



Fiscal Year 2012 Annual Report of the Environmental Purchasing Toxics Reduction Task Force

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I. Introduction

This report examines the progress made during Fiscal Year 2012 (FY12) (July 1, 2011 - June 30, 2012) by the Massachusetts Toxics Reduction Task Force to minimize the use of toxic substances wherever possible within the operations of the Commonwealth's Executive State Agencies, as directed in Executive Order #515 (EO515), *Establishing an Environmental Purchasing Policy*. It is the fourth progress update from this interagency collaborative effort since the issuance of the Executive Order in 2009.

Much of the work in FY12 focused on the seven state agencies identified in FY11 as the largest buyers of cleaning products in the Commonwealth as identified through purchasing reports provided to the Operational Services Division (OSD) by statewide contract vendors. These agencies are:

- Division of Youth Services (DYS)
- Department of Mental Health (DMH)
- Department of Public Health (DPH)
- Chelsea Soldier's Home (CHE)
- Holyoke Soldier's Home (HLY)
- Department of Conservation and Recreation (DCR)
- Department of Correction (DOC)

The data shows that the purchases of less toxic or "green" cleaning products for these seven agencies have increased to nearly four times what they were just two years ago. This report also describes the process used to approach those agencies and engage them in a discussion about their cleaning purchases and practices and shares the challenges and successes resulting from this interaction. The strategy for FY13 will be to use the lessons learned here to work with the remaining agencies in the Commonwealth on greening cleaning operations, and to focus on other categories of products and/or services.

Also at the end of the prior fiscal year, the Task Force indicated in the Annual Progress Report four areas in which the group planned to focus a good portion of their effort during FY12:

- Developing a more accurate system of tracking and recording agency purchases of green cleaning products and other Environmentally Preferable Products and services (EPPs);
- Expanding on the opportunities currently employed to educate state agencies on the benefits of using green cleaning products and other EPPs;
- Increasing the utilization of statewide contract FAC59, green cleaning products, programs, equipment and supplies; and
- Focusing on the apparent overuse of toxic disinfectants and sanitizers within the cleaning operations of many facilities.

As you will read in this report, progress was made in all of these areas, some more than others. The degree of success depended on many factors, including but not limited to, the completeness of the purchasing data provided in the reports, the availability of the agency personnel to assist the Task Force in gathering information, time constraints of the Task Force members in performing their other respective duties, the overall challenge of educating agency staff on the reasons for change, reliability of the products, and the time required to implement a transition that sufficiently engages all relevant personnel so that there is acceptance of the new product.

Additional details of the specific projects and initiatives mentioned in this report can also be found on the website of the Environmentally Preferable Products (EPP) Procurement Program at www.mass.gov/epp.

II. Background

Executive Order 515 declares that “As part of the Commonwealth's overall goals of conserving natural resources, reducing waste, protecting public health and the environment, and

promoting the use of clean technologies, recycled materials, and less toxic products, it shall be the policy of the Executive Department of the Commonwealth of Massachusetts and its agencies to reduce their impact on the environment and enhance public health by procuring Environmentally Preferable Products and services (EPPs) whenever such products and services are readily available, perform to satisfactory standards, and represent best value, consistent with 801 CMR 21.00.” EPPs are those products that have a reduced impact on the environment and public health when compared to other products that serve the same purpose.

EO 515 also specifically states that, “within one year of the date of this Executive Order, (state agencies shall) require cleaning service contractors to utilize cleaning products that meet the same or better EPP standards” as specified in the current statewide contract #FAC59, *Green Cleaning Products, Programs, Equipment and Supplies*. The EO was able to include this requirement because cleaning chemicals that were formerly considered alternatives have now become conventional, thus creating an adequate range of product choices in the marketplace and on the Massachusetts contract that are equal in price and performance.

In light of the fact that the combined annual purchasing power of state agencies in Massachusetts is significant (approximately \$600 million), the Order generates a significant economic incentive for the development of green businesses in the Commonwealth. The Executive Order also encourages others to follow suit: while state agencies are required to use the state contracts, municipal facilities may use the contracts, receiving the same discounts and negotiated conditions that are provided for state agencies; and because qualified products and services are publicly identified as environmentally preferable, many private businesses, organizations, and individuals may find it a useful guide to greening operations through purchasing.

To facilitate implementation of the Executive Order, an interagency Toxics Reduction Task Force was established with oversight and leadership by OSD and OTA, and consisting of staff from the Department of Environmental Protection (DEP), the Department of Public Health (DPH), the Division of Labor Standards (DLS), and the Toxics Use Reduction Institute (TURI). An Advisory Board to the Task Force is also comprised of individuals from the Executive Office of Energy and Environmental Affairs, the Department of Energy Resources and the Department of Environmental Protection to oversee the establishment of the group's annual goals and to work with the Task Force when needed to provide assistance in implementing the directives of the Executive Order.

III. Overview of FY12 Efforts

In order to more efficiently review and analyze the purchasing data provided in the dozens of sales reports received by OSD from the statewide contract vendors that supply all types of cleaning products, equipment and supplies (now received quarterly as opposed to on an annual basis), the Task Force engaged the help of two unpaid undergraduate interns supplied by OTA. The interns focused on culling the data relevant to the cleaning operations of each agency which enabled the Task Force members to identify the first phase of the process aimed at developing a working relationship with as many of the target agencies as possible to better understand their cleaning operations and challenges.

Some of the initiatives undertaken by the Task Force members and OSD's EPP Program in this process included:

- Analyzing the data for these seven agencies to learn not just how much they purchase, but specifically the type of products purchased;
- Utilizing the list of designated EPP liaisons (staff within each agency designated by agency heads to serve as the primary contact person for the agency on matters relating to EO515), to contact and meet with the appropriate personnel;
- Assessing and evaluating the agency's current cleaning practices as a means to understand their specific cleaning requirements and to what extent a transition to greener cleaners may already be occurring;
- Organizing various training events to provide education on the reasons to go green and guidance on how to use the statewide contract;
- Engaging vendors in the process to demonstrate products and provide "pilot testing" of products for certain applications at no charge to the agencies;
- Increasing the use of statewide contract FAC59, *Green Cleaning Products, Programs Equipment and Supplies*; and
- Addressing the overuse of disinfectants and sanitizers.

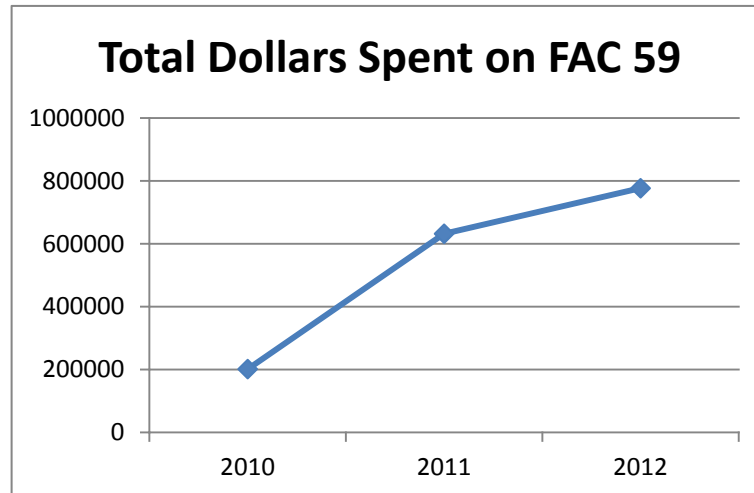
1. Analyzing the Available Data to Identify Agency EPP Performance

Trends in purchases show substantially improved use of the green cleaning contracts in recent years. In 2010, green cleaning purchases by the seven agencies accounted for a little more than \$201,000.. But in 2012, purchases from all approved EPP cleaning vendors totaled more than \$776,000, a nearly four-fold increase.

The original aim of the Task Force was to produce a ratio of purchases of EPP cleaners to overall purchases for each agency, an "EPP purchasing" percentage to be used for tracking annual progress towards compliance with the Executive Order. Agencies with low ratios would be targeted for closer contact, to determine the reasons for not buying from the approved contract vendors that offer green products. Data from MMARS (the Massachusetts Management and

Accounting Reporting System), which tracks all purchases of state agencies, however, does not differentiate cleaning chemicals from equipment and other supplies; and reports from statewide vendor contracts – both those qualified as EPP and those selling conventional products – can be of variable quality. Agencies also conduct some incidental purchasing on their own contracts and often do not use vendors with state-wide contracts.

In FY10 and FY11, the Task Force contacted each of the seven agencies to resolve discrepancies in purchasing information and found that the agencies themselves could not resolve them. During this time, the Task Force used volunteer interns from local universities to sort out cleaning chemical purchases from the enormous amount of data submitted, but a method was not found that would allow year-to-year comparisons. Instead, the Task Force chose to track trends in overall green cleaning purchases, combining both cleaning chemicals and related equipment (mops, buckets, cloths, paper, liners, etc.). The overall trend in purchases from the EPP green cleaning contract vendors, (FAC59) is shown below for the seven agencies tracked.



Total purchases from the EPP cleaning products contract for top seven agencies

Because the time spent sorting cleaning products from cleaning equipment was substantial, a request was made to the Office of the State Comptroller to establish a new sub-object code for “janitorial cleaning chemicals” to be used in recording purchases in MMARS. This secondary code was created in the summer of 2011. It was hoped that this would create new capacity and greater specificity for annual tracking. However, in FY12, it was recognized that training of agency staff on the existence of the new sub-object code and how to use it would be necessary to ensure its proper use. In FY13, OSD and the Task Force will consult with the State Comptroller’s Office to better understand how this type of training might be implemented and continue examining options for improving annual purchasing data tracking in order to assess agency compliance with the Executive Order.

2. Coordination with Agency EPP Liaisons

As part of the agency responsibilities outlined in EO 515, the head of each Executive Branch Agency is required to designate a primary contact person for all matters relating to the directive. Among other things, these individuals are to assist the Task Force in obtaining agency-specific information relevant to implementing the EO and to oversee the process as needed.

Although the seven agencies targeted in this first round of implementation did appear to have contact people designated as required by the Executive Order, staff changes within some of the agencies made getting in touch with the right leaders a challenge. In some cases even when the liaisons were available and cooperative, the diverse locations and decentralized purchasing made obtaining purchasing data for the entire agency too onerous for the Task Force to obtain with the resources available to them.

As a result, the attempt to verify total cleaning purchases through EPP liaisons was not successful; however, contacting staff at the agency did enable the Task Force to clarify some basic questions. For example, the Department of Corrections was showing purchases of cleaning chemicals far lower than expected for an agency with so many facilities and personnel. Through the EPP liaison the Task Force learned that DOC makes its own cleaning products in-house as one aspect of their Prison Industries program, and the purchases of raw materials/chemicals used in this process do not show up as cleaning products.

3. Assessment and Evaluation Agency Cleaning Operations

Assessing an agency's current cleaning practices and understanding the cleaning requirements and challenges within their respective facilities is crucial. For instance, the public restrooms that DCR is tasked with cleaning entail issues that vastly differ from the hospital-type facility of the Soldiers' Home, or the residences of Youth Services. Furthermore, both are significantly different from the prison environment of the DOC.

To address this issue, each Task Force member was initially responsible to contact one of the seven agencies in an attempt to render an overall evaluation. However, when it became apparent that three of the agencies were more prepared for the transition than some of the others, the collective focus of the group was turned to these three: the Department of Corrections, the Department of Conservation and Recreation and the Chelsea Soldier's Home.

This allowed for a pooling of technical expertise from the Task Force members and also made for a more manageable workload in general. Additional details of the work conducted as part of these three individual evaluations is provided in the upcoming section titled *Agency Progress and Success*.

4. Organization of Training Events

Although the Executive Order requires state agencies to comply with its directives, the Task Force wanted to ensure that misperceptions and/or concerns about these products were addressed at the onset, and any substantive concerns were heard. In an effort to mainstream the training opportunities as much as possible, the Task Force partnered with the Massachusetts Facility Managers Association (MAFMA) to hold two regional training sessions; one for the eastern part of the state in Plymouth and one for the western districts in Springfield. Close to four dozen agency staff responsible for conducting or overseeing cleaning operations attended the sessions.

MAFMA hired a professional trainer expert in the field of green cleaning operations to design and conduct the two full-day sessions. Assisted by OSD's Director of Environmental Purchasing and members of the Toxics Reduction Task Force, the training centered on the benefits of switching to less toxic cleaning products certified by a third-party to provide similar performance with less impact to humans and the environment. (OSD recognizes there is a range of third-party certifications that vary in terms of reliability and only uses third-party certifications that are themselves verified and are widely accepted by EPP programs nationwide and throughout the world). The training also covered the state contract and how to find the products they want, as well as the value of setting up a work protocol that ensures cleaners are used efficiently and the job of cleaning is effectively completed. Throughout the day the group was engaged in sharing the types of cleaning operations typical of their agencies, experiences both positive and negative regarding the use of green chemicals in the past, and jointly brainstorming of the best strategies to generate acceptance for the transition to the new products and efficient and effective cleaning practices.

5. Vendor Engagement in the Transition Process

For purposes of providing actual product demonstrations of cleaning equipment and specific products, the Task Force invited the top four performing vendors on the Massachusetts statewide contract (FAC59) to provide 30-minute presentations at the training sessions. The product demonstrations included energy and water saving equipment for cleaning, technical discussions of ingredients and safety improvements, and efficient work practices. Because the vendors also offered to come to agency facilities and pilot the products, the presentations were extremely useful methods of introducing new approaches to agency staff.

Of particular interest was the mobile, power washing type of equipment that uses pressure water jets that reduce the need for chemicals and prevent staff from having physical contact with the contaminated surfaces or with harmful chemicals. When the staff understood that the facilities could be effectively cleaned with less risk of toxic discharges and impacts to employees or visitors, acceptance increased even among those who initially voiced irritation at the prospect of having to change long standing practices.

6. Increased Utilization of the Statewide Contract FAC59 for Green Cleaning Products

Aside from the direct work the Task Force was doing with the agency staff, the EPP Program was also working with the Strategic Sourcing Services Leads (contract purchasing staff) at OSD. They reviewed other statewide contracts from which cleaning products of all types could be purchased and considered whether the more toxic cleaning product options that were not consistent with the Executive Order could be removed from those contracts. The reason that this process was feasible is due to the fact that “green” cleaning products have undergone significant improvements over the years on both the performance level and price, and they were now being used without complaint at virtually all types of state facilities.

Prior to the issuance of the Massachusetts multi-state contract, #FAC59 – *Green Cleaning Products*, industry manufacturers had already started to embrace the formulation of less toxic cleaning chemicals throughout their product lines. Therefore, when the contract was awarded in 2009, there were hundreds of brand name cleaning chemicals awarded from dozens of manufacturers and over 20 local distributors. All cleaning chemicals receiving the contract award (except for sanitizers and disinfectants) carry a third-party certification from either Green Seal or EcoLogo, the two leading certifiers in North America. These certifications involve testing and verification not just for the green claims, but also for the performance of the product.

However, agencies could still buy more toxic products from other statewide contracts. The agencies seemed to be continuing to do so because they were unfamiliar with the fact that the EPP products are suitable, and the EO requires they use them, or because some of the more toxic products were priced competitively. Therefore, as those contracts came up for re-bidding, OSD ensured that the conventional cleaning chemicals were no longer included. Some of these contracts involved the *Prime Grocer*, *Commercial and Industrial Supplies*, and *Office Products* contracts. The removal of cleaning products from these contracts automatically shifts the buying power of state agencies and others to the FAC59 *Green Cleaning Products* contract, and fulfills the EO515 mandate that EPP products be used when they are available and represent the best value purchase.

7. Addressing the Overuse of Disinfectants and Sanitizers

The meetings with agency staff on cleaning led to two important recognitions:

- A range of toxic disinfectants were being overused, particularly as cleaners instead of as a supplement to cleaning, and
- Agency staff was not generally aware that many safer disinfectants are available on state contract.

The Task Force decided that it would be necessary to provide some outreach and education on proper use of disinfectants and the availability of safer disinfectants. Disinfectants are toxic

chemicals, and their use as cleaners is detrimental to the environment and dangerous to workers and others who may be exposed. Many are linked to asthma incidence, and there are concerns that overuse of disinfectants can enhance the development of resistant strains of infectious organisms. Yet it is also a critically important public health matter to effectively disinfect surfaces, that if contaminated, can transmit disease.

Because of the importance of the issue, the Task Force decided to produce written guidance for state agencies. As a pilot, they designed guidance specifically for the Department of Conservation and Recreation as part of the effort to review cleaning practices at state parks. In view of the complexity of the issue, the Task Force consulted public health experts in the development of this guidance.

The Toxics Use Reduction Institute's Cleaning Laboratory, a member of the Task Force, with help from a UMass Lowell professor and students, conducted a review of the state's existing list of EPP-designated disinfectants. They produced a matrix showing exactly what microorganisms each disinfectant had been shown to address. This is a preliminary step to determining which disinfectants are necessary to use in which settings: bathroom, kitchen, hallways, hospital, etc.

Soon after the end of FY12, the Task Force had also begun reaching out to the Responsible Purchasing Network (RPN), a national organization dedicated to assisting public and private sector organizations work toward adopting sustainable initiatives in the area of environmental purchasing. The purpose of involving the RPN was to tap into their extensive research on the use of disinfectants and compare notes with the data TURI had compiled. It is planned that the collaboration will yield a summary of disinfectants which includes an environmental impact rating for several factors like: "dwell time" or the length of time a disinfectant should remain on a surface to fully perform; any hazards to aquatic microorganisms receiving discharges containing the material; or whether or not the ingredients will cause asthma. What a disinfectant kills, how long it should remain on a surface, and what unintended harm it can cause require serious consideration before purchase or use.

As a result of the work performed, and with concerted assistance from the Department of Public Health, the Task Force is developing guidance on *Cleaning the Bathroom*, which will be reviewed and improved as needed to stay up to date with current thinking in this rapidly developing field. In light of the fact that there are not similar guidance documents currently available, it appears that the Task Force is ahead of other jurisdictions in providing guidance for agencies and facility managers to use.

IV. Agency Progress and Success

In FY12, the Task Force focused much of their efforts on three of the seven targeted agencies: the Department of Conservation and Recreation (DCR) because of their diverse cleaning responsibilities; the Department of Corrections (DOC) because they were already engaged in

mixing some of their own less toxic cleaning products; and the Chelsea Soldiers Home (CHE) because they had recently started transitioning to green chemicals and were willing to share their successes, and hear more about other products.

Department of Conservation and Recreation

Contacts with the Department of Conservation and Recreation concerning initially low levels of EPP cleaner purchases led to a substantial increase, but comments by some DCR staff were received concerning the supposed inadequacy of EPP cleaners for accomplishing facility maintenance needs. Task Force members met with staff to address the question of cleaner adequacy. DCR's facilities include several public bathrooms at public parks that receive high traffic, and urine odors have been a problem at certain facilities where staffing routines do not allow frequent cleaning. Task Force members made site visits to the facilities and conducted close evaluation of cleaning practices and trials of high pressure cleaning equipment. Ongoing work includes the development of recommendations for elimination of the cause of the odor problem and revision of standard cleaning procedures. The Task Force is also developing guidance on cleaning public bathrooms for use by all agencies. (More about this below)

Chelsea Soldier's Home

Contacts with the Home, a 400-employee facility with 13 buildings on seven acres, led to Task Force recognition that management had undertaken several significant green initiatives. Among these are a complete transition to EPP cleaners and cleaning equipment, resulting in savings of more than \$130,000 per year and the elimination of odor complaints. The Home has also reduced chemical pesticide use by about 80 percent and electricity usage by 150,000 kWh a year, saving approximately \$24,000 annually. The Task Force is currently developing a case study on the Home to foster awareness of its accomplishments and their benefits, and to encourage others to adopt similar initiatives.

Department of Corrections

In FY11, the Task Force reviewed purchasing data from the Department of Corrections (DOC) and after questioning DOC concerning a gap between expected and actual purchases learned that the Prison Industries program was making its own "green" cleaners, purchasing raw materials that did not show up as purchases of cleaners. The Task Force visited the Prison Industries facility in Norfolk, and met with relevant staff and reviewed the agency's clean and well-managed operations. As a result of their assessment, the Task Force found that the Prison Industries product had substantial basis for being "green", in that the raw materials were by and large certified by credible organizations as environmentally preferable. However, the addition of fragrance and other slight alterations could result in loss of certification, a valuable asset that allows EPP designation. With the help of the Toxics Use Reduction Institute's laboratory, the Task Force provided a detailed evaluation to DOC, to assist them in determining what changes they might have to make in order to claim and maintain EPP designations, which would be useful

concerning DOC's compliance with the Executive Order, and critical in marketing their cleaning products to other state agencies.

V. Special Initiatives

Laundry Detergents and Deicers

As part of this process to review cleaning contracts as well as other products for which there may be a greener alternative, the Task Force was also asked to review and evaluate other products related to cleaning and facility maintenance, such as laundry detergents, deicing chemicals for snow and ice control, and fertilizers. The existing standards for laundry detergents established by reputable third-party certifiers are several years old, so the Task Force has engaged in an effort to examine the criteria used in those standards and to determine if new ones should be added, or adjustments are needed. They also have approached the two largest certifying organizations, Green Seal and EcoLogo, to request an updated revision of the current standard as soon as it is feasible. It is planned that specifications will be created and these products added to the FAC59 contract before the end of FY13.

The Task Force also assisted OSD's Strategic Sourcing Services Team responsible for issuing the new *Maintenance, Repair and Operations (MRO)* contract, FAC76. OTA Task Force members examined the claims of a range of deicing chemicals and provided judgment calls on preferable products, noting that context is all-important. For example, if pets are exposed to contact with deicers, a urea-based product is preferable to a salt-based product. But in an area where nitrogen loading is high, urea-based products should not be used. In providing reviews on fertilizers, the Task Force sought the input of the North East Organic Farming Association and other relevant experts. The experience of having to review these three produce categories underlined the importance of knowing how to find relevant expertise. The Task Force will continue to review these issues, to assist agencies in making responsible decisions, and to create new EPP contracts for additional product/service categories.

MassBUYS Event

To best utilize OSD's annual purchasing / trade show event to inform state agencies and other contract users about EO 515 and the FAC59 contract for green cleaning products, the EPP Program coordinated an educational presentation for the show. Task Force members collaborated on the content of the workshop titled, *Showcasing Successes and Savings with Green Cleaning*. Featured presenters included Lynn Rose, technical expert and consultant in the field of green cleaning; Shawn Kraft, Director of Support Services at the Chelsea Soldier's Home; and Marcia Deegler, Director of the Environmental Purchasing Program at OSD. State agencies as well as some local government representatives attended the one hour session in which information and successes were shared, questions were answered and follow up appointments were recorded.

VI. Moving Forward into FY13

Toward the end of FY12, momentum to transition to green cleaning products and practices was significantly increasing, particularly among the three state agencies featured above. Links are also being made to partner the Chelsea Soldiers Home with the Holyoke Soldiers Home so that the latter may benefit from the lessons learned by the CHE. Contacts within the other seven targeted agencies are also being revisited to engage their agency staff in upcoming training opportunities.

In FY13, with the help of relevant experts, the Task Force plans to produce some specific guidance documents on cleaning bathrooms, intended to enhance safety and cleanliness while reducing the use of toxic products. Plans also include more comprehensive training sessions for agency staff on green cleaning practices and the availability of EPP cleaners on the statewide contract. For DCR, a site visit to one of their problem public restroom facilities is scheduled for the summer in order to offer one-on-one assistance. Help is being offered to DOC in ensuring that their Prison Industries cleaner, which they would like to market, maintains green certification.

The Task Force will conduct outreach to all agencies on the FAC 59 EPP cleaning contract, and in the course of this effort seek to create relationships with EPP Liaison at each agency, to work through them to address any issues of acceptance, performance, price or application that might arise. As part of this outreach effort, the upcoming case study being prepared for the Chelsea Soldier's Home and another similar study being drafted for DCR, will serve as testimonials from purchasers and facility managers in the field who are already having significant success with green cleaning products. Going forward, input from agencies concerning other cleaning products they would like to have included on the contract will be sought.

In addition, an important front on which to focus attention in the latter part of FY13 will be how the Commonwealth plans to move forward on the statewide contract for janitorial cleaning services. All cleaning contract service providers are currently required by EO515 to use the products specified on the cleaning products contract, FAC59. Working with vendors that supply these services and with the agencies requiring contracts, will be an interesting challenge for the OSD Strategic Sourcing Teams, EPP Program and Task Force members going forward.

Finally, the Task Force will continue to analyze data, to attempt to form a reliable picture of purchasing practices at each agency, and to discern trends in eco-purchasing over time. As part of this effort, other product and service categories will be rolled into the agency outreach process and new products will be considered for potential EPP designations.

For further information on the work of the Toxics Reduction Task Force, contact:

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