limited their pesticide use to “safer” products.

## 2. Overview of the Toxics Reduction Task Force and its Goals

The Toxics Reduction Task Force was established to facilitate progress with the 2009 Governor's Executive Order 515, directing all Commonwealth Executive Departments to procure EPPs and services whenever such products and services are readily available, perform satisfactorily, and represent the best value to the Commonwealth.

The Executive Order was the result of successful EPP contracts that demonstrated that products that are less toxic, conserve natural resources, and produce less waste can also be effective in terms of cost and performance. The first EPP contracts for products using recycled materials were established OSD in the mid-1990s as an outgrowth of the "Clean States" project (now the "Leading by Example" program). By the late 1990s, with the help of the state's Toxics Use Reduction (TUR) program, OSD made Massachusetts the first state to designate a "multi-attribute" EPP category: green cleaners.<sup>1</sup> In contrast to creating a preferable status for copy paper that has a certain percentage of recycled paper, ("single-attribute"), green cleaners must be evaluated according to their impact on workers, water quality, waste, and many other aspects of use.

The Executive Order formalized the relationship between the state's TUR program and agencies concerned with greening operations, creating a Task Force co-led by the Office of Technical Assistance (OTA) and OSD's EPP program, and directing agency department heads to designate an EPP liaison. The Executive Order requires an increase in EPP purchases, including incorporation of environmental specifications into contracts, construction, leases, and requires agencies to educate staff on EPPs.

There has been a significant increase in the use of environmentally preferable products and services. In 2010, a review of purchasing data estimated that 58% of all cleaning chemical purchases were from the EPP "green cleaners" contract (FAC59: Environmentally Preferable Products, Programs, Equipment and Supplies). The review drew the attention of many agencies to the question of how to increase the percentage, and also drew attention to problems in tracking EPP purchases, which led to changes in OSD tracking systems to improve understanding of what is being purchased on and off the EPP contract. Purchases reported to the Massachusetts Management Accounting Reporting System (MMARS) since 2010 show a tripling of purchases from the EPP FAC59 from 2010 to 2013 – from \$1,213,225 to \$3,467,811. However, reports from vendors under the green cleaners contract, which includes sales to municipalities and authorities not reporting to MMARS, show purchases twice that amount - \$7,356,000.

Since the EPP program was established at OSD, it has created more than four dozen contracts.<sup>2</sup> Growth in purchases from all EPP contracts has increased more than a hundred-fold from the first days of the

---

<sup>1</sup> EPA discusses this and other Massachusetts EPP innovations in its 2000 publication, [State and Local Government Pioneers: How State and Local Governments Are Implementing Environmentally Preferable Purchasing Practices](https://www.epa.gov/sites/production/files/2015-05/documents/statenlocal.pdf) <https://www.epa.gov/sites/production/files/2015-05/documents/statenlocal.pdf> (accessed 3/15/16).

<sup>2</sup> See [the "Find EPPs on Statewide Contract" webpage at: http://www.mass.gov/anf/budget-taxes-and-procurement/procurement-info-and-res/procurement-prog-and-serv/epp-procurement-prog/green-products-and-serv/specific-epp-statewide-contracts/](http://www.mass.gov/anf/budget-taxes-and-procurement/procurement-info-and-res/procurement-prog-and-serv/epp-procurement-prog/green-products-and-serv/specific-epp-statewide-contracts/) (accessed 3/15/16) or click on the Environmentally Preferable Products and Services Guide on that page.

program: from 1994 to 2013 purchases on the statewide eco-purchasing contracts grew from \$5 million to just under \$400 million today.

### **3. FAC85: Environmentally Preferable Cleaning Products, Programs, Equipment and Supplies**

In the Commonwealth, Executive Agencies are required to use statewide contracts and with the issuance of Executive Order (EO) #515, Establishing an Environmental Purchasing Policy, it allowed the Environmentally Preferable Products Procurement Program (EPP Program) to set minimum environmental standards on products whenever such products and services are readily available, perform to satisfactory standards, and represent the best value to the Commonwealth and the Task Force provides input into these standards.

In late CY14, the EPP Program took the lead in re-bidding the successful multi-state all green cleaning product/supplies contract FAC59: Environmentally Preferable Cleaning Products, Programs, Equipment and Supplies, which was originally sourced in 2009, with specification development assistance from the Task Force. The FAC59 contract included 21 vendors that provided green cleaning products that met third-party standards for environmental performance. At the time, this was the first state all green cleaners contract using third-party certified products and the Task Force was instrumental in providing feedback and assistance to the Sourcing Team in bidding this contract, which has had a large impact on not only the demand for green products in MA, but also the amount of products available.

The Task Force also recognized that having a contract like this was only one of the tools needed to transition facilities to green cleaning programs. Over the next few years, and reported in [Task Force Annual Reports](#), the Task Force provided a number of general and targeted trainings, developed guidance documents, put together case studies and provided, through the Toxics Use Reduction Institute Cleaning Lab, hands-on technical assistance to state agencies needing help navigating to a green cleaning program. Many of these publications can be found on the [Green Cleaning Webpage](#) on the EPP website.

In CY15, the Task Force focused much of its attention on providing feedback on specification development for the new contract - FAC85: Environmentally Preferable Cleaning Products, Programs, Equipment and Supplies, and was a sounding board for other toxics-related issues in the contract development.

Purchases of green products reported by FAC59 vendors, which included sales to state departments, municipalities, and authorities, indicated green purchases of close to \$10 million in FY14. Purchases decreased in FY15 to \$9 million, due in part to a mid-year change in vendors. However, purchases in just the first two quarters of FY16 are up to \$5,759,000.

**Strategic Sourcing Team:** At the end of FY14, the OSD's FAC85 Strategic Sourcing Team (SST) was assembled. The team's goals were to add products, clarify specifications, and expand contract use. The team was comprised of 21 members from multiple states, who shared their expertise as it related to the contract. The team included authorities in the area of environmental conservation, toxics use reduction

in the janitorial services industry, public health, green procurement, and worker health and safety. It also included contract users and members of purchasing departments from Connecticut, Rhode Island, New York, and Vermont, and four members from the Task Force.

**Bid Research and Development:** The FAC85 Sourcing Team referred to a recently developed green cleaning contract from Washington/Oregon, formed under the guidance of the local branch of the Responsible Purchasing Network, an international network of buyers dedicated to socially responsible and environmentally sustainable purchasing. Using their specifications as a baseline, the team evaluated and updated the standards used in FAC59 and conducted market analysis on product options. A survey of users and vendors was conducted to identify past contract performance and future needs. The user survey was extensive and, surprisingly, more than 200 responses were received (primarily from MA, NY, and CT).

The Task Force assisted with research and criteria development for surface disinfectants and sanitizers that represent a lesser impact to public health and the environment while ensuring efficacy and high performance. Notably, these products are devoid of chemicals that are known to cause asthma, cancer, and skin sensitization, except for food-contact surface sanitizers, which may contain peroxyacetic acid, an asthmagen. The criteria also required vendors to offer proper training to sales staff promoting pre-cleaning with a non-disinfecting certified “green” cleaner by identifying the surfaces that need to be disinfected (such as touch points) as well as those that do not, and training on the “clean” then sanitize or disinfect model. The final specifications were posted on the Toxics Reduction Task Force webpage in November 2014: [Toxics Reduction Task Force Alternative Approval, November 2014](#).

The Task Force also provided input into language that would foster innovation in green cleaners. Because the market for green cleaners is changing so rapidly, the Task Force recommended that there be a process for awarded vendors to propose new environmentally preferable products that fell outside of the specifications for review and approval for use on the contract. The form for the process was completed and can be viewed at [Toxics Reduction Task Force Alternative Approval Form](#). Two products were proposed at the end of CY15, Bru-Tabs and the Geneon Cleaning System. The Task Force continues to finalize the evaluation criteria for the process – it is anticipated that the approval process will be complete in the 2016.

The Sourcing Team, with input from the Task Force, also conducted a thorough evaluation of the top independently third-party certification programs - meaning that the environmental claims, as well as product performance, have been tested and certified by an established and legitimate, nationally-recognized third-party certification program. For cleaning chemicals, this included GreenSeal, UL Ecologo, and the US EPA’s Safer Choice Program. The FAC59 contract only allowed Green Seal and Ecologo, and in this bid the team wanted to ensure that unbiased, acceptable standards would be met to guarantee the highest possible level of environmentalism. The evaluation resulted in the inclusion, for the first time, of the US EPA’s Design for the Environment (which has since changed its name to Safer Choice) registered products, but limited to only two of the contract categories (Category 4: Specialty Cleaners and Category 8: De-icing and Snowmelt Products), for which there were limited certified products from the other certification programs.

Although this expanded the number of products available on the contract, the Sourcing Team decided to engage the EPA program in a discussion to explore changes that would enable the Sourcing Team to accept all DfE products in all contract categories. Some of the concerns identified by the team included: allowing companies to qualify for a label before an onsite audit had been completed; clarification on criteria for asthmagens; increase in enforcement of label misuse; shortening the timeframe for companies out of compliance to get into compliance; providing for increased public participation into substantive changes to the program, and concern with the term “screen” throughout the Safer Choice documents, which fail to explicitly state that ingredients that do not meet a standard or criteria will be excluded.

**Request for Responses (RFR) and Contract Award:** Once all the details were finalized, a Request for Response (RFR) was sent and the bidding process began. Thirty-seven (37) bids were received and evaluated and 15 vendors were awarded contracts. They were selected for their product offerings and also for their ability to provide assistance to those transitioning to green cleaning programs, a condition of the previous contract as well. The contract boasts 12 categories of products and services that include cleaning chemicals, cleaning equipment and supplies, hand soaps, liners, janitorial paper products, de-icing and snowmelt products, and a microfiber washing service. All of the green chemicals and janitorial paper products included in FAC85 require GreenSeal, UL Ecologo, or Safer Choice. There are over 4,000 products available on the contract, but vendors may add products that meet the specifications outlined in the contract, enabling them to respond to user needs as the demand and availability of green product and service offerings grow.

**FAC85 Approved Products List:** In the past, vendor price sheets were posted online and searching for and comparing products was onerous. In CY14, an intern assisted with the development of an FAC59 Approved Products list. This combined all price sheets into one, a tool used by buyers to search for and compare products that have been evaluated with regard to their impact on workers, water quality, waste, and many other aspects of use. The FAC85 Sourcing Team also developed an Approve Products List, and has been extremely diligent in reviewing all products for the required specifications, before approving them for addition to the list. The list is updated every time products are added, and posted in [COMMBUYS](#).

**Outreach and Training:** As stated earlier, the FAC85 contract was only one tool to aid facilities in transitioning to a green cleaning program. Vendors, as part of the contract requirements, are required to provide a certain level of training and technical assistance to help facilities transition. However, the Task Force recognized that even more “facilitation” was needed with state agencies. Multiple trainings were developed and given in CY13 and CY14, and the Toxics Use Reduction Institute’s Cleaning Lab provided additional technical assistance to state agencies

The EPP Program hosted a buyer FAC85 Kick-off event bringing close to 75 people, including all of the FAC85 vendors, many of the third-party certifiers, buyers from around the state, and Task Force members.

The cleaning products contract has provided a vehicle for change, but additional training and technical assistance is needed to move agencies to full green cleaning programs. The effort has prompted a shift in the marketplace – and resulted in many of the green cleaning products to become cost competitive with conventional products, and, in some cases, at a lower cost. Buyers now have a toolbox of assistance to choose from to help them adopt a green cleaning program.

Training and Technical Assistance: Members of the Task Force provided presentations, training, and technical assistance to state entities in transitioning to a green cleaning program including DCAMM, DCR, and the MBTA.

#### **4. Green Cleaning Training and Technical Assistance by the TURI Lab**

The Toxics Use Reduction Institute’s Cleaning Lab (TURI Lab) has been instrumental in providing technical assistance to facilities in beginning the process of transitioning to a green cleaning program. Because the Lab is a state program located at UMass Lowell, they have the ability to provide free or low-cost assistance to state agencies. The TURI Lab has become a national expert in green cleaning process and design, and participated on the FAC85 Sourcing Team to help develop the specifications for the contract.

Many facilities often do not know where to begin in developing a program. The TURI Lab has played an important role in helping the following departments identify and plan for green cleaning program development. Some of the Departments need more assistance than others. Last year the Task Force partnered with Department of Conservation and Recreation to pilot trainings, and to begin to provide hands-on technical assistance through the TURI Lab. It was found that both were needed in order to get programs off the ground – and demand for TURI Lab staff took off. It is hoped that as more agencies transition, and “green cleaning” becomes more the norm, the Lab will be exploring ways to “train the trainer” at different departments.

The following departments received TURI Lab technical assistance for green cleaning transition in 2015:

##### ***A. Department of Conservation and Recreation (DCR)***

###### ***West Boylston***

The TURI Cleaning Lab worked closely with the West Boylston DCR facility to transition to a full green cleaning program. This included purchasing a cleaning system that produces cleaning products on-site. The system uses catalysts in sodium chloride, citric acid and in some cases potassium chloride to produce glass cleaner, an all-purpose cleaner, and a heavy duty degreaser. In addition, they supplemented their process with other equipment, including a steam cleaning system, reusable microfiber cloths, reusable mop pads and a bucket-less mop system. For disinfection, they transitioned to a peroxide product when needed. The cleaning of fleet vehicles is also an issue, and the West Boylston location is currently piloting a number of products. One such product helps to neutralize salt on the truck floors in the winter.

###### ***All 29 DCR Pools***

During one of the DCR green cleaning trainings in 2014, a connection was made to some of the pool managers at DCR. The TURI Cleaning Lab conducted on-site audits of some of the pools, consulting with vendors, and identified a transition plan. In the past, each DCR pool location purchased their own products, received no training on how to use the products, and if there were product issues, did not have a direct contact with the vendor to ask questions and receive help.

In 2015, all of the 29 DCR pool facilities in MA were converted to a green cleaning program using FAC 85 product. A new vendor was selected to help with the transition. Each pool purchased a green cleaning “kit” which included an FAC 85 approved all purpose peroxide cleaner, an enzyme cleaner for the urine and other organic issues, a peroxide sanitizer / disinfectant, a dilution gun, a foaming gun, bucket-less mops, cloths, mop heads, a long handle brush and squeegees. The vendors trained employees at each pool location on how to use the products. In addition, other products such as janitorial papers and recycled content liners from FAC85 were purchased from the vendor. A new program was implanted, and each spring the pools will receive refresher training from the vendors on an as need basis. Having a direct contact to the vendor was instrumental to the success of the program.

### ***Salisbury Beach***

Salisbury Beach is one of the largest campgrounds in the state. Because of its size, it also relies on camper volunteers to assist in cleaning bath houses – however, training has been a challenge. Salisbury Beach staff worked with one of the FAC85 vendors to identify appropriate cleaning products as well as hand soap for their first aid stations. The vendor has provided trainings to campsite staff and volunteers. Beach staff identified an issue with mildew build-up on unglazed tiles in the bath houses. Working closely with staff and testing different products, the vendor determined that the tiles were beyond cleaning and needed to be reglazed to stop the mildew issues. Additional meetings have been scheduled with management to address this issue.

### ***Central District***

The TURI Cleaning Lab has met on multiple occasions with the DCR’s Central District. This district purchases products centrally, and has not been using FAC85 compliant products. Over the next year, the lab will be assisting Central District purchasing management to come up with a plan to transition to FAC85 approved products.

### ***Pittsfield District***

The TURI Lab and FAC 85 vendors attended a DCR Western Massachusetts regional meeting and made contact with the purchasing director who was interested in assistance in streamlining product purchasing and setting up a green cleaning program. A new vendor was selected, and products were demonstrated at one of the supervisors meetings. Some of the big issues expressed in the area had to do with mold and mildew buildup in bathrooms. Many products were used, in addition to staff labor, to remove the mold and mildew. However, the TURI Cleaning Lab and chosen vendor, after an on-site audit, identified humidity as the issue from a lack of ventilation. Some of the locations tried dehumidifiers, which seemed to work. This option will be investigated as a solution in other areas



rather than the use of consumable products and labor. In 2016, the TURI Lab and vendor will work with two sites in the region to set up demonstration programs with FAC85 approved products and equipment. These programs will be toured by all supervisors in order to facilitate questions, interest, and ultimately their buy-in. If successful, the Western region office would purchase 34 green cleaning “kits”, one for each site, and training sessions would be set up with the vendors before opening for the season.

### ***Going Forward at DCR***

The key to success with these programs has been working not only with management, but the purchasing staff, and the staff responsible for cleaning. In addition, and a key to a sustainable program, is developing a working relationship with the vendor to assist in training and be available when questions or problems arise. In April 2016, the TURI Cleaning Lab has been invited to provide a session at the annual supervisor’s academy. The session will bring together managers discussion their programs and along with vendors to provide input. The TURI Cleaning Lab continues to have a presence in helping DCR transition to a green cleaning program, but will be working to find a champion at DCR to help in the transition. It is recommended that DCR, now with close to 100 facilities transitioned to a green cleaning program, make a top down commitment to transitioning all facilities over the next few years.

### ***B. Department of Transportation***

The Department of Transportation (DOT), western region in Lenox Massachusetts reached out to the TURI Cleaning Lab to discuss options for transitioning to a green cleaning program. Meetings were held with the lab, facility management and purchasing staff to identify DOT needs and set goals. A new program was designed that ultimately transitioned them to FAC 85 approved products for cleaning, equipment, sanitizing materials and some other products to help maintain the depot. Because the region is small, testing and piloting products was the first line of action. They are working with an FAC 85 vendor to identify general purpose cleaning products, sanitizers, hand soaps, hand scrub for the garages, and janitorial paper products and liners for the 18 locations.

One example of the improvements incorporated was for cleaning the garage floor – for which they were using a non-FAC85 approved product. The Lenox DOT Depot piloted 3 products and chose an FAC85 approved floor stripper instead. It was chosen due to performance, for being less toxic, because it uses 1/20th of the chemical, and ultimately it will save the facility between \$600 -\$1000 a year. This location is also purchasing an FAC85 approved buffer and a carpet extractor. A floor process demonstration will happen in 2016 to demonstrate a process that includes floor cleaning, maintaining, stripping and coating system, using FAC85 approved products. The floor will be walk on over time to test its durability. This system has been trialed at the MBTA for over 6 months so expectations are high for success.

The TURI Lab is also working with Boston DOT locations to identify initiatives to green their cleaning programs.

### **C. Massachusetts Bay Transportation Authority**

The MBTA reached out to the TURI Cleaning Lab to review their cleaning program and process, and to provide recommendations for transitioning to a green cleaning and greener infection control program. A number of MBTA staff participated in the FAC 85 kickoff event in Sept of 2015, and they also brought one of their largest cleaning contractors who clean 60% of the MBTA's facilities and busses. The TURI Lab has met with a number of MBTA staff and worked closely with vendors to identify any necessary process and cleaning products changes. Some of the projects include:

- Set up a demonstration for a floor cleaning system was set up at the Sullivan Square MBTA station. A number of meetings between staff, the vendor, and the Lab were conducted to review the products, their performance and durability. MBTA staff has said they are pleased with the results, and will move to use the product and system.
- Testing of floor traction products and process training has been conducted, in order to prevent slips and falls.
- An auto soap unit has been recommended that will be used along with either towel dispensers or dryers to give the best infection control systems for the bathrooms.
- The tile floor will be restored and the grout color changed from white to grey to prevent the dirty look.
- A window cleaner/coating will be utilized at the facility to save up to 80 percent of the labor to maintain the windows. This system will also provide a titanium dioxide coating that will passively clean the air.
- An antimicrobial coating will be investigated for the high touch areas of the ticket machines, the turn styles, the door handles and the railings to help with infection control.
- A probiotic cleaner will also be used during the day instead of glass cleaner to increase less toxic infection control efforts.
- Bus Cleaning: the MBTA is working with the unions to add a sanitizing step to their weekly bus cleaning.

Working with the MBTA and their cleaning contractor requires cooperation and relationship building. All products needed to be vetted through the cleaning contractor as well as the MBTA staff, to make sure they worked, and that there was buy-in on use. The MBTA is working on setting overall strategies for all of the cleaning contractors do develop a full green cleaning program. Strategies for older and newer facilities are being developed over the next year, and will hopefully be instituted in 2016. The MBTA is also working on a new contract for cleaning contractors, and much of the work provided by the TURI Cleaning Lab will be integrated into requirement for the program.

### **D. Department of Public Health**

The Greenfield Department of Public Health received a TURI grant (2015-2016) through the Community Grant Program to find less toxic food contact sanitizers. The TURI Lab is working closely with the DPH and 5 identified pilot locations including two restaurants/pubs, one motel, the local Community College food service vendor, and the middle school kitchen. The other locations were given a test product, whose active ingredient is ultimately a hypochlorous solution to try for a month.

Each facility was given a green cleaning kit which will include the two cleaners, an alternative food contact sanitizer, microfiber towels, bucket-less mops and other materials for a 6 to 12 month transition period. Most of the products will be FAC 85 approved.

The Greenfield School District were looking for something that would dry with no spotting and streaking, wouldn't burn their hands, eyes or lungs, and would not contribute to asthma outbreaks and was pleased with the products provided. Another set of meetings will be set for April 2016 to do conduct ATP<sup>3</sup> testing and train Greenfield staff to use for monitoring cleaning/sanitization success. The Greenfield School District has expressed interested in transitioning all their schools to green cleaning and infection control programs and will be explored in greater detail in 2016.

Greenfield DPH is developing an outreach campaign on the project, in order to encourage other facilities to transition to a similar program. In addition, the DPH is exploring a proposed ordinance to approve the use of the hypochlorous as an alternative sanitizer in their city. Because of results of this project, Franklin County has contacted the TURI Lab to help with program development in their community.

## 5. Flame Retardants and Furniture

The Task Force has been following many national and state discussions on the use of flame retardants in furniture. Flame retardants are semi-volatile organic compounds used in commercial and consumer products to meet flammability standards. One such flame retardant, organohalogen, including polybrominated diphenyl ethers (PBDEs), has been added to polyurethane foam in furniture for many years, to meet the flammability standards. These chemicals migrate out of products and into dust where humans ingest or inhale them.<sup>4</sup> However, there are growing environmental and health concerns, and now a well-established body of research, indicating that flame retardant chemicals are harmful to human health and the environment.<sup>5 6</sup> Studies by the U.S. Consumer Product Safety Commission have also concluded that flame retardants as used in furniture do not provide meaningful protection from fires.

Some of the research has found that flame retardants:

- are persistent in the environment and do not break down into safer chemicals.
- tend to bioaccumulate, or build up in people and animals.
- are associated with endocrine disruption, immunotoxicity, reproductive toxicity, cancer, and adverse effects on fetal and child development and neurologic function.
- enter the environment through multiple pathways and are global contaminants,
- make it difficult to recycle or dispose of products to which they are added, and

---

<sup>3</sup> The ATP test is a process of rapidly measuring actively growing microorganisms through detection of adenosine triphosphate, or ATP.

<sup>4</sup> [An assessment of sources and pathways of human exposure to polybrominated diphenyl ethers. Johnson-Restrepo, B. and Kurunthachalam](http://www.sciencedirect.com/science/article/pii/S004565350900294X)  
<http://www.sciencedirect.com/science/article/pii/S004565350900294X>

<sup>5</sup> [See all sources listed in the Center for Environmental Health's Kicking Toxic Chemicals Out of the Office; An Easy Guide to Going Flame Retardant Free, July 2015, p.15, http://www.ceh.org/wp-content/uploads/Flame\\_Retardant\\_Guide\\_Corp\\_FINAL-with-date.pdf](http://www.ceh.org/wp-content/uploads/Flame_Retardant_Guide_Corp_FINAL-with-date.pdf)

<sup>6</sup> [Halogenated Flame Retardants: Do the Fire Safety Benefits Justify the Risks? Reviews on Environmental Health, VOLUME 25, No. 4, 2010, http://greensciencepolicy.org/wp-content/uploads/2013/11/Review-of-Env-Health-2542010-SHAW-BLUM-.pdf](http://greensciencepolicy.org/wp-content/uploads/2013/11/Review-of-Env-Health-2542010-SHAW-BLUM-.pdf)

- create toxic, carcinogenic byproducts if burned, which may be associated with higher rates of cancer in firefighters.<sup>7</sup>

Furniture is typically made to meet one of two flammability standards in the United States – either TB 117-2013 (issued in January 2013) or TB 133 (issued in 1991). These refer to California “Technical Bulletins” which are flammability regulations and include flammability testing requirements for the upholstered furniture industry, the business owners or institutions with ten or more upholstered seating furniture. Most states have adopted either or both of these in their fire prevention regulations. The older TB 133 is a flammability standard designed for “special occupancy” buildings, and usually applies to health care facilities and prisons, as well as auditoriums, public assembly areas of hotels and motels, dormitories, and childcare centers. Furniture that meets TB 133 is typically made with flame retardants in the foam, fabric and/or barrier material and is significantly more expensive. The newer TB 117 2013 is the standard adopted by many states, that is used for most office furniture and may be met without the use of flame retardant chemicals, although the standard does not prohibit their use.

The Commonwealth of Massachusetts Board of Fire Prevention Regulation [527 CMR 29 \(1994\)](#) allows for TB 117 2013 in buildings with automatic sprinklers (Section 29.03 (4)). The City of Boston is an exception to this rule and does not allow certain public buildings to meet TB 117-2013, even if the building is fully equipped with a fire sprinkler system. If you are required to buy furniture that meets TB 133, you may specify furniture that does not contain “halogenated” flame-retardant chemicals.

In 2014, the Operational Services Division re-bid the statewide contract for furniture – and awarded [OFF38: Office, School and Library Furniture, Accessories & Installation](#). The Request for Responses included specifications for furniture with, and without, flame retardants. If a buyer was looking for flame retardant-free furniture, it could not be found by looking at the catalogues or price sheets, but only by making a specific request to the vendors.

The Task Force discussed flame retardant use in furniture in the Commonwealth, discussed using the statewide contract as a vehicle for educational opportunities to communicate and engage furniture buyers about their options for greening their purchases. The discussion led the EPP Program to partner with the Center for Environmental Health<sup>8</sup>, a national leader in flame retardant health issues and author of [Kicking Toxic Chemicals Out of the Office; An Easy Guide to Going Flame Retardant Free](#), July 2015, to help identify lines of furniture on the Commonwealth’s statewide furniture contract that were flame retardant-free (available for those buyers not purchasing for locations in the city of Boston), and documenting a list to be posted online, with additional guidance for buyers.

A survey was sent to all vendors requesting information on the availability of flame retardant-free lines, but also asked about formaldehyde use and antibacterial products in order to assess low-emitting,

---

<sup>7</sup> During a fire, massive quantities of flame retardants are released into the air and the combustible chemicals produce highly toxic gases. First responders have elevated rates of more than a dozen different types of cancer, including leukemia, multiple myeloma, esophageal, intestinal, testicular, and lung cancer, in comparison. The International Association of Firefighters and Professional Firefighters of Massachusetts have all expressed their concerns about exposure to carcinogenic flame retardant chemicals.

<sup>8</sup> The Center for Environmental Health is a national non-profit organization dedicated to working with parents, communities, businesses, workers, and government to protect children and families from toxic chemicals in homes, workplaces, schools, and neighborhoods. [Center for Environmental Health: www.ceh.org](#)

nontoxic furniture. Identifying low or non-emitting furniture for indoor air quality purposes could assist buyers who are looking to contribute to Leadership in Energy and Environmental Design (LEED) points or who are looking to meet low-emitting, nontoxic building material criteria Collaborative for High Performing Schools (CHPS) program.

The survey also asked for additional certifications or environmental requirements that were particular to furniture, contributing to a number of environmental issues. These can be viewed in Appendix. As of the writing of this report, the final guidance has not been finalized; however, an enormous amount of information was collected and a number of lines of furniture will be listed as being available flame-retardant free, with no formaldehyde, and without added antimicrobials contributing to healthier indoor air quality.

## 6. Integrated Pest Management

The Task Force had the opportunity to weigh in on some of the specification development in the re-bid of statewide contract FAC74: Integrated Pest Management to FAC96. Integrated Pest Management (IPM) is a process for achieving long term, environmentally preferable pest control through the use of a wide variety of management practices. It includes a combination of pest monitoring, good sanitation practices, education, and appropriate solid waste management, building maintenance, cultural pest control measures, mechanical pest control measures and biological pest controls – and allows, if done properly, chemical pesticides to only be used a last resort. Inappropriate pest management approaches can degrade the indoor air quality and introduce asthma and other hazards, and may result in inadequate control of pests. For these reasons, IPM is included in the US Green Building Council's 2009 LEED for Existing Buildings/Operations & Maintenance (LEED-EBOM) certification.

[Executive Order 403](#) was signed in 1998 establishing an Integrated Pest Management Policy and requiring all state agencies to adopt and implement IPM programs in all facilities owned or managed by the Commonwealth. In addition, the [Children and Families Protection Act of 2000](#) (333 CMR 14.00) requires all Massachusetts schools, daycare centers and school age child care programs to implement a School IPM Program in order to comply with of the Act. The Act is designed to reduce the exposure of children to pests and pesticides.

The statewide contract will provide a comprehensive list of pre-qualified vendors that eligible users can engage to develop customized IPM plans. The RFR was developed, and the Task Force was consulted on what environmental specifications to require. Because this is a new area for the task force, they chose to try to use this as an opportunity to require full disclosure of products used, and to identify bidders who limited their pesticide use to “safer” products.

The bidders were asked if they only use active ingredients allowed in Minimum Risk Pesticide Products according to EPA's 25B-Minimum risk pesticide active ingredients list. A minimum risk product must meet certain conditions<sup>9</sup>, and if so, it is exempted from regulation under the Federal Insecticide,

---

<sup>9</sup> [Criteria for listing as a Minimum Risk Product Minimum Risk Pesticide: https://www.epa.gov/minimum-risk-pesticides/conditions-minimum-risk-pesticides](https://www.epa.gov/minimum-risk-pesticides/conditions-minimum-risk-pesticides)

Fungicide, and Rodenticide Act (FIFRA), i.e., the pesticide product does not need to be registered with EPA. Bidders were also asked to identify if they restricted their use of pesticides to the [2015 San Francisco Reduced-Risk Pesticide List](#). This list was developed by The City of San Francisco Department of the Environment's (SFE) through a multi-step process that involves both environmental scientists and pest managers through hazard and exposure assessments<sup>10</sup>. Lastly, if bidders did not use either list exclusively, they were required to provide a list of all other products used. The Task Force could use this information to initiate a process to identify an "approved products list for safer pesticides for IPM" for Massachusetts.

## **7. Chlorine Test Strips**

In CY14, the Task Force members identified a key issue relevant to making the transition to safer sanitization and disinfection: that the current food code requires verification of sanitization processes, and the available methods are designed for the use of bleach and quaternary ammonium compounds. When the required test for safe food preparation surfaces is to check the strength of the chlorine preparation that is used, then only chlorine preparations will be used. The member of the Task Force from the Department of Health discussed the matter with her colleagues and was told that food code regulations posed a barrier to making a change in this requirement. Consultations with EPA resulted in a finding that EPA regulations need not pose such a barrier. The Task Force continues to work with the Department of Health to find ways to adjust the verification requirements to meet their protective purposes and reduce environmental and health impacts through allowing safer alternatives, such as hydrogen peroxide, citric or lactic acid, or steam.

## **8. OSHA – Commonwealth Compliance**

The Department of Labor Standards ("DLS") has participated with OSD in the EPP program. A representative from DLS is on the EO515 committee. DLS is charged with the responsibility to investigate occupational hazards in the workplace, to recommend controls to reduce such hazards, and to assist counties, municipalities and state agencies comply with applicable workplace safety and health laws, regulations, and recognized industry standards. In addition, 454 CMR 25.00 requires executive branch state agencies to comply with OSHA standards.

To help state agencies comply with 454 CMR 25.00, DLS hosted webinars on workplace safety and health. Several webinars included reference to OSD state contracts and EPP, particularly the Chemical Handling and Right-to-Know webinar, and the Syringe Pickup for Non-healthcare Workers webinar.

DLS has also incorporated a standard recommendation to use OSD's EPP contracts in inspection reports which are provided to municipal, county and state workplaces. In addition, the DLS website contains a fact sheet on EPPs.

---

<sup>10</sup> [Guide to San Francisco Reduced Pesticide List:   
http://sfenvironment.org/sites/default/files/fliers/files/sfe\\_th\\_guide\\_to\\_reduced\\_risk\\_pesticide\\_listposted.pdf](http://sfenvironment.org/sites/default/files/fliers/files/sfe_th_guide_to_reduced_risk_pesticide_listposted.pdf)

## 9. Conclusions and Looking Ahead

In CY16, the Task Force will continue its work on FAC85, including facilitating train-the-trainer to continue offering green cleaning trainings and will also continue work on integrated pest management and flame retardants.

Other priorities of the Task Force in CY16 will include:

### *Alternative Approval*

The Task Force will continue to work to finalize the process for evaluating alternative approvals submitted by the FAC85 Vendors. Criteria are being used that were developed in previous years for finding safer sanitizers and disinfectants, and the Task Force may re-evaluate the specific criteria for updates.

### *Safer Choice*

The FAC85 Sourcing team continues to negotiate with the EPA's Safer Choice program on making updates to their program, at which time the FAC85 would update the evaluation done during the original sourcing to incorporate changes, and accept all appropriate Safer Choice products into FAC85 categories.

### *Chlorine Test Strip*

The Task Force will continue to work with the Department of Health to identify safer alternatives, such as hydrogen peroxide, citric or lactic acid, or steam, which can meet the Commonwealth's Health Codes.

### *Furniture*

The Task Force will continue to work with the EPP Program in publicizing furniture on the statewide furniture contract that can be purchased with fewer chemicals, including flame retardants, contributing to a healthier indoor air environment.

### *OSHA Compliance*

The Task Force will continue to identify disinfecting alternatives as much as possible. In light of new legislation requiring state agencies to comply with OSHA standards, it is particularly important to identify any disinfectants that meet the criteria for FAC85, as well as OSHA requirements.

## Appendix

### Single Attribute Certifications and Standards for Furniture

#### [ANSI/BIFMA X7.1:](#)

This is an American National Standard Institute standard that is managed by the Business and Institutional Furniture Manufacturers' Association (BIFMA) for chemical emissions that affect indoor air quality. This standard specifies emission performance requirements when testing a furniture product in accordance with the M7.1 test standard. It is referenced in other certifications. Although this standard was developed by an industry trade association, it was developed through a multi-stakeholder process and is widely regarded as a credible standard for furniture emissions.

#### [California Section 01350 \(CDPH/EHLB Standard Method v1.1\)](#)

Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers, Version 1.1 (2010) (also known as California Section 01350) includes environmental specifications for low-emitting building products. The standard practice document has become widely adopted by industry, manufacturers and the US Green Building Council's LEED program for conducting VOC testing in small-scale environmental chambers. This is not a certification, but a standard set of VOC criteria to which third-party certifiers test and verify. As a stricter standard, it is the basis for the GREENGUARD "Gold" and SCS Indoor Advantage "Gold" standards.

#### [California Formaldehyde Emissions Standards from Composite Wood Products \(CCR, Title 17\)](#)

The California Air Resources Board approved an airborne toxic control measure (ATCM) to reduce formaldehyde emissions from composite wood products including hardwood plywood, particleboard, medium density fiberboard, thin medium density fiberboard (thickness ≤ 8mm), and also furniture and other finished products made with composite wood products.

#### [Restriction on Hazardous Substances \(RoHS\)](#)

RoHS is the European Union's Directive on Restriction of Hazardous Substances, which limits the amount of lead, cadmium, mercury, hexavalent chromium, polybrominated biphenyls (PBBs) and polybrominated biphenyl ethers (PBDEs) in electronics and other types of electrical equipment. It is commonly referenced in environmental standards (such as ENERGY STAR's specification for lighting equipment).

#### [ENERGY STAR](#)

ENERGY STAR, established by the U.S. Environmental Protection Agency under the Clean Air Act, identifies and promotes energy-efficient products by the Energy Policy Act of 2005. The rating system covers appliances, lighting, buildings, and a host of consumer and institutional products. ENERGY STAR lighting covers fluorescent and light-emitting diode (LED) systems, which may be included as fixtures in furniture products.

#### [Forest Stewardship Council \(FSC\)](#)

The FSC certification program ensures forest products used in certified furniture are managed and harvested responsibly. Any wood product used in a piece of certified furniture, no matter how small, must be produced sustainably and traded through approved channels. For wood to maintain its FSC certification, each participant in its supply chain must be FSC Chain of Custody certified.



### **GREENGUARD GOLD**

This is a certification program developed by GREENGUARD and now operated by UL Environment. It addresses chemical emissions that affect indoor air quality. It is considered an industry standard for low-emission certification.

### **SCS Indoor Advantage GOLD**

This is a certification program run by Scientific Certification Systems (SCS). It addresses the chemical emissions of furniture that affect indoor air quality. Certification to the GOLD standard means that the product meets the requirements of the BIFMA X7.1 VOC emissions standard, using the M7.1 testing protocol.

## **Multi-Attribute Certifications for Furniture**

### **Cradle to Cradle**

The Cradle to Cradle CertifiedCM Products Standard is a multi-attribute eco-label that evaluates a wide range of products across five categories of human and environmental health. The standard includes: Material Health, Material Reutilization, Renewable Energy and Carbon Management, Water Stewardship, Social Fairness. Product certification is awarded at five levels (Basic to Platinum), in which products are certified to the lowest level achieved in each of the five categories. Cradle to Cradle Certified emphasizes the importance of continuous improvement; as a result, their Basic standard includes an inventory and a commitment to ongoing assessment, while higher standards carry guaranteed minimum thresholds reached in the five categories.

### **The Health Product Declaration® (HPD)**

Open Standard consists of a defined format and rules for reporting about the contents of building products along with the potential associated hazards and other related information. The HPD makes clear what information is being shared and what information is not shared by allowing for varying levels of information disclosure. A completed HPD is created and published by product companies/manufacturers about their products. A fully-completed HPD will include a report of Hazard associations, based on the HPD Priority Hazard Lists, the GreenScreen List Translator, and when available, full GreenScreen assessments. HPDs allow for the reporting of these hazard screening results, even when the underlying chemical substances may not be fully disclosed due to intellectual property and/or other concerns.