

<p style="text-align: center;">WPS 2019 Case Study for TURI EPPs in Maintenance Products for Vehicles, Buildings and Grounds Equipment</p>
--

TURI Community Grants Program
WPS FINAL PROJECT REPORT
Fiscal Year 2019

Project:	EPPs for School Building and Grounds Maintenance, and School Bus Fleet Maintenance 1. TUR in School Building Trades – Carpenters, Electricians, Glazier, HVAC/Steamfitters, Locksmith, Plumbers 2. TUR in School Bus Operations and Maintenance
Report Date:	January 2019
Organization:	Worcester Public Schools
Address:	20 Irving Street, Worcester, MA
Telephone:	1-508-799-3151
Email:	bedardj@worcesterschools.net
Person Completing Report:	Lynn Rose and James Bedard

Table of Contents

1. WPS Background
2. WPS Environmental Initiative
3. Project Management
4. Project Description
5. Building Maintenance Products
6. Attachment Table of Contents

WPS 2019 Case Study for TURI

EPPs in Maintenance Products for Vehicles, Buildings and Grounds Equipment

WPS Background

WPS is located on 400 acres of land in Worcester, Massachusetts. It is the second largest city in Commonwealth (and NE), and the third largest school district.

The role and responsibility of the WPS Facilities Department is to provide and operate clean, safe schools and ancillary buildings (total 62 buildings, 3.6 million square feet). Buildings are aged between 1842 – 2017, with an average age of 71 years. Student Population is currently 25,400 and there are 4,244 employees.

One way to illustrate the magnitude of WPS's responsibilities for environmental health and safety (EHS) of its workers and building occupants, and put this EHS work into perspective, WPS takes care of approximately the same number of students that all the local colleges do COMBINED, plus over 4,000 teachers. These colleges have significantly more EHS resources and in most cases, have EHS Departments to do this work. Local College Enrollment:

- | | |
|--------------|-------|
| • Assumption | 2,675 |
| • Becker | 2,135 |
| • Clark | 3,485 |
| • Holy Cross | 2,729 |
| • MCPHS | 1,606 |
| • WPI | 6,573 |
| • WSU | 6,306 |

TOTAL	25,509
-------	--------

WPS Environmental Initiative

For the past ten years, WPS has used the environmental management system (EMS) model to reduce any environmental impacts from academics, operations and maintenance, and enhance building conditions to ensure health and safety of its students and staff.

What is an Environmental Management System?



WPS 2019 Case Study for TURI EPPs in Maintenance Products for Vehicles, Buildings and Grounds Equipment
--

Role of Toxics Use Reduction (TUR) in the EMS

TUR is a key EMS strategy and the first step to reduce compliance requirements, liability and reduce hazards to workers and building occupants. Thus, one of the first key tools WPS created was a Purchasing Program that set very basic purchasing standards regarding product use, quantities and hazard levels.

WPS then embarked on engaging each WPS department in assessing their product specific issues to determine what changes were needed. Based on the findings of these assessments, WPS worked for the last two years with TURI to identify alternatives for food service, transportation, and building and grounds equipment maintenance. In addition to the TURI projects, the Custodial Sector has replaced its disinfectant with a less hazardous product and is working towards using safer cleaning products. The WPS Science Department has embarked on a nine-year initiative to reduce the use of toxics in the science curriculum.

Project Management

The project was designed and coordinated by the Facilities Department in conjunction with the participating WPS departments. The Facilities Department coordinated all aspects of the project, administered project, identified products of concern for the tradesmen and grounds crew, selected products to pilot, etc. They also coordinated grant activities for the Transportation Department.

Lynn Rose, Consultant, provided project administrative support, program development and coordination, training and technical assistance. For this second year of the TURI projects, she worked in conjunction with Jim Bedard, Director of Environmental Compliance and Capital Projects, Tom Barret, Coordinator Buildings and Grounds for tradesmen and building and grounds equipment maintenance, John Hennessey, Director Transportation, for the WPS Bus Depot, the Facilities Department administrative support staff, and the Materials Management Department (procurement).

Project Description

The goal of this second year project was to reduce the use of toxics in the following WPS sectors who serve the entire district that manages 62 school and operations buildings and grounds:

1. Building Trades - who provide repair and maintenance services to school buildings.
2. Grounds Crew - who provide grounds maintenance for WPS school grounds.
3. Transportation - who provide school bus transportation in large and small buses.

Long Term Goals

1. Reduce risks to worker and occupant health and safety, and to the environment.
2. Reduce hazardous waste management and disposal costs for all sectors.
3. Create purchasing criteria and specifications for selecting the least toxic products used by the trades, grounds crew, custodial staff, and vehicle maintenance person (Facilities & Transportation Depts.)
4. Expansion of successfully piloted products and systems to all WPS buildings, vehicles

<p style="text-align: center;">WPS 2019 Case Study for TURI EPPs in Maintenance Products for Vehicles, Buildings and Grounds Equipment</p>
--

and equipment. For example, the FY 2018 TURI project recommendations for cleaning and disinfecting school buses has become instituted as the new system for implementing in all the buses.

The objectives used to meet these goals:

1. Find safer products for the most highly hazardous and most commonly used products for the operation, repair and maintenance of school buildings, buses and landscaping equipment.
2. Ensure product availability.
3. Develop purchasing criteria so standards can be met for the long-term.
4. Develop related guidance materials (e.g. work practices, product management, systems, purchasing criteria, design criteria for new facility).
5. Pilot new products to ensure they are safe and effective.
6. Develop training materials and train people on how to use and manage new products.

Building Maintenance

Overview

The WPS Facilities Department maintains, manages and operates WPS buildings and grounds. The department has a trades staff that conducts minor building repairs and maintenance. The maintenance crew consists of a Buildings and Grounds Coordinator who oversees the Carpenters, Electricians, Glazier, HVAC/Steamfitters, Plumbers, Painters and a Locksmith. This work takes place during school hours as well as when school is unoccupied. Thus, it is important for both the occupational health of the tradesmen who do the work and the building occupants for the products used in this work to be as safe as possible.

Please note that WPS contracts out all major building repair work as well as any work related to disturbing, repairing and abating materials that contain asbestos, lead based paint and PCBs.

WPS undertook a major effort to identify all maintenance products and obtain the safety data sheets (SDS). Based on the findings of the SDSs, WPS selected product types and criteria to try to replace with safer products.

The key health and safety criteria for product selection:

- Neutral pH (as possible)
- Non-flammable, low VOC and minimal off-gassing (during use and curing and when curing is complete)
- No carcinogens, teratogens, reproductive hazards, neurotoxins, asthmagens, non-sensitizer

Additional operational criteria for product type selection:

- Products used by many of the trades.
- Products available on the market by vendors on state contract.

Product categories selected:

- Lubricants
- Penetrants
- Adhesives
- Caulks
- Finishes (paint)
- Spill control materials

WPS 2019 Case Study for TURI EPPs in Maintenance Products for Vehicles, Buildings and Grounds Equipment
--

Research – Procurement Resources (see attached chart for details on these resources)

1. Building Green - Product Guidance
2. Environmental Building News
3. EPA Green Building
4. Green Building Alliance
5. LEEDs/CHPs
6. ISA

Research – OSD MRO Contracts, Resources and Technical Expertise

Contracts - The Massachusetts Operational Services Division (OSD) creates statewide contracts for use by state agencies who are required to use them. Municipalities and school districts are allowed, but not required, to use them.

The advantage of these contracts is OSD has team of experts and a contract manager for every contract. If there are problems with a vendor, the manager is available to work with the buyer and seller to resolve them. OSD also has more buying power than a school district and can negotiate a wide range of payment, service and delivery terms that are very beneficial for buyers.

Several years ago, OSD created the following Maintenance, Repair and Operations (MRO) Contracts (hot-linked below). There is overlap, similarities and differences between the three contracts as explained below:

- [FAC100](#) - Building Maintenance Repair and Operations - Products and Supplies: it is more detailed and has specialized vendors for building maintenance products. Utilizes the certification criteria from UL GREENGUARD Gold (adhesives, flooring, insulation, sealants, etc.).
- [FAC101](#) - Facilities Maintenance, Repair and Operations - Industrial Supplies: for extensive range of supplies on Grainger, MSC and Fastenal Websites. This contract was developed by OSD EPP Program from the larger, multi-state MRO contract developed under the NASPO funding. OSD reduced the vendor count from twenty to three.
- [FAC105](#) - Maintenance Repair and Operations - Industrial and Building Retail Products: big box stores with no filtering/restrictions of EPPS as it is a walk-on store (can purchase by going to the store)

OSD Technical Assistance - The project worked closely with the Director of Environmental Purchasing, Julia Wolfe. She has extensive experience developing criteria for statewide contracts on a wide range of EPP products and services. She works with government and nonprofit agencies nationally to create contracts for EPP products and services, conduct training and provide technical assistance.

Technical Assistance by the Director of Environmental Purchasing;

- Understand the offering on the three MRO contracts,
- Understand the challenges sourcing EPP products from the MRO contracts,

<p style="text-align: center;">WPS 2019 Case Study for TURI EPPs in Maintenance Products for Vehicles, Buildings and Grounds Equipment</p>
--

- Work with the MRO contract vendors, and
- Navigate the wide range of green procurement initiatives nationally, and third-party certification and labeling systems.

Technical assistance by OSD Contract Managers (Michael Maxin is the new contracts manager for all MRO contracts):

- providing reports from the vendor report database,
- providing an overview of the contracts to understand how they work, and
- introducing buyers to the contract leads.

Findings - Key concepts emerging from the work with the state contracts and OSD Director of Environmental Purchasing:

- The MRO contracts are also used by other states that Massachusetts partnered with to develop the contracts. This gives the states more buying power and incentives for the vendors to meet “desired” criteria in the contracts. It also means that OSD must coordinate criteria desired by participating partners and cannot set all the terms. Some states were not interested in EPPs, thus there is limited EPP language in the contract. Twenty vendors are listed in this multi-state effort.
- The MRO contracts provide a range of products in addition to some EPPs. OSD does have some contracts, such as FAC85 contract for cleaning products, that only list EPPs, which makes it straightforward to select an EPP product. OSD’s goal is to someday have an MRO contract with only EPPs listed, which is the ideal way for purchasers to efficiently select products.

Since the current MRO contracts contain both non-EPPs and EPPs, selecting EPPs from catalogues of products by national distributors was a huge undertaking by the project, and involved screening the offerings through use of vendor references to environmentally preferable criteria and product safety data sheets (SDS).

- This process was compounded by the fact that the vendors did not have clear guidelines by participating states as to what is considered environmentally preferable. They have labeled items as environmentally preferable that have significant environmental health and safety hazards. The states were working with the Responsible Purchasing Network to review criteria used by the vendors to identify EPPs during the grant period, thus this major issue should improve.
- Each vendor has information on how to search for the EPPs. Not all vendor’s sites were easily searchable. Some vendor search criteria were better than others, some could be searched by certification and others could not. This improved over the duration of the grant through work by the vendors. Through a grant from the National Association of Purchasing Officials (NASPO), OSD worked with the Responsible Purchasing Network on the MRO contracts to:
 - Identify MRO EPP categories
 - Conduct a market assessment of EPPs from various vendors
 - Compile sustainability specifications

<p style="text-align: center;">WPS 2019 Case Study for TURI EPPs in Maintenance Products for Vehicles, Buildings and Grounds Equipment</p>
--

- Identify EPPs for the core/market basket list
- Develop EPP framework recommendations for ValuePoint master agreements
- Incorporate additional EPP language into a model participating agreement
- Not all vendor sites had easy access to SDSs that were up to date and downloadable.
- The vendors do have the ability to add products throughout the life of the contract. Thus, we could request the vendors add products to their offerings. This is particularly important because their true EPP offerings are extremely limited. There are EPP MRO products listed on certification websites that are not carried by the MRO vendors. Although OSD EPP program encourages vendors to source additional EPPs that are available, the project did not find vendors very receptive to this.

Attachments

OSD EPP Program Tools for MRO Contracts

- Contract User Guides – provides information on contract terms, product criteria, certifications, vendors, service areas, contract managers, etc.
 - User Guide FAC100
 - User Guide FAC101
 - User Guide FAC105
 - EPP Products and Services Guide 6 6 19 (This is the master guide for all the contracts. I included in addition to the contract specific documents because it has additional information not included in the contract specific guides.)
- MRO Vendor Fact Sheets by the Responsible Purchasing Network (RPN) – provides guidance on selecting EPPs from MRO vendor websites (Please note that these fact sheets are invaluable for searching the contracts. Also, these fact sheets may become dated as RPN works with vendors to improve their search capabilities and other improvements.):
 - RPN – Fact Sheet Grainger
 - RPN – Fact Sheet MSC
 - RPN – Fact Sheet Fastenal

Research – OSD MRO Contract Vendors – the project searched the offerings of all four vendors on the MRO contracts – MSC, Grainger, Home Depot and Fastenal. This research consisted of reviewing website product listings, state contract information, email correspondence and calls with sales managers designated by the companies to be the MRO contacts.

WPS 2019 Case Study for TURI

EPPs in Maintenance Products for Vehicles, Buildings and Grounds Equipment

Overview – Third Party Certifications and Eco Labeling

Product standards may be developed by private entities, industry associations, public agencies, or jointly by stakeholders and experts from the public and private sectors. Certification is a procedure by which an entity gives written assurance that a product, process or service conforms with certain standards (e.g. safety, quality, performance). A certification label or “Eco Label” is a label, symbol or logo indicating that compliance with standards has been verified and helps to differentiate products or services as environmentally preferable.

According to the National Association of County Officials (NACo) Green Purchasing Toolkit, there are four basic categories of eco-labels:




















1. eco-labels issued by an independent third party (e.g. Green Seal)
2. partnership and recognition programs (e.g. EPA Safer Choice)
3. eco-labels issued by a trade group or industry association (e.g. Carpet & Research Institute Green Label Plus)
4. eco-labels issued by a company for its own product or "self-declared"

Products can be certified by more than one entity. Each entity has their own criteria as illustrated in the chart below by the national Association of State Procurement Officials (NASPO). The chart also illustrates the fact that some product categories such as paint have more certification and/or labeling options. Each purchaser must determine what criteria is important for a specific outcome in order to select the most appropriate certification and/or label to use to select products.



Market Analysis of Certifications

Some product categories have more ‘green’ options than others

PRODUCT	CERTIFICATIONS - STANDARDS - ECO-LABELS	SCAQMD VOC g/L	SCAQMD Super-Compliant?	AVAILABLE WATER-BASED?
Latex paints and primers - interior and exterior - recycled	 	≤250 g/l	YES	YES
Latex Paints - interior virgin	    	≤50 g/l	YES	YES
Latex Paints - exterior virgin	    	≤50 g/l	YES	YES
Latex Primers, Sealers and Undercoats interior and exterior - virgin	    	≤100 g/l	YES	YES
Clear Wood Finishes, Varnishes and Lacquers	    	≤275 g/l	YES	YES
Roof Coatings Non-PVC - non-asphalt	    	≤100 g/l	YES	YES
Dry-Fall Coatings	    	≤150 g/l*		YES
Floor Coatings	    	≤ 50 g/l	YES	YES

Green Purchasing Webinar Series

The OSD EPP Program has reviewed the numerous certification programs and has selected the ones they have found to be most protective. Thus, it has been invaluable for WPS to utilize the state contracts for this reason and to rely on OSD EPP program technical expertise.

<p style="text-align: center;">WPS 2019 Case Study for TURI EPPs in Maintenance Products for Vehicles, Buildings and Grounds Equipment</p>
--

The project's criteria for selecting certifications to guide product selection was health and safety for employees using the products and occupants with potential exposure to products during and after use.

Project Research - Third Party EPP Certification and Labeling Systems – the project reviewed all the relevant certifications and labeling programs to determine which of the programs to use for product selection. It was an overwhelming and at times confusing process as there are so many programs with a wide variety and sometimes overlapping criteria.

Findings - Third Party EPP Certification and Labeling Systems - The complete list of certifications and our review of them is provided in the following attachments:

1. Attachment # __: Third Party Certifications and Labeling Systems for EPPs
2. Attachment # __: Research on Resources for Selecting EPP Products for WPS Transportation and Facilities Departments

Key points from that review:

1. Purchasers can rely on the certifications selected by OSD EPP program in conjunction with the Responsible Purchasing Network. The certifications recommended by OSD as related to the project's health and safety criteria and the project's findings, include (please note that these certifications cover other products not used by this project at this time):

Research – Product Alternatives

The project initially sought to find alternative products through the vendors on the MRO contracts. Due to encountering problems on numerous fronts as outlined in other sections of this case study, the project then sought to identify products in several other locations:

1. Third party certification sites that provide lists of certified products. Once desired products were identified, we then sought to find them on all four MRO vendor websites. We were unable to find most of the desired products on these sites.
2. Checked state agency EPP procurement websites, but they provided criteria, not specific products.
3. Checked sites (e.g. CHPS and Environmental Building Network partner sites) that did provide product listings. Again, those products were not available through MRO vendor contracts.

Findings – Product Alternatives

See Attachment # WPS TURI Product Research 2018-2019 for detailed WPS assessment findings.

Product Evaluation by TURI using their Pollution Prevention Options Analysis System (P2OASys) - TURI also evaluated a list of products submitted by the project using their "Pollution Prevention Options Analysis System (P2OASys)" was developed to help companies systematically determine whether the toxics use reduction (TUR)

<p style="text-align: center;">WPS 2019 Case Study for TURI EPPs in Maintenance Products for Vehicles, Buildings and Grounds Equipment</p>
--

options being considered may have unforeseen negative environmental, worker, or public health impacts. The tool provides the end user with a numerical hazard score for the inputted current chemical or product/process as well as the identified options. The following products were assessed:

1. Healix Eco Coil Cleaner
2. SPTTM405 Paint & Adhesive Remover Aerosol
3. Loctite Powergrab Ind 300LM CQ Adhesive
4. 2-26® Multi-Purpose Precision Lubricant
5. VG 181 White Sealant
6. 3M Fastbond Contact Adhesive

Results - Six products were evaluated using P2OASys. The safest product out of the six would be the Healix Eco Coil Cleaner. However, Healix Eco Coil Cleaner gave limited information on the SDS, and there was an ecological hazard data gap.

Conclusion - Recommendations would include finding alternatives for all products evaluated excluding the Healix Eco Coil Cleaner. Aerosols should be avoided whenever possible for their inhalation hazards.

Please see the attachment # __ for the full assessment report.